Preliminary Site Assessment

US 221 South of US 74 Business (Charlotte Road) to North of SR 1366 (Roper Loop Road)

Parcel 186 – Michael Jones

923 US 221, Rutherfordton, North Carolina

State Project No. R-2233BB

WBS Element: 34400.1.S5

February 12, 2018

Terracon Project No. 71177323

Prepared for:

North Carolina Department of Transportation
Raleigh, North Carolina

Prepared by:

Terracon Consultants, Inc.
Charlotte, North Carolina

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February 12, 2018

North Carolina Department of Transportation
Attention: Mr. Craig Haden
GeoEnvironmental Engineering Unit
Century Center Complex
Building B
1020 Birch Ridge Drive
Raleigh, North Carolina 27610

Re: Preliminary Site Assessment (PSA)
US 221 South of US 74 Business (Charlotte Road) to North SR 1366 (Roper Loop Road)
Parcel 186 – Michael Jones
923 US 221, Rutherfordton, North Carolina
State Project No. R-2233BB
WBS Element: 34400.1.S5

Dear Mr. Haden:

Terracon Consultants, Inc. (Terracon) is pleased to submit a Preliminary Site Assessment (PSA) report for the above referenced site. This assessment was performed in accordance with our Proposal for Preliminary Site Assessment (Terracon Proposal No. P71177323) dated June 2, 2017. This report includes the findings of the investigation, and provides our conclusions and recommendations.

Terracon appreciates the opportunity to provide these services to the North Carolina Department of Transportation (NCDOT). If you have any questions concerning this report or need additional information, please contact us at 919-873-2211.

Sincerely,

Terracon Consultants, Inc.

Prepared by: DocuSigned by: S. Alex Chinery F3F142104F4941D...

S. Alex Chinery, E.I.
Senior Staff Environmental Engineer

Reviewed by: DocuSigned by: Christopher L. Corbitt D334903BD0324DE...

Christopher L. Corbitt, P.G.
Senior Geologist

PRELIMINARY SITE ASSESSMENT

US 221 SOUTH OF US 74 BUSINESS (CHARLOTTE ROAD) TO NORTH SR 1366 (ROPER LOOP ROAD)
RUTHERFORDTON, RUTHERFORD COUNTY, NORTH CAROLINA
STATE PROJECT NO. R-2233BB
WBS ELEMENT: 34400.1.S5
PARCEL 186 – MICHAEL JONES
923 US 221, RUTHERFORDTON, NORTH CAROLINA

1.0 INTRODUCTION

1.1 Site Description

Site Name	US 221 South of US 74 Business (Charlotte Road) to North SR 1366 (Roper Loop Road) in Rutherfordton
Site Location/Address	923 US 221, Rutherfordton, NC 27834 (Rutherford County Tax PIN: 613408)
General Site Description	The site consists of a commercial building that is currently vacant but formerly operated as a Sunbelt filling station and convenience store.

1.2 Site History

The site is located at 923 US 221 in Rutherfordton, Rutherford County, North Carolina (site). At the time that PSA activities were conducted, the site was improved with a one-story commercial building formerly operated as a Sunbelt filling station and convenience store (Michael's Market). According to available regulatory information, five underground petroleum storage tanks (USTs) are currently located on the site. A Notice of Violation was issued by the North Carolina Department of Environmental Quality (NCDEQ) for the site in July 2015. At the present time, no records of a release are associated with the UST system on the site.

1.3 Scope of Work

Terracon conducted the following Preliminary Site Assessment (PSA) scope of work in accordance with Terracon's Proposal No. P71177323 dated June 2, 2017. This PSA is being completed prior to planned roadway improvements along US Highway 221 in Rutherfordton, North Carolina. The scope of work included a geophysical investigation, collection of 13 soil samples and preparation of a PSA report documenting the investigation activities. The PSA is not intended to delineate potential impacts. The PSA was performed within the proposed right-of-way (ROW) as indicated by North Carolina Department of Transportation (NCDOT) provided plan sheets.

1.4 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either expressed or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These services were performed in accordance with Terracon Proposal No. P71177323 dated June 2, 2017 and were not conducted in accordance with ASTM E1903-11.

1.5 Additional Scope Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, undetectable or not present during these services; thus, we cannot represent that the site is free of hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this PSA. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

1.6 Reliance

This report has been prepared for the exclusive use of the NCDOT. Authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the expressed written authorization of the client and Terracon.

2.0 FIELD ACTIVITIES

The following PSA activities are presented in the order that they were conducted in the field.

Exhibit 1 presents the topography of the site on a portion of the USGS Rutherfordton North, North Carolina topographic quadrangle map dated 2002. **Exhibits 2A** and **2B** depict the approximate locations of the site features, soil boring locations and analytical results.

2.1 Geophysical Survey

On July 27 and August 2, 2017, Geophysical Survey Investigations, conducted a geophysical investigation at the site in an effort to evaluate and detect potentially unknown, metallic underground storage tanks and buried utilities beneath the proposed ROW area. The geophysical investigation included an electromagnetic (EM) induction survey using a Geonics EM61-MK2A metal detection instrument with a Hemisphere A101 GPS unit and a ground penetrating radar (GPR) survey using a Geophysical Survey Systems SIR-3000 unit equipped with a 400 MHz antenna.

The geophysical investigation confirmed the presence of five known USTs at the site and did not detect evidence of additional unknown metallic USTs within the survey area at a depth interval of zero to six feet below land surface (bls). In addition to the detection of the USTs, several underground utility lines were detected in the survey area. A copy of the geophysical report is included in **Appendix A**.

2.2 Soil Sampling

Based on the findings of the geophysical investigation and Terracon's site observations, Terracon provided oversight for the advancement of three soil borings (B-186-1, B-186-2 and B-186-3) within Parcel 186 in the vicinity of the known USTs and dispenser islands along the NCDOT ROW on August 16, 2017, then returned to the site on October 26, 2017 to oversee the advancement of ten additional borings (B-186-4 through B-186-13). The initial borings were completed by Innovative Environmental Technologies and the subsequent borings were completed by Environmental Probing and Drilling Services, both North Carolina Certified Well Contractors using a track-mounted AMS 9500-VTR® direct-push drill rig.

Soil samples were collected in 5-foot, disposable, Macro-Core® sampler tubes to document soil lithology, color, moisture content, and sensory evidence of impacts. Each soil sample was screened for organic vapors using an 11.7 eV photoionization detector (PID). The PID data were collected in order to corroborate laboratory data and assist in selection of sample intervals for laboratory analysis. PID readings from the borings ranged from 0.0 parts per million (ppm) to 78.7 ppm.

Based on the proposed disturbance depths and discussions with the NCDOT, each of the soil borings was advanced to a depth of approximately 15 feet bls. Thirteen soil samples, one from each boring, were collected from depths ranging between 5 to 15 feet bls. The initial three samples (B-186-1 through B-186-3) were placed in laboratory provided sample containers and delivered to Pace Analytical Services (Pace) for analysis of Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method 8260 and Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270. The additional 10 samples (B-186-4 through B-186-13) were

placed in laboratory provided sample containers and sent to RED Lab, LLC (RED) for UVF analysis of gasoline range organics (GRO) and diesel range organics (DRO). Soil samples were collected from the depth interval that was most likely to be impacted based on PID readings and field observations.

Soils generally consisted of orange brown, reddish brown and dark brown sandy clay. Groundwater was not encountered in the on-site borings. The soil boring logs are included in **Appendix B**. Sample locations were measured relative to site features and the locations depicted on **Exhibits 2A** and **2B** are approximate.

The drilling equipment used at the site was decontaminated prior to the advancement of each boring. Non-dedicated sampling equipment was decontaminated using a Liquinox®/water wash followed by a distilled water rinse. Each of the boreholes was backfilled with hydrated bentonite pellets and investigation derived waste (IDW).

3.0 DATA EVALUATION

3.1 Soil Analytical Results

Laboratory analyses reported the following VOC and SVOC constituent detections in soil borings B-186-1, B-186-2 and B-186-3.

Boring B-186-1:
- acetone (0.346 milligrams per kilogram [mg/kg])
- 2-butanone (0.034J mg/kg)
- n-butylbenzene (0.0049J mg/kg)
- sec-butylbenzene (0.0032J mg/kg)
- p-isopropyltoluene (0.0053J mg/kg)
- methylene chloride (0.0246 mg/kg)
- napthalene (0.0178 mg/kg)
- n-propylbenzene (0.0019J mg/kg)
- 1,2,4-trimethylbenzene (0.0232 mg/kg)
- 1,3,5-trimethylbenzene (0.0068 mg/kg)
- total xylenes (0.0102J mg/kg)

Boring B-186-2:
- acetone (0.124 mg/kg)
- methylene chloride (0.0233J mg/kg)

Boring B-186-3:
- acetone (0.0466J mg/kg)
- methylene chloride (0.0215J mg/kg)

Laboratory analyses reported the following GRO and DRO constituent detections in soil borings B-186-4 through B-186-13.

Boring B-186-4:
- DRO (10.4 mg/kg)
- Total Aromatics (5.0 mg/kg)
- PAH (0.56 mg/kg)

Boring B-186-5:
- DRO (37.5 mg/kg)
- Total Aromatics (18.0 mg/kg)
- PAH (2.0 mg/kg)
- BaP (0.045 mg/kg

Boring B-186-6:
- DRO (36.6 mg/kg)
- Total Aromatics (18.7 mg/kg)
- PAH (1.0 mg/kg)

Boring B-186-7:
- DRO (31.5 mg/kg)
- Total Aromatics (15.1 mg/kg)
- PAH (1.7 mg/kg)
- BaP (0.039 mg/kg)

Boring B-186-8:
- DRO (7.4 mg/kg)
- Total Aromatics (3.6 mg/kg)
- PAH (0.39 mg/kg)

Boring B-186-9:
- DRO (1.5 mg/kg)
- Total Aromatics (1.2 mg/kg)

Boring B-186-10:
- DRO (6.6 mg/kg)
- Total Aromatics (4.4 mg/kg)

Boring B-186-11:
- DRO (79.8 mg/kg)
- Total Aromatics (38.5 mg/kg)
- PAH (4.3 mg/kg)

- BaP (0.099 mg/kg)

Boring B-186-12:

- GRO (13.4 mg/kg)
- DRO (34.7 mg/kg)
- Total Aromatics (16.8 mg/kg)
- PAH (1.9 mg/kg)
- BaP (0.044 mg/kg)

Boring B-186-13:

- DRO (6.4 mg/kg)
- Total Aromatics (3.1 mg/kg)
- PAH (0.35 mg/kg)

Methylene chloride was the only VOC constituent detected in borings B-186-1 to B-186-3 above its NCDEQ Soil-to-Groundwater Maximum Soil Contaminant Concentration Level (MSCC) of 0.02 mg/kg. Methylene chloride was identified by the laboratory as a common laboratory contaminant, not representative of the site conditions. The other constituents were detected at concentrations below their respective regulatory standards.

The J-flagged values represent estimated constituent concentrations that are above the method detection limit but below the reporting limit.

Tables 2A and 2B summarize the results of the analyses of the soil samples. **Exhibits 2A and 2B** depict the boring locations and analytical results.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The findings of this investigation are discussed below.

- The geophysical investigation confirmed the presence of five USTs on the site but did not detect evidence of additional unknown metallic USTs within the survey area at a depth interval of zero to six feet below land surface (bls).

- Laboratory analytical results identified 11 constituents in the on-site soil borings above their respective laboratory reporting limits. Methylene chloride was the only constituent detected in the borings above its NCDEQ Soil-to-Groundwater MSCC. Methylene chloride was identified by the laboratory as a common laboratory contaminant, not representative of the site conditions. The other constituents were detected at concentrations below their respective MSCCs.

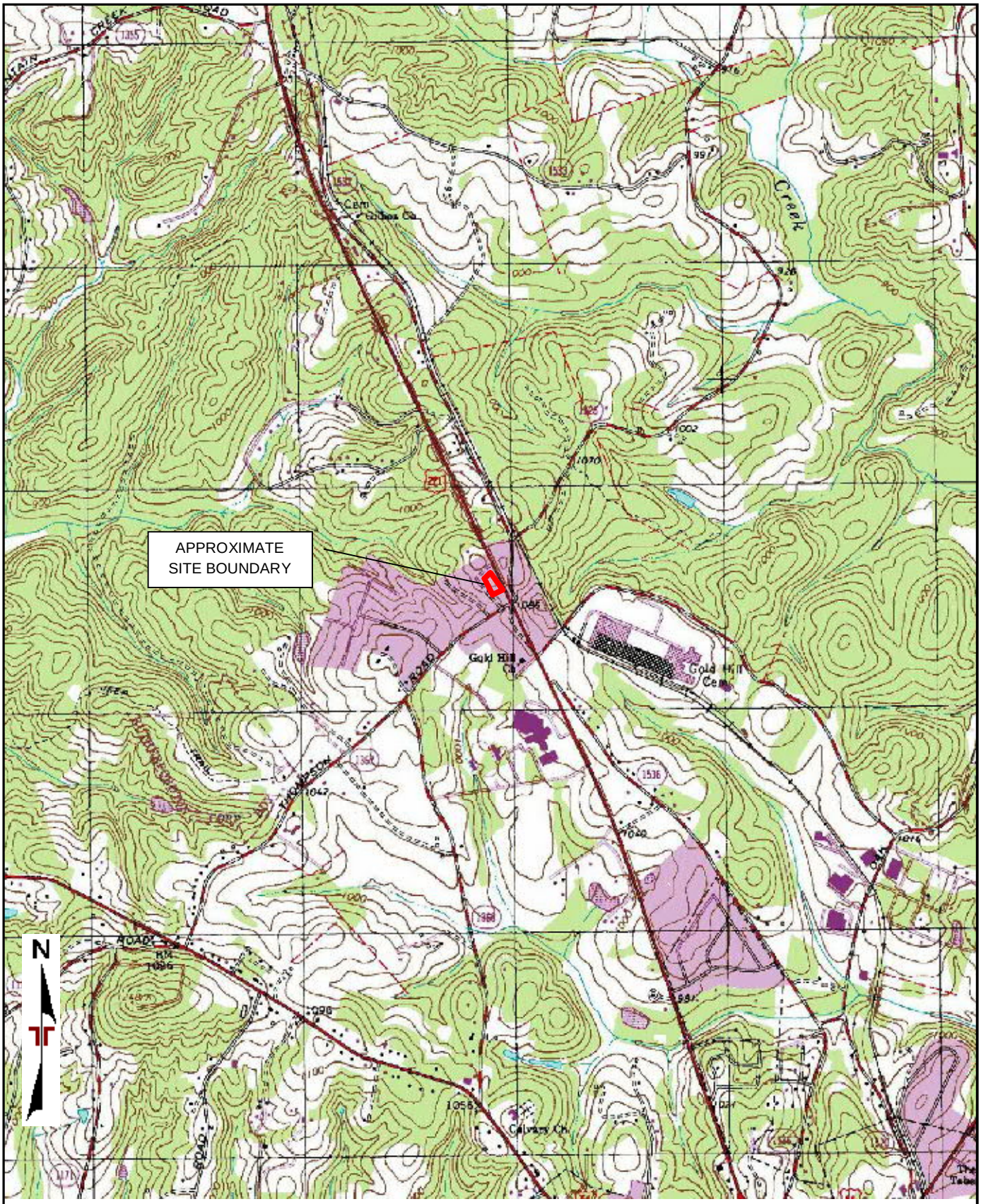
- Based on the analytical results, Terracon does not recommend additional assessment of Parcel 186 at this time; however, the detection of petroleum constituents (below regulatory standards) in borings B-186-1 and B-186-4 through B-186-11 are an indication of a potential release associated with the on-site UST system. As a result, future roadway construction activities at the site could encounter petroleum impacted soils within other areas of the site.

FIGURES

EXHIBIT 1 - TOPOGRAPHIC MAP

EXHIBIT 2A – SITE DIAGRAM WITH SOIL BORING LOCATIONS

EXHIBIT 2B – SITE DIAGRAM WITH SOIL BORING LOCATIONS AND ANALYTICAL DATA



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: RUTHERFORDTON NORTH, NC (1/1/2002).

Project Manager: SAC	Project No. 71177323	Terracon 2020 Starita Rd Ste E Charlotte, NC 28206-1298	TOPOGRAPHIC MAP	Exhibit
Drawn by: SAC	Scale: 1"=2,000'		Parcel 186 – Michael Jones US Highway 221 South Rutherfordton, NC	1
Checked by: CLC	File Name: PARCEL186			
Approved by: CLC	Date: SEPT. 2017			

PROJECT REFERENCE NO.	EXHIBIT
34400.1.S5 (R-2233BB)	2A

SITE DIAGRAM WITH BORING LOCATIONS

PARCEL 186 – MICHAEL A. JONES PROPERTY
923 US 221
RUTHERFORDTON, RUTHERFORD COUNTY

LEGEND

- PROPERTY LINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED CONTROL OF ACCESS LINE WITH CONCRETE MARKER
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF TRAVEL
- PROPOSED CUT / FILL LINE
- PUE — PROPOSED PERMANENT UTILITY EASEMENT
- PROPOSED DRAINAGE PIPING
- OUTLINE UST LOCATION
- BORING LOCATION

0 20 40 80
FEET

PROJECT REFERENCE NO.	EXHIBIT
34400.1.S5 (R-2233BB)	2B

SITE DIAGRAM WITH BORING LOCATIONS AND ANALYTICAL DATA

PARCEL 186 – MICHAEL A. JONES PROPERTY
923 US 221
RUTHERFORDTON, RUTHERFORD COUNTY

LEGEND

- PROPERTY LINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED CONTROL OF ACCESS LINE WITH CONCRETE MARKER
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF TRAVEL
- PROPOSED CUT / FILL LINE
- PUE — PROPOSED PERMANENT UTILITY EASEMENT
- PROPOSED DRAINAGE PIPING
- OUTLINE OF KNOWN UST LOCATION
- BORING LOCATION

B-186-11 (10-15 ft bls)	(mg/kg)
DRO (C10-C35)	79.8
TPH (C5-C35)	79.8
TOTAL AROMATICS	38.5
16 EPA PAHs	4.3
BaP	0.099

B-186-12 (10-12 ft bls)	(mg/kg)
GRO (C5-C10)	13.4
DRO (C10-C35)	34.7
TPH (C5-C35)	48.1
TOTAL AROMATICS	16.8
16 EPA PAHs	1.9
BaP	0.044

B-186-13 (10-15 ft bls)	(mg/kg)
DRO (C10-C35)	6.4
TPH (C5-C35)	6.4
TOTAL AROMATICS	3.1
16 EPA PAHs	0.35

B-186-2 (0-5 ft bls)	(mg/kg)
ACETONE	0.124

B-186-7 (10-15 ft bls)	(mg/kg)
DRO (C10-C35)	31.5
TPH (C5-C35)	31.5
TOTAL AROMATICS	15.1
16 EPA PAHs	1.7
BaP	0.039

B-186-1 (10-15 ft bls)	(mg/kg)
ACETONE	0.346
METHYLENE CHLORIDE	0.0246
NAPTHALENE	0.0178
1,2,4-TRIMETHYLBENZENE	0.0232
1,3,5-TRIMETHYLBENZENE	0.0068

B-186-5 (10-15 ft bls)	(mg/kg)
DRO (C10-C35)	37.5
TPH (C5-C35)	37.5
TOTAL AROMATICS	18.0
16 EPA PAHs	2.0
BaP	0.045

B-186-10 (10-12.5 ft bls)	(mg/kg)
DRO (C10-C35)	6.6
TPH (C5-C35)	6.6
TOTAL AROMATICS	4.4

B-186-4 (10-15 ft bls)	(mg/kg)
DRO (C10-C35)	10.4
TPH (C5-C35)	10.4
TOTAL AROMATICS	5.0
16 EPA PAHs	0.56

B-186-3 (10-15 ft bls)
COMPOUNDS NOT DETECTED ABOVE LABORATORY REPORTING LIMITS

B-186-6 (10-15 ft bls)	(mg/kg)
DRO (C10-C35)	36.6
TPH (C5-C35)	36.6
TOTAL AROMATICS	18.7
16 EPA PAHs	1.0

B-186-9 (10-15 ft bls)	(mg/kg)
DRO (C10-C35)	1.5
TPH (C5-C35)	1.5
TOTAL AROMATICS	1.2

B-186-8 (10-15 ft bls)	(mg/kg)
DRO (C10-C35)	7.4
TPH (C5-C35)	7.4
TOTAL AROMATICS	3.6
16 EPA PAHs	0.39

185 RUTHERFORD CHURCH OF CHRIST
DB 1024 PG 641
PB 32 PG 66

178 MICHAEL E. PRITCHARD
ANGELA C. PRITCHARD
DB 907 PG 178

186 MICHAEL A. JONES
DB 758 PG 870

187 TONY ALLAN THOMPSON
DB 1080 PG 855

188 EDWARD H. PERKINS
DB 949 PG 665

183 SAMANTHA GRACE HOPPER
DB 1079 PG 400

MARY ANN JOHNSON
DB 1006 PG 437

ROBERT D. JOLLEY
MAXINE H. JOLLEY
DB 352 PG 692

ISFD, ISBKD, ISBK BUS, ISLOG BUS, ISF BUS, CANOPY, ISMTLCH, 13" CONC, 24" WD, 15" CMP, US 221, PUE, EIP, W/LT, GR, BST, CONC

NOTES:

SOIL SAMPLES WERE COLLECTED ON AUGUST 16 AND OCTOBER 26, 2017

DETECTED COMPOUNDS ARE SHOWN IN TABLE

SOIL CONCENTRATIONS ARE REPORTED IN MILLIGRAMS PER KILOGRAMS (mg/kg)

ft bls - FEET BELOW LAND SURFACE

GRO (C5-C10) - GASOLINE RANGE ORGANICS

DRO (C10-C35) - DIESEL RANGE ORGANICS

TPH (C5-C35) - TOTAL PETROLEUM HYDROCARBONS

16 EPA PAHs - ENVIRONMENTAL PROTECTION AGENCY POLYCYCLIC AROMATIC HYDROCARBONS

BaP - BENZO(A)PYRENE

MSCC - MAXIMUM SOIL CONTAMINANT CONCENTRATIONS

0 20 40 80
FEET

TABLES

TABLE 1 – SUMMARY OF FIELD SCREENING RESULTS

TABLE 2A – SUMMARY OF SOIL ANALYTICAL RESULTS (VOCs & SVOCs)

TABLE 2B – SUMMARY OF ADDITIONAL SOIL ANALYTICAL RESULTS (UVF)

Table 1
Summary of Field Screening Results
Preliminary Site Assessment
Parcel 186 - Michael Jones
Rutherfordton, Rutherford County, North Carolina
Terracon Project No. 71177323

Sample ID	Screened Interval	PID Value
B-118-1	0-5	6
	5-10	32.1
	10-15	78.7*
B-118-2	0-5	1.8*
	5-10	1.6
	10-15	1.4
B-118-3	0-5	1.7
	5-10	1.4
	10-15	1.7*
B-118-4	0-5	0.0
	5-10	0.0
	10-15	0*
B-118-5	0-5	0.0
	5-10	0.0
	10-15	0*
B-118-6	0-5	0.0
	5-10	4.3
	10-15	11.9*
B-118-7	0-5	2.1
	5-10	1.9
	10-15	11.2*
B-118-8	0-5	0.7
	5-10	0.3
	10-15	0.2*
B-118-9	0-5	0.0
	5-10	0.0
	10-15	0*
B-118-10	0-5	0.0
	5-10	0.0
	10-12.5	0.0*
B-118-11	0-5	0.0
	5-10	0.0
	10-15	0.0*
B-118-12	0-5	0.2
	5-10	0.2
	10-12	0.2*
B-118-13	0-5	0.1
	5-10	0.1
	10-15	0.2*

Notes:
Soil screening was conducted on August 15, 2017.
*indicates sampled interval.
Concentrations are reported in parts per million (ppm).

