

September 7, 2018

North Carolina Department of Transportation
GeoEnvironmental Engineering Unit
Century Center Complex
Building B
1020 Birch Ridge Road
Raleigh, North Carolina 27610

Re: Preliminary Site Assessment (PSA)
Norfolk Southern Mainline Grade Crossing Separation at Rogers Road Crossing in
Kannapolis
Parcel 48 - John, Phillip, Douglas Tricee Trustee Property
1306-1310 S. Ridge Avenue, Kannapolis, North Carolina
TIP No. Y-4810K
WBS Element: 40325.1.46

Dear Mr. Haden

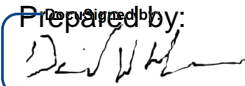
Terracon Consultants, Inc. (Terracon) is pleased to submit a Preliminary Site Assessment (PSA) report for the above referenced site. This assessment was performed in accordance with our Proposal for Preliminary Site Assessment (Terracon Proposal No. P70187265) dated May 14, 2018. This report includes 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. If you have any questions concerning this report or need additional information, please contact us at 919-873-2211.


Sincerely,

Terracon Consultants, Inc.

9/19/2018

Prepared by: 9/19/2018

BFAD0E85DCED418...

David W. Hawkins, PG
Staff Geologist

DocuSigned by:
Reviewed by:

8E4FE90F5C944D5...

Michael B. Dail, PG
Senior Geologist



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Terracon Consultants, Inc. 2401 Brentwood Road, Suite 107 Raleigh, NC 27604
P [919] 873 2211 F [919] 873 9555 terracon.com

Preliminary Site Assessment

Norfolk Southern Mainline Grade Crossing Separation at Rogers Road in Kannapolis

**Parcel 48 – John, Phillip, Douglas Triage Trustee Property
1306-1310 S. Ridge Avenue, Kannapolis, North Carolina**

TIP No. Y-4810K

WBS Element: 40325.1.46

September 7, 2018

Terracon Project No. 70187265



Prepared for:

North Carolina Department of Transportation
Raleigh, North Carolina

Prepared by:

Terracon Consultants, Inc.
Raleigh, North Carolina

terracon.com

Terracon

Environmental



Facilities



Geotechnical



Materials

TABLE OF CONTENTS

	Page No.
1.0 INTRODUCTION	1
1.1 Site Description.....	1
1.2 Site History	1
1.3 Scope of Work	2
1.4 Standard of Care.....	2
1.5 Additional Scope Limitations	2
1.6 Reliance.....	2
2.0 FIELD ACTIVITIES.....	3
2.1 Geophysical Survey	3
2.2 Soil Sampling.....	3
3.0 LABORATORY ANALYSES	4
4.0 DATA EVALUATION.....	5
4.1 Soil Analytical Results.....	5
5.0 CONCLUSIONS AND RECOMMENDATIONS	5
6.0 REFERENCES	5

TABLES

Table 1 – Summary of Soil Analytical Results

EXHIBITS

Exhibit 1 – Topographic Vicinity Map

Exhibit 2A – Site Diagram with Soil Boring Locations

Exhibit 2B – Site Diagram with Soil Boring Locations and Analytical Data

APPENDICES

Appendix A: Geophysical Survey Report

Appendix B: Soil Boring Logs

Appendix C: Laboratory Analytical Reports and Chain-of-Custody Forms

Appendix D: NCDEQ Risk Calculator Output

PRELIMINARY SITE ASSESSMENT

NORFOLK SOUTHERN MAINLINE GRADE CROSSING SEPARATION AT ROGERS ROAD CROSSING IN KANNAPOLIS

TIP NO. Y-4810K

WBS ELEMENT: 40325.1.46

PARCEL 48 – JOHN, PHILLIP, DOUGLAS TRIECE TRUSTEE PROPERTY
1306-1310 S. RIDGE AVENUE, KANNAPOLIS, NORTH CAROLINA

1.0 INTRODUCTION

1.1 Site Description

Site Name	Norfolk Southern Mainline Grade Crossing Separation at Rogers Road Crossing in Kannapolis
Site Location/Address	1306 S. Ridge Avenue, Kannapolis, North Carolina 28083 (Cabarrus County Tax PIN: 56136253980000); 1308 S. Ridge Avenue, Kannapolis, North Carolina 28083 (Cabarrus County Tax PIN: 56136262190000); 1310 S. Ridge Avenue, Kannapolis, North Carolina 28083 (Cabarrus County Tax PIN: 56136261390000); and Portion of Tax PIN No. 56136255110000 (no address).
General Site Description	The site currently consists of a paved/concrete lot leased for truck parking and a small vacant former office structure.

1.2 Site History

The site is located at 1306-1310 S. Ridge Avenue in Kannapolis, Cabarrus County, North Carolina. At the time of the Preliminary Site Assessment (PSA), the site consisted of a paved/concrete lot and small vacant former office building. The site is apparently leased for truck parking. The site address does not appear on the North Carolina Department of Environmental Quality (NCDEQ) – Division of Waste Management UST Section Registered Tank Database. According to a review of available historical records, the site operated as Triage Block Company. The site was also utilized as storage and staging for road improvements associated with S Ridge Avenue and S Main Street in the early 2010s (NCDOT, 2013).

1.3 Scope of Work

Terracon conducted the following PSA scope of work (SOW) in accordance with Terracon's Proposal for PSA (Proposal No. P70187265) dated May 14, 2018. This PSA is being completed prior to planned bridge addition over the Norfolk Southern Railroad in the vicinity of Rogers Lake Road and S. Ridge Avenue in Kannapolis, North Carolina (site). The scope of work included a geophysical investigation, collection of soil and samples, and preparation of a report documenting our investigation activities. The PSA is not intended to delineate potential impacts. The PSA was performed within the proposed ROW as indicated by 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 our Proposal for Preliminary Site Assessment (Terracon Proposal No. P70187265) dated May 14, 2018 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 topographic quadrangle map of Concord, NC (1987). **Exhibits 2A and 2B** depict a site layout plan that includes the approximate locations of the site features, soil boring locations, and analytical results.

2.1 Geophysical Survey

Between June 19 and 21, 2018, Geophysical Survey Investigations, PLLC conducted a geophysical investigation at the site in an effort to determine if unknown, metallic USTs were present beneath the proposed ROW area and provide utility clearance prior to drilling activities. The geophysical investigation included an electromagnetic (EM) induction survey using a Geonics EM61-MK2A metal detection instrument and a ground penetrating radar (GPR) survey using a Geophysical Survey Systems SIR-3000 unit.

The geophysical investigation did not identify probable USTs on the surveyed portion of parcel (i.e. outside of the Railroad ROW). In addition to metal detection and GPR scans, the NC One Call public utility locator service was used to identify underground utility lines and to clear boring locations. 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 oversaw the advancement of ten (10) soil borings (B-9 through B-18) along the central portions of the parcel oriented northwest-southeast, adjacent to the on-site structure, and within the NCDOT ROW. The borings were completed by a North Carolina Certified Well Contractor (Innovative Environmental Technologies, Inc.) using a track-mounted 9520-VTR PowerProbe™ 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 assist in selection of sample intervals for laboratory analysis.

Based on the proposed disturbance depths and discussion with the NCDOT, each of the soil borings was advanced to a depth of approximately 10 feet below land surface (bls). Based on the results of the field screening, one soil sample from each boring, was collected from depths between approximately 1 feet and 10 feet bls. Soil samples were collected in the depth interval

Preliminary Site Assessment – Y-4810K

Parcel 48 – John, Phillip, Douglas Trice Trustee Property
1306-1310 S. Ridge Avenue, Kannapolis, NC
September 7, 2018 ■ Terracon Project No. 70187265



that was most likely to be impacted or from variable depths to provide spatial coverage with depth across the site.

The drilling equipment used at the site was decontaminated prior to use and between 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. Investigation derived waste (IDW) from the three (3) parcels associated with TIP No. Y-4810K was containerized in one 55-gallon drum staged on parcel 48 pending disposal.

Soil generally consisted of silty clay to depths of approximately 4 to 6 feet bls underlain by silty sand. Fill (sand) was also observed in some of the borings B-12, B-13, and B-14 within the first four feet. Groundwater was not encountered in these borings. The soil boring logs are included in **Appendix B**. Sample locations were measured using a Trimble Geo7x GPS and are depicted on **Exhibits 2A and 2B**.

3.0 LABORATORY ANALYSES

Soil samples were placed in laboratory provided sample containers and shipped to REDLAB/QROS, LLC – Environmental Testing for analysis by Ultraviolet Fluorescence (UVF) for the following:

- n TPH-gasoline range organics (C₅-C₁₀) (TPH-GRO);
- n TPH-diesel range organics (C₁₀-C₃₅) (TPH-DRO);
- n Total petroleum hydrocarbons (C₅-C₃₅) (TPH);
- n Benzene, toluene, ethylbenzene, and xylenes (BTEX);
- n Total aromatics (C₁₀-C₃₅);
- n 16 EPA Polycyclic Aromatic Hydrocarbons (16 EPA PAHs); and
- n Benzo(a)pyrene (BaP).

Soil samples were also submitted to Shealy Environmental Services, Inc. for analysis of the following:

- n RCRA 8 metals and mercury via EPA Method 6010/7471.

Please refer to **Appendix C** for the laboratory analytical reports.

4.0 DATA EVALUATION

4.1 Soil Analytical Results

Table 1 summarizes the results of the analyses of the soil samples. **Exhibit 2B** depicts the boring locations and analytical data.

Constituents from the UVF analysis were not detected at concentrations above applicable standards in the soil samples.

Metals by EPA RCRA 8 metals were not detected above applicable industrial/commercial maximum soil contaminant concentrations (MSCC). Arsenic and chromium were detected above their respective industrial/commercial preliminary soil remediation goals (PSRG). Terracon utilized the NCDEQ Risk Calculator to evaluate potential risk associated with the metal exceedances. The maximum detection value for arsenic and chromium was used from the site, and the carcinogenic risk and hazard index were not exceeded. Terracon does not consider the PSRG exceedances applicable for these metals based on the risk calculator output. Terracon has included the risk calculator output as **Appendix D**.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The findings of this investigation are discussed below.

- n The geophysical investigation did not identify a probable UST within the surveyed portion of the parcel and NCDOT ROW.
- n Laboratory analysis did not report concentrations above applicable standards in the soil samples.
- n Terracon recommends NCDOT provide a copy of the results to the owner and/or operator of the site.
- n Terracon does not recommend further assessment of the ROW at this site. However, based on detections of petroleum compounds in soil, construction workers should be alert for potential soil and/or groundwater impacts in other locations at the site.

6.0 REFERENCES

NCDOT, 2013. GeoEnvironmental Report for Planning Y-4810K. “Hazardous Materials Report.”
December 2, 2013

TABLES

Table 1
 Summary of Soil Analytical Results
 Preliminary Site Assessment
 Parcel 48 - John, Phillip, Douglas Tricee Trustee Property
 Kannapolis, Cabarrus County, North Carolina
 Terracon Project No. 70187265

Sample ID: Sample Depth (ft bls):	B-9 2-4	B-10 4-6	B-11 1-3	B-12 2-4	B-13 4-6	B-14 6-8	B-15 2-4	B-16 3-5	B-17 2-4	B-18 8-10	NCDEQ Action Level	MSCC Industrial/ Commercial	PSRG Industrial/ Commercial
BTEX (C6 - C9)	<0.33	<0.33	<0.68	<0.60	<0.59	<0.71	<0.62	<0.68	<0.57	<0.63	NE	NE	NE
GRO (C5 - C10)	<0.33	<0.33	<0.68	<0.60	<0.59	<0.71	<0.62	<0.68	<0.57	<0.63	50	NE	NE
DRO (C10 - C35)	8.7	4.1	32.5	1.2	<0.05	<0.06	1.2	<0.05	0.95	<0.05	100	NE	NE
TPH (C5 - C35)	8.7	4.1	32.5	1.2	<0.59	<0.71	1.2	<0.68	0.95	<0.63	NE	NE	NE
Total Aromatics (C10-C35)	6.0	2.1	25	1.2	<0.12	<0.14	0.38	<0.14	0.94	<0.13	NE	NE	NE
16 EPA PAHs	0.32	0.12	1.2	0.06	<0.02	<0.03	<0.02	<0.03	0.05	<0.03	NE	NE	NE
BaP	<0.007	<0.007	<0.014	<0.012	<0.012	<0.014	<0.012	<0.014	<0.011	<0.013	NE	0.78	2.1
Metals by EPA Method 6010/7471													
Arsenic	2.8	3.2	3.7	1.3	2.6	2.9	4.1	3.2	3.4	2.6	--	NE	3.0
Barium	83	160	99	50	220	190	81	35	140	150	--	81,000	47,000
Cadmium	<0.32	<0.33	0.11 J	<0.21	<0.32	<0.26	<0.33	<0.34	<0.29	<0.34	--	NE	200
Chromium	9.0	7.7	11	4.8	7.2	5.8	16	7.6	12	7.3	--	1,226	6.5
Lead	56	46	30	10	34	37	30	35	28	31	--	400	NE
Mercury	<0.12	<0.11	<0.087	<0.09	<0.11	<0.1	0.027 J	<0.1	<0.1	<0.1	--	NE	9.7
Selenium	<1.3	<1.3	0.46 J	<0.82	<1.3	<1.1	<1.3	<1.3	<1.1	<1.4	--	NE	1,200

Notes:

Soil samples were collected on July 9, 2018.

Concentrations are reported in milligrams per kilogram (mg/kg).

ft bls - feet below land surface.

BTEX - Benzene, Toluene, Ethylbenzene, and Xylenes.

GRO - Gasoline Range Organics.

DRO - Diesel Range Organics.

TPH - Total Petroleum Hydrocarbons.

16 EPA PAHs - Environmental Protection Agency Polycyclic Aromatic Hydrocarbons (acenaphthene, acenaphthylene, anthracene,

benz[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[g,h,i]perylene, benzo[a]pyrene,

chrysene, dibenz[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-c,d]pyrene, naphthalene, phenanthrene, pyrene).

NE - Standard not established.

Bold: Constituent concentration reported above the method detection limit.

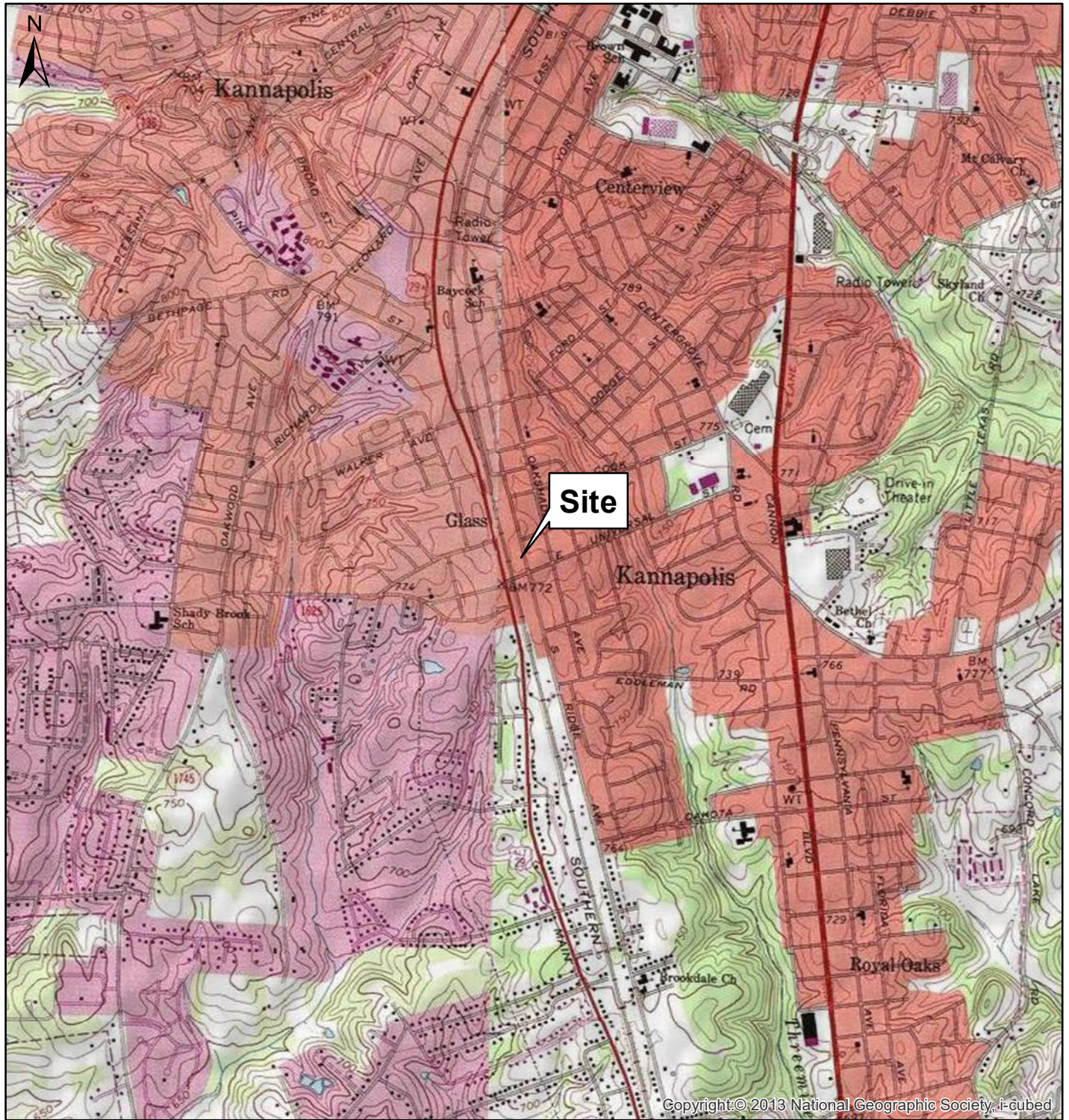
North Carolina Department of Environmental Quality (NCDEQ) State Action Level for Total Petroleum Hydrocarbons (GRO/DRO) (July 2016).

