



December 14, 2018

North Carolina Department of Transportation
Geotechnical Unit
Mail Service Center 1592
Raleigh, North Carolina 27699-1592

Attention: Mr. Craig Haden

email: cehaden@ncdot.gov

Reference: **Preliminary Site Assessment Report**
NCDOT Project I-5986B, WBS Element 47532.1.3
Parcel 11-Copart
Copart Lane
Dunn, Harnett County, North Carolina
S&ME Project 4305-18-175

Dear Mr. Haden:

S&ME, Inc. (S&ME) is submitting this Preliminary Site Assessment (PSA) Report to the North Carolina Department of Transportation (NCDOT). This report presents the background/project information, field activities, findings, conclusions, and recommendations. These services were performed in general accordance with S&ME Proposal No. 43-1800583 REV-02 dated August 16, 2018, and Contract Number 7000018853 dated April 12, 2018 between NCDOT and S&ME, Inc., authorized by NCDOT in its August 20, 2018 Notice to Proceed Letter.

◆ Background/Project Information

Based on NCDOT’s July 30, 2018, Request for Technical and Cost Proposal, the PSA was conducted within the NCDOT right-of-way (ROW) and/or easement as indicated on the preliminary plan sheets provided by NCDOT at the following property:

NCDOT Parcel No.	Property Owner	Site Address
11	Copart of Connecticut	(Copart) Copart Lane, Dunn, NC

The PSA included a geophysical survey, subsequent limited soil sampling (three soil borings up to 10 feet below ground surface (ft.-bgs.) and attempted groundwater sampling (one groundwater sample), within accessible areas of the proposed ROW/easement in preparation for construction activities. **Figure 1** shows the vicinity and site location, and **Figure 2** shows the site and boring locations. Soil sampling results are shown on **Figure 3**.



◆ Field Services

Prior to field activities, a site specific Health and Safety Plan was prepared as required by the Occupational Health and Safety Act (OSHA). Underground utilities were located and marked by the North Carolina One-Call Service. A private utility locator (East Coast Underground, LLC.) was also used to locate and mark underground utilities.

◆ Geophysical Survey

On October 16, 2018, S&ME personnel performed a geophysical survey within accessible areas of the proposed ROW/easement at Parcel 11. S&ME used a combination of the Time Domain Electromagnetic (TDEM) and Ground Penetrating Radar (GPR) methods to explore for buried subsurface features at the site such as underground storage tanks (USTs) and other possible buried obstructions. Brief descriptions of the proposed complementary geophysical techniques are presented in the following paragraphs.

Time Domain Electromagnetics (TDEM)

TDEM measures the electrical conductivity of subsurface materials and discriminates between moderately conductive earth materials and very conductive metallic targets within the shallow subsurface. The conductivity is determined by transmitting a time-varying magnetic pulse into the subsurface and measuring the amplitude and phase shift of the secondary magnetic field. The secondary magnetic field is created when the conductive materials become an inductor as the primary magnetic field is passed through them. TDEM data are acquired continuously at a walking pace typically along a series of parallel or perpendicular lines. The system generates audible and visual indications when metallic targets are encountered. These measurements can also be supported with a global positioning system (GPS) which is output directly into the TDEM data file.

We used a Geonics Limited EM-61 MK2 TDEM system in general accordance with ASTM D6820-02 (2007) "Standard Guide for Use of the Time Domain Electromagnetic Method for Subsurface Investigation." Data was collected along lines spaced at approximately five feet using a Juniper® Systems Geode™ sub-meter GPS as positioning support. The presence of vehicles, metal equipment, thickly wooded areas, ditches, and other surficial obstructions within the requested survey area however prevented TDEM data collection in several locations. The approximate TDEM data collection paths are presented in **Figure 4**. Golden Software's Surfer® program was used to grid and plot the data (**Figures 5 and 6**). The TDEM data has been presented as Plots A and B in order to provide both opaque and transparent views, respectively.

Ground Penetrating Radar (GPR)

GPR transmits electromagnetic waves into the subsurface from an antenna at a specific frequency and measures the time for wave reflections to be received by interfaces between materials with differing material properties (e.g. soil/metal, etc.). The intensity of the reflected GPR wave is a function of the contrast in the material properties (i.e. dielectric permittivity) at the interface, the conductivity of the material that the wave is traveling through, and the frequency of the signal.

We used a Geophysical Survey Systems, Inc. (GSSI) SIR® 3000 GPR system equipped with a 400 MHz antenna in general accordance with ASTM D6432-11 "Standard Guide for Using the Surface Ground Penetrating Radar Method for Subsurface Investigation" to further characterize anomalies/features identified during the TDEM survey.



A total of six (6) GPR profiles (Lines 1 through 6) were collected for documentation (**Figure 7**). The data was post-processed using the GSSI Radan® 7 GPR software program for additional analysis.