Table 2A
Summary of Soil Analytical Results
Preliminary Site Assessment
Parcel 186 - Michael Jones
Rutherfordton, Rutherford County, North Carolina
Terracon Project No. 71177323

Sample ID: / Sample Depth (ft bls):	B-186-1 10-15	B-186-2 0-5	B-186-3 10-15	Soil-to-GW MSCC	Residential MSCC	Industrial/ Commercial PSRG
Volatile Organic Compounds (EPA Method 8260)						
Acetone	**0.346**	**0.124**	**0.0466 J**	**24**	**14,000**	**360,000**
2-Butanone (MEK)	**0.034 J**	<0.0034	<0.0032	**16**	**9,385**	**245,280**
n-Butylbenzene	**0.0049 J**	<0.0021	<0.0020	**4.3**	**626**	**16,350**
sec-Butylbenzene	**0.0032 J**	<0.0019	<0.0018	**3.3**	**626**	**16,350**
p-Isopropyltoluene	**0.0053 J**	<0.0020	<0.0019	**NE**	**NE**	**NE**
Methylene Chloride	**0.0246**	**0.0233 J**	**0.0215 J**	**0.02**	**85**	**763**
Naphthalene	**0.0178**	<0.0014	<0.0013	**0.16**	**313**	**8,176**
n-Propylbenzene	**0.0019 J**	<0.0020	<0.0019	**1.7**	**626**	**16,350**
1,2,4-Trimethylbenzene	**0.0232**	<0.0024	<0.0022	**8.5**	**782**	**20,440**
1,3,5-Trimethylbenzene	**0.0068**	<0.0021	<0.0020	**8.3**	**782**	**20,440**
Total Xylenes	**0.0102 J**	<0.0043	<0.0039	**4.6**	**3,129**	**81,760**

Notes:
Soil samples were collected on August 16, 2017.
Detected compounds are shown in the table.
J - estimated concentration between reporting and method detection limits.
Concentrations are reported in milligrams per kilogram (mg/kg).
ft bls - feet below land surface.
NE - Standard not established.
Detections shaded in gray exceed the North Carolina Department of Environmental Quality (NCDEQ) MSCCs.
MSCC - Maximum Soil Contaminant Concentrations.
GW - Groundwater.
Bold: Constituent concentration reported above the method detection limit.

Table 2B
Summary of Additional Soil Analytical Results
Preliminary Site Assessment
Parcel 186 - Michael Jones
Rutherfordton, Rutherford County, North Carolina
Terracon Project No. 71177323

Sample ID:	B-186-4	B-186-5	B-186-6	B-186-7	B-186-8	B-186-9	B-186-10	B-186-11	B-186-12	B-186-13	TPH Action Level
Sample Depth (ft bls):	10-15	10-15	10-15	10-15	10-15	10-15	10-12.5	10-15	10-12	10-15	
UVF Analysis											
BTEX (C6-C9)	<0.57	<1.1	<0.55	<0.59	<0.57	<0.61	<0.63	<0.99	<0.68	<0.64	NE
GRO (C5-C10)	<0.57	<0.57	<0.55	<0.59	<0.57	<0.61	<0.63	<0.99	13.4	<0.64	50
DRO (C10-C35)	10.4	37.5	36.6	31.5	7.4	1.5	6.6	79.8	34.7	6.4	100
TPH (C5-C35)	10.4	37.5	36.6	31.5	7.4	1.5	6.6	79.8	48.1	6.4	NE
Total Aromatics	5	18	18.7	15.1	3.6	1.2	4.4	38.5	16.8	3.1	NE
16 EPA PAHs	0.56	2	1	1.7	0.39	<0.2	<0.2	4.3	1.9	0.35	NE
BaP	<0.023	0.045	<0.022	0.039	<0.023	<0.025	<0.025	0.099	0.044	<0.025	NE

Notes:
Soil samples were collected on October 26, 2017.
Detected compounds are shown in the table.
Concentrations are reported in milligrams per kilogram (mg/kg).
ft bls - feet below land surface.
Bold: Constituent concentration reported above the method detection limit.

APPENDIX A
GEOPHYSICAL SURVEY REPORT

Terracon Consultants, Inc.

GEOPHYSICAL INVESTIGATION TO LOCATE METALLIC USTS

Michael Jones Property
(Parcel 186) 923 US Highway 221
Rutherford County, North Carolina

November 27, 2017
Geophysical Survey Investigations, PLLC Project No. 2017-22

4 Willimantic Drive, Greensboro, NC 27455
Office Tel: (336) 286-9718
denilm@bellsouth.net

Terracon Consultants, Inc.
GEOPHYSICAL INVESTIGATION
TO LOCATE METALLIC USTS
Michael Jones Property
(Parcel 186) 923 US Highway 221
Rutherford County, North Carolina

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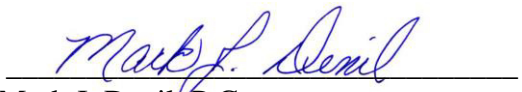
FIGURES

Report prepared for: Christopher L. Corbitt, PG
Terracon Consultants, Inc.
2020 Starita Road, Suite E
Charlotte, North Carolina 28206

Prepared by: 
Mark J. Denil, P.G.
Geophysical Survey Investigations, PLLC

1.0 INTRODUCTION

Geophysical Survey Investigations, PLLC (GSI) conducted an electromagnetic (EM) metal detection survey, ground penetrating radar (GPR) scanning and utility line clearance search for Terracon Consultants, Inc. on July 27 and August 2, 2017 across the accessible portions of the Michael Jones property (Parcel 186) located at 923 US Highway 221 in Rutherford County, North Carolina. The geophysical investigation was performed as part of the North Carolina Department of Transportation (NCDOT) preliminary site assessment for State Project R-2233BB (WBS Element 34400.1.S1) US 221 south of US 74 Business (Charlotte Rd) to north of SR 1366.

The geophysical investigation was conducted to determine if buried, metallic, underground, storage tanks (USTs) are present beneath the proposed Right-of-Way (ROW) and PUE areas of the site. The perimeter of the geophysical survey area (approximate ROW & PUE areas) is shown as a red polygon in the aerial photograph presented in **Figure 1**. The property consists of an abandoned gas station with two dispenser islands surrounded primarily by asphalt pavement and grass surfaces.

Terracon representative Mr. Christopher L. Corbitt, PG provided guidance and site maps to Geophysical Survey Investigations, PLLC personnel prior to conducting the geophysical field work. The geophysical survey area at Parcel 186 has a maximum length and width of 235 feet and 115 feet, respectively. Please note that the ROW and PUE areas at this site were not marked in the field or the survey markers were not visible at the time the geophysical investigation was conducted.

2.0 FIELD METHODOLOGY

The EM investigation was performed across the geophysical survey area (proposed ROW and PUE areas) using a Geonics EM61-MK2A metal detection instrument with a Hemisphere A101 GPS unit. EM61 metal detection data and GPS coordinates were digitally collected in latitude and longitude geodetic format (NAD83) using a Juniper data recorder at approximately 1.0 foot intervals along survey lines spaced approximately five feet apart. The Trackmaker NAV61MK2 software program was used with the data recorder to view the relative positions of the survey lines in real time during data acquisition.

According to the instrument specifications, the EM61-MK2A can detect a metal drum down to a maximum depth of approximately 8 to 10 feet. Objects less than one foot in size can be detected to a maximum depth of 4 or 5 feet. The EM61 and GPS data were downloaded to a computer and processed in the field using the Trackmaker61 and Surfer for Windows software programs. GPS coordinates were converted during data processing to Universal Transverse Mercator (UTM) coordinates (in feet) which are used as location control in this report.

GPR scans were performed along northerly-southerly and easterly-westerly directions spaced primarily 3 to 5 feet apart across selected EM61differential anomalies and areas containing steel reinforced concrete using the Geophysical Survey Systems SIR-3000 unit equipped with a 400 MHz antenna. GPR data were viewed in real time in a continuous mode using a vertical scan of 512 samples, at a sampling rate of 48 scans per second. A 70 MHz high pass filter and an 800 MHz low pass filter were used during data acquisition with the 400 MHz antenna. GPR data were viewed to a maximum investigating depth of approximately 6.0 feet based on an estimated two-way travel time of 8.0 nanoseconds per foot.

Following the UST investigation, areas around the proposed Terracon soil borings were scanned with the GPR unit and a DitchWitch 910 utility locator for buried utility line clearance and no further discussion regarding the utility clearance work will be made in this report. Photographs of the geophysical equipment used for the investigation and of the site are presented in Figure 1.

3.0 DISCUSSION OF RESULTS

Contour plots of the EM61 early time gate results and the EM61 differential results are presented in **Figures 2 and 3**, respectively. The early time gate results represent the most sensitive component of the EM61 instrument and detect metal objects regardless of size. The early time gate response can be used to delineate metallic conduits or utility lines, small, isolated, metal objects and areas containing insignificant metal debris. The differential results are obtained from the difference between the early time gate channel and late time gate channel of the EM61 instrument. The differential results focus on the larger metal objects such as drums and UST-size objects and ignore the smaller, insignificant, metal objects or debris.

The linear, EM61 early time gate anomalies intersecting UTM coordinates 1351420-E 12857023-N, 1351452-E 12856971-N, 1351458-E 12856960-N, 1351463-E 12856952-N, 1351507-E 12856962-N, and 1351485-E 12856916-N are probably in response to buried utility lines or conduits. The early time gate anomalies at 1351434-E 12857003-N, 1351509-E 12856972-N and 1351499-E 12856894-N are probably in response to UST vent pipes, a metal light pole and a telephone, respectively. GPR scanning suggests the EM61 differential anomalies centered near coordinates 1351449-E, 12857041-N, 1351454-E, 12856929-N and 1351470-E, 12856912-N are in response to the pump dispenser and associated conduits and to the buildings, respectively.

GPR scanning suggests that the large, high amplitude, EM61 differential anomalies centered near UTM coordinates 1351448-E 12857010-N, 1351458-E 12857014-N and 1351468-E 12857014-N are in response to three known USTs referred to in this report as "UST-1, UST-2 and UST-3", respectively. Based on GPR data, UST-1 is approximately18.5 feet long, 4.5 feet wide and lies 2.5 feet below present grade. UST-2 is approximately 22.5 feet long, 4.5 feet wide and lies 3.3 feet below present grade. UST-3 is approximately 14.0 feet long, 4.0 feet wide and lies 2.3 feet below present grade. Valve covers are present at each of the three USTs which are oriented in a slightly northwesterly-southeasterly direction. A GPR image of the USTs and a photograph showing the locations of the USTs are presented in **Figure 4**.

GPR scanning suggests that the large, high amplitude, EM61 differential anomalies centered near UTM coordinates 1351464-E 12856977-N and 1351475-E 12856956-N are in response to two known USTs referred to in this report as "UST-4 and UST-5", respectively. Based on GPR data, UST-4 is approximately 26.0 feet long, 5.0 feet wide and 1.8 feet below present grade. The length of UST-4 suggests a possibility that UST-4 consists of two separate tanks. However, the GPR data suggest only one tank with a set of valve covers located at the southerly end of the UST.

Based on GPR data, UST-5 is approximately 17.5 feet long, 5.0 feet wide and 2.0 feet below present grade. Two UST valve covers are visible at the northerly end of UST-5. USTs - 4 and 5 are oriented in a northwesterly-southeasterly direction. GPR images across UST-4 and UST-5 and a photograph showing the locations of the USTs are presented in **Figure 5**. The foot prints of the five aforementioned USTs were marked in the field using orange marking paint.

Excluding the aforementioned five USTs, the EM61 and GPR investigation suggests the remaining portion of the geophysical survey area (proposed ROW/PUE area) at Parcel 186 does not contain metallic USTs. Please refer to Figures 2 through 5 for additional (detailed) information regarding the geophysical findings at this site. The EM61 results are also shown on NCDOT base maps in **Figures 6** and **7**.

4.0 SUMMARY & CONCLUSIONS

Our evaluation of the EM61 and GPR data collected across the geophysical survey area at the Michael Jones property (Parcel 186) located at 923 US Highway 221 in Rutherford County, North Carolina provides the following summary and conclusions:

- The combination of EM61 and GPR surveys provided reliable results for the detection of metallic USTs across the survey area within the depth interval of 0 to 8 feet.

- The linear, EM61 early time gate anomalies intersecting UTM coordinates 1351420-E 12857023-N, 1351452-E 12856971-N, 1351458-E 12856960-N, 1351463-E 12856952-N, 1351507-E 12856962-N, and 1351485-E 12856916-N are probably in response to buried utility lines or conduits.

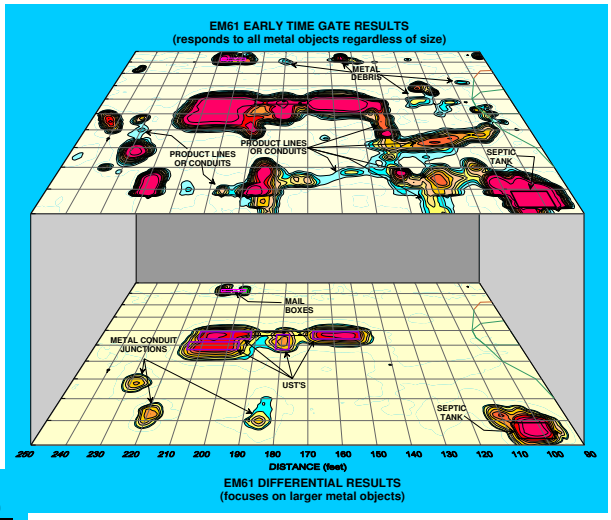
- GPR scanning suggests that the large, high amplitude, EM61 differential anomalies centered near UTM coordinates 1351448-E 12857010-N, 1351458-E 12857014-N and 1351468-E 12857014-N are in response to three known USTs referred to in this report as "UST-1, UST-2 and UST-3", respectively.

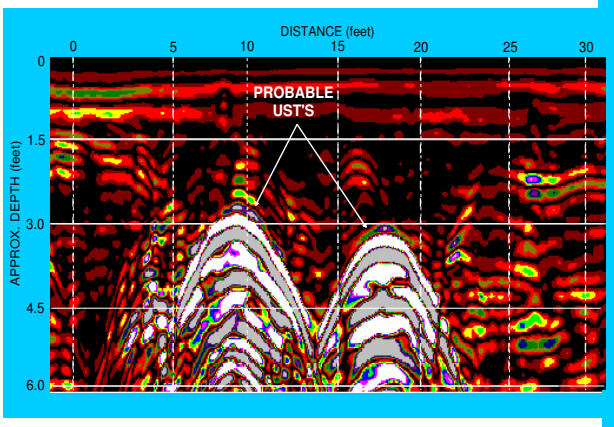
- GPR scanning suggests that the large, high amplitude, EM61 differential anomalies centered near UTM coordinates 1351464-E 12856977-N and 1351475-E 12856956-N are in response to two known USTs referred to in this report as "UST-4 and UST-5", respectively.

- Excluding the aforementioned five USTs, the EM61 and GPR investigation suggests the remaining portion of the geophysical survey area (proposed ROW/PUE area) at Parcel 186 does not contain metallic USTs.

5.0 LIMITATIONS

EM61 and GPR surveys have been performed and this report prepared for Terracon Consultants, Inc. in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the geophysical surveys are non-unique and may not represent actual subsurface conditions. Some of the EM61 and GPR anomalies interpreted as possible/probable USTs, utility lines, conduits, steel reinforced concrete, or miscellaneous, metal debris may be attributed to other surface or subsurface features and/or interference from cultural features.

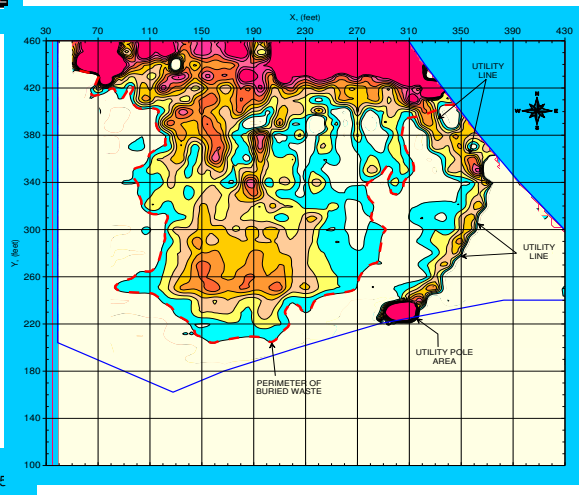


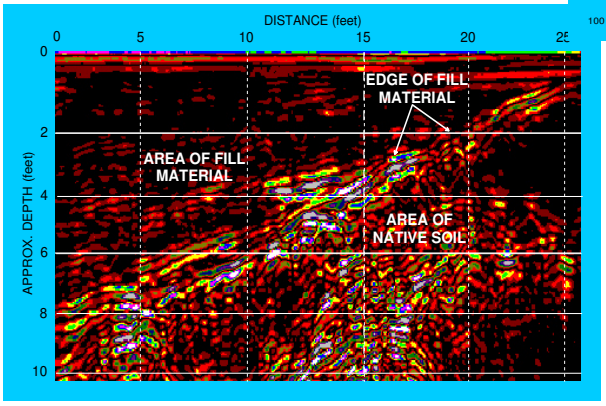


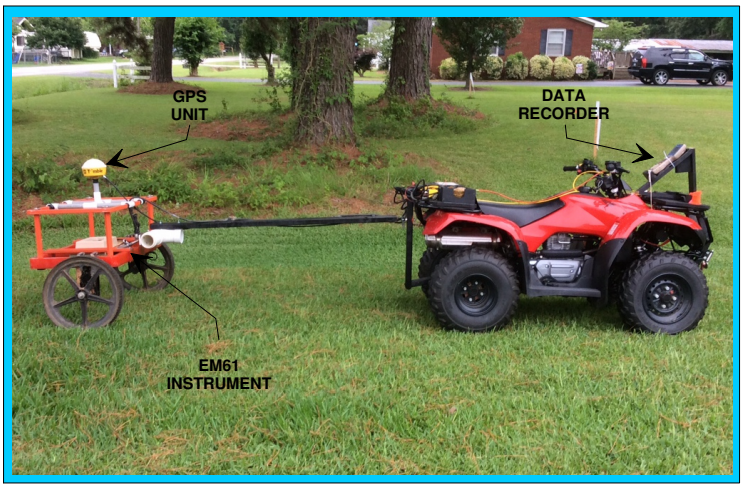
REPORT FIGURES

(on the following pages)

Figures shown on this page are for esthetic purposes only and are not related to the site discussed in this report







EM61 METAL DETECTOR

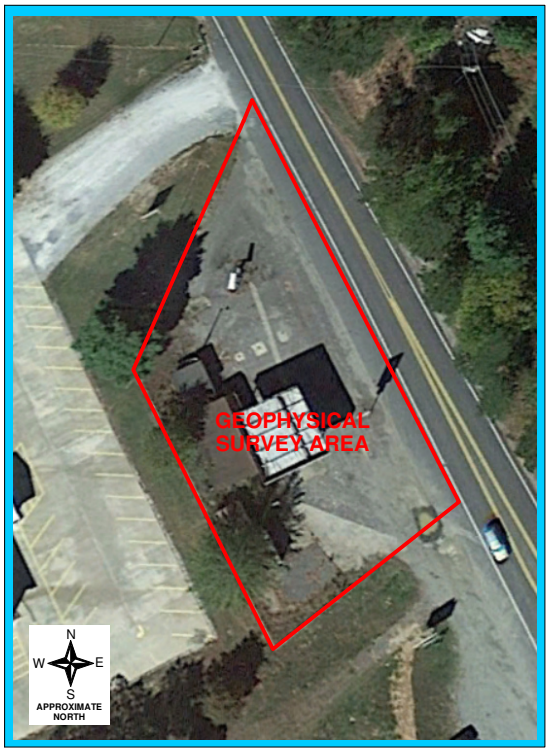
The photograph shows the Geonics EM61-MK2A metal detector, a Hemisphere A101 GPS unit, a Juniper data recorder, and a Honda Recon ATV which were used to conduct the metal detection survey across the Michael Jones property.

GROUND PENETRATING RADAR UNIT

The photograph shows the Geophysical Survey Systems SIR-3000 ground penetrating radar (GPR) unit equiped with a 400 MHz antenna that were used to conduct the GPR scanning across selected portions of the site.

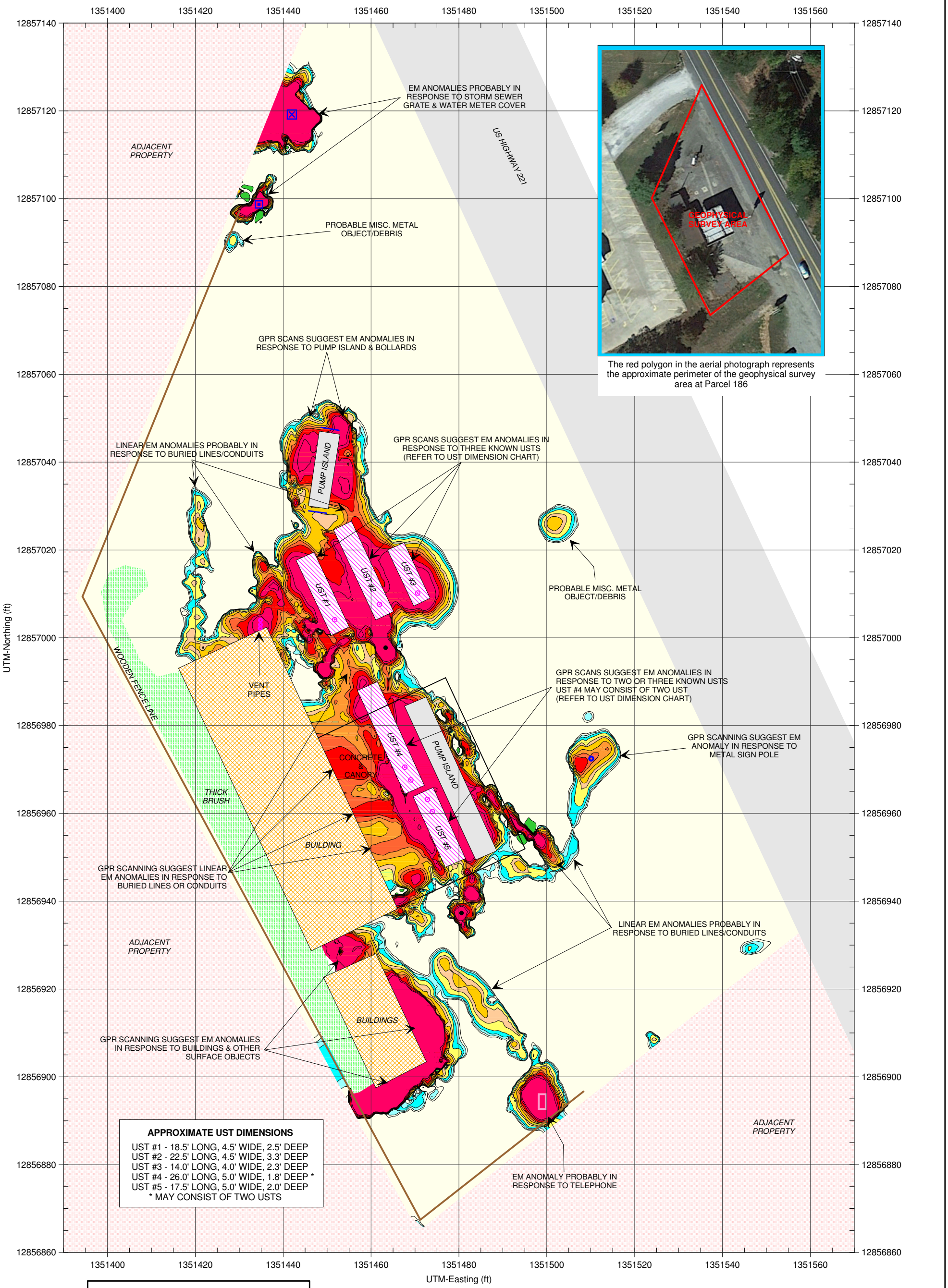
DITCHWITCH UTILITY LOCATOR

The photograph shows the DitchWitch 910 utility locator which was used to detect buried lines across the proposed boring locations.