MSCC Industrial/Commercial - Maximum Soil Contaminant Concentration Levels Industrial/Commercial soil cleanup levels (April 2012).

Detections shaded in gray exceed the NCDEQ Industrial/Commercial Preliminary Soil Remediation Goals (PSRGs) (February 2018).

Arsenic and chromium were input into the NCDEQ Risk Calculator and did not exceed carcinogenic or hazard risk; therefore these are not considered an applicable exceedance.

FIGURES



0 1,000 2,000 4,000 6,000 8,000 10,000 Feet

CONTOUR INTERVAL 10 FEET

USGS TOPOGRAPHIC MAP
 SITE: CONCORD, NC QUADRANGLE (1987)
 NORTH: KANNAPOLIS, NC QUADRANGLE (1993)

PM:	SJK	Project No.	70187265
Drawn By:	DWH	Scale:	1:24,000
Checked By:	SJK	File Path:	
Approved By:	MTJ	Date:	8/27/2018

Terracon

2401 Brentwood Drive, Suite 107 Raleigh, NC 27604
 Phone: (919) 873-2211 Fax: (919) 873-9555

Topographic Vicinity Map

Preliminary Site Assessment
 Parcel 48 - John, Phillip, Douglas Trice Trustee Property
 Kannapolis, Cabarrus County, North Carolina

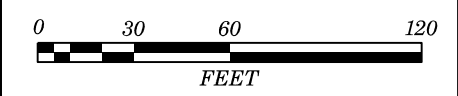
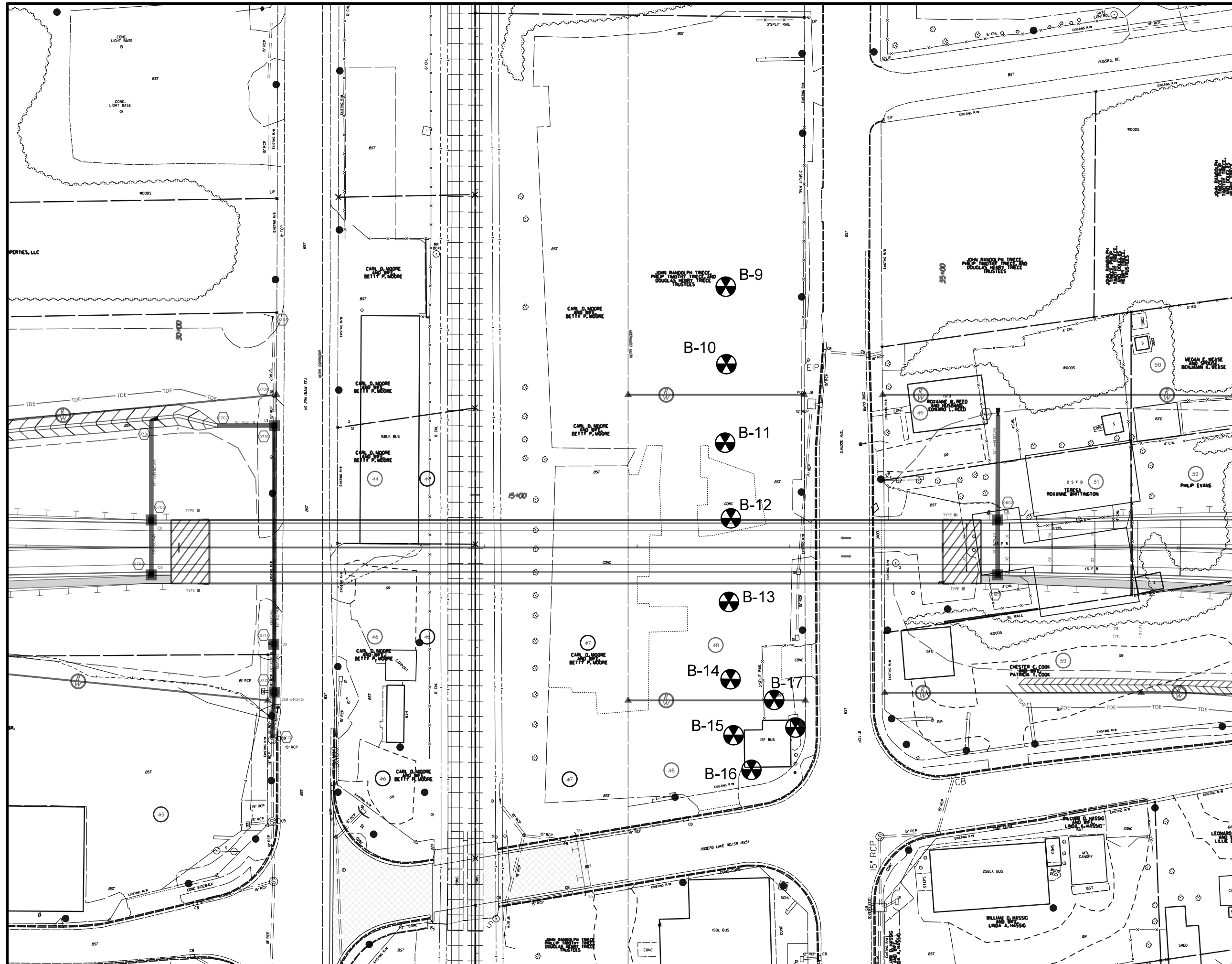
EXHIBIT NO.	1
-------------	---

SITE DIAGRAM WITH BORING LOCATIONS

PARCEL 48
TRICEE TRUSTEE PROPERTY
1306-1310 SOUTH RIDGE AVENUE
KANNAPOLIS, CABARRUS COUNTY,
NORTH CAROLINA

LEGEND

- PROPERTY LINE
- EXISTING RIGHT OF WAY LINE
- NEW RIGHT OF WAY LINE WITH PIN AND CAP
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF TRAVEL
- F — PROPOSED CUT / FILL LINE
- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE PIPING
- TDE — PROPOSED TEMPORARY DRAINAGE EASEMENT
- ⊗ BORING LOCATION



SITE DIAGRAM WITH BORING LOCATIONS AND ANALYTICAL DATA

PARCEL 48
TRIECE TRUSTEE PROPERTY
1306-1310 SOUTH RIDGE AVENUE
KANNAPOLIS, CABARRUS COUNTY,
NORTH CAROLINA

LEGEND

- PROPERTY LINE
- EXISTING RIGHT OF WAY LINE
- NEW RIGHT OF WAY LINE WITH PIN AND CAP
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF TRAVEL
- F — C — PROPOSED CUT / FILL LINE
- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE PIPING
- TDE — PROPOSED TEMPORARY DRAINAGE EASEMENT
- ⊗ BORING LOCATION

NOTES

mg/kg - MILLIGRAMS PER KILOGRAM
J - ESTIMATED CONCENTRATION ABOVE METHOD DETECTION LIMIT AND BELOW LABORATORY REPORTING LIMIT
ft bls - FEET BELOW LAND SURFACE
DRO - DIESEL RANGE ORGANICS
GRO - GASOLINE RANGE ORGANICS
PAH - POLYCYCLIC AROMATIC HYDROCARBON

B-9 (2-4 ft bls)	(mg/kg)
DRO (C10-C35)	8.7
TPH (C5-C35)	8.7
Total Aromatics (C10-C35)	6.0
16 EPA PAHs	0.32
Arsenic	2.8
Barium	83.0
Chromium	9.0
Lead	56.0

B-10 (4-6 ft bls)	(mg/kg)
DRO (C10-C35)	4.1
TPH (C5-C35)	4.1
Total Aromatics (C10-C35)	2.1
16 EPA PAHs	0.12
Arsenic	3.2
Barium	160.0
Chromium	7.7
Lead	46.0

B-11 (1-3 ft bls)	(mg/kg)
DRO (C10-C35)	32.5
TPH (C5-C35)	32.5
Total Aromatics (C10-C35)	25.0
16 EPA PAHs	1.2
Arsenic	3.7
Barium	99.0
Cadmium	0.11 J
Chromium	11.0
Lead	30.0
Selenium	0.46 J

B-13 (4-6 ft bls)	(mg/kg)
Arsenic	2.6
Barium	220.0
Chromium	7.2
Lead	34.0

B-17 (2-4 ft bls)	(mg/kg)
DRO (C10-C35)	0.95
TPH (C5-C35)	0.95
Total Aromatics (C10-C35)	0.94
16 EPA PAHs	0.05
Arsenic	3.4
Barium	140.0
Chromium	12.0
Lead	28.0

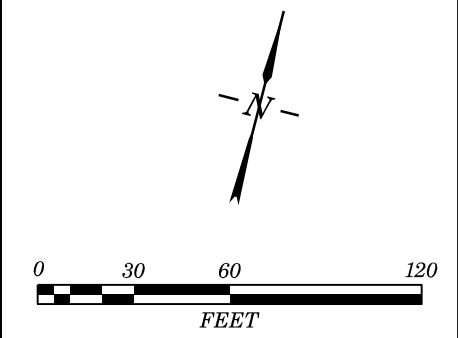
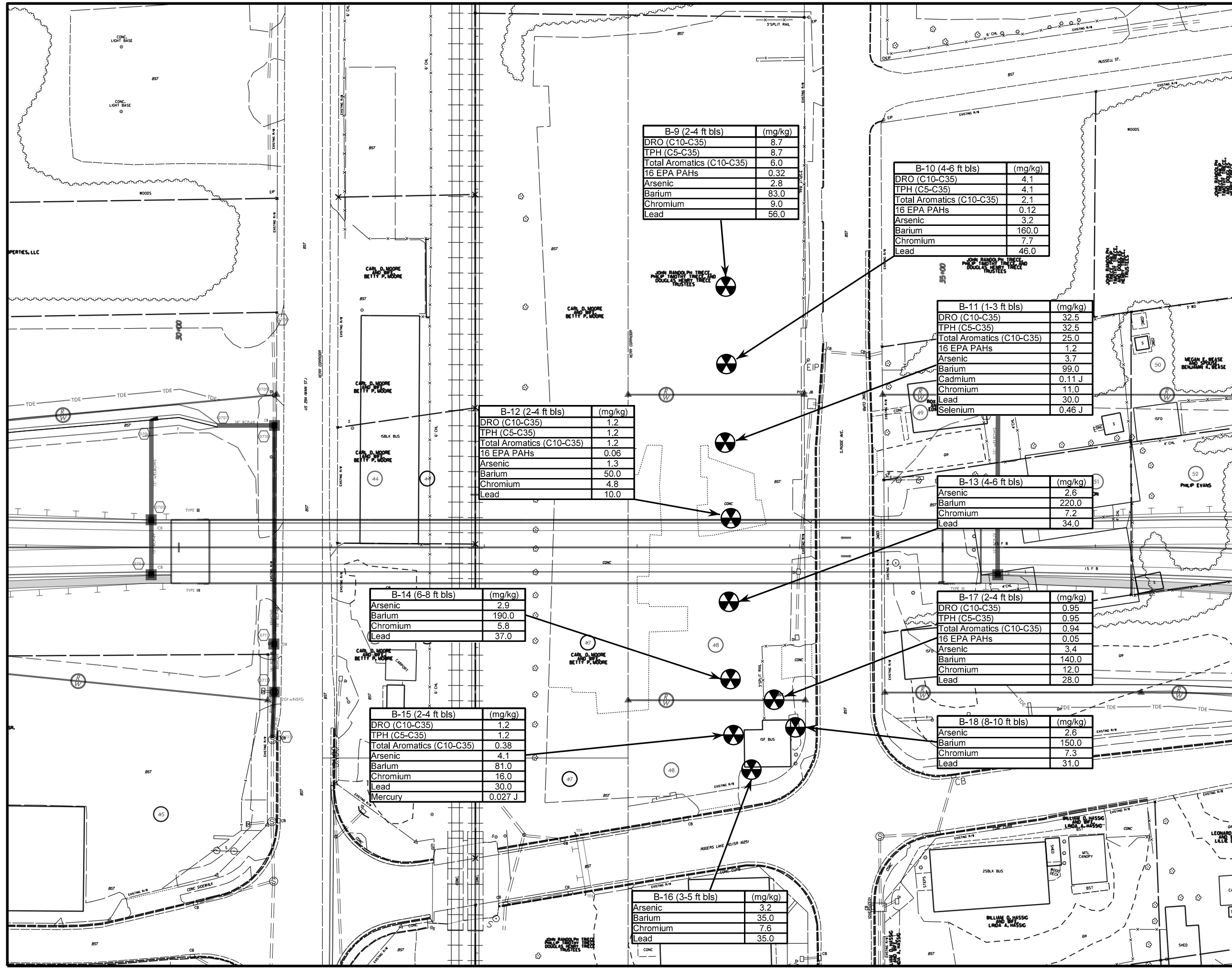
B-18 (8-10 ft bls)	(mg/kg)
Arsenic	2.6
Barium	150.0
Chromium	7.3
Lead	31.0

B-12 (2-4 ft bls)	(mg/kg)
DRO (C10-C35)	1.2
TPH (C5-C35)	1.2
Total Aromatics (C10-C35)	1.2
16 EPA PAHs	0.06
Arsenic	1.3
Barium	50.0
Chromium	4.8
Lead	10.0

B-14 (6-8 ft bls)	(mg/kg)
Arsenic	2.9
Barium	190.0
Chromium	5.8
Lead	37.0

B-15 (2-4 ft bls)	(mg/kg)
DRO (C10-C35)	1.2
TPH (C5-C35)	1.2
Total Aromatics (C10-C35)	0.38
Arsenic	4.1
Barium	81.0
Chromium	16.0
Lead	30.0
Mercury	0.027 J

B-16 (3-5 ft bls)	(mg/kg)
Arsenic	3.2
Barium	35.0
Chromium	7.6
Lead	35.0



APPENDIX A

GEOPHYSICAL SURVEY REPORT

TERRACON CONSULTANTS, INC.

**GEOPHYSICAL INVESTIGATION
TO LOCATE METALLIC USTS**

**John, Phillip, Douglas Triece Trustee (Parcel 48) Property
1306-1310 South Ridge Avenue
Kannapolis, North Carolina**



June 27, 2018
Geophysical Survey Investigations, PLLC
Project No. 2018-28



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

**TERRACON CONSULTANTS, INC.
GEOPHYSICAL INVESTIGATION
TO LOCATE METALLIC USTS
John, Phillip, Douglas Tricee Trustee (Parcel 48) Property
1306-1310 South Ridge Avenue
Kannapolis, North Carolina**

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 FIELD METHODOLOGY	1
3.0 DISCUSSION OF RESULTS	2
4.0 SUMMARY & CONCLUSIONS	3
5.0 LIMITATIONS	4

FIGURES

Figure 1	Geophysical Equipment & Site Photographs
Figure 2	EM61-MK2A Metal Detection – Early Time Gate Results
Figure 3	EM61-MK2A Metal Detection – Differential Results

Prepared by:



Mark J. Denil, P.G.