GEOPHYSICAL SURVEY AREA

The red polygon in the aerial photograph represents the approximate perimeter of the geophysical survey area at the Michael Jones property (Parcel 186). The geophysical investigation was conducted on July 27 and August 2, 2017.



The red polygon in the aerial photograph represents the approximate perimeter of the geophysical survey area at Parcel 186

LEGEND

- SURVEY AREA: EM61 ACQUIRED ALONG LINES SPACED APPROX. 5 FEET APART
- BUILDING
- WOODEN FENCE LINE
- WATER METER COVER
- MONITORING WELL COVER
- METAL SIGN POLE
- STORM SEWER GRATE
- TELEPHONE
- UST VENT PIPES
- UST COVER
- UST — PROBABLE (KNOWN) USTS, AS SUGGESTED BY GEOPHYSICAL DATA

EM61 EARLY TIME GATE RESPONSE
(in millivolts/meter)

-5000 -100 -90 -50 -60 -75 100 150 200 300 400 500 750 1000

The contour plot shows the early time gate (most sensitive) response of the Geonics EM61-MK2A metal detection instrument in millivolts (mV). The early time gate response shows buried, metallic objects, lines and conduits regardless of size. GPR scans were conducted across selected EM61 anomalies and steel reinforced concrete using a Geophysical Survey Systems SIR 3000 instrument with a 400 MHz antenna. The geophysical investigation was conducted on July 27 and August 2, 2017.

N
W E
S
APPROXIMATE NORTH

EM61-MK2A METAL DETECTION
(EARLY TIME GATE RESULTS)

Terracon Consultants, Inc.
Michael Jones Property
(Parcel 186) 923 US Highway 221
Rutherford County, North Carolina

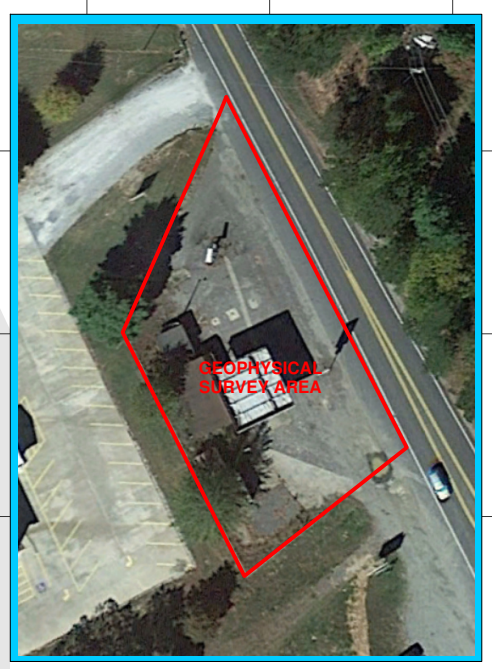
GEOPHYSICAL SURVEY INVESTIGATIONS

11/27/17 336-286-9718 FIGURE 2

EM ANOMALIES PROBABLY IN RESPONSE TO STORM SEWER GRATE & WATER METER COVER

ADJACENT PROPERTY

US HIGHWAY 221



The red polygon in the aerial photograph represents the approximate perimeter of the geophysical survey area at Parcel 186

GPR SCANS SUGGEST EM ANOMALIES IN RESPONSE TO PUMP ISLAND & BOLLARDS

LINEAR EM ANOMALIES PROBABLY IN RESPONSE TO BURIED LINES/CONDUITS

GPR SCANS SUGGEST EM ANOMALIES IN RESPONSE TO THREE KNOWN USTS (REFER TO UST DIMENSION CHART)

PUMP ISLAND

UST #1

UST #2

UST #3

WOODEN FENCE LINE

VENT PIPES

GPR SCANS SUGGEST EM ANOMALIES IN RESPONSE TO TWO OR THREE KNOWN USTS UST #4 MAY CONSIST OF TWO UST (REFER TO UST DIMENSION CHART)

UST #4

PUMP ISLAND

UST #5

CONCRETE & CANOPY

GPR SCANNING SUGGEST EM ANOMALY IN RESPONSE TO METAL SIGN POLE

THICK BRUSH

BUILDING

GPR SCANNING SUGGEST LINEAR EM ANOMALIES IN RESPONSE TO BURIED LINES OR CONDUITS

LINEAR EM ANOMALY PROBABLY IN RESPONSE TO BURIED LINE/CONDUIT

ADJACENT PROPERTY

BUILDINGS

GPR SCANNING SUGGEST EM ANOMALIES IN RESPONSE TO BUILDINGS & OTHER SURFACE OBJECTS

EM ANOMALY PROBABLY IN RESPONSE TO TELEPHONE

ADJACENT PROPERTY

APPROXIMATE UST DIMENSIONS

UST #1 - 18.5' LONG, 4.5' WIDE, 2.5' DEEP
UST #2 - 22.5' LONG, 4.5' WIDE, 3.3' DEEP
UST #3 - 14.0' LONG, 4.0' WIDE, 2.3' DEEP
UST #4 - 26.0' LONG, 5.0' WIDE, 1.8' DEEP *
UST #5 - 17.5' LONG, 5.0' WIDE, 2.0' DEEP
* MAY CONSIST OF TWO USTS

UTM-Northing (ft)

12857140, 12857120, 12857100, 12857080, 12857060, 12857040, 12857020, 12857000, 12856980, 12856960, 12856940, 12856920, 12856900, 12856880, 12856860

1351400, 1351420, 1351440, 1351460, 1351480, 1351500, 1351520, 1351540, 1351560

UTM-Easting (ft)

LEGEND

- SURVEY AREA: EM61 ACQUIRED ALONG LINES SPACED APPROX. 5 FEET APART
- BUILDING
- WOODEN FENCE LINE
- WATER METER COVER
- MONITORING WELL COVER
- METAL SIGN POLE
- STORM SEWER GRATE
- TELEPHONE
- UST VENT PIPES
- UST COVER
- UST — PROBABLE (KNOWN) USTS, AS SUGGESTED BY GEOPHYSICAL DATA

EM61 DIFFERENTIAL RESPONSE
(in millivolts/meter)

-5000, -100, -90, 50, 60, 75, 100, 150, 200, 300, 400, 500, 750, 1000

The contour plot shows the differential response between the early time gate and the late time gate channels of the Geonics EM61-MK2A metal detection instrument in millivolts (mV). The differential response focuses on larger, buried, metallic objects such as drums and USTs and ignores smaller miscellaneous, metal debris. Ground penetrating radar (GPR) scans were conducted across selected EM61 anomalies and areas containing reinforced concrete using a Geophysical Survey Systems SIR 3000 unit with a 400 MHz antenna. The geophysical investigation was conducted on July 27 and August 2, 2017.

N
W E
S
APPROXIMATE NORTH

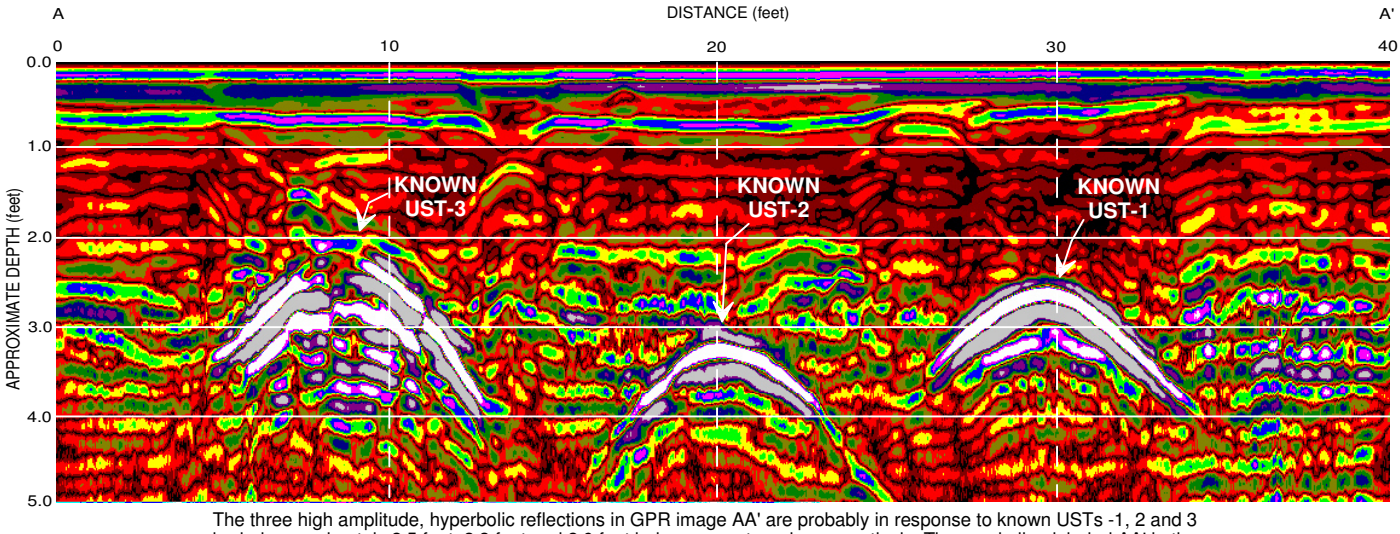
EM61-MK2A METAL DETECTION (DIFFERENTIAL RESULTS)

Terracon Consultants, Inc.
Michael Jones Property
(Parcel 186) 923 US Highway 221
Rutherford County, North Carolina

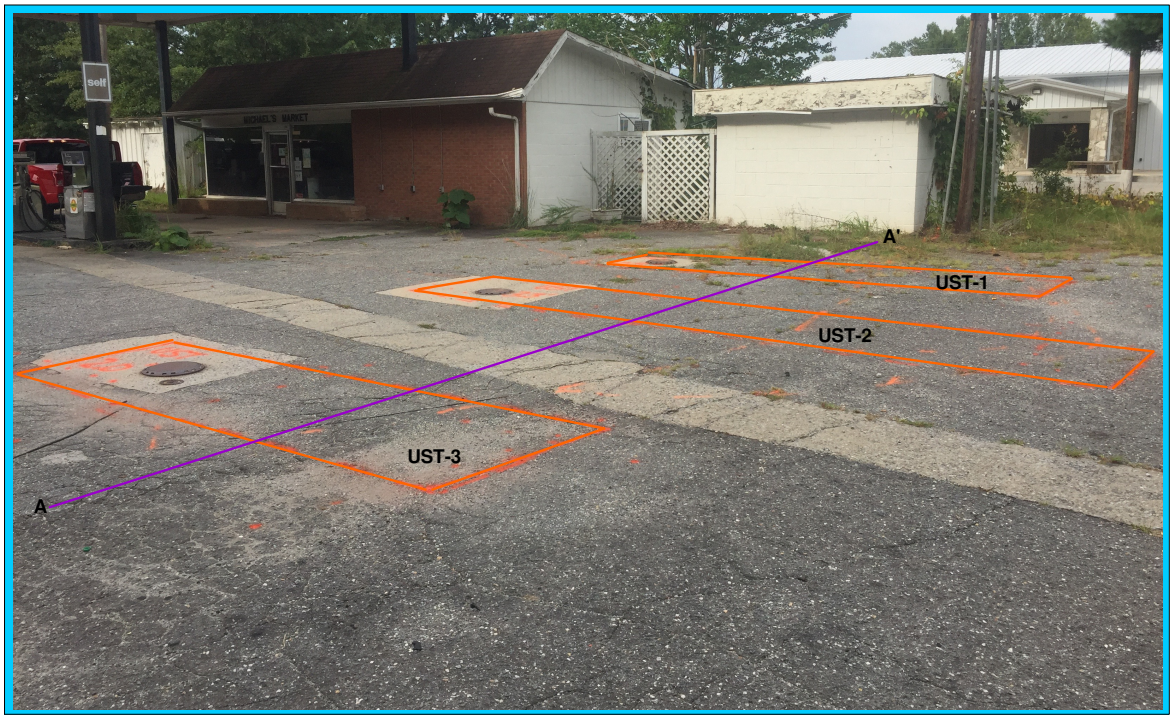
GEOPHYSICAL SURVEY INVESTIGATIONS

11/27/17 336-286-9718 FIGURE 3

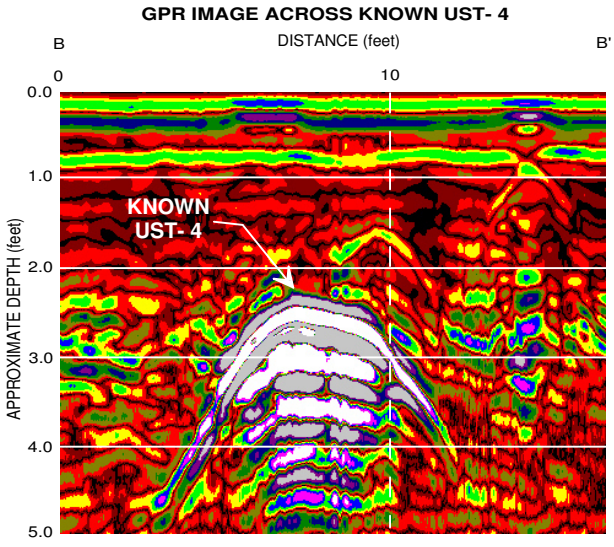
GPR IMAGE ACROSS KNOWN USTS-1, 2 & 3



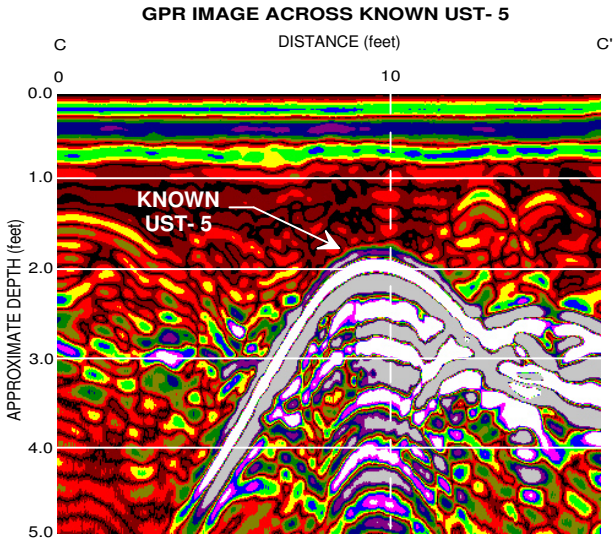
The three high amplitude, hyperbolic reflections in GPR image AA' are probably in response to known USTs -1, 2 and 3 buried approximately 2.5 feet, 3.3 feet and 2.0 feet below present grade, respectively. The purple line labeled AA' in the photograph shown below represents the approximate location of the GPR image.



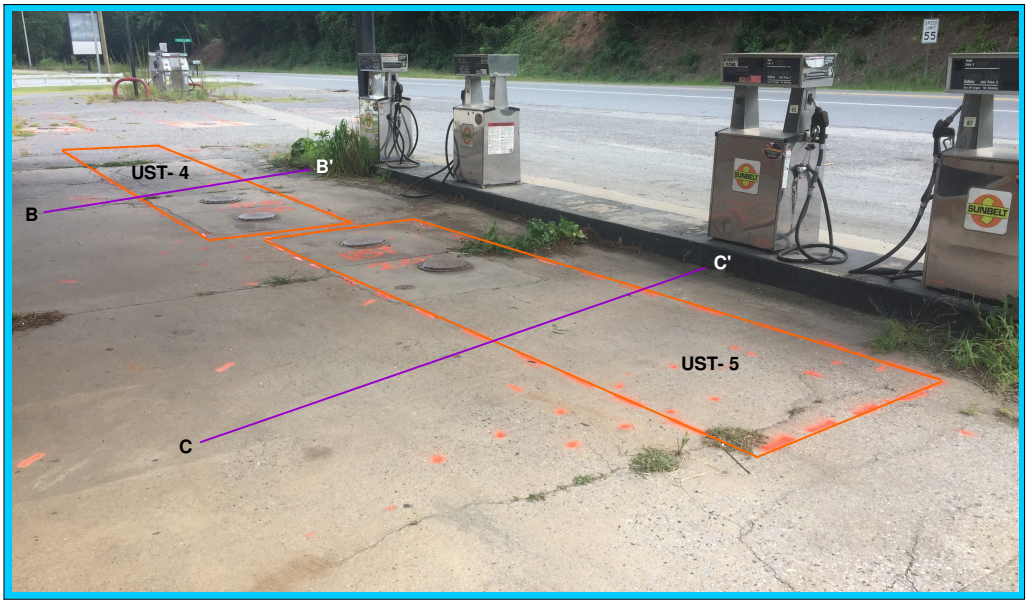
The orange rectangles in the photograph represent the approximate foot prints of known USTS - 1, 2 and 3 that were detected by the geophysical investigation. Based on the GPR data, UST-1 is approximately 18.5 feet long, 4.5 feet wide and buried 2.5 feet below present grade. UST- 2 is approximately 22.5 feet long, 4.5 feet wide and buried 3.3 feet below present grade. UST- 3 is approximately 14.0 feet long, 4.0 feet wide and buried 2.0 feet below present grade. The solid purple line labeled AA' in the photograph represents the approximate location of GPR image AA' shown above. The photograph is viewed in a southwesterly direction.



The high amplitude, hyperbolic reflections in GPR image BB' (left) are probably in response to known UST - 4 that lies approximately 2.3 feet below present grade. The purple line labeled BB' in the photograph shown below represents the approximate location of the GPR image.



The high amplitude, hyperbolic reflections in GPR image CC' (right) are probably in response to known UST - 5 that lies approximately 1.8 feet below present grade. The purple line labeled CC' in the photograph shown below represents the approximate location of the GPR image.



The orange rectangles in the photograph represent the approximate foot prints of known USTS - 4 and 5 that were detected by the geophysical investigation. Based on the GPR data, UST- 4 is approximately 26.0 feet long, 5.0 feet wide and buried 2.3 feet below present grade. UST- 5 is approximately 17.5 feet long, 5.0 feet wide and buried 1.8 feet below present grade. The solid purple lines labeled BB' and CC' in the photograph represent the approximate locations of GPR images BB' and CC' shown above. The photograph is viewed in a northerly direction.

GEOPHYSICAL SURVEY INVESTIGATIONS
(336)286-9718
www.geo-survey.com

Terracon Consultants, Inc.
Michael Jones Property
(Parcel 186) 923 US Highway 221
Rutherford County, North Carolina

GPR IMAGES & PHOTOGRAPH
ACROSS KNOWN USTS - 4 & 5

11/27/17

FIGURE 5

PROJECT REFERENCE NO.	FIGURE
34400.1.S5 (R-2233BB)	6

SITE DIAGRAM WITH EM61-MK2A METAL DETECTION (EARLY TIME GATE RESULTS)

PARCEL 186 – MICHAEL A. JONES PROPERTY
923 US 221
RUTHERFORDTON, RUTHERFORD COUNTY

LEGEND

- PROPERTY LINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED CONTROL OF ACCESS LINE WITH CONCRETE MARKER
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF TRAVEL
- PROPOSED CUT / FILL LINE
- PUE — PROPOSED PERMANENT UTILITY EASEMENT
- PROPOSED DRAINAGE PIPING
- OUTLINE OF KNOWN UST LOCATION
- BORING LOCATION
- S — AREA OF KNOWN SOIL CONTAMINATION

EM61 EARLY TIME GATE RESPONSE (mV)
1000
750
500
400
300
200
150
100
75
60
45
-90
-100
-200
-400
-5000

0 20 40 80
FEET

185
RUTHERFORD CHURCH OF CHRIST
DB 1024 PG 641
PB 32 PG 66

186
MICHAEL A. JONES
DB 758 PG 870

178
MICHAEL E. PRITCHARD
ANGELA C. PRITCHARD
DB 907 PG 178

187
TONY ALLAN THOMPSON
DB 1080 PG 855

188
EDWARD H. PERKINS
DB 949 PG 665

183
SAMANTHA GRACE HOPPER
DB 1079 PG 400

193
MARY ANN JOHNSON
DB 1006 PG 437

ROBERT D. JOLLEY
MAXINE H. JOLLEY
DB 352 PG 692

1913

ISMTLCH
ISBKO
ISBLK BUS
ISLOG BUS
ISF BUS
ISFD
CANOPY
CONC
GR
BST
US 221
FULLER CT
HURCH RD
13" CONC
15" CMP
24" WD
W/LT
EIP
PUE

PROJECT REFERENCE NO.	FIGURE
34400.1.S5 (R-2233BB)	7

SITE DIAGRAM WITH EM61-MK2A METAL DETECTION (DIFFERENTIAL RESULTS)

PARCEL 186 – MICHAEL A. JONES PROPERTY
923 US 221
RUTHERFORDTON, RUTHERFORD COUNTY

LEGEND

- PROPERTY LINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED CONTROL OF ACCESS LINE WITH CONCRETE MARKER
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF TRAVEL
- PROPOSED CUT / FILL LINE
- PUE — PROPOSED PERMANENT UTILITY EASEMENT
- PROPOSED DRAINAGE PIPING
- OUTLINE OF KNOWN UST LOCATION
- BORING LOCATION
- S - AREA OF KNOWN SOIL CONTAMINATION

EM61 DIFFERENTIAL RESPONSE (mV)
1000
750
500
400
300
200
150
100
75
60
45
-90
-100
-200
-400
-5000

0 20 40 80
FEET

RUTHERFORD CHURCH OF CHRIST
DB 1024 PG 641
PB 32 PG 66
185
ISMTLCH
GR
CONC
MICHAEL E. PRITCHARD
ANGELA C. PRITCHARD
DB 907 PG 178
178
MICHAEL A. JONES
DB 758 PG 870
186
ISFD
ISBKO
13' CONC
TONY ALLAN THOMPSON
DB 1080 PG 855
187
ISBLK BUS
ISLOG BUS
CANOPY
24" WD
BST
15" CMP
FULLER CT
1913
ISF BUS
188
EDWARD H. PERKINS
DB 949 PG 665
US 221
SAMANTHA GRACE HOPPER
DB 1079 PG 400
183
193
MARY ANN JOHNSON
DB 1006 PG 437
ROBERT D. JOLLEY
MAXINE H. JOLLEY
DB 352 PG 692
HURCH RD
PUE
EIP
W/LT

APPENDIX B
BORING LOGS

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-1
PROJECT NO. 71177323	DATE(S) DRILLED: August 16, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Innovative Environmental Technologies
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	brown/red sandy clay
0-5.0		NA	6.0		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	32.1		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					15.5	tan/brown/red sandy clay
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	78.7		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-2
PROJECT NO. 71177323	DATE(S) DRILLED: August 16, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Innovative Environmental Technologies
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	brown/tan sandy clay
0-5.0		NA	1.8		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	1.6		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					15.5	dark brown/black sandy clay
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	1.4		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-3
PROJECT NO. 71177323	DATE(S) DRILLED: August 16, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Innovative Environmental Technologies
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	dark brown, chalky white sandy clay
0-5.0		NA	1.7		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	1.4		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					15.5	
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	1.7		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-4
PROJECT NO. 71177323	DATE(S) DRILLED: October 26, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Environmental Drilling and Probing Service
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	orange/brown sandy clay
0-5.0		NA	0.0		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	0.0		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					15.5	
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	0.0		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-5
PROJECT NO. 71177323	DATE(S) DRILLED: October 26, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Environmental Drilling and Probing Service
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	orange/brown sandy clay
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	
0-5.0		NA	0.0		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	0.0		10.0	
					10.5	light brown silty clay
					11.0	
					11.5	
					12.0	
					15.5	
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	0.0		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-6
PROJECT NO. 71177323	DATE(S) DRILLED: October 26, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Environmental Drilling and Probing Service DRILL METHOD: Direct Push BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	dark brown sandy clay
0-5.0		NA	0.0		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	4.3		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					15.5	brown/orange sandy clay
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	11.9		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-7
PROJECT NO. 71177323	DATE(S) DRILLED: October 26, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Environmental Drilling and Probing Service
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	orange/tan sandy clay
0-5.0		NA	2.1		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	1.9		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					15.5	brown/orange sandy clay
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	11.2		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-8
PROJECT NO. 71177323	DATE(S) DRILLED: October 26, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Environmental Drilling and Probing Service
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	orange/tan sandy clay
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	
0-5.0		NA	0.7		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	0.3		10.0	
					10.5	brown/orange sandy clay
					11.0	
					11.5	
					12.0	
					15.5	
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	0.2		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-9
PROJECT NO. 71177323	DATE(S) DRILLED: October 26, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Environmental Drilling and Probing Service
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	dark brown sandy clay
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	
0-5.0		NA	0.0		5.0	
					5.5	
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	0.0		10.0	
					10.5	light brown sandy clay
					11.0	
					11.5	
					12.0	
					15.5	
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	0.0		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-10
PROJECT NO. 71177323	DATE(S) DRILLED: October 26, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Environmental Drilling and Probing Service
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	brown sandy clay
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	
0-5.0		NA	0.0		5.0	
					5.5	dark brown sandy clay
					6.0	
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	0.0		10.0	
					10.5	brown/gray sandy clay
					11.0	
					11.5	
					12.0	
					15.5	
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	0.0		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-11
PROJECT NO. 71177323	DATE(S) DRILLED: October 26, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Environmental Drilling and Probing Service
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	
0-5.0		NA	0.0		5.0	
					5.5	
					6.0	brown/gray sandy clay
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	0.0		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					15.5	
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	0.0		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-12
PROJECT NO. 71177323	DATE(S) DRILLED: October 26, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Environmental Drilling and Probing Service
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	
0-5.0		NA	0.2		5.0	
					5.5	
					6.0	brown/gray sandy clay
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	0.2		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					15.5	
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	0.2		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

SOIL BORING LOG

PROJECT NAME: Parcel 186 -Michael Jones	SOIL BORING I.D. B-186-13
PROJECT NO. 71177323	DATE(S) DRILLED: October 26, 2017
PROJECT LOCATION: 923 US 221 Rutherfordton, North Carolina	DRILLING CONTR: Environmental Drilling and Probing Service
	DRILL METHOD: Direct Push
	BORING DIAMETER: 2 inches
CLIENT: North Carolina Department of Transportation	SAMPLING METHOD/INTERVAL: GP (5-Foot)
LOGGED BY: S. Alex Chinery	REMARKS: BGS = below grade surface

DESCRIPTIVE LOG

SAMPLE INTERVAL	SAMPLE REC. (IN.)	BLOWS PER 6"	PID/FID (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF SOIL
					0.0	
					0.5	
					1.0	
					1.5	
					2.0	
					2.5	
					3.0	
					3.5	
					4.0	
					4.5	
0-5.0		NA	0.1		5.0	
					5.5	
					6.0	brown/gray sandy clay
					6.5	
					7.0	
					7.5	
					8.0	
					8.5	
					9.0	
					9.5	
5.0-10.0		NA	0.1		10.0	
					10.5	
					11.0	
					11.5	
					12.0	
					15.5	
					13.0	
					13.5	
					14.0	
					14.5	
10.0-15.0		NA	0.2		15.0	BORING TERMINATED AT 15 FEET BGS
					15.5	
					16.0	

DRILLING METHODS
AR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
SS - SPLIT SPOON
ST - SHELBY TUBE
GP - GEOPROBE

* - Sample collected for analysis
ND = <1 ppm

Terracon

APPENDIX C
LABORATORY ANAYLTICAL REPORT AND CHAIN OF CUSTODY

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

August 18, 2017

Alex Chinery
Terracon
2020E Starita Road
Charlotte, NC 28206

RE: Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Dear Alex Chinery:
Enclosed are the analytical results for sample(s) received by the laboratory on August 16, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Taylor Ezell
taylor.ezell@pacelabs.com
(704)875-9092
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92351820001	**B-186-1**	Solid	08/16/17 09:05	08/16/17 15:55
92351820002	**B-186-2**	Solid	08/16/17 09:12	08/16/17 15:55
92351820003	**B-186-3**	Solid	08/16/17 09:16	08/16/17 15:55

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SAMPLE ANALYTE COUNT

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92351820001	**B-186-1**	EPA 8270	RES	74	PASI-C
		EPA 8260	DLK	70	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92351820002	**B-186-2**	EPA 8270	RES	74	PASI-C
		EPA 8260	DLK	70	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92351820003	**B-186-3**	EPA 8270	RES	74	PASI-C
		EPA 8260	DLK	70	PASI-C
		ASTM D2974-87	KDF	1	PASI-C

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SUMMARY OF DETECTION

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92351820001	**B-186-1**					
EPA 8260	Acetone	346	ug/kg	108	08/18/17 12:18	
EPA 8260	2-Butanone (MEK)	34.0J	ug/kg	108	08/18/17 12:18	
EPA 8260	n-Butylbenzene	4.9J	ug/kg	5.4	08/18/17 12:18	
EPA 8260	sec-Butylbenzene	3.2J	ug/kg	5.4	08/18/17 12:18	
EPA 8260	p-Isopropyltoluene	5.3J	ug/kg	5.4	08/18/17 12:18	
EPA 8260	Methylene Chloride	24.6	ug/kg	21.5	08/18/17 12:18	C9
EPA 8260	Naphthalene	17.8	ug/kg	5.4	08/18/17 12:18	
EPA 8260	n-Propylbenzene	1.9J	ug/kg	5.4	08/18/17 12:18	
EPA 8260	1,2,4-Trimethylbenzene	23.2	ug/kg	5.4	08/18/17 12:18	
EPA 8260	1,3,5-Trimethylbenzene	6.8	ug/kg	5.4	08/18/17 12:18	
EPA 8260	m&p-Xylene	5.7J	ug/kg	10.8	08/18/17 12:18	
EPA 8260	o-Xylene	4.5J	ug/kg	5.4	08/18/17 12:18	
ASTM D2974-87	Percent Moisture	19.0	%	0.10	08/17/17 08:06	
92351820002	**B-186-2**					
EPA 8260	Acetone	124	ug/kg	118	08/17/17 15:18	
EPA 8260	Methylene Chloride	23.2J	ug/kg	23.7	08/17/17 15:18	
ASTM D2974-87	Percent Moisture	17.2	%	0.10	08/17/17 08:07	
92351820003	**B-186-3**					
EPA 8260	Acetone	46.6J	ug/kg	109	08/17/17 15:38	
EPA 8260	Methylene Chloride	21.5J	ug/kg	21.9	08/17/17 15:38	
ASTM D2974-87	Percent Moisture	5.8	%	0.10	08/17/17 08:07	

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PROJECT NARRATIVE

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Method: **EPA 8270**
Description: 8270 MSSV Microwave
Client: Terracon NC
Date: August 18, 2017

General Information:
3 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 373744

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 2070918)
  - 1,3-Dichlorobenzene

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 373744

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92351820001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2070919)
  - 1,2-Dichlorobenzene
  - 2,2'-Oxybis(1-chloropropane)

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PROJECT NARRATIVE

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Method: **EPA 8270**
Description: 8270 MSSV Microwave
Client: Terracon NC
Date: August 18, 2017

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Method: **EPA 8260**
Description: 8260/5035A Volatile Organics
Client: Terracon NC
Date: August 18, 2017

General Information:
3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 373848

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92351821001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2072234)
  - Vinyl acetate

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 373848

C9: Common Laboratory Contaminant.

- DUP (Lab ID: 2072235)
  - Methylene Chloride

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PROJECT NARRATIVE

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Method: **EPA 8260**
Description: 8260/5035A Volatile Organics
Client: Terracon NC
Date: August 18, 2017

Analyte Comments:

QC Batch: 374049

C9: Common Laboratory Contaminant.