1.0 INTRODUCTION

Geophysical Survey Investigations, PLLC (GSI) conducted an electromagnetic (EM) metal detection survey, ground penetrating radar (GPR) scanning and buried, utility line clearance search for Terracon Consultants, Inc. on June 19-21, 2018 across the John, Phillip, Douglas Tiece Trustee (Parcel 48) property located at 1306-1310 South Ridge Avenue in Kannapolis, North Carolina. The property is the former Tiece Block Company facility. The geophysical work was conducted as part of the North Carolina Department of Transportation (NCDOT) site assessment for TIP Project Y-4810K (Norfolk Southern Mainline grade crossing separation at Rogers Road Crossing).

The geophysical investigation was conducted to determine if metallic, underground, storage tanks (USTs) are present on the Tiece Trustee property. Terracon Consultants representatives Mr. Stephen Kerlin and Mr. David Hawkins, PG provided site information and guidance to Geophysical Survey Investigations, PLLC personnel prior and during data acquisition. The geophysical survey area has a maximum length and width of 500 feet and 125 feet, (1.43 acres) respectively. Presently, the property primarily consists of open, asphalt and concrete-covered terrain with an abandoned building located in the southeast corner of the site.

2.0 FIELD METHODOLOGY

The EM investigation was performed across the survey area 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 Trackmaker61MK2 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 scanning was conducted across selected EM61 differential metal detection anomalies and across areas containing steel reinforced concrete. GPR scans were performed along northerly-southerly and easterly-westerly directions spaced primarily 3 to 5 feet apart across the selected EM61 differential anomalies 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, the areas around proposed boring locations were scanned with the GPR unit and a DitchWitch 910 utility locator for buried utility line clearance purposes. Detected buried lines/conduits were marked in the field with orange marking paint and pin flags. 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 and debris.

The linear, EM61 early time gate anomalies intersecting UTM coordinates 1752419-E 12880323-N,

1752437-E 12880357-N, 1752436-E 12880373-N, and 1752473-E 12880473-N are probably in response to buried lines and/or conduits. Similarly, GPR scanning suggests the linear, EM61 anomalies intersecting coordinates 1752444-E 12880309-N, 1752403-E 12880356-N and 1752388-E 12880447-N are in response to buried lines or conduits. GPR scanning suggests the linear, EM61 anomalies intersecting coordinates 1752461-E 12880345-N, 1752480-E 12880402-N, 1752466-E 12880412-N, 1752361-E 12880456-N, and 1752442-E 12880474-N are in response to steel reinforced concrete.

GPR scanning suggests the EM61 anomalies intersecting coordinates 1752505-E 12880336-N and 1752434-E 12880533-N are in response to the building and a vehicle that was parked on the site during the EM61 data acquisition, respectively. The remaining EM61 anomalies not discussed in this summary are probably in response to known surface objects, buried utility lines, steel reinforced concrete, or to buried, miscellaneous, metal debris. The geophysical investigation suggests that the surveyed portion of Parcel 48 does not contain metallic USTs.

As previously mentioned, scanning for utility line clearance purposes was conducted across the proposed boring locations. Detected lines or conduits were marked in the field with orange marking paint and pin flags.

4.0 SUMMARY & CONCLUSIONS

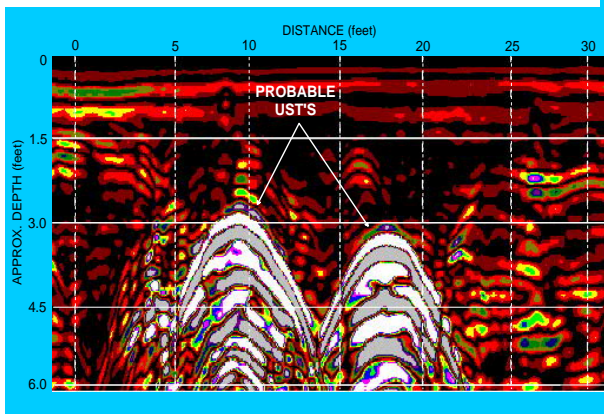
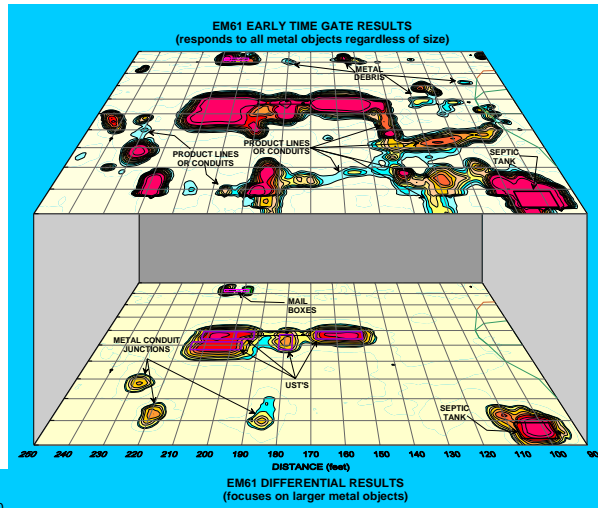
Our evaluation of the EM61 and GPR data collected across the geophysical survey area at the John, Phillip, Douglas Triage Trustee (Parcel 48) property located at 1306-1310 South Ridge Avenue in Kannapolis, North Carolina provides the following summary and conclusions:

- 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 6 feet.
- The majority of linear, EM61 early time gate anomalies are probably in response to buried, metallic, utility lines or conduits.

- GPR scanning suggests the linear, EM61 anomalies intersecting coordinates 1752461-E 12880345-N, 1752480-E 12880402-N, 1752466-E 12880412-N, 1752361-E 12880456-N, and 1752442-E 12880474-N are in response to steel reinforced concrete.
- The geophysical investigation suggests that the surveyed portion of Parcel 48 does not contain metallic USTs.

5.0 LIMITATIONS

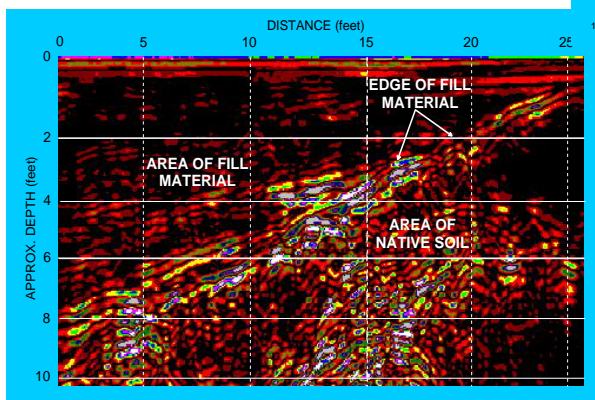
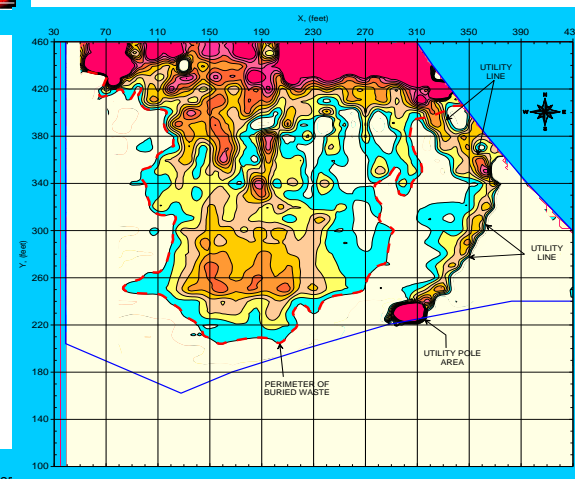
EM61 and GPR surveys have been performed and this report prepared for Terracon Consultants, Inc. in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the geophysical surveys are non-unique and may not represent actual subsurface conditions. 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.

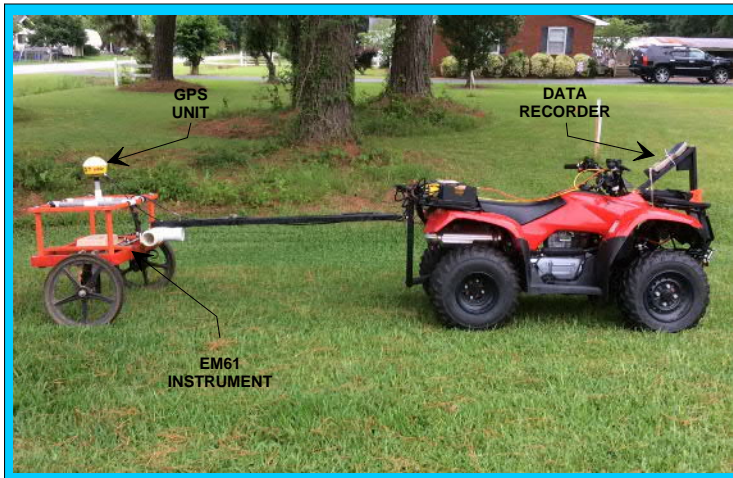


REPORT FIGURES

(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



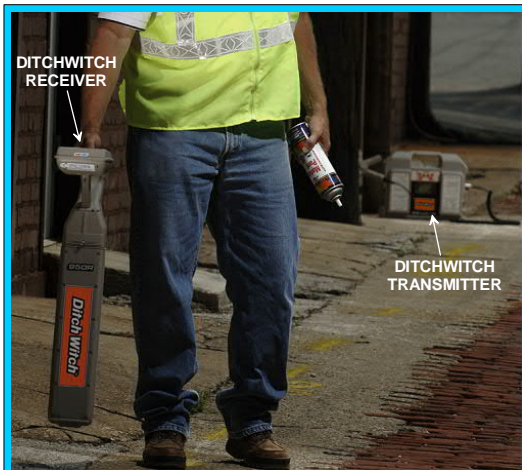


EM61 METAL DETECTOR

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 proposed ROW & easement areas of Parcel 48.

GROUND PENETRATING RADAR UNIT

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



DITCHWITCH UTILITY LOCATOR

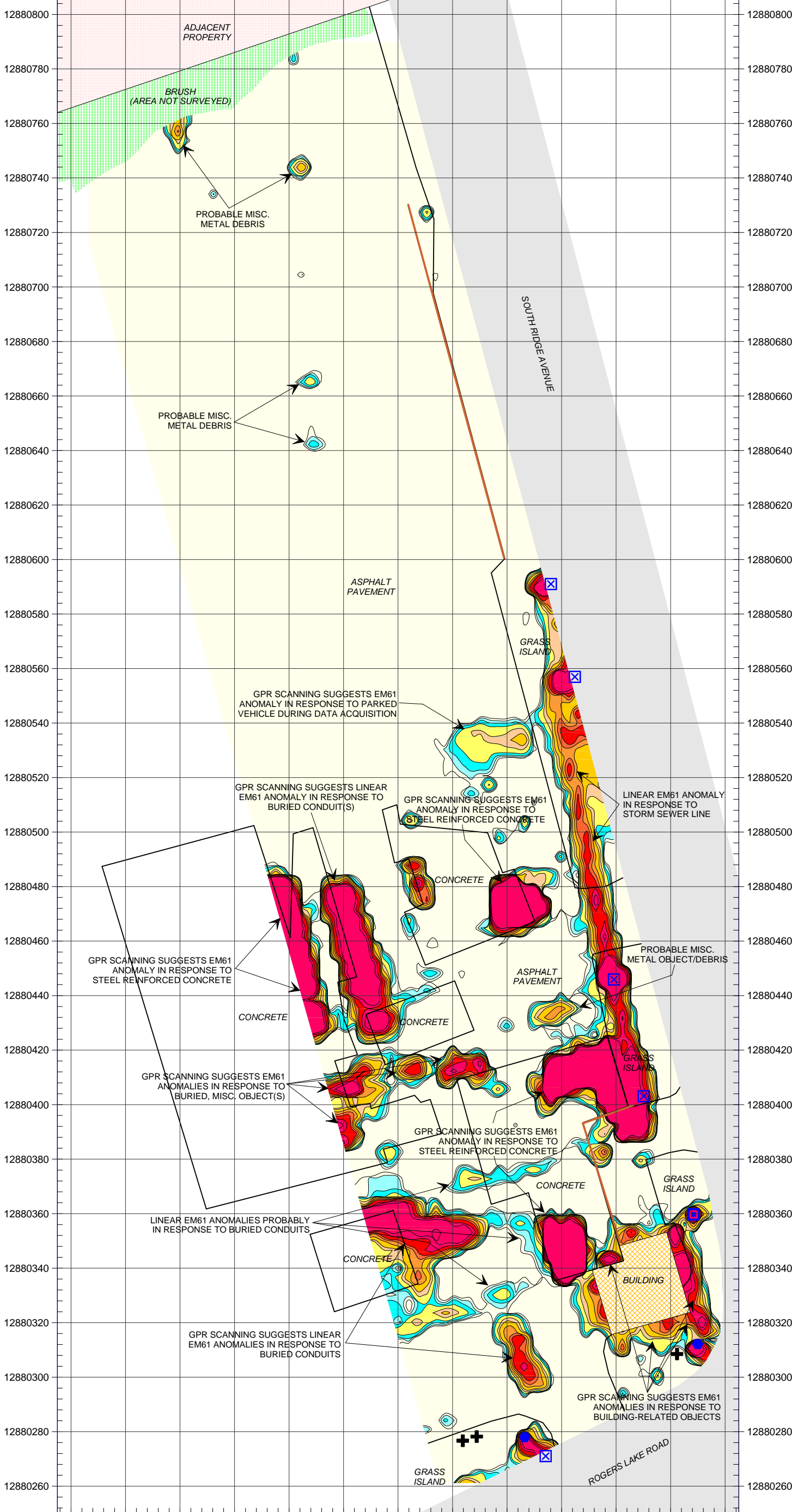
The photograph shows the DitchWitch 910 utility locator which was used to detect buried lines across the proposed boring locations.



GEOPHYSICAL SURVEY AREA

The red polygon in the aerial photograph represents the approximate perimeter of the geophysical survey area at Parcel 48. The geophysical investigation was conducted on June 19-21, 2018.

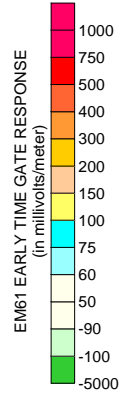
1752280 1752300 1752320 1752340 1752360 1752380 1752400 1752420 1752440 1752460 1752480 1752500 1752520



The red polygon in the aerial photograph represents the approximate perimeter of the geophysical survey area at the Triage Trustee (Parcel 48) property.