- B-186-1 (Lab ID: 92351820001)
  - Methylene Chloride

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-1 **Lab ID: 92351820001** Collected: 08/16/17 09:05 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	ND	ug/kg	410	94.4	1	08/16/17 19:11	08/17/17 15:38	83-32-9	
Acenaphthylene	ND	ug/kg	410	96.9	1	08/16/17 19:11	08/17/17 15:38	208-96-8	
Aniline	ND	ug/kg	410	111	1	08/16/17 19:11	08/17/17 15:38	62-53-3	
Anthracene	ND	ug/kg	410	91.9	1	08/16/17 19:11	08/17/17 15:38	120-12-7	
Benzo(a)anthracene	ND	ug/kg	410	75.8	1	08/16/17 19:11	08/17/17 15:38	56-55-3	
Benzo(a)pyrene	ND	ug/kg	410	78.3	1	08/16/17 19:11	08/17/17 15:38	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	410	70.8	1	08/16/17 19:11	08/17/17 15:38	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	410	104	1	08/16/17 19:11	08/17/17 15:38	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	410	80.7	1	08/16/17 19:11	08/17/17 15:38	207-08-9	
Benzoic Acid	ND	ug/kg	2050	74.5	1	08/16/17 19:11	08/17/17 15:38	65-85-0	
Benzyl alcohol	ND	ug/kg	820	82.0	1	08/16/17 19:11	08/17/17 15:38	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	410	74.5	1	08/16/17 19:11	08/17/17 15:38	101-55-3	
Butylbenzylphthalate	ND	ug/kg	410	87.0	1	08/16/17 19:11	08/17/17 15:38	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	820	84.5	1	08/16/17 19:11	08/17/17 15:38	59-50-7	
4-Chloroaniline	ND	ug/kg	2050	114	1	08/16/17 19:11	08/17/17 15:38	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	410	95.7	1	08/16/17 19:11	08/17/17 15:38	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	410	104	1	08/16/17 19:11	08/17/17 15:38	111-44-4	
2-Chloronaphthalene	ND	ug/kg	410	80.7	1	08/16/17 19:11	08/17/17 15:38	91-58-7	
2-Chlorophenol	ND	ug/kg	410	112	1	08/16/17 19:11	08/17/17 15:38	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	410	84.5	1	08/16/17 19:11	08/17/17 15:38	7005-72-3	
Chrysene	ND	ug/kg	410	54.7	1	08/16/17 19:11	08/17/17 15:38	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	410	87.0	1	08/16/17 19:11	08/17/17 15:38	53-70-3	
Dibenzofuran	ND	ug/kg	410	67.1	1	08/16/17 19:11	08/17/17 15:38	132-64-9	
1,2-Dichlorobenzene	ND	ug/kg	410	109	1	08/16/17 19:11	08/17/17 15:38	95-50-1	M1
1,3-Dichlorobenzene	ND	ug/kg	410	93.2	1	08/16/17 19:11	08/17/17 15:38	541-73-1	L2
1,4-Dichlorobenzene	ND	ug/kg	410	116	1	08/16/17 19:11	08/17/17 15:38	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/kg	2050	89.4	1	08/16/17 19:11	08/17/17 15:38	91-94-1	
2,4-Dichlorophenol	ND	ug/kg	410	89.4	1	08/16/17 19:11	08/17/17 15:38	120-83-2	
Diethylphthalate	ND	ug/kg	410	63.4	1	08/16/17 19:11	08/17/17 15:38	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	410	161	1	08/16/17 19:11	08/17/17 15:38	105-67-9	
Dimethylphthalate	ND	ug/kg	410	83.2	1	08/16/17 19:11	08/17/17 15:38	131-11-3	
Di-n-butylphthalate	ND	ug/kg	410	67.1	1	08/16/17 19:11	08/17/17 15:38	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	820	82.0	1	08/16/17 19:11	08/17/17 15:38	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	2050	67.1	1	08/16/17 19:11	08/17/17 15:38	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	410	77.0	1	08/16/17 19:11	08/17/17 15:38	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	410	85.7	1	08/16/17 19:11	08/17/17 15:38	606-20-2	
Di-n-octylphthalate	ND	ug/kg	410	85.7	1	08/16/17 19:11	08/17/17 15:38	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	410	112	1	08/16/17 19:11	08/17/17 15:38	117-81-7	
Fluoranthene	ND	ug/kg	410	59.6	1	08/16/17 19:11	08/17/17 15:38	206-44-0	
Fluorene	ND	ug/kg	410	84.5	1	08/16/17 19:11	08/17/17 15:38	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/kg	410	70.8	1	08/16/17 19:11	08/17/17 15:38	87-68-3	
Hexachlorobenzene	ND	ug/kg	410	52.2	1	08/16/17 19:11	08/17/17 15:38	118-74-1	
Hexachlorocyclopentadiene	ND	ug/kg	410	75.8	1	08/16/17 19:11	08/17/17 15:38	77-47-4	
Hexachloroethane	ND	ug/kg	410	108	1	08/16/17 19:11	08/17/17 15:38	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	410	84.5	1	08/16/17 19:11	08/17/17 15:38	193-39-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-1 **Lab ID: 92351820001** Collected: 08/16/17 09:05 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Isophorone	ND	ug/kg	410	91.9	1	08/16/17 19:11	08/17/17 15:38	78-59-1	
1-Methylnaphthalene	ND	ug/kg	410	107	1	08/16/17 19:11	08/17/17 15:38	90-12-0	
2-Methylnaphthalene	ND	ug/kg	410	88.2	1	08/16/17 19:11	08/17/17 15:38	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	410	124	1	08/16/17 19:11	08/17/17 15:38	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	410	161	1	08/16/17 19:11	08/17/17 15:38	15831-10-4	
Naphthalene	ND	ug/kg	410	101	1	08/16/17 19:11	08/17/17 15:38	91-20-3	
2-Nitroaniline	ND	ug/kg	2050	127	1	08/16/17 19:11	08/17/17 15:38	88-74-4	
3-Nitroaniline	ND	ug/kg	2050	112	1	08/16/17 19:11	08/17/17 15:38	99-09-2	
4-Nitroaniline	ND	ug/kg	820	116	1	08/16/17 19:11	08/17/17 15:38	100-01-6	
Nitrobenzene	ND	ug/kg	410	112	1	08/16/17 19:11	08/17/17 15:38	98-95-3	
2-Nitrophenol	ND	ug/kg	410	99.4	1	08/16/17 19:11	08/17/17 15:38	88-75-5	
4-Nitrophenol	ND	ug/kg	2050	73.3	1	08/16/17 19:11	08/17/17 15:38	100-02-7	
N-Nitrosodimethylamine	ND	ug/kg	410	133	1	08/16/17 19:11	08/17/17 15:38	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/kg	410	78.3	1	08/16/17 19:11	08/17/17 15:38	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	410	122	1	08/16/17 19:11	08/17/17 15:38	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/kg	410	109	1	08/16/17 19:11	08/17/17 15:38	108-60-1	M1
Pentachlorophenol	ND	ug/kg	2050	74.5	1	08/16/17 19:11	08/17/17 15:38	87-86-5	
Phenanthrene	ND	ug/kg	410	68.3	1	08/16/17 19:11	08/17/17 15:38	85-01-8	
Phenol	ND	ug/kg	410	123	1	08/16/17 19:11	08/17/17 15:38	108-95-2	
Pyrene	ND	ug/kg	410	69.6	1	08/16/17 19:11	08/17/17 15:38	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/kg	410	79.5	1	08/16/17 19:11	08/17/17 15:38	120-82-1	
2,4,5-Trichlorophenol	ND	ug/kg	410	127	1	08/16/17 19:11	08/17/17 15:38	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	410	90.7	1	08/16/17 19:11	08/17/17 15:38	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	47	%	23-110		1	08/16/17 19:11	08/17/17 15:38	4165-60-0	
2-Fluorobiphenyl (S)	42	%	30-110		1	08/16/17 19:11	08/17/17 15:38	321-60-8	
Terphenyl-d14 (S)	49	%	28-110		1	08/16/17 19:11	08/17/17 15:38	1718-51-0	
Phenol-d6 (S)	44	%	22-110		1	08/16/17 19:11	08/17/17 15:38	13127-88-3	
2-Fluorophenol (S)	44	%	13-110		1	08/16/17 19:11	08/17/17 15:38	367-12-4	
2,4,6-Tribromophenol (S)	61	%	27-110		1	08/16/17 19:11	08/17/17 15:38	118-79-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Acetone	**346**	ug/kg	108	10.8	1		08/18/17 12:18	67-64-1	
Benzene	ND	ug/kg	5.4	1.7	1		08/18/17 12:18	71-43-2	
Bromobenzene	ND	ug/kg	5.4	2.2	1		08/18/17 12:18	108-86-1	
Bromochloromethane	ND	ug/kg	5.4	1.8	1		08/18/17 12:18	74-97-5	
Bromodichloromethane	ND	ug/kg	5.4	2.0	1		08/18/17 12:18	75-27-4	
Bromoform	ND	ug/kg	5.4	2.5	1		08/18/17 12:18	75-25-2	
Bromomethane	ND	ug/kg	10.8	2.7	1		08/18/17 12:18	74-83-9	
2-Butanone (MEK)	**34.0J**	ug/kg	108	3.1	1		08/18/17 12:18	78-93-3	
n-Butylbenzene	**4.9J**	ug/kg	5.4	1.9	1		08/18/17 12:18	104-51-8	
sec-Butylbenzene	**3.2J**	ug/kg	5.4	1.7	1		08/18/17 12:18	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.4	2.2	1		08/18/17 12:18	98-06-6	
Carbon tetrachloride	ND	ug/kg	5.4	2.8	1		08/18/17 12:18	56-23-5	
Chlorobenzene	ND	ug/kg	5.4	2.0	1		08/18/17 12:18	108-90-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-1 **Lab ID: 92351820001** Collected: 08/16/17 09:05 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Chloroethane	ND	ug/kg	10.8	2.6	1		08/18/17 12:18	75-00-3	
Chloroform	ND	ug/kg	5.4	1.7	1		08/18/17 12:18	67-66-3	
Chloromethane	ND	ug/kg	10.8	2.6	1		08/18/17 12:18	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.4	1.8	1		08/18/17 12:18	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.4	1.9	1		08/18/17 12:18	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.4	3.9	1		08/18/17 12:18	96-12-8	
Dibromochloromethane	ND	ug/kg	5.4	1.9	1		08/18/17 12:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.4	1.9	1		08/18/17 12:18	106-93-4	
Dibromomethane	ND	ug/kg	5.4	2.7	1		08/18/17 12:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.4	2.0	1		08/18/17 12:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5.4	2.2	1		08/18/17 12:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.4	1.8	1		08/18/17 12:18	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	10.8	3.9	1		08/18/17 12:18	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.4	1.6	1		08/18/17 12:18	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.4	2.4	1		08/18/17 12:18	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.4	1.9	1		08/18/17 12:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.4	1.5	1		08/18/17 12:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.4	2.0	1		08/18/17 12:18	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.4	1.8	1		08/18/17 12:18	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.4	2.0	1		08/18/17 12:18	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.4	1.8	1		08/18/17 12:18	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.4	1.6	1		08/18/17 12:18	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.4	1.9	1		08/18/17 12:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.4	1.6	1		08/18/17 12:18	10061-02-6	
Diisopropyl ether	ND	ug/kg	5.4	1.8	1		08/18/17 12:18	108-20-3	
Ethylbenzene	ND	ug/kg	5.4	1.9	1		08/18/17 12:18	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.4	2.2	1		08/18/17 12:18	87-68-3	
2-Hexanone	ND	ug/kg	53.8	4.2	1		08/18/17 12:18	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.4	2.0	1		08/18/17 12:18	98-82-8	
p-Isopropyltoluene	**5.3J**	ug/kg	5.4	1.8	1		08/18/17 12:18	99-87-6	
Methylene Chloride	**24.6**	ug/kg	21.5	3.2	1		08/18/17 12:18	75-09-2	C9
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	53.8	4.0	1		08/18/17 12:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.4	1.6	1		08/18/17 12:18	1634-04-4	
Naphthalene	**17.8**	ug/kg	5.4	1.3	1		08/18/17 12:18	91-20-3	
n-Propylbenzene	**1.9J**	ug/kg	5.4	1.8	1		08/18/17 12:18	103-65-1	
Styrene	ND	ug/kg	5.4	1.9	1		08/18/17 12:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.4	2.3	1		08/18/17 12:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.4	2.0	1		08/18/17 12:18	79-34-5	
Tetrachloroethene	ND	ug/kg	5.4	1.8	1		08/18/17 12:18	127-18-4	
Toluene	ND	ug/kg	5.4	1.9	1		08/18/17 12:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.4	2.4	1		08/18/17 12:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.4	1.7	1		08/18/17 12:18	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.4	1.9	1		08/18/17 12:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.4	2.3	1		08/18/17 12:18	79-00-5	
Trichloroethene	ND	ug/kg	5.4	2.3	1		08/18/17 12:18	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-1 **Lab ID: 92351820001** Collected: 08/16/17 09:05 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Trichlorofluoromethane	ND	ug/kg	5.4	2.4	1		08/18/17 12:18	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.4	1.7	1		08/18/17 12:18	96-18-4	
1,2,4-Trimethylbenzene	**23.2**	ug/kg	5.4	2.2	1		08/18/17 12:18	95-63-6	
1,3,5-Trimethylbenzene	**6.8**	ug/kg	5.4	1.9	1		08/18/17 12:18	108-67-8	
Vinyl acetate	ND	ug/kg	53.8	9.5	1		08/18/17 12:18	108-05-4	
Vinyl chloride	ND	ug/kg	10.8	1.9	1		08/18/17 12:18	75-01-4	
Xylene (Total)	ND	ug/kg	10.8	3.9	1		08/18/17 12:18	1330-20-7	
m&p-Xylene	**5.7J**	ug/kg	10.8	3.9	1		08/18/17 12:18	179601-23-1	
o-Xylene	**4.5J**	ug/kg	5.4	2.0	1		08/18/17 12:18	95-47-6	
Surrogates									
Toluene-d8 (S)	99	%	70-130		1		08/18/17 12:18	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		1		08/18/17 12:18	460-00-4	
1,2-Dichloroethane-d4 (S)	86	%	70-132		1		08/18/17 12:18	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**19.0**	%	0.10	0.10	1		08/17/17 08:06		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-2 **Lab ID: 92351820002** Collected: 08/16/17 09:12 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	ND	ug/kg	399	91.8	1	08/16/17 19:11	08/17/17 16:38	83-32-9	
Acenaphthylene	ND	ug/kg	399	94.3	1	08/16/17 19:11	08/17/17 16:38	208-96-8	
Aniline	ND	ug/kg	399	108	1	08/16/17 19:11	08/17/17 16:38	62-53-3	
Anthracene	ND	ug/kg	399	89.4	1	08/16/17 19:11	08/17/17 16:38	120-12-7	
Benzo(a)anthracene	ND	ug/kg	399	73.7	1	08/16/17 19:11	08/17/17 16:38	56-55-3	
Benzo(a)pyrene	ND	ug/kg	399	76.1	1	08/16/17 19:11	08/17/17 16:38	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	399	68.9	1	08/16/17 19:11	08/17/17 16:38	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	399	102	1	08/16/17 19:11	08/17/17 16:38	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	399	78.5	1	08/16/17 19:11	08/17/17 16:38	207-08-9	
Benzoic Acid	ND	ug/kg	1990	72.5	1	08/16/17 19:11	08/17/17 16:38	65-85-0	
Benzyl alcohol	ND	ug/kg	798	79.8	1	08/16/17 19:11	08/17/17 16:38	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	399	72.5	1	08/16/17 19:11	08/17/17 16:38	101-55-3	
Butylbenzylphthalate	ND	ug/kg	399	84.6	1	08/16/17 19:11	08/17/17 16:38	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	798	82.2	1	08/16/17 19:11	08/17/17 16:38	59-50-7	
4-Chloroaniline	ND	ug/kg	1990	111	1	08/16/17 19:11	08/17/17 16:38	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	399	93.0	1	08/16/17 19:11	08/17/17 16:38	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	399	102	1	08/16/17 19:11	08/17/17 16:38	111-44-4	
2-Chloronaphthalene	ND	ug/kg	399	78.5	1	08/16/17 19:11	08/17/17 16:38	91-58-7	
2-Chlorophenol	ND	ug/kg	399	109	1	08/16/17 19:11	08/17/17 16:38	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	399	82.2	1	08/16/17 19:11	08/17/17 16:38	7005-72-3	
Chrysene	ND	ug/kg	399	53.2	1	08/16/17 19:11	08/17/17 16:38	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	399	84.6	1	08/16/17 19:11	08/17/17 16:38	53-70-3	
Dibenzofuran	ND	ug/kg	399	65.3	1	08/16/17 19:11	08/17/17 16:38	132-64-9	
1,2-Dichlorobenzene	ND	ug/kg	399	106	1	08/16/17 19:11	08/17/17 16:38	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	399	90.6	1	08/16/17 19:11	08/17/17 16:38	541-73-1	L2
1,4-Dichlorobenzene	ND	ug/kg	399	112	1	08/16/17 19:11	08/17/17 16:38	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/kg	1990	87.0	1	08/16/17 19:11	08/17/17 16:38	91-94-1	
2,4-Dichlorophenol	ND	ug/kg	399	87.0	1	08/16/17 19:11	08/17/17 16:38	120-83-2	
Diethylphthalate	ND	ug/kg	399	61.6	1	08/16/17 19:11	08/17/17 16:38	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	399	157	1	08/16/17 19:11	08/17/17 16:38	105-67-9	
Dimethylphthalate	ND	ug/kg	399	81.0	1	08/16/17 19:11	08/17/17 16:38	131-11-3	
Di-n-butylphthalate	ND	ug/kg	399	65.3	1	08/16/17 19:11	08/17/17 16:38	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	798	79.8	1	08/16/17 19:11	08/17/17 16:38	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1990	65.3	1	08/16/17 19:11	08/17/17 16:38	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	399	74.9	1	08/16/17 19:11	08/17/17 16:38	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	399	83.4	1	08/16/17 19:11	08/17/17 16:38	606-20-2	
Di-n-octylphthalate	ND	ug/kg	399	83.4	1	08/16/17 19:11	08/17/17 16:38	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	399	109	1	08/16/17 19:11	08/17/17 16:38	117-81-7	
Fluoranthene	ND	ug/kg	399	58.0	1	08/16/17 19:11	08/17/17 16:38	206-44-0	
Fluorene	ND	ug/kg	399	82.2	1	08/16/17 19:11	08/17/17 16:38	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/kg	399	68.9	1	08/16/17 19:11	08/17/17 16:38	87-68-3	
Hexachlorobenzene	ND	ug/kg	399	50.8	1	08/16/17 19:11	08/17/17 16:38	118-74-1	
Hexachlorocyclopentadiene	ND	ug/kg	399	73.7	1	08/16/17 19:11	08/17/17 16:38	77-47-4	
Hexachloroethane	ND	ug/kg	399	105	1	08/16/17 19:11	08/17/17 16:38	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	399	82.2	1	08/16/17 19:11	08/17/17 16:38	193-39-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-2 **Lab ID: 92351820002** Collected: 08/16/17 09:12 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Isophorone	ND	ug/kg	399	89.4	1	08/16/17 19:11	08/17/17 16:38	78-59-1	
1-Methylnaphthalene	ND	ug/kg	399	104	1	08/16/17 19:11	08/17/17 16:38	90-12-0	
2-Methylnaphthalene	ND	ug/kg	399	85.8	1	08/16/17 19:11	08/17/17 16:38	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	399	121	1	08/16/17 19:11	08/17/17 16:38	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	399	157	1	08/16/17 19:11	08/17/17 16:38	15831-10-4	
Naphthalene	ND	ug/kg	399	97.9	1	08/16/17 19:11	08/17/17 16:38	91-20-3	
2-Nitroaniline	ND	ug/kg	1990	123	1	08/16/17 19:11	08/17/17 16:38	88-74-4	
3-Nitroaniline	ND	ug/kg	1990	109	1	08/16/17 19:11	08/17/17 16:38	99-09-2	
4-Nitroaniline	ND	ug/kg	798	112	1	08/16/17 19:11	08/17/17 16:38	100-01-6	
Nitrobenzene	ND	ug/kg	399	109	1	08/16/17 19:11	08/17/17 16:38	98-95-3	
2-Nitrophenol	ND	ug/kg	399	96.7	1	08/16/17 19:11	08/17/17 16:38	88-75-5	
4-Nitrophenol	ND	ug/kg	1990	71.3	1	08/16/17 19:11	08/17/17 16:38	100-02-7	
N-Nitrosodimethylamine	ND	ug/kg	399	129	1	08/16/17 19:11	08/17/17 16:38	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/kg	399	76.1	1	08/16/17 19:11	08/17/17 16:38	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	399	118	1	08/16/17 19:11	08/17/17 16:38	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/kg	399	106	1	08/16/17 19:11	08/17/17 16:38	108-60-1	
Pentachlorophenol	ND	ug/kg	1990	72.5	1	08/16/17 19:11	08/17/17 16:38	87-86-5	
Phenanthrene	ND	ug/kg	399	66.5	1	08/16/17 19:11	08/17/17 16:38	85-01-8	
Phenol	ND	ug/kg	399	120	1	08/16/17 19:11	08/17/17 16:38	108-95-2	
Pyrene	ND	ug/kg	399	67.7	1	08/16/17 19:11	08/17/17 16:38	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/kg	399	77.3	1	08/16/17 19:11	08/17/17 16:38	120-82-1	
2,4,5-Trichlorophenol	ND	ug/kg	399	123	1	08/16/17 19:11	08/17/17 16:38	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	399	88.2	1	08/16/17 19:11	08/17/17 16:38	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	55	%	23-110		1	08/16/17 19:11	08/17/17 16:38	4165-60-0	
2-Fluorobiphenyl (S)	60	%	30-110		1	08/16/17 19:11	08/17/17 16:38	321-60-8	
Terphenyl-d14 (S)	43	%	28-110		1	08/16/17 19:11	08/17/17 16:38	1718-51-0	
Phenol-d6 (S)	52	%	22-110		1	08/16/17 19:11	08/17/17 16:38	13127-88-3	
2-Fluorophenol (S)	46	%	13-110		1	08/16/17 19:11	08/17/17 16:38	367-12-4	
2,4,6-Tribromophenol (S)	68	%	27-110		1	08/16/17 19:11	08/17/17 16:38	118-79-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Acetone	**124**	ug/kg	118	11.8	1		08/17/17 15:18	67-64-1	
Benzene	ND	ug/kg	5.9	1.9	1		08/17/17 15:18	71-43-2	
Bromobenzene	ND	ug/kg	5.9	2.4	1		08/17/17 15:18	108-86-1	
Bromochloromethane	ND	ug/kg	5.9	2.0	1		08/17/17 15:18	74-97-5	
Bromodichloromethane	ND	ug/kg	5.9	2.3	1		08/17/17 15:18	75-27-4	
Bromoform	ND	ug/kg	5.9	2.7	1		08/17/17 15:18	75-25-2	
Bromomethane	ND	ug/kg	11.8	3.0	1		08/17/17 15:18	74-83-9	
2-Butanone (MEK)	ND	ug/kg	118	3.4	1		08/17/17 15:18	78-93-3	
n-Butylbenzene	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.9	1.9	1		08/17/17 15:18	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.9	2.4	1		08/17/17 15:18	98-06-6	
Carbon tetrachloride	ND	ug/kg	5.9	3.1	1		08/17/17 15:18	56-23-5	
Chlorobenzene	ND	ug/kg	5.9	2.3	1		08/17/17 15:18	108-90-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-2 **Lab ID: 92351820002** Collected: 08/16/17 09:12 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Chloroethane	ND	ug/kg	11.8	2.8	1		08/17/17 15:18	75-00-3	
Chloroform	ND	ug/kg	5.9	1.9	1		08/17/17 15:18	67-66-3	
Chloromethane	ND	ug/kg	11.8	2.8	1		08/17/17 15:18	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.9	2.0	1		08/17/17 15:18	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.9	4.3	1		08/17/17 15:18	96-12-8	
Dibromochloromethane	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	106-93-4	
Dibromomethane	ND	ug/kg	5.9	3.0	1		08/17/17 15:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.9	2.3	1		08/17/17 15:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5.9	2.4	1		08/17/17 15:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.9	2.0	1		08/17/17 15:18	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	11.8	4.3	1		08/17/17 15:18	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.9	1.8	1		08/17/17 15:18	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.9	2.6	1		08/17/17 15:18	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.9	1.7	1		08/17/17 15:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.9	2.3	1		08/17/17 15:18	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.9	2.0	1		08/17/17 15:18	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.9	2.3	1		08/17/17 15:18	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.9	2.0	1		08/17/17 15:18	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.9	1.8	1		08/17/17 15:18	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.9	1.8	1		08/17/17 15:18	10061-02-6	
Diisopropyl ether	ND	ug/kg	5.9	2.0	1		08/17/17 15:18	108-20-3	
Ethylbenzene	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.9	2.4	1		08/17/17 15:18	87-68-3	
2-Hexanone	ND	ug/kg	59.2	4.6	1		08/17/17 15:18	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.9	2.3	1		08/17/17 15:18	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.9	2.0	1		08/17/17 15:18	99-87-6	
Methylene Chloride	**23.2J**	ug/kg	23.7	3.6	1		08/17/17 15:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	59.2	4.4	1		08/17/17 15:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.9	1.8	1		08/17/17 15:18	1634-04-4	
Naphthalene	ND	ug/kg	5.9	1.4	1		08/17/17 15:18	91-20-3	
n-Propylbenzene	ND	ug/kg	5.9	2.0	1		08/17/17 15:18	103-65-1	
Styrene	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.9	2.5	1		08/17/17 15:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.9	2.3	1		08/17/17 15:18	79-34-5	
Tetrachloroethene	ND	ug/kg	5.9	2.0	1		08/17/17 15:18	127-18-4	
Toluene	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.9	2.6	1		08/17/17 15:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.9	1.9	1		08/17/17 15:18	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.9	2.5	1		08/17/17 15:18	79-00-5	
Trichloroethene	ND	ug/kg	5.9	2.5	1		08/17/17 15:18	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-2 **Lab ID: 92351820002** Collected: 08/16/17 09:12 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Trichlorofluoromethane	ND	ug/kg	5.9	2.6	1		08/17/17 15:18	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.9	1.9	1		08/17/17 15:18	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.9	2.4	1		08/17/17 15:18	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.9	2.1	1		08/17/17 15:18	108-67-8	
Vinyl acetate	ND	ug/kg	59.2	10.4	1		08/17/17 15:18	108-05-4	
Vinyl chloride	ND	ug/kg	11.8	2.1	1		08/17/17 15:18	75-01-4	
Xylene (Total)	ND	ug/kg	11.8	4.3	1		08/17/17 15:18	1330-20-7	
m&p-Xylene	ND	ug/kg	11.8	4.3	1		08/17/17 15:18	179601-23-1	
o-Xylene	ND	ug/kg	5.9	2.3	1		08/17/17 15:18	95-47-6	
Surrogates									
Toluene-d8 (S)	101	%	70-130		1		08/17/17 15:18	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		1		08/17/17 15:18	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-132		1		08/17/17 15:18	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**17.2**	%	0.10	0.10	1		08/17/17 08:07		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
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(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-3 **Lab ID: 92351820003** Collected: 08/16/17 09:16 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	ND	ug/kg	352	81.0	1	08/16/17 19:11	08/17/17 17:39	83-32-9	
Acenaphthylene	ND	ug/kg	352	83.1	1	08/16/17 19:11	08/17/17 17:39	208-96-8	
Aniline	ND	ug/kg	352	94.8	1	08/16/17 19:11	08/17/17 17:39	62-53-3	
Anthracene	ND	ug/kg	352	78.8	1	08/16/17 19:11	08/17/17 17:39	120-12-7	
Benzo(a)anthracene	ND	ug/kg	352	65.0	1	08/16/17 19:11	08/17/17 17:39	56-55-3	
Benzo(a)pyrene	ND	ug/kg	352	67.1	1	08/16/17 19:11	08/17/17 17:39	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	352	60.7	1	08/16/17 19:11	08/17/17 17:39	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	352	89.5	1	08/16/17 19:11	08/17/17 17:39	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	352	69.3	1	08/16/17 19:11	08/17/17 17:39	207-08-9	
Benzoic Acid	ND	ug/kg	1760	63.9	1	08/16/17 19:11	08/17/17 17:39	65-85-0	
Benzyl alcohol	ND	ug/kg	703	70.3	1	08/16/17 19:11	08/17/17 17:39	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	352	63.9	1	08/16/17 19:11	08/17/17 17:39	101-55-3	
Butylbenzylphthalate	ND	ug/kg	352	74.6	1	08/16/17 19:11	08/17/17 17:39	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	703	72.5	1	08/16/17 19:11	08/17/17 17:39	59-50-7	
4-Chloroaniline	ND	ug/kg	1760	98.0	1	08/16/17 19:11	08/17/17 17:39	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	352	82.0	1	08/16/17 19:11	08/17/17 17:39	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	352	89.5	1	08/16/17 19:11	08/17/17 17:39	111-44-4	
2-Chloronaphthalene	ND	ug/kg	352	69.3	1	08/16/17 19:11	08/17/17 17:39	91-58-7	
2-Chlorophenol	ND	ug/kg	352	95.9	1	08/16/17 19:11	08/17/17 17:39	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	352	72.5	1	08/16/17 19:11	08/17/17 17:39	7005-72-3	
Chrysene	ND	ug/kg	352	46.9	1	08/16/17 19:11	08/17/17 17:39	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	352	74.6	1	08/16/17 19:11	08/17/17 17:39	53-70-3	
Dibenzofuran	ND	ug/kg	352	57.5	1	08/16/17 19:11	08/17/17 17:39	132-64-9	
1,2-Dichlorobenzene	ND	ug/kg	352	93.8	1	08/16/17 19:11	08/17/17 17:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	352	79.9	1	08/16/17 19:11	08/17/17 17:39	541-73-1	L2
1,4-Dichlorobenzene	ND	ug/kg	352	99.1	1	08/16/17 19:11	08/17/17 17:39	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/kg	1760	76.7	1	08/16/17 19:11	08/17/17 17:39	91-94-1	
2,4-Dichlorophenol	ND	ug/kg	352	76.7	1	08/16/17 19:11	08/17/17 17:39	120-83-2	
Diethylphthalate	ND	ug/kg	352	54.3	1	08/16/17 19:11	08/17/17 17:39	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	352	139	1	08/16/17 19:11	08/17/17 17:39	105-67-9	
Dimethylphthalate	ND	ug/kg	352	71.4	1	08/16/17 19:11	08/17/17 17:39	131-11-3	
Di-n-butylphthalate	ND	ug/kg	352	57.5	1	08/16/17 19:11	08/17/17 17:39	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	703	70.3	1	08/16/17 19:11	08/17/17 17:39	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1760	57.5	1	08/16/17 19:11	08/17/17 17:39	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	352	66.1	1	08/16/17 19:11	08/17/17 17:39	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	352	73.5	1	08/16/17 19:11	08/17/17 17:39	606-20-2	
Di-n-octylphthalate	ND	ug/kg	352	73.5	1	08/16/17 19:11	08/17/17 17:39	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	352	95.9	1	08/16/17 19:11	08/17/17 17:39	117-81-7	
Fluoranthene	ND	ug/kg	352	51.1	1	08/16/17 19:11	08/17/17 17:39	206-44-0	
Fluorene	ND	ug/kg	352	72.5	1	08/16/17 19:11	08/17/17 17:39	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/kg	352	60.7	1	08/16/17 19:11	08/17/17 17:39	87-68-3	
Hexachlorobenzene	ND	ug/kg	352	44.7	1	08/16/17 19:11	08/17/17 17:39	118-74-1	
Hexachlorocyclopentadiene	ND	ug/kg	352	65.0	1	08/16/17 19:11	08/17/17 17:39	77-47-4	
Hexachloroethane	ND	ug/kg	352	92.7	1	08/16/17 19:11	08/17/17 17:39	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	352	72.5	1	08/16/17 19:11	08/17/17 17:39	193-39-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-3 **Lab ID: 92351820003** Collected: 08/16/17 09:16 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Isophorone	ND	ug/kg	352	78.8	1	08/16/17 19:11	08/17/17 17:39	78-59-1	
1-Methylnaphthalene	ND	ug/kg	352	91.6	1	08/16/17 19:11	08/17/17 17:39	90-12-0	
2-Methylnaphthalene	ND	ug/kg	352	75.6	1	08/16/17 19:11	08/17/17 17:39	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	352	107	1	08/16/17 19:11	08/17/17 17:39	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	352	139	1	08/16/17 19:11	08/17/17 17:39	15831-10-4	
Naphthalene	ND	ug/kg	352	86.3	1	08/16/17 19:11	08/17/17 17:39	91-20-3	
2-Nitroaniline	ND	ug/kg	1760	109	1	08/16/17 19:11	08/17/17 17:39	88-74-4	
3-Nitroaniline	ND	ug/kg	1760	95.9	1	08/16/17 19:11	08/17/17 17:39	99-09-2	
4-Nitroaniline	ND	ug/kg	703	99.1	1	08/16/17 19:11	08/17/17 17:39	100-01-6	
Nitrobenzene	ND	ug/kg	352	95.9	1	08/16/17 19:11	08/17/17 17:39	98-95-3	
2-Nitrophenol	ND	ug/kg	352	85.2	1	08/16/17 19:11	08/17/17 17:39	88-75-5	
4-Nitrophenol	ND	ug/kg	1760	62.9	1	08/16/17 19:11	08/17/17 17:39	100-02-7	
N-Nitrosodimethylamine	ND	ug/kg	352	114	1	08/16/17 19:11	08/17/17 17:39	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/kg	352	67.1	1	08/16/17 19:11	08/17/17 17:39	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	352	104	1	08/16/17 19:11	08/17/17 17:39	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/kg	352	93.8	1	08/16/17 19:11	08/17/17 17:39	108-60-1	
Pentachlorophenol	ND	ug/kg	1760	63.9	1	08/16/17 19:11	08/17/17 17:39	87-86-5	
Phenanthrene	ND	ug/kg	352	58.6	1	08/16/17 19:11	08/17/17 17:39	85-01-8	
Phenol	ND	ug/kg	352	105	1	08/16/17 19:11	08/17/17 17:39	108-95-2	
Pyrene	ND	ug/kg	352	59.7	1	08/16/17 19:11	08/17/17 17:39	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/kg	352	68.2	1	08/16/17 19:11	08/17/17 17:39	120-82-1	
2,4,5-Trichlorophenol	ND	ug/kg	352	109	1	08/16/17 19:11	08/17/17 17:39	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	352	77.8	1	08/16/17 19:11	08/17/17 17:39	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	55	%	23-110		1	08/16/17 19:11	08/17/17 17:39	4165-60-0	
2-Fluorobiphenyl (S)	62	%	30-110		1	08/16/17 19:11	08/17/17 17:39	321-60-8	
Terphenyl-d14 (S)	79	%	28-110		1	08/16/17 19:11	08/17/17 17:39	1718-51-0	
Phenol-d6 (S)	56	%	22-110		1	08/16/17 19:11	08/17/17 17:39	13127-88-3	
2-Fluorophenol (S)	49	%	13-110		1	08/16/17 19:11	08/17/17 17:39	367-12-4	
2,4,6-Tribromophenol (S)	76	%	27-110		1	08/16/17 19:11	08/17/17 17:39	118-79-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Acetone	**46.6J**	ug/kg	109	10.9	1		08/17/17 15:38	67-64-1	
Benzene	ND	ug/kg	5.5	1.8	1		08/17/17 15:38	71-43-2	
Bromobenzene	ND	ug/kg	5.5	2.2	1		08/17/17 15:38	108-86-1	
Bromochloromethane	ND	ug/kg	5.5	1.9	1		08/17/17 15:38	74-97-5	
Bromodichloromethane	ND	ug/kg	5.5	2.1	1		08/17/17 15:38	75-27-4	
Bromoform	ND	ug/kg	5.5	2.5	1		08/17/17 15:38	75-25-2	
Bromomethane	ND	ug/kg	10.9	2.7	1		08/17/17 15:38	74-83-9	
2-Butanone (MEK)	ND	ug/kg	109	3.2	1		08/17/17 15:38	78-93-3	
n-Butylbenzene	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.5	1.8	1		08/17/17 15:38	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.5	2.2	1		08/17/17 15:38	98-06-6	
Carbon tetrachloride	ND	ug/kg	5.5	2.8	1		08/17/17 15:38	56-23-5	
Chlorobenzene	ND	ug/kg	5.5	2.1	1		08/17/17 15:38	108-90-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-3 **Lab ID: 92351820003** Collected: 08/16/17 09:16 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Chloroethane	ND	ug/kg	10.9	2.6	1		08/17/17 15:38	75-00-3	
Chloroform	ND	ug/kg	5.5	1.8	1		08/17/17 15:38	67-66-3	
Chloromethane	ND	ug/kg	10.9	2.6	1		08/17/17 15:38	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.5	1.9	1		08/17/17 15:38	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.5	3.9	1		08/17/17 15:38	96-12-8	
Dibromochloromethane	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	106-93-4	
Dibromomethane	ND	ug/kg	5.5	2.7	1		08/17/17 15:38	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.5	2.1	1		08/17/17 15:38	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5.5	2.2	1		08/17/17 15:38	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.5	1.9	1		08/17/17 15:38	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	10.9	3.9	1		08/17/17 15:38	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.5	1.6	1		08/17/17 15:38	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.5	2.4	1		08/17/17 15:38	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.5	1.5	1		08/17/17 15:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.5	2.1	1		08/17/17 15:38	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.5	1.9	1		08/17/17 15:38	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.5	2.1	1		08/17/17 15:38	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.5	1.9	1		08/17/17 15:38	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.5	1.6	1		08/17/17 15:38	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.5	1.6	1		08/17/17 15:38	10061-02-6	
Diisopropyl ether	ND	ug/kg	5.5	1.9	1		08/17/17 15:38	108-20-3	
Ethylbenzene	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.5	2.2	1		08/17/17 15:38	87-68-3	
2-Hexanone	ND	ug/kg	54.7	4.3	1		08/17/17 15:38	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.5	2.1	1		08/17/17 15:38	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.5	1.9	1		08/17/17 15:38	99-87-6	
Methylene Chloride	**21.5J**	ug/kg	21.9	3.3	1		08/17/17 15:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	54.7	4.1	1		08/17/17 15:38	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.5	1.6	1		08/17/17 15:38	1634-04-4	
Naphthalene	ND	ug/kg	5.5	1.3	1		08/17/17 15:38	91-20-3	
n-Propylbenzene	ND	ug/kg	5.5	1.9	1		08/17/17 15:38	103-65-1	
Styrene	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.5	2.3	1		08/17/17 15:38	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.5	2.1	1		08/17/17 15:38	79-34-5	
Tetrachloroethene	ND	ug/kg	5.5	1.9	1		08/17/17 15:38	127-18-4	
Toluene	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.5	2.4	1		08/17/17 15:38	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.5	1.8	1		08/17/17 15:38	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.5	2.3	1		08/17/17 15:38	79-00-5	
Trichloroethene	ND	ug/kg	5.5	2.3	1		08/17/17 15:38	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Sample: B-186-3 **Lab ID: 92351820003** Collected: 08/16/17 09:16 Received: 08/16/17 15:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260								
Trichlorofluoromethane	ND	ug/kg	5.5	2.4	1		08/17/17 15:38	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.5	1.8	1		08/17/17 15:38	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.5	2.2	1		08/17/17 15:38	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.5	2.0	1		08/17/17 15:38	108-67-8	
Vinyl acetate	ND	ug/kg	54.7	9.6	1		08/17/17 15:38	108-05-4	
Vinyl chloride	ND	ug/kg	10.9	2.0	1		08/17/17 15:38	75-01-4	
Xylene (Total)	ND	ug/kg	10.9	3.9	1		08/17/17 15:38	1330-20-7	
m&p-Xylene	ND	ug/kg	10.9	3.9	1		08/17/17 15:38	179601-23-1	
o-Xylene	ND	ug/kg	5.5	2.1	1		08/17/17 15:38	95-47-6	
Surrogates									
Toluene-d8 (S)	101	%	70-130		1		08/17/17 15:38	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		08/17/17 15:38	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-132		1		08/17/17 15:38	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.8**	%	0.10	0.10	1		08/17/17 08:07		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

QC Batch: 373848 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 92351820002, 92351820003

METHOD BLANK: 2071347 Matrix: Solid
Associated Lab Samples: 92351820002, 92351820003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	6.2	2.6	08/17/17 12:54	
1,1,1-Trichloroethane	ug/kg	ND	6.2	2.2	08/17/17 12:54	
1,1,2,2-Tetrachloroethane	ug/kg	ND	6.2	2.4	08/17/17 12:54	
1,1,2-Trichloroethane	ug/kg	ND	6.2	2.6	08/17/17 12:54	
1,1-Dichloroethane	ug/kg	ND	6.2	1.9	08/17/17 12:54	
1,1-Dichloroethene	ug/kg	ND	6.2	2.2	08/17/17 12:54	
1,1-Dichloropropene	ug/kg	ND	6.2	1.9	08/17/17 12:54	
1,2,3-Trichlorobenzene	ug/kg	ND	6.2	2.7	08/17/17 12:54	
1,2,3-Trichloropropane	ug/kg	ND	6.2	2.0	08/17/17 12:54	
1,2,4-Trichlorobenzene	ug/kg	ND	6.2	2.0	08/17/17 12:54	
1,2,4-Trimethylbenzene	ug/kg	ND	6.2	2.5	08/17/17 12:54	
1,2-Dibromo-3-chloropropane	ug/kg	ND	6.2	4.5	08/17/17 12:54	
1,2-Dibromoethane (EDB)	ug/kg	ND	6.2	2.2	08/17/17 12:54	
1,2-Dichlorobenzene	ug/kg	ND	6.2	2.4	08/17/17 12:54	
1,2-Dichloroethane	ug/kg	ND	6.2	2.7	08/17/17 12:54	
1,2-Dichloropropane	ug/kg	ND	6.2	2.1	08/17/17 12:54	
1,3,5-Trimethylbenzene	ug/kg	ND	6.2	2.2	08/17/17 12:54	
1,3-Dichlorobenzene	ug/kg	ND	6.2	2.5	08/17/17 12:54	
1,3-Dichloropropane	ug/kg	ND	6.2	2.4	08/17/17 12:54	
1,4-Dichlorobenzene	ug/kg	ND	6.2	2.1	08/17/17 12:54	
2,2-Dichloropropane	ug/kg	ND	6.2	2.1	08/17/17 12:54	
2-Butanone (MEK)	ug/kg	ND	124	3.6	08/17/17 12:54	
2-Chlorotoluene	ug/kg	ND	6.2	2.1	08/17/17 12:54	
2-Hexanone	ug/kg	ND	62.0	4.8	08/17/17 12:54	
4-Chlorotoluene	ug/kg	ND	6.2	2.2	08/17/17 12:54	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	62.0	4.6	08/17/17 12:54	
Acetone	ug/kg	ND	124	12.4	08/17/17 12:54	
Benzene	ug/kg	ND	6.2	2.0	08/17/17 12:54	
Bromobenzene	ug/kg	ND	6.2	2.5	08/17/17 12:54	
Bromochloromethane	ug/kg	ND	6.2	2.1	08/17/17 12:54	
Bromodichloromethane	ug/kg	ND	6.2	2.4	08/17/17 12:54	
Bromoform	ug/kg	ND	6.2	2.9	08/17/17 12:54	
Bromomethane	ug/kg	ND	12.4	3.1	08/17/17 12:54	
Carbon tetrachloride	ug/kg	ND	6.2	3.2	08/17/17 12:54	
Chlorobenzene	ug/kg	ND	6.2	2.4	08/17/17 12:54	
Chloroethane	ug/kg	ND	12.4	3.0	08/17/17 12:54	
Chloroform	ug/kg	ND	6.2	2.0	08/17/17 12:54	
Chloromethane	ug/kg	ND	12.4	3.0	08/17/17 12:54	
cis-1,2-Dichloroethene	ug/kg	ND	6.2	1.7	08/17/17 12:54	
cis-1,3-Dichloropropene	ug/kg	ND	6.2	2.2	08/17/17 12:54	
Dibromochloromethane	ug/kg	ND	6.2	2.2	08/17/17 12:54	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

METHOD BLANK: 2071347 Matrix: Solid
Associated Lab Samples: 92351820002, 92351820003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	6.2	3.1	08/17/17 12:54	
Dichlorodifluoromethane	ug/kg	ND	12.4	4.5	08/17/17 12:54	
Diisopropyl ether	ug/kg	ND	6.2	2.1	08/17/17 12:54	
Ethylbenzene	ug/kg	ND	6.2	2.2	08/17/17 12:54	
Hexachloro-1,3-butadiene	ug/kg	ND	6.2	2.5	08/17/17 12:54	
Isopropylbenzene (Cumene)	ug/kg	ND	6.2	2.4	08/17/17 12:54	
m&p-Xylene	ug/kg	ND	12.4	4.5	08/17/17 12:54	
Methyl-tert-butyl ether	ug/kg	ND	6.2	1.9	08/17/17 12:54	
Methylene Chloride	ug/kg	ND	24.8	3.7	08/17/17 12:54	
n-Butylbenzene	ug/kg	ND	6.2	2.2	08/17/17 12:54	
n-Propylbenzene	ug/kg	ND	6.2	2.1	08/17/17 12:54	
Naphthalene	ug/kg	ND	6.2	1.5	08/17/17 12:54	
o-Xylene	ug/kg	ND	6.2	2.4	08/17/17 12:54	
p-Isopropyltoluene	ug/kg	ND	6.2	2.1	08/17/17 12:54	
sec-Butylbenzene	ug/kg	ND	6.2	2.0	08/17/17 12:54	
Styrene	ug/kg	ND	6.2	2.2	08/17/17 12:54	
tert-Butylbenzene	ug/kg	ND	6.2	2.5	08/17/17 12:54	
Tetrachloroethene	ug/kg	ND	6.2	2.1	08/17/17 12:54	
Toluene	ug/kg	ND	6.2	2.2	08/17/17 12:54	
trans-1,2-Dichloroethene	ug/kg	ND	6.2	2.4	08/17/17 12:54	
trans-1,3-Dichloropropene	ug/kg	ND	6.2	1.9	08/17/17 12:54	
Trichloroethene	ug/kg	ND	6.2	2.6	08/17/17 12:54	
Trichlorofluoromethane	ug/kg	ND	6.2	2.7	08/17/17 12:54	
Vinyl acetate	ug/kg	ND	62.0	10.9	08/17/17 12:54	
Vinyl chloride	ug/kg	ND	12.4	2.2	08/17/17 12:54	
Xylene (Total)	ug/kg	ND	12.4	4.5	08/17/17 12:54	
1,2-Dichloroethane-d4 (S)	%	83	70-132		08/17/17 12:54	
4-Bromofluorobenzene (S)	%	100	70-130		08/17/17 12:54	
Toluene-d8 (S)	%	102	70-130		08/17/17 12:54	

LABORATORY CONTROL SAMPLE: 2071348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	66.5	64.3	97	74-137	
1,1,1-Trichloroethane	ug/kg	66.5	57.5	86	67-140	
1,1,2,2-Tetrachloroethane	ug/kg	66.5	61.2	92	72-141	
1,1,2-Trichloroethane	ug/kg	66.5	61.6	93	78-138	
1,1-Dichloroethane	ug/kg	66.5	56.9	86	69-134	
1,1-Dichloroethene	ug/kg	66.5	54.0	81	67-138	
1,1-Dichloropropene	ug/kg	66.5	63.0	95	69-139	
1,2,3-Trichlorobenzene	ug/kg	66.5	64.1	96	70-146	
1,2,3-Trichloropropane	ug/kg	66.5	61.2	92	69-144	
1,2,4-Trichlorobenzene	ug/kg	66.5	64.0	96	68-148	
1,2,4-Trimethylbenzene	ug/kg	66.5	62.8	94	74-137	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

LABORATORY CONTROL SAMPLE: 2071348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromo-3-chloropropane	ug/kg	66.5	63.1	95	65-140	
1,2-Dibromoethane (EDB)	ug/kg	66.5	67.0	101	77-135	
1,2-Dichlorobenzene	ug/kg	66.5	64.2	97	77-141	
1,2-Dichloroethane	ug/kg	66.5	54.4	82	65-137	
1,2-Dichloropropane	ug/kg	66.5	63.3	95	72-136	
1,3,5-Trimethylbenzene	ug/kg	66.5	63.1	95	76-133	
1,3-Dichlorobenzene	ug/kg	66.5	63.5	96	74-138	
1,3-Dichloropropane	ug/kg	66.5	68.3	103	71-139	
1,4-Dichlorobenzene	ug/kg	66.5	64.9	98	76-138	
2,2-Dichloropropane	ug/kg	66.5	58.8	88	68-137	
2-Butanone (MEK)	ug/kg	133	119J	89	58-147	
2-Chlorotoluene	ug/kg	66.5	64.8	97	73-139	
2-Hexanone	ug/kg	133	133	100	62-145	
4-Chlorotoluene	ug/kg	66.5	63.8	96	76-141	
4-Methyl-2-pentanone (MIBK)	ug/kg	133	129	97	64-149	
Acetone	ug/kg	133	140	105	53-153	
Benzene	ug/kg	66.5	61.6	93	73-135	
Bromobenzene	ug/kg	66.5	65.5	98	75-133	
Bromochloromethane	ug/kg	66.5	60.0	90	73-134	
Bromodichloromethane	ug/kg	66.5	63.6	96	71-135	
Bromoform	ug/kg	66.5	61.6	93	66-141	
Bromomethane	ug/kg	66.5	60.1	90	53-160	
Carbon tetrachloride	ug/kg	66.5	58.7	88	60-145	
Chlorobenzene	ug/kg	66.5	64.7	97	78-130	
Chloroethane	ug/kg	66.5	59.0	89	64-149	
Chloroform	ug/kg	66.5	58.2	87	70-134	
Chloromethane	ug/kg	66.5	60.6	91	52-150	
cis-1,2-Dichloroethene	ug/kg	66.5	60.4	91	70-133	
cis-1,3-Dichloropropene	ug/kg	66.5	65.5	99	68-134	
Dibromochloromethane	ug/kg	66.5	65.3	98	71-138	
Dibromomethane	ug/kg	66.5	59.9	90	74-130	
Dichlorodifluoromethane	ug/kg	66.5	51.3	77	40-160	
Diisopropyl ether	ug/kg	66.5	61.1	92	69-141	
Ethylbenzene	ug/kg	66.5	63.6	96	75-133	
Hexachloro-1,3-butadiene	ug/kg	66.5	63.3	95	68-143	
Isopropylbenzene (Cumene)	ug/kg	66.5	61.4	92	76-143	
m&p-Xylene	ug/kg	133	125	94	75-136	
Methyl-tert-butyl ether	ug/kg	66.5	58.1	87	68-144	
Methylene Chloride	ug/kg	66.5	55.1	83	45-154	
n-Butylbenzene	ug/kg	66.5	62.0	93	72-137	
n-Propylbenzene	ug/kg	66.5	62.4	94	76-136	
Naphthalene	ug/kg	66.5	65.5	98	68-151	
o-Xylene	ug/kg	66.5	62.6	94	76-141	
p-Isopropyltoluene	ug/kg	66.5	62.5	94	76-140	
sec-Butylbenzene	ug/kg	66.5	61.6	93	79-139	
Styrene	ug/kg	66.5	64.6	97	79-137	
tert-Butylbenzene	ug/kg	66.5	56.1	84	74-143	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

LABORATORY CONTROL SAMPLE: 2071348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/kg	66.5	61.0	92	71-138	
Toluene	ug/kg	66.5	61.3	92	74-131	
trans-1,2-Dichloroethene	ug/kg	66.5	56.7	85	67-135	
trans-1,3-Dichloropropene	ug/kg	66.5	64.4	97	65-146	
Trichloroethene	ug/kg	66.5	63.5	95	67-135	
Trichlorofluoromethane	ug/kg	66.5	55.2	83	59-144	
Vinyl acetate	ug/kg	133	113	85	40-160	
Vinyl chloride	ug/kg	66.5	58.3	88	56-141	
Xylene (Total)	ug/kg	199	188	94	76-137	
1,2-Dichloroethane-d4 (S)	%			87	70-132	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 2072234

Parameter	Units	92351821001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	22.1	21.5	97	70-130	
1,1,1-Trichloroethane	ug/kg	ND	22.1	20.1	91	70-130	
1,1,2,2-Tetrachloroethane	ug/kg	ND	22.1	20.7	93	70-130	
1,1,2-Trichloroethane	ug/kg	ND	22.1	20.6	93	70-130	
1,1-Dichloroethane	ug/kg	ND	22.1	20.8	94	70-130	
1,1-Dichloroethene	ug/kg	ND	22.1	20.1	91	49-180	
1,1-Dichloropropene	ug/kg	ND	22.1	21.8	99	70-130	
1,2,3-Trichlorobenzene	ug/kg	ND	22.1	16.0	72	70-130	
1,2,3-Trichloropropane	ug/kg	ND	22.1	21.1	95	70-130	
1,2,4-Trichlorobenzene	ug/kg	ND	22.1	17.1	77	70-130	
1,2,4-Trimethylbenzene	ug/kg	ND	22.1	24.9	113	70-130	
1,2-Dibromo-3-chloropropane	ug/kg	ND	22.1	24.6	111	70-130	
1,2-Dibromoethane (EDB)	ug/kg	ND	22.1	22.4	101	70-130	
1,2-Dichlorobenzene	ug/kg	ND	22.1	22.2	100	70-130	
1,2-Dichloroethane	ug/kg	ND	22.1	19.3	87	70-130	
1,2-Dichloropropane	ug/kg	ND	22.1	21.4	97	70-130	
1,3,5-Trimethylbenzene	ug/kg	ND	22.1	25.3	114	70-130	
1,3-Dichlorobenzene	ug/kg	ND	22.1	22.7	103	70-130	
1,3-Dichloropropane	ug/kg	ND	22.1	23.2	105	70-130	
1,4-Dichlorobenzene	ug/kg	ND	22.1	23.1	104	70-130	
2,2-Dichloropropane	ug/kg	ND	22.1	19.7	89	70-130	
2-Butanone (MEK)	ug/kg	ND	44.2	40.0J	90	70-130	
2-Chlorotoluene	ug/kg	ND	22.1	25.1	114	70-130	
2-Hexanone	ug/kg	ND	44.2	39.9J	90	70-130	
4-Chlorotoluene	ug/kg	ND	22.1	24.3	110	70-130	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	44.2	41.0J	93	70-130	
Acetone	ug/kg	ND	44.2	45.9J	104	70-130	
Benzene	ug/kg	ND	22.1	22.1	100	50-166	
Bromobenzene	ug/kg	ND	22.1	25.0	113	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

MATRIX SPIKE SAMPLE: 2072234

Parameter	Units	92351821001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromochloromethane	ug/kg	ND	22.1	20.7	94	70-130	
Bromodichloromethane	ug/kg	ND	22.1	22.0	99	70-130	
Bromoform	ug/kg	ND	22.1	18.0	81	70-130	
Bromomethane	ug/kg	ND	22.1	19.1	86	70-130	
Carbon tetrachloride	ug/kg	ND	22.1	21.5	97	70-130	
Chlorobenzene	ug/kg	ND	22.1	22.9	104	43-169	
Chloroethane	ug/kg	ND	22.1	21.5	97	70-130	
Chloroform	ug/kg	ND	22.1	21.1	96	70-130	
Chloromethane	ug/kg	ND	22.1	21.8	98	70-130	
cis-1,2-Dichloroethene	ug/kg	ND	22.1	21.1	95	70-130	
cis-1,3-Dichloropropene	ug/kg	ND	22.1	20.1	91	70-130	
Dibromochloromethane	ug/kg	ND	22.1	21.4	97	70-130	
Dibromomethane	ug/kg	ND	22.1	21.1	95	70-130	
Dichlorodifluoromethane	ug/kg	ND	22.1	17.4	79	70-130	
Diisopropyl ether	ug/kg	ND	22.1	19.7	89	70-130	
Ethylbenzene	ug/kg	ND	22.1	23.3	105	70-130	
Hexachloro-1,3-butadiene	ug/kg	ND	22.1	24.3	110	70-130	
Isopropylbenzene (Cumene)	ug/kg	ND	22.1	23.2	105	70-130	
m&p-Xylene	ug/kg	ND	44.2	44.9	102	70-130	
Methyl-tert-butyl ether	ug/kg	ND	22.1	18.7	84	70-130	
Methylene Chloride	ug/kg	ND	22.1	18.4J	83	70-130	
n-Butylbenzene	ug/kg	ND	22.1	24.9	113	70-130	
n-Propylbenzene	ug/kg	ND	22.1	25.4	115	70-130	
Naphthalene	ug/kg	ND	22.1	16.9	76	70-130	
o-Xylene	ug/kg	ND	22.1	22.6	102	70-130	
p-Isopropyltoluene	ug/kg	ND	22.1	25.1	114	70-130	
sec-Butylbenzene	ug/kg	ND	22.1	25.8	117	70-130	
Styrene	ug/kg	ND	22.1	21.9	99	70-130	
tert-Butylbenzene	ug/kg	ND	22.1	23.5	106	70-130	
Tetrachloroethene	ug/kg	ND	22.1	22.4	101	70-130	
Toluene	ug/kg	ND	22.1	21.7	98	52-163	
trans-1,2-Dichloroethene	ug/kg	ND	22.1	20.9	94	70-130	
trans-1,3-Dichloropropene	ug/kg	ND	22.1	20.4	92	70-130	
Trichloroethene	ug/kg	ND	22.1	22.2	101	49-167	
Trichlorofluoromethane	ug/kg	ND	22.1	21.0	95	70-130	
Vinyl acetate	ug/kg	ND	44.2	11.9J	27	70-130	M1
Vinyl chloride	ug/kg	ND	22.1	19.5	88	70-130	
1,2-Dichloroethane-d4 (S)	%				90	70-132	
4-Bromofluorobenzene (S)	%				96	70-130	
Toluene-d8 (S)	%				95	70-130	

SAMPLE DUPLICATE: 2072235

Parameter	Units	92351820002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	ND		30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

SAMPLE DUPLICATE: 2072235

Parameter	Units	92351820002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/kg	ND	ND		30	
1,1,2-Trichloroethane	ug/kg	ND	ND		30	
1,1-Dichloroethane	ug/kg	ND	ND		30	
1,1-Dichloroethene	ug/kg	ND	ND		30	
1,1-Dichloropropene	ug/kg	ND	ND		30	
1,2,3-Trichlorobenzene	ug/kg	ND	ND		30	
1,2,3-Trichloropropane	ug/kg	ND	ND		30	
1,2,4-Trichlorobenzene	ug/kg	ND	ND		30	
1,2,4-Trimethylbenzene	ug/kg	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/kg	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/kg	ND	ND		30	
1,2-Dichlorobenzene	ug/kg	ND	ND		30	
1,2-Dichloroethane	ug/kg	ND	ND		30	
1,2-Dichloropropane	ug/kg	ND	ND		30	
1,3,5-Trimethylbenzene	ug/kg	ND	ND		30	
1,3-Dichlorobenzene	ug/kg	ND	ND		30	
1,3-Dichloropropane	ug/kg	ND	ND		30	
1,4-Dichlorobenzene	ug/kg	ND	ND		30	
2,2-Dichloropropane	ug/kg	ND	ND		30	
2-Butanone (MEK)	ug/kg	ND	ND		30	
2-Chlorotoluene	ug/kg	ND	ND		30	
2-Hexanone	ug/kg	ND	ND		30	
4-Chlorotoluene	ug/kg	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	ND		30	
Acetone	ug/kg	124	47.9J		30	
Benzene	ug/kg	ND	ND		30	
Bromobenzene	ug/kg	ND	ND		30	
Bromochloromethane	ug/kg	ND	ND		30	
Bromodichloromethane	ug/kg	ND	ND		30	
Bromoform	ug/kg	ND	ND		30	
Bromomethane	ug/kg	ND	ND		30	
Carbon tetrachloride	ug/kg	ND	ND		30	
Chlorobenzene	ug/kg	ND	ND		30	
Chloroethane	ug/kg	ND	ND		30	
Chloroform	ug/kg	ND	ND		30	
Chloromethane	ug/kg	ND	ND		30	
cis-1,2-Dichloroethene	ug/kg	ND	ND		30	
cis-1,3-Dichloropropene	ug/kg	ND	ND		30	
Dibromochloromethane	ug/kg	ND	ND		30	
Dibromomethane	ug/kg	ND	ND		30	
Dichlorodifluoromethane	ug/kg	ND	ND		30	
Diisopropyl ether	ug/kg	ND	ND		30	
Ethylbenzene	ug/kg	ND	ND		30	
Hexachloro-1,3-butadiene	ug/kg	ND	ND		30	
Isopropylbenzene (Cumene)	ug/kg	ND	ND		30	
m&p-Xylene	ug/kg	ND	ND		30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

SAMPLE DUPLICATE: 2072235

Parameter	Units	92351820002 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/kg	ND	ND		30	
Methylene Chloride	ug/kg	23.2J	21.1		30	C9
n-Butylbenzene	ug/kg	ND	ND		30	
n-Propylbenzene	ug/kg	ND	ND		30	
Naphthalene	ug/kg	ND	ND		30	
o-Xylene	ug/kg	ND	ND		30	
p-Isopropyltoluene	ug/kg	ND	ND		30	
sec-Butylbenzene	ug/kg	ND	ND		30	
Styrene	ug/kg	ND	ND		30	
tert-Butylbenzene	ug/kg	ND	ND		30	
Tetrachloroethene	ug/kg	ND	ND		30	
Toluene	ug/kg	ND	ND		30	
trans-1,2-Dichloroethene	ug/kg	ND	ND		30	
trans-1,3-Dichloropropene	ug/kg	ND	ND		30	
Trichloroethene	ug/kg	ND	ND		30	
Trichlorofluoromethane	ug/kg	ND	ND		30	
Vinyl acetate	ug/kg	ND	ND		30	
Vinyl chloride	ug/kg	ND	ND		30	
Xylene (Total)	ug/kg	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	89	87	28		
4-Bromofluorobenzene (S)	%	101	100	27		
Toluene-d8 (S)	%	101	103	24		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

QC Batch: 374049 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 92351820001