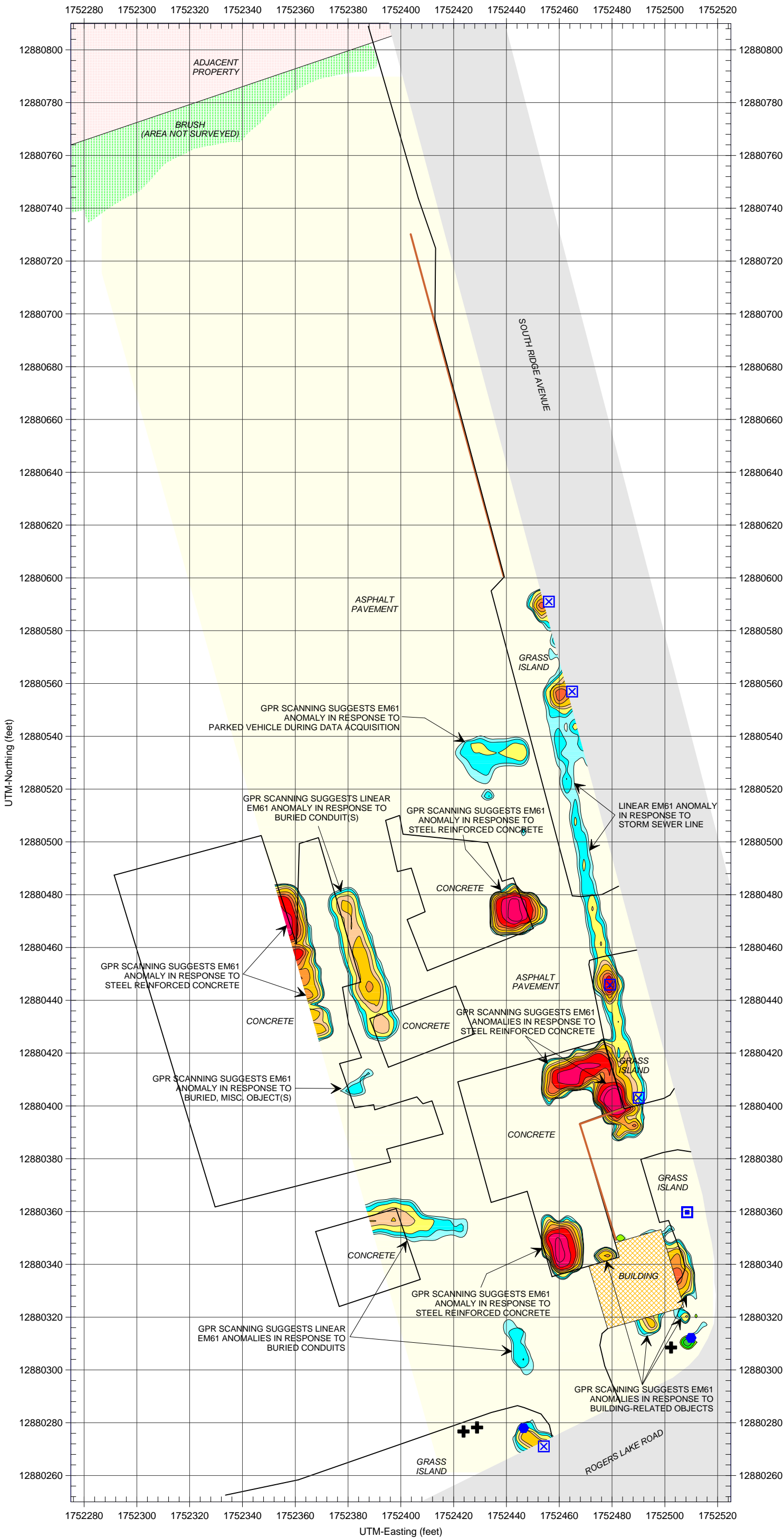
LEGEND

- SURVEY AREA: EM61 ACQUIRED ALONG LINES SPACED APPROX. 5 FEET APART
- BUILDING
- WATER METER COVER
- UTILITY POLE
- GUY WIRE
- METAL SIGN POLE
- STORM SEWER GRATE
- WOODEN FENCE LINE



Note: 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 June 19-21, 2018.

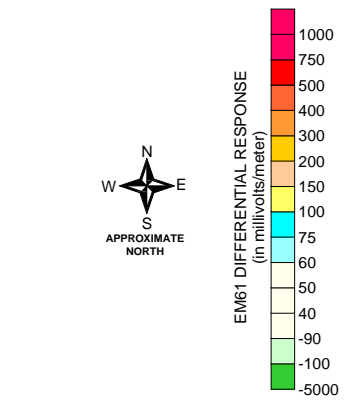
1752280 1752300 1752320 1752340 1752360 1752380 1752400 1752420 1752440 1752460 1752480 1752500 1752520



The red polygon in the aerial photograph represents the approximate perimeter of the geophysical survey area at the Triage Trustee (Parcel 48) property.

LEGEND

- SURVEY AREA: EM61 ACQUIRED ALONG LINES SPACED APPROX. 5 FEET APART
- BUILDING
- WATER METER COVER
- UTILITY POLE
- GUY WIRE
- METAL SIGN POLE
- STORM SEWER GRATE
- WOODEN FENCE LINE



Note: 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 June 19-21, 2018.

APPENDIX B

SOIL BORING LOGS

Lithology Log



Boring ID: B-9

Project Number:	70187265	Start Date/Time:	7/9/2018 / 1040	Sample Method	Drilling Method
Site Location:	Kannapolis, NC	End Date/Time:	7/9/2018 / 1045	<input type="checkbox"/> Hand Auger	X DPT
Weather:	Sunny 80s	Boring Diameter:	2-inch	X Macro-Core	<input type="checkbox"/> HSA
Logged By:	D. Hawkins	Total Depth:	10'	<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Mud Rotary
Drilling Sub:	IET	Water Level:	NA	<input type="checkbox"/> Shelby Tube	<input type="checkbox"/> Air Rotary
Drill Rig:	9520-VTR PowerProbe™	Well Installed:	No		<input type="checkbox"/> Rock Core

Depth (ft bls)	Recovery (inches)	PID (ppm)	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, time	Well Construction
0-5	58	<0.1	GW	0'-0.5': asphalt	B-9 (2-4), 1045 metals VOCs	NA- Well Not Installed
			CL	0.5'-4': light brown, stiff, silty CLAY, dry		
5-10	36	<0.1		4'-10': tan, silty SAND, dry, micaceous, dry, odor not observed		
			SM			
				boring terminated at 10' bls per scope		

Notes:

ppm: parts per million ppb: parts per billion NA: Not applicable bls: below land surface

Lithology Log



Boring ID: B-10

Project Number:	70187265	Start Date/Time:	7/9/2018 / 1050	Sample Method	Drilling Method
Site Location:	Kannapolis, NC	End Date/Time:	7/9/2018 / 1055	<input type="checkbox"/> Hand Auger	X DPT
Weather:	Sunny 80s	Boring Diameter:	2-inch	X Macro-Core	<input type="checkbox"/> HSA
Logged By:	D. Hawkins	Total Depth:	10'	<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Mud Rotary
Drilling Sub:	IET	Water Level:	NA	<input type="checkbox"/> Shelby Tube	<input type="checkbox"/> Air Rotary
Drill Rig:	9520-VTR PowerProbe™	Well Installed:	No		<input type="checkbox"/> Rock Core

Depth (ft bls)	Recovery (inches)	PID (ppm)	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, time	Well Construction
0-5	60	<0.1	GW	0'-0.5': asphalt	B-10 (4-6), 1055 metals VOCs	NA- Well Not Installed
			CL	0'-5': light brown, silty clay, stiff, dry		
				5'-10': tan, silty SAND, dry, odor not observed		
5-10	56	<0.1	SM			
				boring terminated at 10' bls per scope.		

Notes:

ppm: parts per million ppb: parts per billion NA: Not applicable bls: below land surface

Lithology Log



Boring ID: B-11

Project Number:	70187265	Start Date/Time:	7/9/2018 / 1055	Sample Method	Drilling Method
Site Location:	Kannapolis, NC	End Date/Time:	7/9/2018 / 1100	<input type="checkbox"/> Hand Auger	X DPT
Weather:	Sunny 80s	Boring Diameter:	2-inch	X Macro-Core	<input type="checkbox"/> HSA
Logged By:	D. Hawkins	Total Depth:	10'	<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Mud Rotary
Drilling Sub:	IET	Water Level:	NA	<input type="checkbox"/> Shelby Tube	<input type="checkbox"/> Air Rotary
Drill Rig:	9520-VTR PowerProbe™	Well Installed:	No		<input type="checkbox"/> Rock Core

Depth (ft bls)	Recovery (inches)	PID (ppm)	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, time	Well Construction
0-5	38	<0.1	SW	0'-3': gray-brown, SAND, apparent fill material, some asphalt, dry	B-11 (1-3), 1105 metals VOCs	NA- Well Not Installed
		<0.1	CL	3'-6': brown, silty CLAY, stiff-hard, dry		
<0.1	SM	6'-10': tan, silty SAND, micaceous				
5-10		48	<0.1	odor not observed		
		<0.1		boring terminated at 10' bls per scope.		

Notes:

Lithology Log



Boring ID: B-12

Project Number:	70187265	Start Date/Time:	7/9/2018 / 1100	Sample Method	Drilling Method
Site Location:	Kannapolis, NC	End Date/Time:	7/9/2018 / 1105	<input type="checkbox"/> Hand Auger	<input checked="" type="checkbox"/> DPT
Weather:	Sunny 80s	Boring Diameter:	2-inch	<input checked="" type="checkbox"/> Macro-Core	<input type="checkbox"/> HSA
Logged By:	D. Hawkins	Total Depth:	10'	<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Mud Rotary
Drilling Sub:	IET	Water Level:	NA	<input type="checkbox"/> Shelby Tube	<input type="checkbox"/> Air Rotary
Drill Rig:	9520-VTR PowerProbe™	Well Installed:	No		<input type="checkbox"/> Rock Core

Depth (ft. bls)	Recovery (inches)	PID (ppm)	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, time	Well Construction
0-5	36	<0.1	SP	0'-1': concrete fill, dry	B-12 (2-4), 1110 metals VOCs	NA- Well Not Installed
		<0.1		1'-3': brown, SAND (fill), dry		
5-10	28	<0.1	CL	3'-8': brown, silty CLAY, dry		
		<0.1		8'-10': brown-tan, clayey SILT, w/ method mineral grains, dry		
				boring terminated at 10' bls per scope		

Notes:

ppm: parts per million ppb: parts per billion NA: Not applicable bls: below land surface

Lithology Log



Boring ID: B-13

Project Number:	70187265	Start Date/Time:	7/9/2018 / 1110	Sample Method	Drilling Method
Site Location:	Kannapolis, NC	End Date/Time:	7/9/2018 / 1115	<input type="checkbox"/> Hand Auger	<input checked="" type="checkbox"/> DPT
Weather:	Sunny 80s	Boring Diameter:	2-inch	<input checked="" type="checkbox"/> Macro-Core	<input type="checkbox"/> HSA
Logged By:	D. Hawkins	Total Depth:	10'	<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Mud Rotary
Drilling Sub:	IET	Water Level:	NA	<input type="checkbox"/> Shelby Tube	<input type="checkbox"/> Air Rotary
Drill Rig:	9520-VTR PowerProbe™	Well Installed:	No		<input type="checkbox"/> Rock Core

Depth (ft. bls)	Recovery (inches)	PID (ppm)	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, time	Well Construction
0-5	48	<0.1	SP	0'-1': concrete, fill, dry	B-13 (4-6), 1115 metals VOCs	NA- Well Not Installed
				1'-3': brown, SAND, moist (fill)		
		<0.1	CL	3'-5': brown, reddish brown, silty CLAY, dry		
				5'-8': light brown, clayey SILT, dry, micaceous		
5-10	60	<0.1	ML	8'-10': tan, silty SAND, dry		
				SM		
				boring terminated at 10' bls per scope		

Notes:

Lithology Log



Boring ID: B-14

Project Number:	70187265	Start Date/Time:	7/9/2018 / 1115	Sample Method	Drilling Method
Site Location:	Kannapolis, NC	End Date/Time:	7/9/2018 / 1120	<input type="checkbox"/> Hand Auger	<input checked="" type="checkbox"/> DPT
Weather:	Sunny 80s	Boring Diameter:	2-inch	<input checked="" type="checkbox"/> Macro-Core	<input type="checkbox"/> HSA
Logged By:	D. Hawkins	Total Depth:	10'	<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Mud Rotary
Drilling Sub:	IET	Water Level:	NA	<input type="checkbox"/> Shelby Tube	<input type="checkbox"/> Air Rotary
Drill Rig:	9520-VTR PowerProbe™	Well Installed:	No		<input type="checkbox"/> Rock Core

Depth (ft. bls)	Recovery (inches)	PID (ppm)	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, time	Well Construction
0-5	60	<0.1	SP	0'-0.5": concrete	B-14 (6-8), 1120	NA- Well Not Installed
		<0.1		0.5'-4': brown, SAND (fill), dry		
5-10	60	<0.1	SM	4'-7': brown-light brown, silty SAND, dry		
		<0.1		7'-10': tan, silty SAND, dry		
		<0.1		odor not observed		
				boring terminated at 10' bls per scope		

Notes:

ppm: parts per million ppb: parts per billion NA: Not applicable bls: below land surface

Lithology Log



Boring ID: B-15

Project Number:	70187265	Start Date/Time:	7/9/2018 / 1120	Sample Method	Drilling Method
Site Location:	Kannapolis, NC	End Date/Time:	7/9/2018 / 1125	<input type="checkbox"/> Hand Auger	<input checked="" type="checkbox"/> DPT
Weather:	Sunny 80s	Boring Diameter:	2-inch	<input checked="" type="checkbox"/> Macro-Core	<input type="checkbox"/> HSA
Logged By:	D. Hawkins	Total Depth:	10'	<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Mud Rotary
Drilling Sub:	IET	Water Level:	NA	<input type="checkbox"/> Shelby Tube	<input type="checkbox"/> Air Rotary
Drill Rig:	9520-VTR PowerProbe™	Well Installed:	No		<input type="checkbox"/> Rock Core

Depth (ft bls)	Recovery (inches)	PID (ppm)	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, time	Well Construction
0-5	60	<0.1	CL	0'-1': asphalt	B-15 (2-4), 1125	NA- Well Not Installed
		<0.1		1'-5': brown, silty CLAY, dry		
5-10	60	<0.1	SM	5'-10': tan, silty SAND, dry		
		<0.1		odor not observed		
				boring terminated at 10' bls per scope		

Notes:

ppm: parts per million ppb: parts per billion NA: Not applicable bls: below land surface

Lithology Log



Boring ID: B-16

Project Number:	70187265	Start Date/Time:	7/9/2018 / 1120	Sample Method	Drilling Method
Site Location:	Kannapolis, NC	End Date/Time:	7/9/2018 / 1125	<input type="checkbox"/> Hand Auger	X DPT
Weather:	Sunny 80s	Boring Diameter:	2-inch	X Macro-Core	<input type="checkbox"/> HSA
Logged By:	D. Hawkins	Total Depth:	10'	<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Mud Rotary
Drilling Sub:	IET	Water Level:	NA	<input type="checkbox"/> Shelby Tube	<input type="checkbox"/> Air Rotary
Drill Rig:	9520-VTR PowerProbe™	Well Installed:	No		<input type="checkbox"/> Rock Core

Depth (ft bls)	Recovery (inches)	PID (ppm)	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, time	Well Construction		
0-5	60	<0.1	SP	0'-0.5': brown, SAND with organics, dry	B-16 (3-5), 1140 metals VOCs	NA- Well Not Installed		
			CL	0.5'-5': brown, silty CLAY, dry				
5-10	60	<0.1		ML			5'-7': light brown, clayey SILT, dry	
			SM	7'-10': tan, silty SAND, dry				
				odors not observed				
				boring terminated at 10' bls per scope				

Notes:

ppm: parts per million ppb: parts per billion NA: Not applicable bls: below land surface

Lithology Log



Boring ID: B-17

Project Number:	70187265	Start Date/Time:	7/9/2018 / 1135	Sample Method	Drilling Method
Site Location:	Kannapolis, NC	End Date/Time:	7/9/2018 / 1140	<input type="checkbox"/> Hand Auger	X DPT
Weather:	Sunny 80s	Boring Diameter:	2-inch	X Macro-Core	<input type="checkbox"/> HSA
Logged By:	D. Hawkins	Total Depth:	10'	<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Mud Rotary
Drilling Sub:	IET	Water Level:	NA	<input type="checkbox"/> Shelby Tube	<input type="checkbox"/> Air Rotary
Drill Rig:	9520-VTR PowerProbe™	Well Installed:	No		<input type="checkbox"/> Rock Core

Depth (ft bls)	Recovery (inches)	PID (ppm)	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, time	Well Construction
0-5	52	<0.1	CL	0'-0.5': asphalt, organics 0.5'-6': brown, silty CLAY, dry	B-17 (2-4), 1140	NA- Well Not Installed
		<0.1				
		<0.1				
5-10	56	<0.1	ML	6'-8': brown, clayey SILT, dry, micaceous		
		<0.1	SM	8'-10': tan, micaceous, silty SAND, dry		
				odors not observed boring terminated at 10' bls per scope		

Notes:

ppm: parts per million ppb: parts per billion NA: Not applicable bls: below land surface

Lithology Log



Boring ID: B-18

Project Number:	70187265	Start Date/Time:	7/9/2018 / 1145	Sample Method	Drilling Method
Site Location:	Kannapolis, NC	End Date/Time:	7/9/2018 / 1150	<input type="checkbox"/> Hand Auger	X DPT
Weather:	Sunny 80s	Boring Diameter:	2-inch	X Macro-Core	<input type="checkbox"/> HSA
Logged By:	D. Hawkins	Total Depth:	10'	<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Mud Rotary
Drilling Sub:	IET	Water Level:	NA	<input type="checkbox"/> Shelby Tube	<input type="checkbox"/> Air Rotary
Drill Rig:	9520-VTR PowerProbe™	Well Installed:	No		<input type="checkbox"/> Rock Core

Depth (ft bls)	Recovery (inches)	PID (ppm)	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, time	Well Construction
0-5	0	NM	ML	0'-5': no recovery, hit hard bottom ~3', concrete/fill above, also perched water. 3'-5': black organic clayey SILT (3'-5')	B-18 (8-10), 1200	NA- Well Not Installed
		NM				
		<0.1				
5-10	30	<0.1	ML	5'-10': brown, clayey SILT, micaceous		
		<0.1				
		<0.1		odor not observed		
				boring terminated at 10' bls per scope.		