METHOD BLANK: 2072404 Matrix: Solid
Associated Lab Samples: 92351820001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.4	2.3	08/18/17 11:57	
1,1,1-Trichloroethane	ug/kg	ND	5.4	1.9	08/18/17 11:57	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.4	2.0	08/18/17 11:57	
1,1,2-Trichloroethane	ug/kg	ND	5.4	2.3	08/18/17 11:57	
1,1-Dichloroethane	ug/kg	ND	5.4	1.6	08/18/17 11:57	
1,1-Dichloroethene	ug/kg	ND	5.4	1.9	08/18/17 11:57	
1,1-Dichloropropene	ug/kg	ND	5.4	1.6	08/18/17 11:57	
1,2,3-Trichlorobenzene	ug/kg	ND	5.4	2.4	08/18/17 11:57	
1,2,3-Trichloropropane	ug/kg	ND	5.4	1.7	08/18/17 11:57	
1,2,4-Trichlorobenzene	ug/kg	ND	5.4	1.7	08/18/17 11:57	
1,2,4-Trimethylbenzene	ug/kg	ND	5.4	2.2	08/18/17 11:57	
1,2-Dibromo-3-chloropropane	ug/kg	ND	5.4	3.9	08/18/17 11:57	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.4	1.9	08/18/17 11:57	
1,2-Dichlorobenzene	ug/kg	ND	5.4	2.0	08/18/17 11:57	
1,2-Dichloroethane	ug/kg	ND	5.4	2.4	08/18/17 11:57	
1,2-Dichloropropane	ug/kg	ND	5.4	1.8	08/18/17 11:57	
1,3,5-Trimethylbenzene	ug/kg	ND	5.4	1.9	08/18/17 11:57	
1,3-Dichlorobenzene	ug/kg	ND	5.4	2.2	08/18/17 11:57	
1,3-Dichloropropane	ug/kg	ND	5.4	2.0	08/18/17 11:57	
1,4-Dichlorobenzene	ug/kg	ND	5.4	1.8	08/18/17 11:57	
2,2-Dichloropropane	ug/kg	ND	5.4	1.8	08/18/17 11:57	
2-Butanone (MEK)	ug/kg	ND	108	3.1	08/18/17 11:57	
2-Chlorotoluene	ug/kg	ND	5.4	1.8	08/18/17 11:57	
2-Hexanone	ug/kg	ND	53.8	4.2	08/18/17 11:57	
4-Chlorotoluene	ug/kg	ND	5.4	1.9	08/18/17 11:57	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	53.8	4.0	08/18/17 11:57	
Acetone	ug/kg	ND	108	10.8	08/18/17 11:57	
Benzene	ug/kg	ND	5.4	1.7	08/18/17 11:57	
Bromobenzene	ug/kg	ND	5.4	2.2	08/18/17 11:57	
Bromochloromethane	ug/kg	ND	5.4	1.8	08/18/17 11:57	
Bromodichloromethane	ug/kg	ND	5.4	2.0	08/18/17 11:57	
Bromoform	ug/kg	ND	5.4	2.5	08/18/17 11:57	
Bromomethane	ug/kg	ND	10.8	2.7	08/18/17 11:57	
Carbon tetrachloride	ug/kg	ND	5.4	2.8	08/18/17 11:57	
Chlorobenzene	ug/kg	ND	5.4	2.0	08/18/17 11:57	
Chloroethane	ug/kg	ND	10.8	2.6	08/18/17 11:57	
Chloroform	ug/kg	ND	5.4	1.7	08/18/17 11:57	
Chloromethane	ug/kg	ND	10.8	2.6	08/18/17 11:57	
cis-1,2-Dichloroethene	ug/kg	ND	5.4	1.5	08/18/17 11:57	
cis-1,3-Dichloropropene	ug/kg	ND	5.4	1.9	08/18/17 11:57	
Dibromochloromethane	ug/kg	ND	5.4	1.9	08/18/17 11:57	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
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(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

METHOD BLANK: 2072404 Matrix: Solid
Associated Lab Samples: 92351820001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	5.4	2.7	08/18/17 11:57	
Dichlorodifluoromethane	ug/kg	ND	10.8	3.9	08/18/17 11:57	
Diisopropyl ether	ug/kg	ND	5.4	1.8	08/18/17 11:57	
Ethylbenzene	ug/kg	ND	5.4	1.9	08/18/17 11:57	
Hexachloro-1,3-butadiene	ug/kg	ND	5.4	2.2	08/18/17 11:57	
Isopropylbenzene (Cumene)	ug/kg	ND	5.4	2.0	08/18/17 11:57	
m&p-Xylene	ug/kg	ND	10.8	3.9	08/18/17 11:57	
Methyl-tert-butyl ether	ug/kg	ND	5.4	1.6	08/18/17 11:57	
Methylene Chloride	ug/kg	ND	21.5	3.2	08/18/17 11:57	
n-Butylbenzene	ug/kg	ND	5.4	1.9	08/18/17 11:57	
n-Propylbenzene	ug/kg	ND	5.4	1.8	08/18/17 11:57	
Naphthalene	ug/kg	ND	5.4	1.3	08/18/17 11:57	
o-Xylene	ug/kg	ND	5.4	2.0	08/18/17 11:57	
p-Isopropyltoluene	ug/kg	ND	5.4	1.8	08/18/17 11:57	
sec-Butylbenzene	ug/kg	ND	5.4	1.7	08/18/17 11:57	
Styrene	ug/kg	ND	5.4	1.9	08/18/17 11:57	
tert-Butylbenzene	ug/kg	ND	5.4	2.2	08/18/17 11:57	
Tetrachloroethene	ug/kg	ND	5.4	1.8	08/18/17 11:57	
Toluene	ug/kg	ND	5.4	1.9	08/18/17 11:57	
trans-1,2-Dichloroethene	ug/kg	ND	5.4	2.0	08/18/17 11:57	
trans-1,3-Dichloropropene	ug/kg	ND	5.4	1.6	08/18/17 11:57	
Trichloroethene	ug/kg	ND	5.4	2.3	08/18/17 11:57	
Trichlorofluoromethane	ug/kg	ND	5.4	2.4	08/18/17 11:57	
Vinyl acetate	ug/kg	ND	53.8	9.5	08/18/17 11:57	
Vinyl chloride	ug/kg	ND	10.8	1.9	08/18/17 11:57	
Xylene (Total)	ug/kg	ND	10.8	3.9	08/18/17 11:57	
1,2-Dichloroethane-d4 (S)	%	84	70-132		08/18/17 11:57	
4-Bromofluorobenzene (S)	%	98	70-130		08/18/17 11:57	
Toluene-d8 (S)	%	101	70-130		08/18/17 11:57	

LABORATORY CONTROL SAMPLE: 2072405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	62.2	58.3	94	74-137	
1,1,1-Trichloroethane	ug/kg	62.2	52.7	85	67-140	
1,1,2,2-Tetrachloroethane	ug/kg	62.2	55.9	90	72-141	
1,1,2-Trichloroethane	ug/kg	62.2	57.0	92	78-138	
1,1-Dichloroethane	ug/kg	62.2	52.0	84	69-134	
1,1-Dichloroethene	ug/kg	62.2	52.6	85	67-138	
1,1-Dichloropropene	ug/kg	62.2	56.8	91	69-139	
1,2,3-Trichlorobenzene	ug/kg	62.2	59.9	96	70-146	
1,2,3-Trichloropropane	ug/kg	62.2	57.5	92	69-144	
1,2,4-Trichlorobenzene	ug/kg	62.2	59.2	95	68-148	
1,2,4-Trimethylbenzene	ug/kg	62.2	56.4	91	74-137	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

LABORATORY CONTROL SAMPLE: 2072405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromo-3-chloropropane	ug/kg	62.2	60.1	97	65-140	
1,2-Dibromoethane (EDB)	ug/kg	62.2	63.3	102	77-135	
1,2-Dichlorobenzene	ug/kg	62.2	59.1	95	77-141	
1,2-Dichloroethane	ug/kg	62.2	51.1	82	65-137	
1,2-Dichloropropane	ug/kg	62.2	58.5	94	72-136	
1,3,5-Trimethylbenzene	ug/kg	62.2	56.2	90	76-133	
1,3-Dichlorobenzene	ug/kg	62.2	58.5	94	74-138	
1,3-Dichloropropane	ug/kg	62.2	62.0	100	71-139	
1,4-Dichlorobenzene	ug/kg	62.2	59.9	96	76-138	
2,2-Dichloropropane	ug/kg	62.2	51.0	82	68-137	
2-Butanone (MEK)	ug/kg	124	122J	98	58-147	
2-Chlorotoluene	ug/kg	62.2	58.4	94	73-139	
2-Hexanone	ug/kg	124	126	101	62-145	
4-Chlorotoluene	ug/kg	62.2	56.6	91	76-141	
4-Methyl-2-pentanone (MIBK)	ug/kg	124	122	98	64-149	
Acetone	ug/kg	124	150	121	53-153	
Benzene	ug/kg	62.2	56.1	90	73-135	
Bromobenzene	ug/kg	62.2	60.4	97	75-133	
Bromochloromethane	ug/kg	62.2	55.5	89	73-134	
Bromodichloromethane	ug/kg	62.2	57.7	93	71-135	
Bromoform	ug/kg	62.2	56.4	91	66-141	
Bromomethane	ug/kg	62.2	50.2	81	53-160	
Carbon tetrachloride	ug/kg	62.2	54.2	87	60-145	
Chlorobenzene	ug/kg	62.2	58.4	94	78-130	
Chloroethane	ug/kg	62.2	52.5	84	64-149	
Chloroform	ug/kg	62.2	54.4	88	70-134	
Chloromethane	ug/kg	62.2	53.8	87	52-150	
cis-1,2-Dichloroethene	ug/kg	62.2	54.3	87	70-133	
cis-1,3-Dichloropropene	ug/kg	62.2	60.9	98	68-134	
Dibromochloromethane	ug/kg	62.2	63.1	101	71-138	
Dibromomethane	ug/kg	62.2	57.4	92	74-130	
Dichlorodifluoromethane	ug/kg	62.2	43.9	71	40-160	
Diisopropyl ether	ug/kg	62.2	55.2	89	69-141	
Ethylbenzene	ug/kg	62.2	57.5	92	75-133	
Hexachloro-1,3-butadiene	ug/kg	62.2	57.2	92	68-143	
Isopropylbenzene (Cumene)	ug/kg	62.2	57.0	92	76-143	
m&p-Xylene	ug/kg	124	114	92	75-136	
Methyl-tert-butyl ether	ug/kg	62.2	52.8	85	68-144	
Methylene Chloride	ug/kg	62.2	50.5	81	45-154	
n-Butylbenzene	ug/kg	62.2	55.1	89	72-137	
n-Propylbenzene	ug/kg	62.2	56.9	92	76-136	
Naphthalene	ug/kg	62.2	59.8	96	68-151	
o-Xylene	ug/kg	62.2	59.3	95	76-141	
p-Isopropyltoluene	ug/kg	62.2	55.2	89	76-140	
sec-Butylbenzene	ug/kg	62.2	56.2	90	79-139	
Styrene	ug/kg	62.2	60.2	97	79-137	
tert-Butylbenzene	ug/kg	62.2	50.4	81	74-143	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

LABORATORY CONTROL SAMPLE: 2072405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/kg	62.2	55.0	89	71-138	
Toluene	ug/kg	62.2	55.2	89	74-131	
trans-1,2-Dichloroethene	ug/kg	62.2	51.9	83	67-135	
trans-1,3-Dichloropropene	ug/kg	62.2	58.9	95	65-146	
Trichloroethene	ug/kg	62.2	59.5	96	67-135	
Trichlorofluoromethane	ug/kg	62.2	49.7	80	59-144	
Vinyl acetate	ug/kg	124	122	98	40-160	
Vinyl chloride	ug/kg	62.2	51.3	83	56-141	
Xylene (Total)	ug/kg	187	174	93	76-137	
1,2-Dichloroethane-d4 (S)	%			94	70-132	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			97	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

QC Batch: 373744 Analysis Method: EPA 8270
QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave
Associated Lab Samples: 92351820001, 92351820002, 92351820003

METHOD BLANK: 2070917 Matrix: Solid
Associated Lab Samples: 92351820001, 92351820002, 92351820003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/kg	ND	331	64.2	08/17/17 14:37	
1,2-Dichlorobenzene	ug/kg	ND	331	88.3	08/17/17 14:37	
1,3-Dichlorobenzene	ug/kg	ND	331	75.3	08/17/17 14:37	
1,4-Dichlorobenzene	ug/kg	ND	331	93.3	08/17/17 14:37	
1-Methylnaphthalene	ug/kg	ND	331	86.3	08/17/17 14:37	
2,2'-Oxybis(1-chloropropane)	ug/kg	ND	331	88.3	08/17/17 14:37	
2,4,5-Trichlorophenol	ug/kg	ND	331	102	08/17/17 14:37	
2,4,6-Trichlorophenol	ug/kg	ND	331	73.2	08/17/17 14:37	
2,4-Dichlorophenol	ug/kg	ND	331	72.2	08/17/17 14:37	
2,4-Dimethylphenol	ug/kg	ND	331	130	08/17/17 14:37	
2,4-Dinitrophenol	ug/kg	ND	1660	54.2	08/17/17 14:37	
2,4-Dinitrotoluene	ug/kg	ND	331	62.2	08/17/17 14:37	
2,6-Dinitrotoluene	ug/kg	ND	331	69.2	08/17/17 14:37	
2-Chloronaphthalene	ug/kg	ND	331	65.2	08/17/17 14:37	
2-Chlorophenol	ug/kg	ND	331	90.3	08/17/17 14:37	
2-Methylnaphthalene	ug/kg	ND	331	71.2	08/17/17 14:37	
2-Methylphenol(o-Cresol)	ug/kg	ND	331	100	08/17/17 14:37	
2-Nitroaniline	ug/kg	ND	1660	102	08/17/17 14:37	
2-Nitrophenol	ug/kg	ND	331	80.3	08/17/17 14:37	
3&4-Methylphenol(m&p Cresol)	ug/kg	ND	331	130	08/17/17 14:37	
3,3'-Dichlorobenzidine	ug/kg	ND	1660	72.2	08/17/17 14:37	
3-Nitroaniline	ug/kg	ND	1660	90.3	08/17/17 14:37	
4,6-Dinitro-2-methylphenol	ug/kg	ND	662	66.2	08/17/17 14:37	
4-Bromophenylphenyl ether	ug/kg	ND	331	60.2	08/17/17 14:37	
4-Chloro-3-methylphenol	ug/kg	ND	662	68.2	08/17/17 14:37	
4-Chloroaniline	ug/kg	ND	1660	92.3	08/17/17 14:37	
4-Chlorophenylphenyl ether	ug/kg	ND	331	68.2	08/17/17 14:37	
4-Nitroaniline	ug/kg	ND	662	93.3	08/17/17 14:37	
4-Nitrophenol	ug/kg	ND	1660	59.2	08/17/17 14:37	
Acenaphthene	ug/kg	ND	331	76.3	08/17/17 14:37	
Acenaphthylene	ug/kg	ND	331	78.3	08/17/17 14:37	
Aniline	ug/kg	ND	331	89.3	08/17/17 14:37	
Anthracene	ug/kg	ND	331	74.2	08/17/17 14:37	
Benzo(a)anthracene	ug/kg	ND	331	61.2	08/17/17 14:37	
Benzo(a)pyrene	ug/kg	ND	331	63.2	08/17/17 14:37	
Benzo(b)fluoranthene	ug/kg	ND	331	57.2	08/17/17 14:37	
Benzo(g,h,i)perylene	ug/kg	ND	331	84.3	08/17/17 14:37	
Benzo(k)fluoranthene	ug/kg	ND	331	65.2	08/17/17 14:37	
Benzoic Acid	ug/kg	ND	1660	60.2	08/17/17 14:37	
Benzyl alcohol	ug/kg	ND	662	66.2	08/17/17 14:37	
bis(2-Chloroethoxy)methane	ug/kg	ND	331	77.3	08/17/17 14:37	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

METHOD BLANK: 2070917 Matrix: Solid
Associated Lab Samples: 92351820001, 92351820002, 92351820003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
bis(2-Chloroethyl) ether	ug/kg	ND	331	84.3	08/17/17 14:37	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	331	90.3	08/17/17 14:37	
Butylbenzylphthalate	ug/kg	ND	331	70.2	08/17/17 14:37	
Chrysene	ug/kg	ND	331	44.1	08/17/17 14:37	
Di-n-butylphthalate	ug/kg	ND	331	54.2	08/17/17 14:37	
Di-n-octylphthalate	ug/kg	ND	331	69.2	08/17/17 14:37	
Dibenz(a,h)anthracene	ug/kg	ND	331	70.2	08/17/17 14:37	
Dibenzofuran	ug/kg	ND	331	54.2	08/17/17 14:37	
Diethylphthalate	ug/kg	ND	331	51.2	08/17/17 14:37	
Dimethylphthalate	ug/kg	ND	331	67.2	08/17/17 14:37	
Fluoranthene	ug/kg	ND	331	48.2	08/17/17 14:37	
Fluorene	ug/kg	ND	331	68.2	08/17/17 14:37	
Hexachloro-1,3-butadiene	ug/kg	ND	331	57.2	08/17/17 14:37	
Hexachlorobenzene	ug/kg	ND	331	42.1	08/17/17 14:37	
Hexachlorocyclopentadiene	ug/kg	ND	331	61.2	08/17/17 14:37	
Hexachloroethane	ug/kg	ND	331	87.3	08/17/17 14:37	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	331	68.2	08/17/17 14:37	
Isophorone	ug/kg	ND	331	74.2	08/17/17 14:37	
N-Nitroso-di-n-propylamine	ug/kg	ND	331	63.2	08/17/17 14:37	
N-Nitrosodimethylamine	ug/kg	ND	331	107	08/17/17 14:37	
N-Nitrosodiphenylamine	ug/kg	ND	331	98.3	08/17/17 14:37	
Naphthalene	ug/kg	ND	331	81.3	08/17/17 14:37	
Nitrobenzene	ug/kg	ND	331	90.3	08/17/17 14:37	
Pentachlorophenol	ug/kg	ND	1660	60.2	08/17/17 14:37	
Phenanthrene	ug/kg	ND	331	55.2	08/17/17 14:37	
Phenol	ug/kg	ND	331	99.3	08/17/17 14:37	
Pyrene	ug/kg	ND	331	56.2	08/17/17 14:37	
2,4,6-Tribromophenol (S)	%	53	27-110		08/17/17 14:37	
2-Fluorobiphenyl (S)	%	46	30-110		08/17/17 14:37	
2-Fluorophenol (S)	%	43	13-110		08/17/17 14:37	
Nitrobenzene-d5 (S)	%	46	23-110		08/17/17 14:37	
Phenol-d6 (S)	%	43	22-110		08/17/17 14:37	
Terphenyl-d14 (S)	%	67	28-110		08/17/17 14:37	

LABORATORY CONTROL SAMPLE: 2070918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/kg	1670	1010	60	36-120	
1,2-Dichlorobenzene	ug/kg	1670	968	58	41-120	
1,3-Dichlorobenzene	ug/kg	1670	945	57	66-120	L2
1,4-Dichlorobenzene	ug/kg	1670	952	57	42-120	
1-Methylnaphthalene	ug/kg	1670	1040	62	40-120	
2,2'-Oxybis(1-chloropropane)	ug/kg	1670	821	49	17-120	
2,4,5-Trichlorophenol	ug/kg	1670	1220	73	37-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
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(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

LABORATORY CONTROL SAMPLE: 2070918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,6-Trichlorophenol	ug/kg	1670	1190	72	40-120	
2,4-Dichlorophenol	ug/kg	1670	1060	64	33-120	
2,4-Dimethylphenol	ug/kg	1670	1000	60	36-120	
2,4-Dinitrophenol	ug/kg	8330	6620	79	22-121	
2,4-Dinitrotoluene	ug/kg	1670	1180	71	60-120	
2,6-Dinitrotoluene	ug/kg	1670	1180	71	54-120	
2-Chloronaphthalene	ug/kg	1670	1140	68	41-120	
2-Chlorophenol	ug/kg	1670	997	60	39-120	
2-Methylnaphthalene	ug/kg	1670	1020	61	26-120	
2-Methylphenol(o-Cresol)	ug/kg	1670	1030	62	41-120	
2-Nitroaniline	ug/kg	3330	2410	72	45-120	
2-Nitrophenol	ug/kg	1670	1060	63	35-120	
3&4-Methylphenol(m&p Cresol)	ug/kg	1670	1030	62	35-120	
3,3'-Dichlorobenzidine	ug/kg	3330	2150	65	16-125	
3-Nitroaniline	ug/kg	3330	2390	72	45-120	
4,6-Dinitro-2-methylphenol	ug/kg	3330	2910	87	46-120	
4-Bromophenylphenyl ether	ug/kg	1670	936	56	36-120	
4-Chloro-3-methylphenol	ug/kg	3330	2070	62	37-120	
4-Chloroaniline	ug/kg	3330	2060	62	35-120	
4-Chlorophenylphenyl ether	ug/kg	1670	987	59	30-120	
4-Nitroaniline	ug/kg	3330	2560	77	48-120	
4-Nitrophenol	ug/kg	8330	6340	76	43-120	
Acenaphthene	ug/kg	1670	1150	69	46-120	
Acenaphthylene	ug/kg	1670	1120	67	46-120	
Aniline	ug/kg	1670	896	54	33-120	
Anthracene	ug/kg	1670	1130	68	63-120	
Benzo(a)anthracene	ug/kg	1670	1220	73	61-120	
Benzo(a)pyrene	ug/kg	1670	1190	71	59-120	
Benzo(b)fluoranthene	ug/kg	1670	1130	68	55-120	
Benzo(g,h,i)perylene	ug/kg	1670	1160	69	57-120	
Benzo(k)fluoranthene	ug/kg	1670	1220	73	56-120	
Benzoic Acid	ug/kg	8330	4400	53	13-120	
Benzyl alcohol	ug/kg	3330	2160	65	34-120	
bis(2-Chloroethoxy)methane	ug/kg	1670	969	58	21-120	
bis(2-Chloroethyl) ether	ug/kg	1670	867	52	25-120	
bis(2-Ethylhexyl)phthalate	ug/kg	1670	1360	81	56-123	
Butylbenzylphthalate	ug/kg	1670	1310	78	57-120	
Chrysene	ug/kg	1670	1230	74	64-120	
Di-n-butylphthalate	ug/kg	1670	1220	73	58-120	
Di-n-octylphthalate	ug/kg	1670	1270	76	47-121	
Dibenz(a,h)anthracene	ug/kg	1670	1160	70	56-120	
Dibenzofuran	ug/kg	1670	1180	71	43-120	
Diethylphthalate	ug/kg	1670	1160	70	55-120	
Dimethylphthalate	ug/kg	1670	1150	69	54-120	
Fluoranthene	ug/kg	1670	1200	72	61-120	
Fluorene	ug/kg	1670	1110	67	51-120	
Hexachloro-1,3-butadiene	ug/kg	1670	964	58	22-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

LABORATORY CONTROL SAMPLE: 2070918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Hexachlorobenzene	ug/kg	1670	1120	67	53-120	
Hexachlorocyclopentadiene	ug/kg	1670	1020	61	18-150	
Hexachloroethane	ug/kg	1670	939	56	39-120	
Indeno(1,2,3-cd)pyrene	ug/kg	1670	1160	69	58-120	
Isophorone	ug/kg	1670	1100	66	38-120	
N-Nitroso-di-n-propylamine	ug/kg	1670	1060	63	30-120	
N-Nitrosodimethylamine	ug/kg	1670	994	60	32-120	
N-Nitrosodiphenylamine	ug/kg	1670	1170	70	50-120	
Naphthalene	ug/kg	1670	1030	62	38-120	
Nitrobenzene	ug/kg	1670	1020	61	37-120	
Pentachlorophenol	ug/kg	3330	2710	81	10-120	
Phenanthrene	ug/kg	1670	1130	68	62-120	
Phenol	ug/kg	1670	962	58	37-120	
Pyrene	ug/kg	1670	1200	72	63-120	
2,4,6-Tribromophenol (S)	%			80	27-110	
2-Fluorobiphenyl (S)	%			68	30-110	
2-Fluorophenol (S)	%			59	13-110	
Nitrobenzene-d5 (S)	%			60	23-110	
Phenol-d6 (S)	%			61	22-110	
Terphenyl-d14 (S)	%			72	28-110	