Notes:

NM: not measured

ppm: parts per million ppb: parts per billion NA: Not applicable bls: below land surface

APPENDIX C

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORMS



Hydrocarbon Analysis Results

Client: TERRACON
Address: 2401 BRENTWOOD RD.
 SUITE 107
 RALEIGH NC 27604

Samples taken Monday, July 9, 2018
Samples extracted Monday, July 9, 2018
Samples analysed Wednesday, July 11, 2018

Contact: DAVID HAWKINS
 COLLECTED BY DAVID HAWKINS
Project: #70187265

Operator NICK HENDRIX

F03640

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
										% light	% mid	% heavy	
s	B-1 (2-4)	22.0	<0.55	<0.55	<0.04	<0.55	<0.11	<0.02	<0.011	0	0	0	PHC not detected,(OCR)
s	B-2 (4-6)	26.0	<0.65	<0.65	11	11	8.3	0.45	<0.013	0	95.4	4.3	Deg Fuel 88.6%,(FCM)
s	B-3 (3-5)	31.7	<0.79	<0.79	<0.06	<0.79	<0.16	<0.03	<0.016	0	0	0	Residual HC
s	B-4 (2-4)	28.3	<0.71	<0.71	<0.06	<0.71	<0.14	<0.03	<0.014	0	0	0	PHC not detected,(OCR)
s	B-5 (3-5)	25.2	<0.63	<0.63	5.4	5.4	5.3	0.28	<0.013	0	94.5	5.1	Deg Fuel 73.9%,(FCM)
s	B-7 (8-10)	29.9	<0.75	<0.75	<0.06	<0.75	<0.15	<0.03	<0.015	0	0	0	PHC not detected,(OCR)
s	B-8 (8-10)	11.9	<0.3	<0.3	<0.02	<0.3	<0.06	<0.01	<0.006	0	0	0	PHC not detected
s	B-9 (2-4)	13.3	<0.33	<0.33	8.7	8.7	6	0.32	<0.007	0	95.2	4.5	Deg Fuel 74%,(FCM)
s	B-10 (4-6)	13.3	<0.33	<0.33	4.1	4.1	2.1	0.12	<0.007	0	95.3	4.4	Deg Fuel 75.5%,(FCM)

Initial Calibrator QC check **OK**

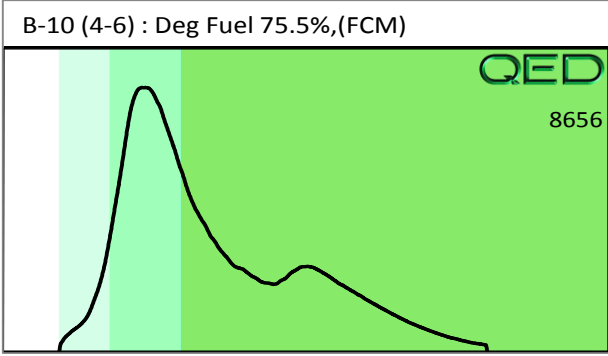
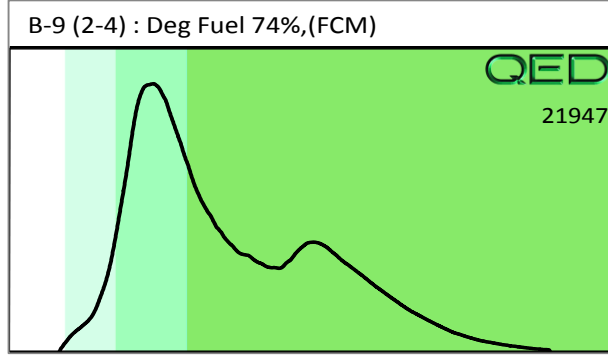
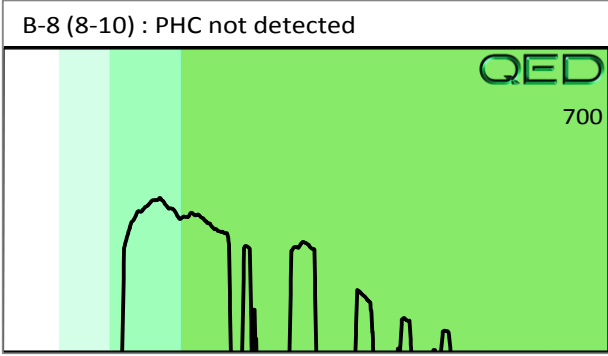
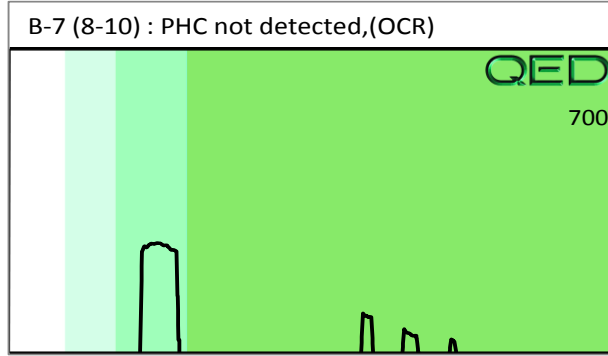
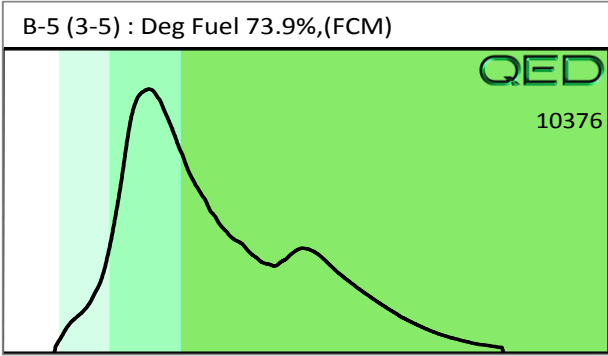
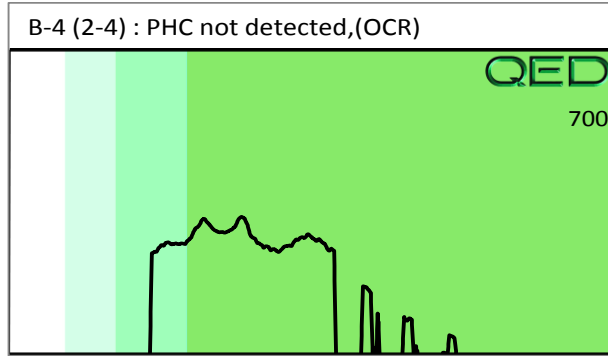
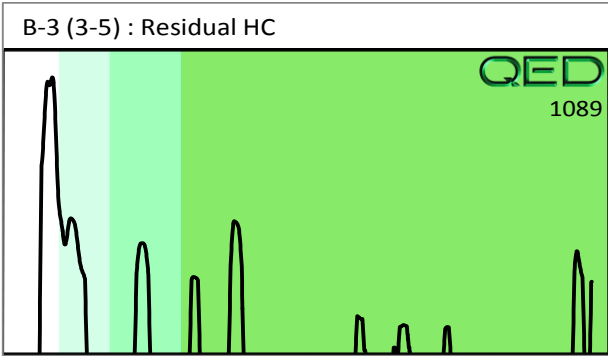
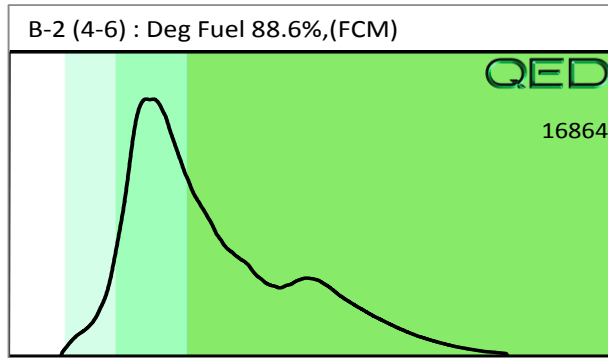
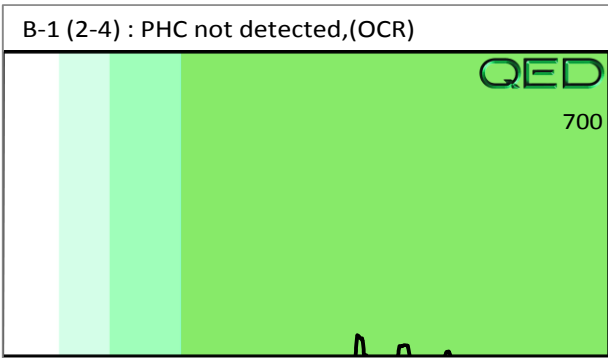
Final FCM QC Check **OK**

91

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present





Hydrocarbon Analysis Results

Client: TERRACON
Address: 2401 BRENTWOOD RD.
 SUITE 107
 RALEIGH NC 27604

Samples taken Monday, July 9, 2018
Samples extracted Monday, July 9, 2018
Samples analysed Wednesday, July 11, 2018

Contact: DAVID HAWKINS
 COLLECTED BY DAVID HAWKINS
Project: #70187265

Operator NICK HENDRIX

F03640

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
										% light	% mid	% heavy	
s	B-11 (1-3)	27.4	<0.68	<0.68	32.5	32.5	25	1.2	<0.014	0	98	1.9	Deg Fuel 90.6%,(FCM)
s	B-12 (2-4)	23.9	<0.6	<0.6	1.2	1.2	1.2	0.06	<0.012	0	96.3	3.4	V.Deg.PHC 89.4%,(FCM)
s	B-13 (4-6)	23.6	<0.59	<0.59	<0.05	<0.59	<0.12	<0.02	<0.012	0	0	0	PHC not detected,(OCR)
s	B-14 (6-8)	28.5	<0.71	<0.71	<0.06	<0.71	<0.14	<0.03	<0.014	0	0	0	PHC not detected,(OCR)
s	B-15 (2-4)	24.8	<0.62	<0.62	1.2	1.2	0.38	<0.02	<0.012	0	94.4	5.2	Deg Fuel 91.9%,(FCM),(OCR)
s	B-16 (3-5)	27.4	<0.68	<0.68	<0.05	<0.68	<0.14	<0.03	<0.014	0	0	0	PHC not detected,(OCR)
s	B-17 (2-4)	22.6	<0.57	<0.57	0.95	0.95	0.94	0.05	<0.011	0	89.9	9.2	V.Deg.PHC 91.7%,(FCM)
s	B-18 (8-10)	25.2	<0.63	<0.63	<0.05	<0.63	<0.13	<0.03	<0.013	0	0	0	PHC not detected,(OCR)
s	B-19 (2-4)	26.3	<0.66	<0.66	<0.05	<0.66	<0.13	<0.03	<0.013	0	0	0	PHC not detected,(OCR)
s	B-20 (4-6)	25.5	<0.64	<0.64	<0.05	<0.64	<0.13	<0.03	<0.013	0	0	0	PHC not detected,(OCR)

Initial Calibrator QC check **OK**

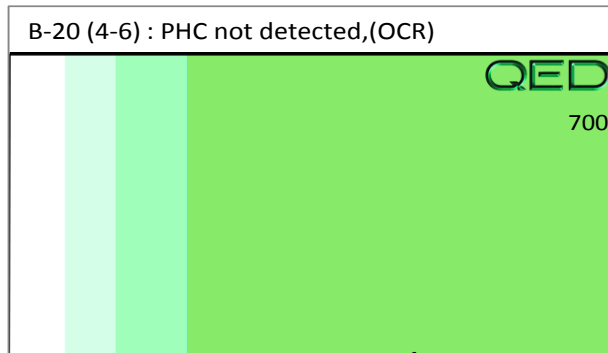
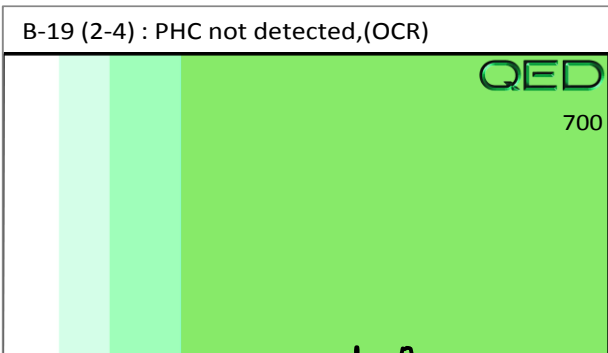
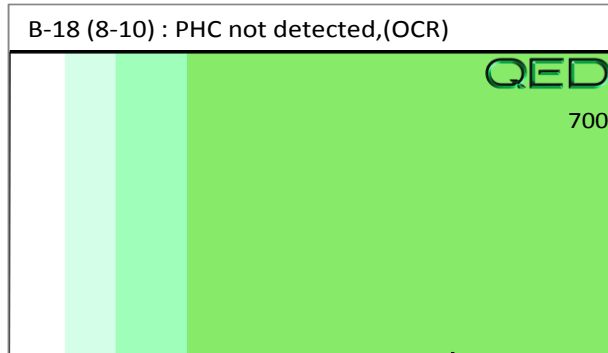
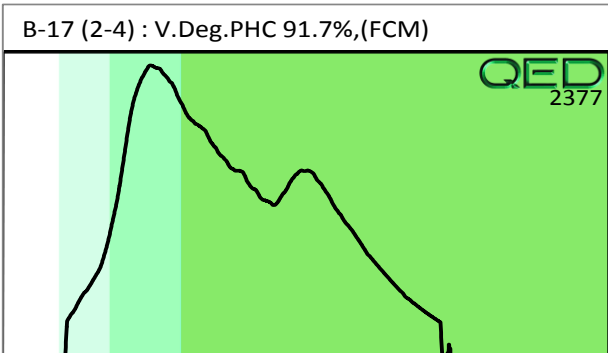
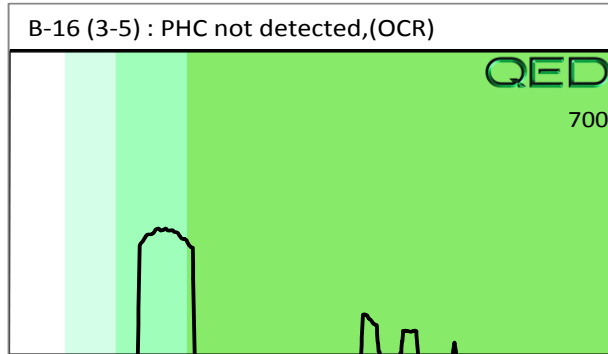
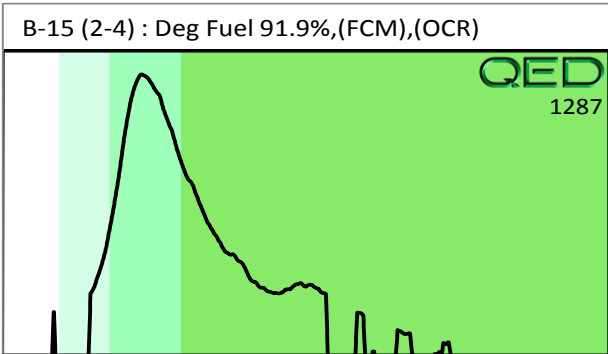
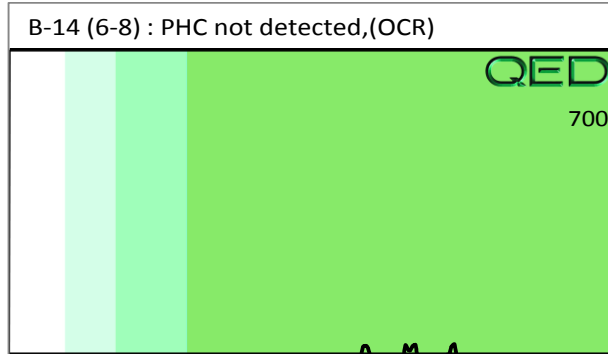
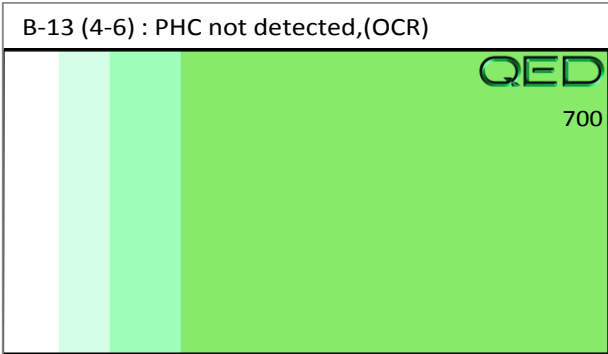
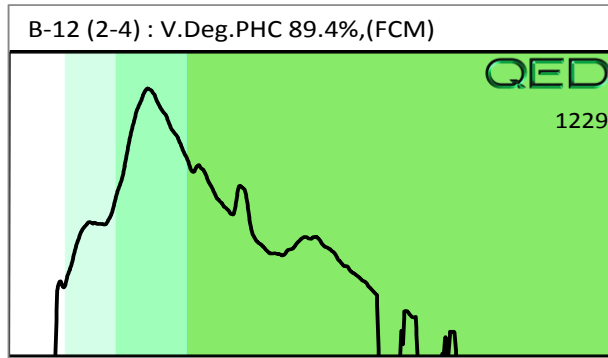
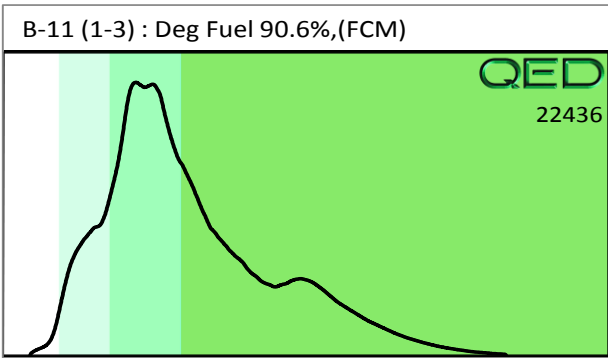
Final FCM QC Check **OK**

105

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present





Hydrocarbon Analysis Results

Client: TERRACON
Address: 2401 BRENTWOOD RD.
 SUITE 107
 RALEIGH NC 27604

Samples taken Monday, July 9, 2018
Samples extracted Monday, July 9, 2018
Samples analysed Wednesday, July 11, 2018

Contact: DAVID HAWKINS
 COLLECTED BY DAVID HAWKINS
Project: #70187265

Operator NICK HENDRIX

F03640

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
										% light	% mid	% heavy	
s	B-21 (0-2)	28.0	<0.7	<0.7	0.57	0.57	0.56	<0.03	<0.014	0	88.7	10.4	V.Deg.PHC 90.6%,(FCM)
s	B-22 (3-5)	24.1	<0.6	<0.6	<0.05	<0.6	<0.12	<0.02	<0.012	0	0	0	PHC not detected,(OCR)
s	B-23 (2-4)	25.0	<0.63	<0.63	<0.05	<0.63	<0.13	<0.03	<0.013	0	0	0	PHC not detected,(OCR)
s	B-24 (6-8)	25.7	<0.64	<0.64	<0.05	<0.64	<0.13	<0.03	<0.013	0	0	0	PHC not detected,(OCR)
s	B-25 (2-4)	16.1	<0.4	<0.4	<0.03	<0.4	<0.08	<0.02	<0.008	0	0	0	PHC not detected,(OCR)
s	B-26 (3-5)	29.2	<0.73	<0.73	<0.06	<0.73	<0.15	<0.03	<0.015	0	0	0	PHC not detected,(OCR)
s	B-27 (4-6)	27.4	<0.68	<0.68	<0.05	<0.68	<0.14	<0.03	<0.014	0	0	0	PHC not detected,(OCR)
s	B-28 (3-5)	24.8	<0.62	<0.62	<0.05	<0.62	<0.12	<0.02	<0.012	0	0	0	PHC not detected,(OCR)
s	B-29 (2-4)	13.6	<0.34	<0.34	<0.03	<0.34	<0.07	<0.01	<0.007	0	0	0	PHC not detected
s	B-30 (3-5)	16.1	<0.4	<0.4	<0.03	<0.4	<0.08	<0.02	<0.008	0	0	0	PHC not detected,(OCR)

Initial Calibrator QC check **OK**

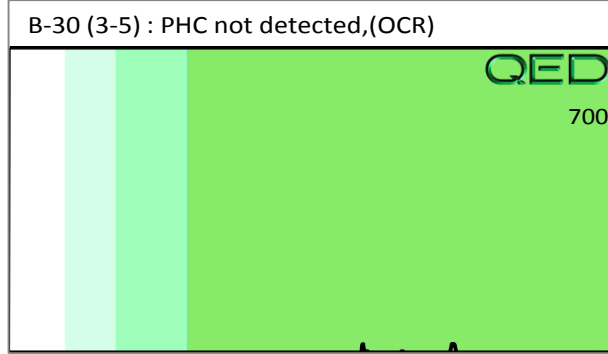
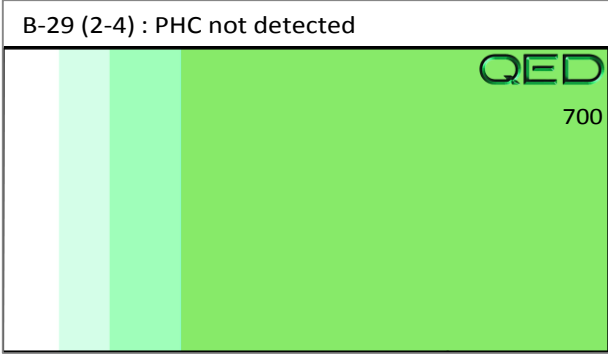
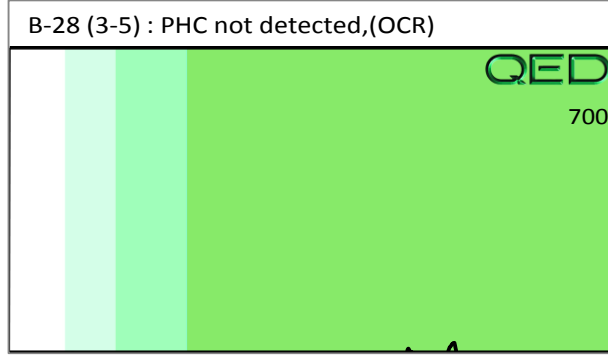
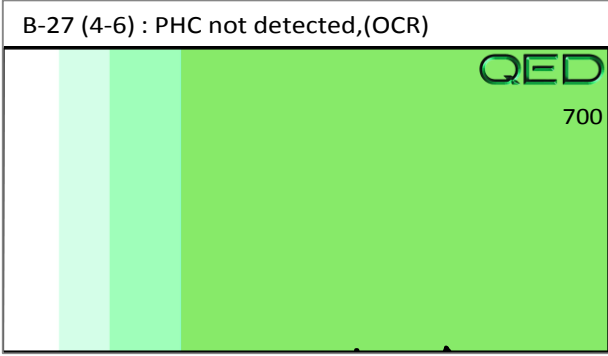
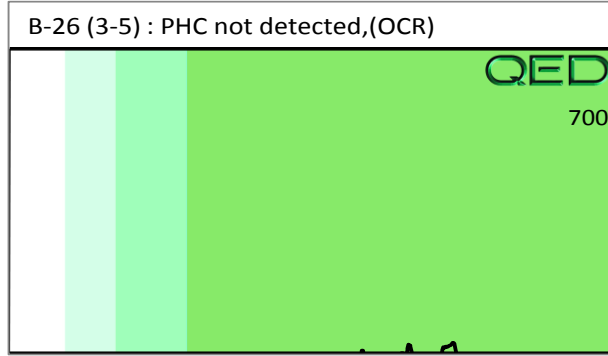
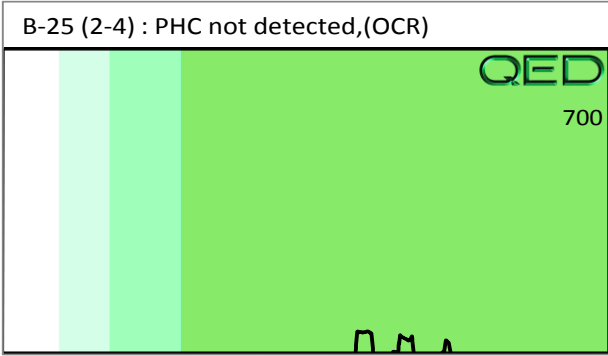
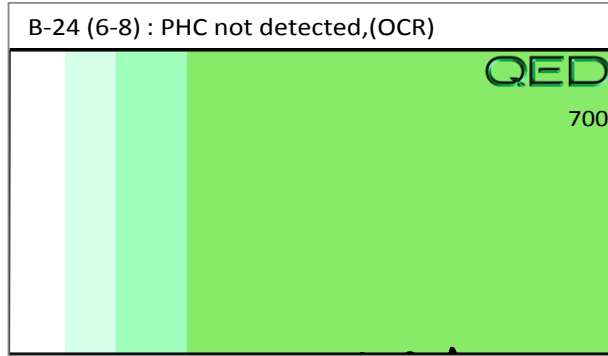
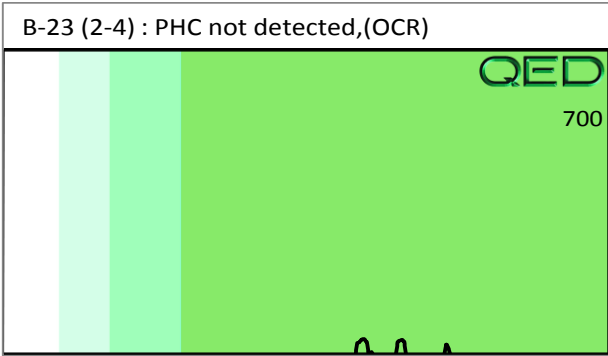
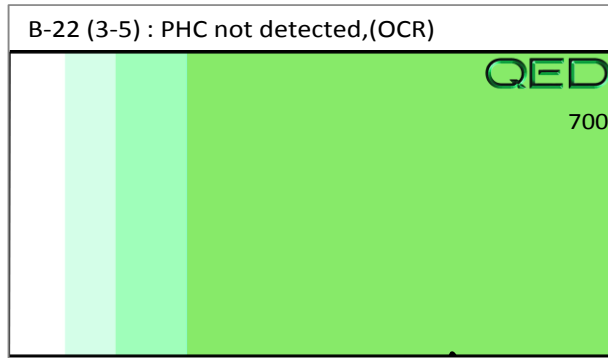
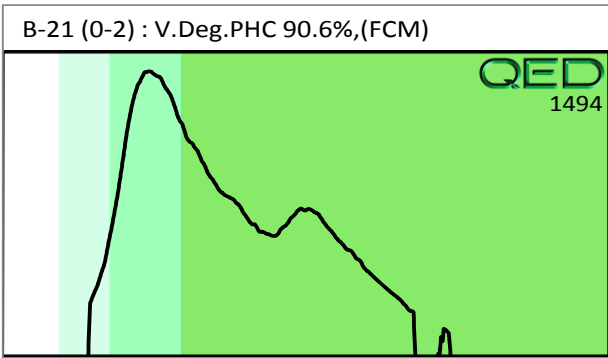
Final FCM QC Check **OK**

108

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present





Hydrocarbon Analysis Results

Client: TERRACON
Address: 2401 BRENTWOOD RD.
 SUITE 107
 RALEIGH, NC 27604

Samples taken Monday, July 9, 2018
Samples extracted Monday, July 9, 2018
Samples analysed Wednesday, July 11, 2018

Contact: DAVID HAWKINS
 COLLECTED BY DAVID HAWKINS
Project: #70187265

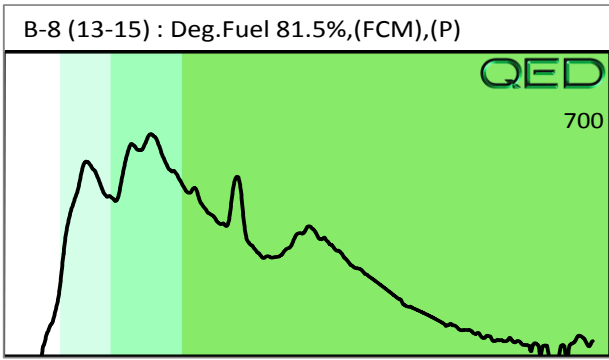
Operator MAX MOYER

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-8 (13-15)	10.2	
Initial Calibrator QC check			OK			Final FCM QC Check			OK			99	

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

Project: #70187265

#####



877

Client Name: Ferraro
 Address: 2401 Brentwood Rd. Suite 107, Raleigh NC 27601
 Contact: David Hawkins
 Project Ref.: 7-18-2015
 Email: David.hawkins@ferraro.com
 Phone #: 540-905-2594
 Collected by: David Hawkins

RED LAB

**RAPID ENVIRONMENTAL DIAGNOSTICS
 CHAIN OF CUSTODY AND ANALYTICAL
 REQUEST FORM**

RED Lab, LLC
 5598 Marvin K Moss Lane
 MARBIONC Bldg, Suite 2003
 Wilmington, NC 28409

Each sample will be analyzed for
 BTEX, GRO, DRO, TPH, PAH total
 aromatics and Bap

Sample Collection Date/Time	TAT Requested		Matrix (S/W)	Sample ID	UVF	GC BTEX	Total Wt.	Tare Wt.	Sample Wt.
	24 Hour	48 Hour							
7-9-18, 920		X	S	B-1 (2-4)	X		55.5	43.7	11.8
7-9-18, 930		X	S	B-2 (4-6)	X		54.0	44.0	10.0
7-9-18, 940		X	S	B-3 (3-5)	X		52.3	43.9	8.2
7-9-18, 945		X	S	B-4 (2-4)	X		53.3	44.1	9.2
7-9-18, 1000		X	S	B-5 (3-5)	X		54.5	44.2	10.3
7-9-18, 1005		X	S	B-7 (8-10)	X		52.5	43.8	8.7
7-9-18, 1025		X	S	B-8 (8-10)	X		52.5	44.1	8.4
7-9-18, 1030		X	S	B-8 (13-15)		HOLD	53.6	43.8	9.8
7-9-18, 1045		X	S	B-9 (2-4)	X		54.4	43.9	10.5
7-9-18, 1055		X	S	B-10 (4-6)	X		54.3	43.8	10.5
7-9-18, 1105		X	S	B-11 (1-3)	X		54.0	44.5	9.5
7-9-18, 1110		X	S	B-12 (2-4)	X		54.5	43.6	10.9
7-9-18, 1115		X	S	B-13 (4-6)	X		55.7	44.7	11.0
7-9-18, 1120		X	S	B-14 (6-8)	X		53.3	44.2	9.1
7-9-18, 1125		X	S	B-15 (2-4)	X		54.2	43.7	10.5
7-9-18, 1140		X	S	B-16 (3-5)	X		54.1	44.6	9.5
7-9-18, 1140		X	S	B-17 (2-4)	X		55.7	44.2	11.5
7-9-18, 1200		X	S	B-18 (8-10)	X		54.5	44.2	10.3
7-9-18, 1305		X	S	B-19 (2-4)	X		54.2	44.3	9.9
7-9-18, 1315		X	S	B-20 (4-6)	X		54.6	44.4	10.2

Comments: place B 8 (13-15) on HOLD, will confirm if want to run.