MATRIX SPIKE SAMPLE: 2070919

Parameter	Units	92351820001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/kg	ND	2060	728	35	18-119	
1,2-Dichlorobenzene	ug/kg	ND	2060	722	35	50-110	M1
1,3-Dichlorobenzene	ug/kg	ND	2060	673	33	27-110	
1,4-Dichlorobenzene	ug/kg	ND	2060	690	34	28-110	
1-Methylnaphthalene	ug/kg	ND	2060	832	40	24-116	
2,2'-Oxybis(1-chloropropane)	ug/kg	ND	2060	632	31	50-150	M1
2,4,5-Trichlorophenol	ug/kg	ND	2060	1180	58	28-110	
2,4,6-Trichlorophenol	ug/kg	ND	2060	1080	53	17-117	
2,4-Dichlorophenol	ug/kg	ND	2060	919	45	21-128	
2,4-Dimethylphenol	ug/kg	ND	2060	769	37	10-120	
2,4-Dinitrophenol	ug/kg	ND	10300	5680	55	10-107	
2,4-Dinitrotoluene	ug/kg	ND	2060	1180	57	36-109	
2,6-Dinitrotoluene	ug/kg	ND	2060	1110	54	32-110	
2-Chloronaphthalene	ug/kg	ND	2060	879	43	30-107	
2-Chlorophenol	ug/kg	ND	2060	767	37	14-106	
2-Methylnaphthalene	ug/kg	ND	2060	791	38	10-135	
2-Methylphenol(o-Cresol)	ug/kg	ND	2060	793	39	10-124	
2-Nitroaniline	ug/kg	ND	4110	2360	57	26-116	
2-Nitrophenol	ug/kg	ND	2060	884	43	28-103	
3&4-Methylphenol(m&p Cresol)	ug/kg	ND	2060	850	41	10-109	
3,3'-Dichlorobenzidine	ug/kg	ND	4110	1850J	45	10-150	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

MATRIX SPIKE SAMPLE: 2070919

Parameter	Units	92351820001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
3-Nitroaniline	ug/kg	ND	4110	2310	56	22-110	
4,6-Dinitro-2-methylphenol	ug/kg	ND	4110	2850	69	13-121	
4-Bromophenylphenyl ether	ug/kg	ND	2060	793	39	31-109	
4-Chloro-3-methylphenol	ug/kg	ND	4110	2190	53	13-128	
4-Chloroaniline	ug/kg	ND	4110	1750J	42	18-102	
4-Chlorophenylphenyl ether	ug/kg	ND	2060	856	42	29-112	
4-Nitroaniline	ug/kg	ND	4110	2550	62	16-111	
4-Nitrophenol	ug/kg	ND	10300	6220	60	14-135	
Acenaphthene	ug/kg	ND	2060	923	45	26-114	
Acenaphthylene	ug/kg	ND	2060	912	44	32-108	
Aniline	ug/kg	ND	2060	590	29	10-107	
Anthracene	ug/kg	ND	2060	978	48	32-111	
Benzo(a)anthracene	ug/kg	ND	2060	1030	50	25-117	
Benzo(a)pyrene	ug/kg	ND	2060	994	48	25-106	
Benzo(b)fluoranthene	ug/kg	ND	2060	973	47	24-110	
Benzo(g,h,i)perylene	ug/kg	ND	2060	945	46	19-112	
Benzo(k)fluoranthene	ug/kg	ND	2060	1000	49	24-114	
Benzoic Acid	ug/kg	ND	10300	2320	23	10-110	
Benzyl alcohol	ug/kg	ND	4110	1740	42	24-106	
bis(2-Chloroethoxy)methane	ug/kg	ND	2060	795	39	13-119	
bis(2-Chloroethyl) ether	ug/kg	ND	2060	676	33	10-134	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	2060	1240	60	10-125	
Butylbenzylphthalate	ug/kg	ND	2060	1170	57	18-110	
Chrysene	ug/kg	ND	2060	1060	52	30-110	
Di-n-butylphthalate	ug/kg	ND	2060	1070	52	19-112	
Di-n-octylphthalate	ug/kg	ND	2060	1160	57	17-105	
Dibenz(a,h)anthracene	ug/kg	ND	2060	945	46	23-111	
Dibenzofuran	ug/kg	ND	2060	970	47	35-103	
Diethylphthalate	ug/kg	ND	2060	1060	52	27-113	
Dimethylphthalate	ug/kg	ND	2060	1110	54	26-111	
Fluoranthene	ug/kg	ND	2060	1020	50	33-109	
Fluorene	ug/kg	ND	2060	974	47	32-113	
Hexachloro-1,3-butadiene	ug/kg	ND	2060	648	32	16-116	
Hexachlorobenzene	ug/kg	ND	2060	943	46	27-120	
Hexachlorocyclopentadiene	ug/kg	ND	2060	637	31	10-108	
Hexachloroethane	ug/kg	ND	2060	642	31	10-117	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	2060	956	47	10-122	
Isophorone	ug/kg	ND	2060	968	47	28-114	
N-Nitroso-di-n-propylamine	ug/kg	ND	2060	873	42	27-113	
N-Nitrosodimethylamine	ug/kg	ND	2060	674	33	10-109	
N-Nitrosodiphenylamine	ug/kg	ND	2060	1050	51	10-128	
Naphthalene	ug/kg	ND	2060	759	37	25-110	
Nitrobenzene	ug/kg	ND	2060	793	39	18-114	
Pentachlorophenol	ug/kg	ND	4110	2540	62	10-122	
Phenanthrene	ug/kg	ND	2060	969	47	30-114	
Phenol	ug/kg	ND	2060	756	37	11-102	
Pyrene	ug/kg	ND	2060	1080	52	25-116	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

MATRIX SPIKE SAMPLE: 2070919

Parameter	Units	92351820001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
2,4,6-Tribromophenol (S)	%				58	27-110	
2-Fluorobiphenyl (S)	%				34	30-110	
2-Fluorophenol (S)	%				34	13-110	
Nitrobenzene-d5 (S)	%				39	23-110	
Phenol-d6 (S)	%				37	22-110	
Terphenyl-d14 (S)	%				40	28-110	

SAMPLE DUPLICATE: 2070920

Parameter	Units	92351820001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/kg	ND	ND		30	
1,2-Dichlorobenzene	ug/kg	ND	ND		30	
1,3-Dichlorobenzene	ug/kg	ND	ND		30	
1,4-Dichlorobenzene	ug/kg	ND	ND		30	
1-Methylnaphthalene	ug/kg	ND	ND		30	
2,2'-Oxybis(1-chloropropane)	ug/kg	ND	ND		30	
2,4,5-Trichlorophenol	ug/kg	ND	ND		30	
2,4,6-Trichlorophenol	ug/kg	ND	ND		30	
2,4-Dichlorophenol	ug/kg	ND	ND		30	
2,4-Dimethylphenol	ug/kg	ND	ND		30	
2,4-Dinitrophenol	ug/kg	ND	ND		30	
2,4-Dinitrotoluene	ug/kg	ND	ND		30	
2,6-Dinitrotoluene	ug/kg	ND	ND		30	
2-Chloronaphthalene	ug/kg	ND	ND		30	
2-Chlorophenol	ug/kg	ND	ND		30	
2-Methylnaphthalene	ug/kg	ND	ND		30	
2-Methylphenol(o-Cresol)	ug/kg	ND	ND		30	
2-Nitroaniline	ug/kg	ND	ND		30	
2-Nitrophenol	ug/kg	ND	ND		30	
3&4-Methylphenol(m&p Cresol)	ug/kg	ND	ND		30	
3,3'-Dichlorobenzidine	ug/kg	ND	ND		30	
3-Nitroaniline	ug/kg	ND	ND		30	
4,6-Dinitro-2-methylphenol	ug/kg	ND	ND		30	
4-Bromophenylphenyl ether	ug/kg	ND	ND		30	
4-Chloro-3-methylphenol	ug/kg	ND	ND		30	
4-Chloroaniline	ug/kg	ND	ND		30	
4-Chlorophenylphenyl ether	ug/kg	ND	ND		30	
4-Nitroaniline	ug/kg	ND	ND		30	
4-Nitrophenol	ug/kg	ND	ND		30	
Acenaphthene	ug/kg	ND	ND		30	
Acenaphthylene	ug/kg	ND	ND		30	
Aniline	ug/kg	ND	ND		30	
Anthracene	ug/kg	ND	ND		30	
Benzo(a)anthracene	ug/kg	ND	ND		30	
Benzo(a)pyrene	ug/kg	ND	ND		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

SAMPLE DUPLICATE: 2070920

Parameter	Units	92351820001 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzo(b)fluoranthene	ug/kg	ND	ND		30	
Benzo(g,h,i)perylene	ug/kg	ND	ND		30	
Benzo(k)fluoranthene	ug/kg	ND	ND		30	
Benzoic Acid	ug/kg	ND	ND		30	
Benzyl alcohol	ug/kg	ND	ND		30	
bis(2-Chloroethoxy)methane	ug/kg	ND	ND		30	
bis(2-Chloroethyl) ether	ug/kg	ND	ND		30	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	ND		30	
Butylbenzylphthalate	ug/kg	ND	ND		30	
Chrysene	ug/kg	ND	ND		30	
Di-n-butylphthalate	ug/kg	ND	ND		30	
Di-n-octylphthalate	ug/kg	ND	ND		30	
Dibenz(a,h)anthracene	ug/kg	ND	ND		30	
Dibenzofuran	ug/kg	ND	ND		30	
Diethylphthalate	ug/kg	ND	ND		30	
Dimethylphthalate	ug/kg	ND	ND		30	
Fluoranthene	ug/kg	ND	ND		30	
Fluorene	ug/kg	ND	ND		30	
Hexachloro-1,3-butadiene	ug/kg	ND	ND		30	
Hexachlorobenzene	ug/kg	ND	ND		30	
Hexachlorocyclopentadiene	ug/kg	ND	ND		30	
Hexachloroethane	ug/kg	ND	ND		30	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	ND		30	
Isophorone	ug/kg	ND	ND		30	
N-Nitroso-di-n-propylamine	ug/kg	ND	ND		30	
N-Nitrosodimethylamine	ug/kg	ND	ND		30	
N-Nitrosodiphenylamine	ug/kg	ND	ND		30	
Naphthalene	ug/kg	ND	ND		30	
Nitrobenzene	ug/kg	ND	ND		30	
Pentachlorophenol	ug/kg	ND	ND		30	
Phenanthrene	ug/kg	ND	ND		30	
Phenol	ug/kg	ND	ND		30	
Pyrene	ug/kg	ND	ND		30	
2,4,6-Tribromophenol (S)	%	61	75	20		
2-Fluorobiphenyl (S)	%	42	59	33		
2-Fluorophenol (S)	%	44	49	11		
Nitrobenzene-d5 (S)	%	47	58	20		
Phenol-d6 (S)	%	44	52	15		
Terphenyl-d14 (S)	%	49	60	19		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

QC Batch: 373707 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 92351820001, 92351820002, 92351820003

SAMPLE DUPLICATE: 2070768

Parameter	Units	92351820001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	19.0	19.2	1	25	

SAMPLE DUPLICATE: 2070769

Parameter	Units	92351821010 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	16.5	17.1	3	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

C9	Common Laboratory Contaminant.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RFP-RUTHERFORD 71177323
Pace Project No.: 92351820

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92351820001	**B-186-1**	EPA 3546	373744	EPA 8270	373891
92351820002	**B-186-2**	EPA 3546	373744	EPA 8270	373891
92351820003	**B-186-3**	EPA 3546	373744	EPA 8270	373891
92351820001	**B-186-1**	EPA 8260	374049		
92351820002	**B-186-2**	EPA 8260	373848		
92351820003	**B-186-3**	EPA 8260	373848		
92351820001	**B-186-1**	ASTM D2974-87	373707		
92351820002	**B-186-2**	ASTM D2974-87	373707		
92351820003	**B-186-3**	ASTM D2974-87	373707		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: August 4, 2017 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.04	Issuing Authority: Pace Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐

Sample Condition Upon Receipt

Client Name: Jensen

Project #: WO#: 92351820

92351820

Courier: ☐ Commercial ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Pace ☐ Other: ____

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☑ No

Date/Initials Person Examining Contents: 8-16-17

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: T101 ☐ Wet ☐ Blue ☐ None

Type of Ice:

Correction Factor: Cooler Temp Corrected (°C): K 3.6 8-16-17

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☑ No	☐ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: SL				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Sample Discrepancy: _____

Lot ID of split containers: _____

Project Manager SCURF Review: TR Date: 8/16

Project Manager SRF Review: TR Date: 8/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers)

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

**Bottom half of box is to list number of bottles

Project # WO#: 92351820

PM: PTE Due Date: 08/18/17

CLIENT: 92-Terrac NC

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	Cubitainer	VSGU-20 mL Scintillation vials (N/A)	GN
1									1												6								
2									1												6								
3									1												6								
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Terracon NC	Report To:	Alex Chinery	Attention:	
Address:	2020E Starita Road	Copy To:		Company Name:	
Charlotte, NC 28206				Address:	Regulatory Agency
Email:	sachinery@terracon.com	Purchase Order #:		Pace Quote:	
Phone:	(704)509-1777 Fax	Project Name:	~~71177323~~ RFP - RUTHERFORD	Pace Project Manager:	taylor.ezell@pacelabs.com, State / Location
Requested Due Date:	48 HR TURN	Project #:	71177323	Pace Profile #:	5923-2 NC

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	VOC by 8260	SVOC by 8270	Residual Chlorine (Y/N)	9235820
1	B-186-1	SL	G			8/16/17	9:05		7	2	2					1	2		X	X		001
2	B-186-2	↓	↓			↓	9:12		↓	↓	↓					↓	↓		X	X		002
3	B-186-3	↓	↓			↓	9:16		↓	↓	↓					↓	↓		X	X		003
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	SAC / TERRACON	8/16/17	15:55	[signature] Pace Ltn	8/16/17	1555	3.6	4	N	4

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: S ALEX CHINERY

SIGNATURE of SAMPLER: SAC DATE Signed: 8/16/17

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

QED

REDLAB™ RAPID ENVIRONMENTAL DIAGNOSTICS

QROS

Hydrocarbon Analysis Results

Client: TERRACON
Address: 2020-E STARITA ROAD
CHARLOTTE NC

Contact: ALEX CHINERY

Project: #71177323

Samples taken Thursday, October 26, 2017
Samples extracted Thursday, October 26, 2017
Samples analysed Friday, October 27, 2017

Operator HENDRIX

H09382

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	% Ratios			HC Fingerprint Match
										C5 - C10	C10 - C18	C18	
s	B-186-4	22.6	<0.57	<0.57	10.4	10.4	5	0.56	<0.023	0	83.1	16.9	Road Tar 91.8%,(FCM)
s	B-186-5	22.6	<1.1	<0.57	37.5	37.5	18	2	0.045	0.5	85.9	13.6	Road Tar 93.2%,(FCM),(BO)
s	B-186-6	22.0	<0.55	<0.55	36.6	36.6	18.7	1	<0.022	0	85.5	14.5	Deg Fuel 77.1%,(FCM),(BO)
s	B-186-7	23.6	<0.59	<0.59	31.5	31.5	15.1	1.7	0.039	0	85.9	14.1	Road Tar 93.3%,(FCM),(BO)
s	B-186-8	22.6	<0.57	<0.57	7.4	7.4	3.6	0.39	<0.023	0	80.9	19.1	V.Deg.PHC 76.5%,(FCM),(BO)
s	B-186-9	24.5	<0.61	<0.61	1.5	1.5	1.2	<0.2	<0.025	0	84	16	Deg Fuel 77.7%,(FCM)
s	B-186-10	25.0	<0.63	<0.63	6.6	6.6	4.4	<0.2	<0.025	0	73.3	26.7	V.Deg.PHC 74.6%,(FCM),(BO),(P)
s	B-186-11	39.6	<0.99	<0.99	79.8	79.8	38.5	4.3	0.099	0	85.1	14.9	Road Tar 90.5%,(FCM),(BO)
s	B-186-12	27.4	<0.68	13.4	34.7	48.1	16.8	1.9	0.044	48.7	42.8	8.5	Road Tar 77.2%,(FCM),(BO)
s	B-186-13	25.5	<0.64	<0.64	6.4	6.4	3.1	0.35	<0.025	0	81.5	18.5	Road Tar 77.1%,(FCM)

Initial Calibrator QC check OK Final FCM QC Check OK 104.5 %

Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values uncorrected for moisture or stone content. Fingerprints provide a tentative hydrocarbon identification.

Abbreviations :- FCM = Results calculated using Fundamental Calibration Mode : % = confidence of hydrocarbon identification : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate detected

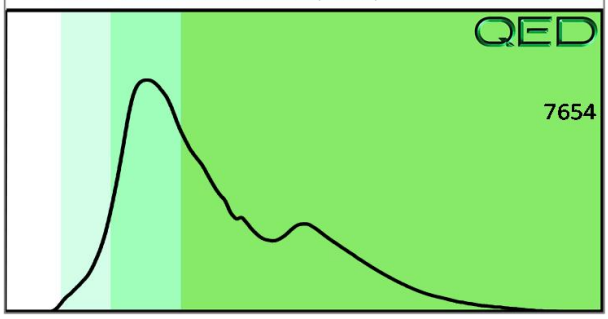
B = Blank Drift : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : (OCR) = Outside cal range : (M) = Modifed Result.

% Ratios estimated aromatic carbon number proportions : HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only. **Data generated by HC-1 Analyser**

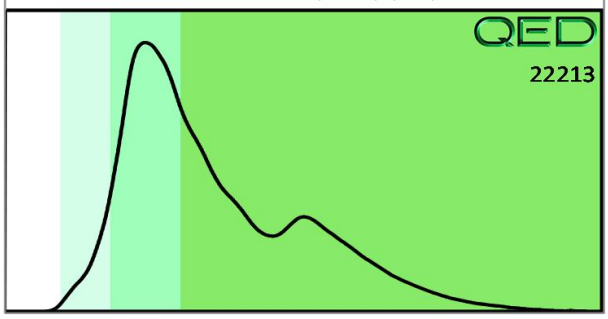
QED Hydrocarbon Fingerprints

Project: #71177323 Friday, October 27, 2017

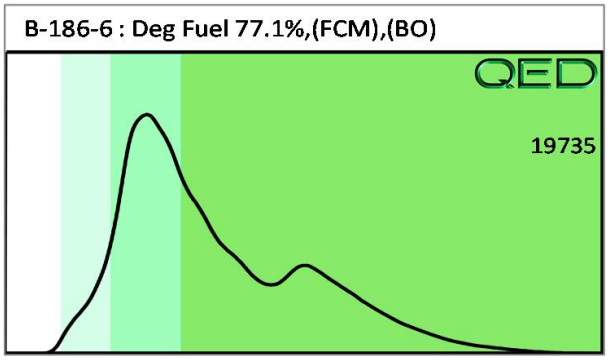
B-186-4 : Road Tar 91.8%,(FCM)



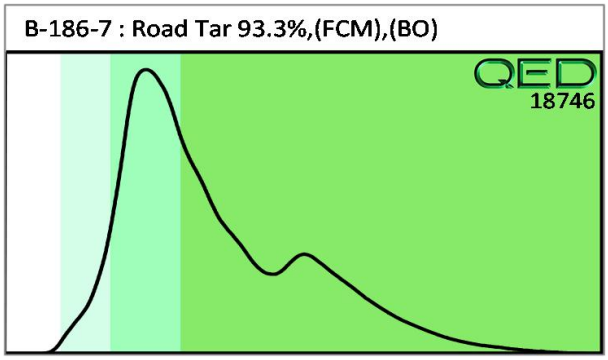
B-186-5 : Road Tar 93.2%,(FCM),(BO)



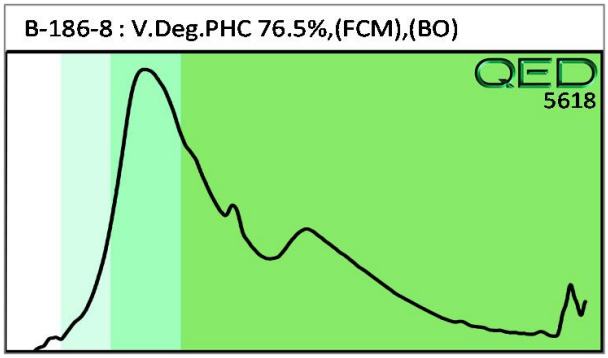
B-186-6 : Deg Fuel 77.1%,(FCM),(BO)



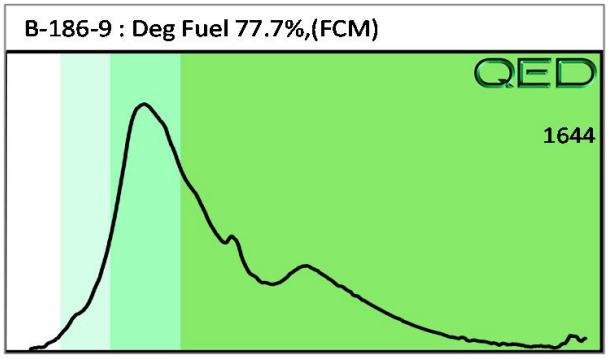
B-186-7 : Road Tar 93.3%,(FCM),(BO)



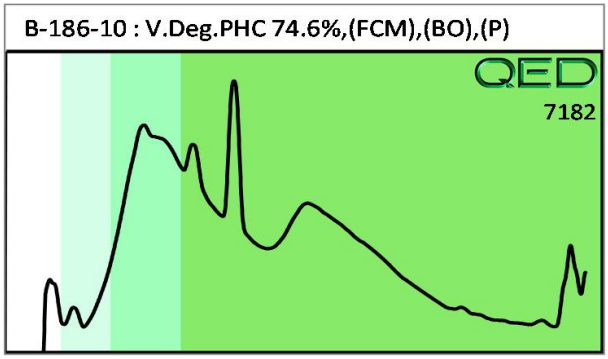
B-186-8 : V.Deg.PHC 76.5%,(FCM),(BO)



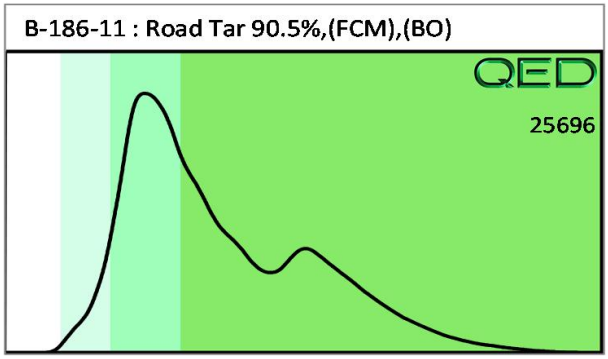
B-186-9 : Deg Fuel 77.7%,(FCM)



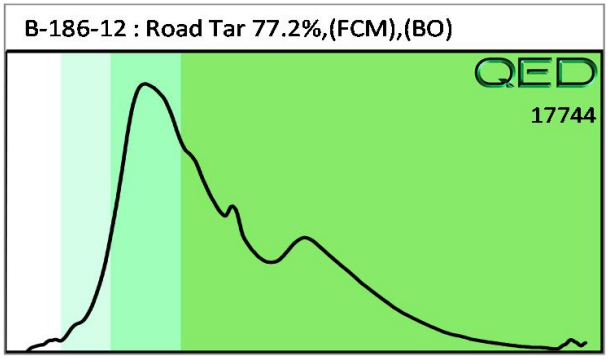
B-186-10 : V.Deg.PHC 74.6%,(FCM),(BO),(P)



B-186-11 : Road Tar 90.5%,(FCM),(BO)



B-186-12 : Road Tar 77.2%,(FCM),(BO)



B-186-13 : Road Tar 77.1%,(FCM)