Relinquished by: [Signature] Date/Time: 7/10/18, 0900
 Relinquished by: [Signature] Date/Time: 7/10/18, 0900
 Accepted by: [Signature] Date/Time: 7/11/18 11:50
 Accepted by: [Signature] Date/Time: 7/11/18 11:50

RED Lab USE ONLY

[Signature]

137

Client Name: Ferguson
 Address: 2401 Brentwood Rd. Suite 107, Raleigh NC 27604
 Contact: David Hawkins
 Project Ref.: 70187205
 Email: David.hawkins@ferguson.com
 Phone #: 540-405-2594
 Collected by: David Hawkins

RED LAB
 RAPID ENVIRONMENTAL DIAGNOSTICS
 CHAIN OF CUSTODY AND ANALYTICAL
 REQUEST FORM

RED Lab, LLC
 5598 Marvin K Moss Lane
 MARBIONC Bldg, Suite 2003
 Wilmington, NC 28409

Each sample will be analyzed for
 BTEX, GRO, DRO, TPH, PAH total
 aromatics and Bap

Sample Collection Date/Time	TAT Requested		Matrix (S/W)	Sample ID	UVF	GC BTEX	Total Wt.	Tare Wt.	Sample Wt.
	24 Hour	43 Hour							
7-9-18, 1320		X		B-21 (0-2)	X		53.4	44.1	9.3
7-9-18, 1336		X		B-22 (3-5)	X		54.3	44.5	10.8
7-9-18, 1335		X		B-23 (2-4)	X		54.7	44.3	10.4
7-9-18, 1340		X		B-24 (6-8)	X		54.1	44.5	10.1
7-9-18, 1350		X		B-25 (2-4)	X		52.5	43.9	8.7
7-9-18, 1355		X		B-26 (3-5)	X		53.2	44.3	8.9
7-9-18, 1400		X		B-27 (4-6)	X		53.1	43.6	9.5
7-9-18, 1405		X		B-28 (3-5)	X		54.8	44.3	10.5
7-9-18, 1415		X		B-29 (2-4)	X		54.7	44.4	10.3
7-9-18, 1420		X		B-30 (3-5)	X		53.3	44.6	8.7

Comments:

Relinquished by [Signature] Date/Time 7/12/18, 0900

Relinquished by [Signature] Date/Time 7/11/18, 1500

Accepted by [Signature] Date/Time 7/11/18, 1500

RED Lab USE ONLY

10

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Terracon Consultants, Inc.
2401 Brentwood Road
Suite 107 I
Raleigh, NC 27604
Attention: David Hawkins

Project Name: Y-4810K PSA NCDOT Kannapolis

Project Number: 70187265

Lot Number: **TG11026**

Date Completed: 07/24/2018



07/25/2018 8:25 AM

Approved and released by:
Project Manager: Cathy S. Dover



The electronic signature above is the equivalent of a handwritten signature.
This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative Terracon Consultants, Inc. Lot Number: TG11026

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" qualifier

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
Terracon Consultants, Inc.
Lot Number: TG11026
Project Name: Y-4810K PSA NCDOT Kannapolis
Project Number: 70187265

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	B-9 (2-4)	Solid	07/09/2018 1045	07/11/2018
002	B-10 (4-6)	Solid	07/09/2018 1055	07/11/2018
003	B-11 (1-3)	Solid	07/09/2018 1105	07/11/2018
004	B-12 (2-4)	Solid	07/09/2018 1110	07/11/2018
005	B-13 (4-6)	Solid	07/09/2018 1115	07/11/2018
006	B-14 (6-8)	Solid	07/09/2018 1120	07/11/2018
007	B-15 (2-4)	Solid	07/09/2018 1125	07/11/2018
008	B-16 (3-5)	Solid	07/09/2018 1140	07/11/2018
009	B-17 (2-4)	Solid	07/09/2018 1140	07/11/2018
010	B-18 (8-10)	Solid	07/09/2018 1200	07/11/2018

(10 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Detection Summary
Terracon Consultants, Inc.
Lot Number: TG11026
Project Name: Y-4810K PSA NCDOT Kannapolis
Project Number: 70187265

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	B-9 (2-4)	Solid	Arsenic	6010D	2.8		mg/kg	6
001	B-9 (2-4)	Solid	Barium	6010D	83		mg/kg	6
001	B-9 (2-4)	Solid	Chromium	6010D	9.0		mg/kg	6
001	B-9 (2-4)	Solid	Lead	6010D	56		mg/kg	6
002	B-10 (4-6)	Solid	Arsenic	6010D	3.2		mg/kg	7
002	B-10 (4-6)	Solid	Barium	6010D	160		mg/kg	7
002	B-10 (4-6)	Solid	Chromium	6010D	7.7		mg/kg	7
002	B-10 (4-6)	Solid	Lead	6010D	46		mg/kg	7
003	B-11 (1-3)	Solid	Arsenic	6010D	3.7		mg/kg	8
003	B-11 (1-3)	Solid	Barium	6010D	99		mg/kg	8
003	B-11 (1-3)	Solid	Cadmium	6010D	0.11	J	mg/kg	8
003	B-11 (1-3)	Solid	Chromium	6010D	11		mg/kg	8
003	B-11 (1-3)	Solid	Lead	6010D	30		mg/kg	8
003	B-11 (1-3)	Solid	Selenium	6010D	0.46	J	mg/kg	8
004	B-12 (2-4)	Solid	Arsenic	6010D	1.3		mg/kg	9
004	B-12 (2-4)	Solid	Barium	6010D	50		mg/kg	9
004	B-12 (2-4)	Solid	Chromium	6010D	4.8		mg/kg	9
004	B-12 (2-4)	Solid	Lead	6010D	10		mg/kg	9
005	B-13 (4-6)	Solid	Arsenic	6010D	2.6		mg/kg	10
005	B-13 (4-6)	Solid	Barium	6010D	220		mg/kg	10
005	B-13 (4-6)	Solid	Chromium	6010D	7.2		mg/kg	10
005	B-13 (4-6)	Solid	Lead	6010D	34		mg/kg	10
006	B-14 (6-8)	Solid	Arsenic	6010D	2.9		mg/kg	11
006	B-14 (6-8)	Solid	Barium	6010D	190		mg/kg	11
006	B-14 (6-8)	Solid	Chromium	6010D	5.8		mg/kg	11
006	B-14 (6-8)	Solid	Lead	6010D	37		mg/kg	11
007	B-15 (2-4)	Solid	Arsenic	6010D	4.1		mg/kg	12
007	B-15 (2-4)	Solid	Barium	6010D	81		mg/kg	12
007	B-15 (2-4)	Solid	Chromium	6010D	16		mg/kg	12
007	B-15 (2-4)	Solid	Lead	6010D	30		mg/kg	12
007	B-15 (2-4)	Solid	Mercury	7471B	0.027	J	mg/kg	12
008	B-16 (3-5)	Solid	Arsenic	6010D	3.2		mg/kg	13
008	B-16 (3-5)	Solid	Barium	6010D	35		mg/kg	13
008	B-16 (3-5)	Solid	Chromium	6010D	7.6		mg/kg	13
008	B-16 (3-5)	Solid	Lead	6010D	35		mg/kg	13
009	B-17 (2-4)	Solid	Arsenic	6010D	3.4		mg/kg	14
009	B-17 (2-4)	Solid	Barium	6010D	140		mg/kg	14
009	B-17 (2-4)	Solid	Chromium	6010D	12		mg/kg	14
009	B-17 (2-4)	Solid	Lead	6010D	28		mg/kg	14
010	B-18 (8-10)	Solid	Arsenic	6010D	2.6		mg/kg	15
010	B-18 (8-10)	Solid	Barium	6010D	150		mg/kg	15
010	B-18 (8-10)	Solid	Chromium	6010D	7.3		mg/kg	15
010	B-18 (8-10)	Solid	Lead	6010D	31		mg/kg	15

Detection Summary (Continued)

Lot Number: TG11026

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
--------	-----------	--------	-----------	--------	--------	---	-------	------

(43 detections)

RCRA Metals

Client: Terracon Consultants, Inc.	Laboratory ID: TG11026-001
Description: B-9 (2-4)	Matrix: Solid
Date Sampled: 07/09/2018 1045	Project Name: Y-4810K PSA NCDOT
Date Received: 07/11/2018	% Solids: 69.8 07/14/2018 0251
Project Number: 70187265	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3050B	6010D	1	07/19/2018 0137	CJZ	07/15/2018 1310	77679
1	7471B	7471B	1	07/16/2018 1848	SLS	07/16/2018 1137	77764
2	3050B	6010D	2	07/19/2018 0251	CJZ	07/15/2018 1310	77679

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Arsenic	7440-38-2	6010D	2.8		0.95	0.32	mg/kg	1
Barium	7440-39-3	6010D	83		1.6	0.41	mg/kg	1
Cadmium	7440-43-9	6010D	ND		0.32	0.079	mg/kg	1
Chromium	7440-47-3	6010D	9.0		0.63	0.16	mg/kg	1
Lead	7439-92-1	6010D	56		1.3	0.57	mg/kg	2
Mercury	7439-97-6	7471B	ND		0.12	0.028	mg/kg	1
Selenium	7782-49-2	6010D	ND		1.3	0.51	mg/kg	1
Silver	7440-22-4	6010D	ND		0.63	0.16	mg/kg	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

RCRA Metals

Client: Terracon Consultants, Inc.	Laboratory ID: TG11026-002
Description: B-10 (4-6)	Matrix: Solid
Date Sampled: 07/09/2018 1055	Project Name: Y-4810K PSA NCDOT
Date Received: 07/11/2018	% Solids: 68.6 07/14/2018 0251
Project Number: 70187265	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3050B	6010D	1	07/19/2018 0141	CJZ	07/15/2018 1310	77679
1	7471B	7471B	1	07/16/2018 1855	SLS	07/16/2018 1137	77764
2	3050B	6010D	2	07/19/2018 0256	CJZ	07/15/2018 1310	77679

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Arsenic	7440-38-2	6010D	3.2		1.0	0.33	mg/kg	1
Barium	7440-39-3	6010D	160		1.7	0.43	mg/kg	1
Cadmium	7440-43-9	6010D	ND		0.33	0.084	mg/kg	1
Chromium	7440-47-3	6010D	7.7		0.67	0.17	mg/kg	1
Lead	7439-92-1	6010D	46		1.3	0.60	mg/kg	2
Mercury	7439-97-6	7471B	ND		0.11	0.025	mg/kg	1
Selenium	7782-49-2	6010D	ND		1.3	0.54	mg/kg	1
Silver	7440-22-4	6010D	ND		0.67	0.17	mg/kg	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

RCRA Metals

Client: Terracon Consultants, Inc.	Laboratory ID: TG11026-003
Description: B-11 (1-3)	Matrix: Solid
Date Sampled: 07/09/2018 1105	Project Name: Y-4810K PSA NCDOT
Date Received: 07/11/2018	% Solids: 82.9 07/14/2018 0251
Project Number: 70187265	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3050B	6010D	1	07/19/2018 0146	CJZ	07/15/2018 1310	77679
1	7471B	7471B	1	07/16/2018 1903	SLS	07/16/2018 1137	77764
2	3050B	6010D	5	07/19/2018 0301	CJZ	07/15/2018 1310	77679

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Arsenic	7440-38-2	6010D	3.7		0.60	0.20	mg/kg	1
Barium	7440-39-3	6010D	99		1.0	0.26	mg/kg	1
Cadmium	7440-43-9	6010D	0.11	J	0.20	0.050	mg/kg	1
Chromium	7440-47-3	6010D	11		0.40	0.099	mg/kg	1
Lead	7439-92-1	6010D	30		2.0	0.89	mg/kg	2
Mercury	7439-97-6	7471B	ND		0.087	0.021	mg/kg	1
Selenium	7782-49-2	6010D	0.46	J	0.79	0.32	mg/kg	1
Silver	7440-22-4	6010D	ND		0.40	0.099	mg/kg	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

RCRA Metals

Client: Terracon Consultants, Inc.	Laboratory ID: TG11026-004
Description: B-12 (2-4)	Matrix: Solid
Date Sampled: 07/09/2018 1110	Project Name: Y-4810K PSA NCDOT
Date Received: 07/11/2018	% Solids: 84.0 07/14/2018 0251
Project Number: 70187265	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3050B	6010D	1	07/19/2018 0151	CJZ	07/15/2018 1310	77679
1	7471B	7471B	1	07/16/2018 1905	SLS	07/16/2018 1137	77764

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Arsenic	7440-38-2	6010D	1.3		0.62	0.21	mg/kg	1
Barium	7440-39-3	6010D	50		1.1	0.27	mg/kg	1
Cadmium	7440-43-9	6010D	ND		0.21	0.052	mg/kg	1
Chromium	7440-47-3	6010D	4.8		0.41	0.10	mg/kg	1
Lead	7439-92-1	6010D	10		0.41	0.19	mg/kg	1
Mercury	7439-97-6	7471B	ND		0.090	0.022	mg/kg	1
Selenium	7782-49-2	6010D	ND		0.82	0.33	mg/kg	1
Silver	7440-22-4	6010D	ND		0.41	0.10	mg/kg	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

RCRA Metals

Client: Terracon Consultants, Inc.	Laboratory ID: TG11026-005
Description: B-13 (4-6)	Matrix: Solid
Date Sampled: 07/09/2018 1115	Project Name: Y-4810K PSA NCDOT
Date Received: 07/11/2018	% Solids: 68.5 07/14/2018 0251
Project Number: 70187265	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3050B	6010D	1	07/19/2018 0156	CJZ	07/15/2018 1310	77679
1	7471B	7471B	1	07/16/2018 1907	SLS	07/16/2018 1137	77764
2	3050B	6010D	5	07/19/2018 0306	CJZ	07/15/2018 1310	77679

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Arsenic	7440-38-2	6010D	2.6		0.95	0.32	mg/kg	1
Barium	7440-39-3	6010D	220		1.6	0.41	mg/kg	1
Cadmium	7440-43-9	6010D	ND		0.32	0.079	mg/kg	1
Chromium	7440-47-3	6010D	7.2		0.63	0.16	mg/kg	1
Lead	7439-92-1	6010D	34		3.2	1.4	mg/kg	2
Mercury	7439-97-6	7471B	ND		0.11	0.028	mg/kg	1
Selenium	7782-49-2	6010D	ND		1.3	0.51	mg/kg	1
Silver	7440-22-4	6010D	ND		0.63	0.16	mg/kg	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

RCRA Metals

Client: Terracon Consultants, Inc.	Laboratory ID: TG11026-006
Description: B-14 (6-8)	Matrix: Solid
Date Sampled: 07/09/2018 1120	Project Name: Y-4810K PSA NCDOT
Date Received: 07/11/2018	% Solids: 73.7 07/14/2018 0251
Project Number: 70187265	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3050B	6010D	1	07/19/2018 0201	CJZ	07/15/2018 1310	77679
1	7471B	7471B	1	07/16/2018 1910	SLS	07/16/2018 1137	77764
2	3050B	6010D	5	07/19/2018 0321	CJZ	07/15/2018 1310	77679

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Arsenic	7440-38-2	6010D	2.9		0.79	0.26	mg/kg	1
Barium	7440-39-3	6010D	190		1.4	0.34	mg/kg	1
Cadmium	7440-43-9	6010D	ND		0.26	0.067	mg/kg	1
Chromium	7440-47-3	6010D	5.8		0.53	0.13	mg/kg	1
Lead	7439-92-1	6010D	37		2.6	1.2	mg/kg	2
Mercury	7439-97-6	7471B	ND		0.10	0.025	mg/kg	1
Selenium	7782-49-2	6010D	ND		1.1	0.43	mg/kg	1
Silver	7440-22-4	6010D	ND		0.53	0.13	mg/kg	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

RCRA Metals

Client: Terracon Consultants, Inc.	Laboratory ID: TG11026-007
Description: B-15 (2-4)	Matrix: Solid
Date Sampled: 07/09/2018 1125	Project Name: Y-4810K PSA NCDOT
Date Received: 07/11/2018	% Solids: 72.8 07/14/2018 0251
Project Number: 70187265	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3050B	6010D	1	07/19/2018 0206	CJZ	07/15/2018 1310	77679
1	7471B	7471B	1	07/16/2018 1912	SLS	07/16/2018 1137	77764
2	3050B	6010D	2	07/19/2018 0326	CJZ	07/15/2018 1310	77679

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Arsenic	7440-38-2	6010D	4.1		0.98	0.33	mg/kg	1
Barium	7440-39-3	6010D	81		1.7	0.42	mg/kg	1
Cadmium	7440-43-9	6010D	ND		0.33	0.082	mg/kg	1
Chromium	7440-47-3	6010D	16		0.65	0.16	mg/kg	1
Lead	7439-92-1	6010D	30		1.3	0.59	mg/kg	2
Mercury	7439-97-6	7471B	0.027	J	0.11	0.026	mg/kg	1
Selenium	7782-49-2	6010D	ND		1.3	0.53	mg/kg	1
Silver	7440-22-4	6010D	ND		0.65	0.16	mg/kg	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

RCRA Metals

Client: Terracon Consultants, Inc.	Laboratory ID: TG11026-008
Description: B-16 (3-5)	Matrix: Solid
Date Sampled: 07/09/2018 1140	Project Name: Y-4810K PSA NCDOT
Date Received: 07/11/2018	% Solids: 71.9 07/14/2018 0251
Project Number: 70187265	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3050B	6010D	1	07/19/2018 0221	CJZ	07/15/2018 1310	77679
1	7471B	7471B	1	07/16/2018 1914	SLS	07/16/2018 1137	77764

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Arsenic	7440-38-2	6010D	3.2		1.0	0.34	mg/kg	1
Barium	7440-39-3	6010D	35		1.8	0.44	mg/kg	1
Cadmium	7440-43-9	6010D	ND		0.34	0.085	mg/kg	1
Chromium	7440-47-3	6010D	7.6		0.67	0.17	mg/kg	1
Lead	7439-92-1	6010D	35		0.67	0.30	mg/kg	1
Mercury	7439-97-6	7471B	ND		0.10	0.025	mg/kg	1
Selenium	7782-49-2	6010D	ND		1.3	0.55	mg/kg	1
Silver	7440-22-4	6010D	ND		0.67	0.17	mg/kg	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

RCRA Metals

Client: Terracon Consultants, Inc.	Laboratory ID: TG11026-009
Description: B-17 (2-4)	Matrix: Solid
Date Sampled: 07/09/2018 1140	Project Name: Y-4810K PSA NCDOT
Date Received: 07/11/2018	% Solids: 77.0 07/14/2018 0251
Project Number: 70187265	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3050B	6010D	1	07/19/2018 0226	CJZ	07/15/2018 1310	77679
1	7471B	7471B	1	07/16/2018 1917	SLS	07/16/2018 1137	77764
2	3050B	6010D	5	07/19/2018 0331	CJZ	07/15/2018 1310	77679

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Arsenic	7440-38-2	6010D	3.4		0.86	0.29	mg/kg	1
Barium	7440-39-3	6010D	140		1.5	0.37	mg/kg	1
Cadmium	7440-43-9	6010D	ND		0.29	0.072	mg/kg	1
Chromium	7440-47-3	6010D	12		0.57	0.14	mg/kg	1
Lead	7439-92-1	6010D	28		2.9	1.3	mg/kg	2
Mercury	7439-97-6	7471B	ND		0.10	0.025	mg/kg	1
Selenium	7782-49-2	6010D	ND		1.1	0.47	mg/kg	1
Silver	7440-22-4	6010D	ND		0.57	0.14	mg/kg	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

RCRA Metals

Client: Terracon Consultants, Inc.	Laboratory ID: TG11026-010
Description: B-18 (8-10)	Matrix: Solid
Date Sampled: 07/09/2018 1200	Project Name: Y-4810K PSA NCDOT
Date Received: 07/11/2018	% Solids: 71.7 07/14/2018 0251
Project Number: 70187265	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3050B	6010D	1	07/19/2018 0231	CJZ	07/15/2018 1310	77679
1	7471B	7471B	1	07/16/2018 1919	SLS	07/16/2018 1137	77764
3	3050B	6010D	3	07/23/2018 1744	CJZ	07/19/2018 1743	78211

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Arsenic	7440-38-2	6010D	2.6		1.0	0.34	mg/kg	1
Barium	7440-39-3	6010D	150		1.8	0.45	mg/kg	1
Cadmium	7440-43-9	6010D	ND		0.34	0.086	mg/kg	1
Chromium	7440-47-3	6010D	7.3		0.68	0.17	mg/kg	1
Lead	7439-92-1	6010D	31		2.0	0.92	mg/kg	3
Mercury	7439-97-6	7471B	ND		0.10	0.025	mg/kg	1
Selenium	7782-49-2	6010D	ND		1.4	0.56	mg/kg	1
Silver	7440-22-4	6010D	ND		0.68	0.17	mg/kg	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

QC Summary

RCRA Metals - MB

Sample ID: TQ77679-001

Matrix: Solid

Batch: 77679

Prep Method: 3050B

Analytical Method: 6010D

Prep Date: 07/15/2018 1310

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Arsenic	ND		1	0.75	0.25	mg/kg	07/19/2018 0127
Barium	ND		1	1.3	0.33	mg/kg	07/19/2018 0127
Cadmium	ND		1	0.25	0.063	mg/kg	07/19/2018 0127
Chromium	ND		1	0.50	0.13	mg/kg	07/19/2018 0127
Lead	ND		1	0.50	0.23	mg/kg	07/19/2018 0127
Selenium	ND		1	1.0	0.41	mg/kg	07/19/2018 0127
Silver	ND		1	0.50	0.13	mg/kg	07/19/2018 0127

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - LCS

Sample ID: TQ77679-002

Matrix: Solid

Batch: 77679

Prep Method: 3050B

Analytical Method: 6010D

Prep Date: 07/15/2018 1310

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Arsenic	250	250		1	98	80-120	07/19/2018 0132
Barium	500	500		1	100	80-120	07/19/2018 0132
Cadmium	50	49		1	99	80-120	07/19/2018 0132
Chromium	250	240		1	94	80-120	07/19/2018 0132
Lead	250	250		1	100	80-120	07/19/2018 0132
Selenium	50	48		1	95	80-120	07/19/2018 0132
Silver	50	49		1	98	80-120	07/19/2018 0132

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - MS

Sample ID: TG11026-010MS

Matrix: Solid

Batch: 77679

Prep Method: 3050B

Analytical Method: 6010D

Prep Date: 07/15/2018 1310

Parameter	Sample Amount (mg/kg)	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Arsenic	2.6	330	260		1	79	75-125	07/19/2018 0236
Barium	150	660	760		1	92	75-125	07/19/2018 0236
Cadmium	ND	66	58		1	87	75-125	07/19/2018 0236
Chromium	7.3	330	290		1	84	75-125	07/19/2018 0236
Selenium	ND	66	52		1	79	75-125	07/19/2018 0236
Silver	ND	66	61		1	93	75-125	07/19/2018 0236

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - MSD

Sample ID: TG11026-010MD

Matrix: Solid

Batch: 77679

Prep Method: 3050B

Analytical Method: 6010D

Prep Date: 07/15/2018 1310

Parameter	Sample Amount (mg/kg)	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Arsenic	2.6	260	210	+	1	80	21	75-125	20	07/19/2018 0241
Barium	150	530	690		1	102	9.2	75-125	20	07/19/2018 0241
Cadmium	ND	53	47		1	89	20	75-125	20	07/19/2018 0241
Chromium	7.3	260	240		1	88	18	75-125	20	07/19/2018 0241
Selenium	ND	53	42	+	1	80	22	75-125	20	07/19/2018 0241
Silver	ND	53	50		1	95	20	75-125	20	07/19/2018 0241

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - MB

Sample ID: TQ78211-001

Matrix: Solid

Batch: 78211

Prep Method: 3050B

Analytical Method: 6010D

Prep Date: 07/19/2018 1743

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Lead	ND		1	0.50	0.23	mg/kg	07/23/2018 1734

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - LCS

Sample ID: TQ78211-002

Matrix: Solid

Batch: 78211

Prep Method: 3050B

Analytical Method: 6010D

Prep Date: 07/19/2018 1743

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	250	220		1	90	80-120	07/23/2018 1739

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - MS

Sample ID: TG11026-010MS

Matrix: Solid

Batch: 78211

Prep Method: 3050B

Analytical Method: 6010D

Prep Date: 07/19/2018 1743

Parameter	Sample Amount (mg/kg)	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	31	330	290		3	79	75-125	07/23/2018 1749

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - MSD

Sample ID: TG11026-010MD

Matrix: Solid

Batch: 78211

Prep Method: 3050B

Analytical Method: 6010D

Prep Date: 07/19/2018 1743

Parameter	Sample Amount (mg/kg)	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	31	350	330		3	87	14	75-125	20	07/23/2018 1754

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - MB

Sample ID: TQ77764-001

Matrix: Solid

Batch: 77764

Prep Method: 7471B

Analytical Method: 7471B

Prep Date: 07/16/2018 1137

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Mercury	ND		1	0.083	0.020	mg/kg	07/16/2018 1844

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - LCS

Sample ID: TQ77764-002

Matrix: Solid

Batch: 77764

Prep Method: 7471B

Analytical Method: 7471B

Prep Date: 07/16/2018 1137

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	0.83	0.89		1	107	80-120	07/16/2018 1846

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - MS

Sample ID: TG11026-001MS

Matrix: Solid

Batch: 77764

Prep Method: 7471B

Analytical Method: 7471B

Prep Date: 07/16/2018 1137

Parameter	Sample Amount (mg/kg)	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	ND	1.1	1.2		1	112	80-120	07/16/2018 1851

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

RCRA Metals - MSD

Sample ID: TG11026-001MD

Matrix: Solid

Batch: 77764

Prep Method: 7471B

Analytical Method: 7471B

Prep Date: 07/16/2018 1137

Parameter	Sample Amount (mg/kg)	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Mercury	ND	1.2	1.4		1	115	9.1	80-120	20	07/16/2018 1853

LOQ = Limit of Quantitation

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

+ = RPD is out of criteria

LOD = Limit of Detection

ND = Not detected at or above the DL

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

**Chain of Custody
and
Miscellaneous Documents**

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.
 106 Vantage Point Drive • West Columbia, SC 29172
 Telephone No. 803-791-9700 Fax No. 803-791-9111
 www.shealylab.com

Number 83889

SHEALY Chain of Custody Record

Client: <u>Ferron</u>		Report to Contact: <u>Steve Wynn, David Hawkins</u>		Telephone No. / Email: <u>Steve Wynn @ ferron.com, david.hawkins@ferron.com</u>		Quote No. _____	
Address: <u>2401 Brentwood Rd. Suite 107</u>		Sampler's Signature: <u>[Signature]</u>		Analysis (Attach list if more space is needed)		Page: <u>1</u> of <u>1</u>	
City: <u>Raleigh</u>		Printed Name: <u>David W. Hawkins</u>		Barcode:		CSD: _____	
State: <u>NC</u>		Zip Code: <u>27604</u>		Remarks / Cooler I.D.:		_____	
Project Name: <u>4-48102 PSA NCDOT Keanneis</u>		Project No.: <u>10187ZLOS</u>		_____		_____	
Sample ID / Description: <u>B-9 (2-4)</u>		Date: <u>7/9/18</u>		Time: <u>1045</u>		_____	
Sample ID / Description: <u>B-10 (4-6)</u>		Date: _____		Time: <u>1055</u>		_____	
Sample ID / Description: <u>B-11 (1-3)</u>		Date: _____		Time: <u>1105</u>		_____	
Sample ID / Description: <u>B-12 (2-4)</u>		Date: _____		Time: <u>1110</u>		_____	
Sample ID / Description: <u>B-13 (4-6)</u>		Date: _____		Time: <u>1115</u>		_____	
Sample ID / Description: <u>B-14 (6-8)</u>		Date: _____		Time: <u>1120</u>		_____	
Sample ID / Description: <u>B-15 (2-4)</u>		Date: _____		Time: <u>1125</u>		_____	
Sample ID / Description: <u>B-16 (3-5)</u>		Date: _____		Time: <u>1140</u>		_____	
Sample ID / Description: <u>B-17 (2-4)</u>		Date: _____		Time: <u>1140</u>		_____	
Sample ID / Description: <u>B-18 (8-10)</u>		Date: _____		Time: <u>1200</u>		_____	

Turn Around Time Required (Prior lab approval required for expedited TAT):		Possible Hazard Identification:	
<input type="checkbox"/> Standard	<input type="checkbox"/> Rush (Specify)	<input checked="" type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable
1. Requisitioned by: <u>[Signature]</u>		<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison
2. Requisitioned by: _____		<input type="checkbox"/> Unknown	
3. Requisitioned by: _____			
4. Requisitioned by: <u>Fed Ex</u>			

Sample Disposal:		OC Requirements (Specify)	
<input type="checkbox"/> Return to Client	<input checked="" type="checkbox"/> Requested by Lab	Date	Time
1. Requisitioned by: _____		Date	Time
2. Requisitioned by: _____		Date	Time
3. Requisitioned by: _____		Date	Time
4. Laboratory received by: <u>L Hill</u>		Date	Time
LAB USE ONLY		Date	Time
Received on ice (Circle) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Receptor Temp. <u>1.7</u> °C	

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: ME0018C-13

Page 1 of 1
Effective Date: 4/5/2018

Sample Receipt Checklist (SRC)

Client: Terraron Cooler Inspected by/date: LKH/ 7-11-18 Lot #: G11026

Means of receipt: <input type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other: _____		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		1. Were custody seals present on the cooler?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		2. If custody seals were present, were they intact and unbroken?
pH Strip ID: _____ Chlorine Strip ID: _____		
Cooler ID / Original temperature upon receipt / Derived (Corrected) temperature upon receipt: <u>117112°C</u> / / °C / / °C / / °C		
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: <u>6</u> IR Gun Correction Factor: <u>0</u> °C		
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None		
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA		3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		13. Was adequate sample volume available?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA		16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (¼" or 6mm in diameter) in any of the VOA vials?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA		17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA		18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA		19. Were all applicable NH ₃ /TKN/cyanide/phenol/625 (< 0.5mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA		20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		21. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)		
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____.		
Time of preservation _____.		
Sample(s) _____ were received with bubbles >6 mm in diameter.		
Samples(s) _____ were received with TRC > 0.5 mg/L. (If #19 is <i>no</i>) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: _____.		
SR barcode labels applied by: <u>LKH</u> Date: <u>7-11-18</u>		

Comments: _____

APPENDIX D

NCDEQ Risk Calculator Output

North Carolina Department of Environmental Quality Risk Calculator

Version Date:	February 2018
Basis:	November 2017 EPA RSL Table
Site Name:	Parcel 48 - John, Phillip, Douglas Tricee Trustee Property
Site Address:	
DEQ Section:	
Site ID:	
Exposure Unit ID:	
Submittal Date:	9/5/2018
Prepared By:	D. Hawkins
Reviewed By:	

Version Date: February 2018

Basis: November 2017 EPA RSL Table

Site ID:

Exposure Unit ID:

Surface Soil Exposure Point Concentration Table

Exposure Point Concentration (mg/kg)	Justification for Exposure Point Concentration	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value (Screening Level) (n/c)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion
4.1	Maximum Concentration	7440-38-2	Arsenic, Inorganic			mg/kg										
16	Maximum Concentration	7440-47-3	Chromium, Total			mg/kg										

Version Date: February 2018

Basic: November 2017 EPA RSL Table

Site ID:

Exposure Unit ID:

Subsurface Soil Exposure Point Concentration Table

Exposure Point Concentration (mg/kg)	Justification for Exposure Point Concentration	CAS Number	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value (Screening Level) (n/c)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag (Y/N)	Rationale for Selection or Deletion
4.1	Maximum Detection	7440-38-2	Arsenic, Inorganic			mg/kg										
16	Maximum Detection	7440-47-3	Chromium, Total			mg/kg										

Summary of Risk Assessment Output	Output Form 1A
--	-----------------------

Version Date: February 2018

Basis: November 2017 EPA RSL Table

Site ID:

Exposure Unit ID:

PRIMARY CALCULATORS

Receptor	Pathway	Carcinogenic Risk	Hazard Index	Risk exceeded?
Resident	Soil Combined Pathways	NC	NC	NC
	Groundwater Combined Pathways*	NC	NC	NC
Non-Residential Worker	Soil Combined Pathways	3.8E-06	1.3E-02	NO
	Groundwater Combined Pathways*	NC	NC	NC
Construction Worker	Soil Combined Pathways	4.7E-06	1.1E-01	NO
User Defined	Soil Combined Pathways	NC	NC	NC
	Surface Water Combined Pathways*	NC	NC	NC

VAPOR INTRUSION CALCULATORS

Receptor	Pathway	Carcinogenic Risk	Hazard Index	Risk exceeded?
Resident	Groundwater to Indoor Air	NC	NC	NC
	Soil Gas to Indoor Air	NC	NC	NC
	Indoor Air	NC	NC	NC
Non-Residential Worker	Groundwater to Indoor Air	NC	NC	NC
	Soil Gas to Indoor Air	NC	NC	NC
	Indoor Air	NC	NC	NC

CONTAMINANT MIGRATION CALCULATORS

Pathway	Source	Target POE Concentrations Exceeded?	
Protection of Groundwater Use	Source Soil	Exceedence of 2L at POE?	NC
	Source Groundwater	Exceedence of 2L at POE?	NC
Protection of Surface Water	Source Soil	Exceedence of 2B at POE?	NC
	Source Groundwater	Exceedence of 2B at POE?	NC

Notes:

1. If lead concentrations were entered in the exposure point concentration tables, see the individual calculator sheets for lead concentrations in comparison to screening levels. Note that lead is not included in cumulative risk calculations.
2. * = If concentrations in groundwater exceed the NC 2L Standards or IMAC, or concentrations in surface water exceed the NC 2B Standards, appropriate remediation and/or institutional control measures will be necessary to be eligible for a risk-based closure.