Geophysical Findings

Responses indicative of a potential UST were not identified in the geophysical data sets collected at the site. However, one anomalous feature (Anomaly A) was identified in both the TDEM and GPR data sets (**Figures 5 through 7**). Anomaly A is characterized by relatively high TDEM values (greater than about 200 mV) and an isolated high amplitude GPR response located within the upper one foot. As such, Anomaly A is likely related to a small buried isolated metallic target. The identified anomaly was also marked in the field using white spray paint. Example GPR profiles are presented in **Figure 8**.

◆ Soil Sampling

On October 22, 2018, S&ME's drill crew utilized a track mounted Geoprobe® rig to advance three soil borings (B-1 through B-3) and to collect soil samples within accessible areas of the proposed ROW/easement at Parcel 11. Soil boring B-1 was located on top of a soil berm outside the automotive salvage yard, east of two existing onsite stormwater ponds. Soil borings B-2 and B-3 were located within the northeastern portion of the automotive salvage yard. An attempt was made to advance an additional soil boring (B-4) located east of the stormwater ponds. However, due to existing fencing, thick wooded area and a steep slope, S&ME was unable to access the area of soil boring B-4. The approximate location of the soil borings are shown in **Figure 2**. A photographic log is included in **Appendix I**. S&ME's drill crew advanced the Geoprobe® borings to a depth of approximately 10 ft.-bgs. During the advancement of the soil borings, groundwater was encountered at soil boring B-3 at a depth of 6.5 ft.-bgs. Groundwater was not encountered within ten feet at soil borings B-1 or B-2. Soil samples were continuously collected in four-foot long disposable acetate-plastic sleeves that line the hollow stainless-steel sample probes. Soil recovered from the sleeves was classified on-site by S&ME personnel and screened with a Photoionization Detector (PID) at approximately two foot depth intervals to measure relative headspace concentrations of volatile organic compounds (VOCs).

VOC headspace readings were obtained from an aliquot of each soil sample that was placed in a re-sealable bag. Another portion of the sample was placed in a separate re-sealable bag and stored in an insulated container with ice for possible laboratory analyses. After waiting approximately 15 minutes to allow the sample to reach ambient temperature and headspace equilibrium, the PID probe was inserted into the bag to obtain a headspace reading. A summary of the PID readings and logs of the soil borings are included in **Appendix II**.

No petroleum odors, staining or elevated PID readings were noted within the collected soil samples. Therefore, soil samples from varying depth intervals were selected from each boring and provided to RED Lab, LLC (Red Lab) for on-site analysis. A total of five soil samples were analyzed by RED Lab for Total Petroleum Hydrocarbons (TPH)-Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) using ultra-violet fluorescence (UVF) spectroscopy with product (fuel) identification. Due to the site's use as an automotive salvage yard, one soil sample was also selected from each boring, placed in an insulated cooler with ice for transport to Con-Test Analytical for analysis of total lead, arsenic and chromium by EPA Method 6020.



Soil Analytical Results

TPH-GRO and TPH-DRO were not reported at concentrations exceeding the North Carolina TPH Action Levels. TPH-DRO was reported at borings B-3 (two to four foot depth interval) at a concentration of 0.24 milligrams per kilograms (mg/kg), which is below its North Carolina TPH Action Level of 100 mg/kg. TPH-GRO and TPH-DRO were not reported at concentrations exceeding the laboratory method reporting limits for the remaining soil samples.

Total chromium was reported in each of the soil samples at concentrations ranging from 7.2 mg/kg to 21 mg/kg.

For chromium, there are screening levels for three different valent states of chromium. Total chromium, chromium III, and chromium VI. North Carolina conservatively considers laboratory results for total chromium, which is a combination of chromium III (most common isotopic state) and chromium VI, only as chromium VI. The NCDEQ, Inactive Hazardous Sites Branch (IHSB) has established Preliminary Soil Remediation Goals (PSRG) of Residential Health Based (0.31 milligrams per kilograms (mg/kg)), Industrial/Commercial Health Based (6.5 mg/kg) and Protection of Groundwater (3.8 mg/kg) for total chromium and chromium VI. Chromium III has a Residential Health Based PSRG of 23,000 mg/kg, an Industrial/Commercial Health Based PSRG of 350,000 mg/kg and Protection of Groundwater PSRG of 360,000 mg/kg. Chromium concentrations in the three soil samples are comparable, suggesting that chromium is naturally occurring and not indicative of a release of chromium. S&ME assumes that total chromium as reported by the laboratory is in the trivalent state (chromium III). Therefore, the total chromium results are considered to be well below the PSRGs. If required, speciated laboratory analysis and calculations will confirm whether the total chromium is comprised of trivalent and/or hexavalent chromium.

Total lead was reported in each of the soil samples at concentrations below the PSRGs and at comparable concentrations suggesting that they are naturally occurring and not indicative of a release. Total lead was reported at concentrations ranging from 3.2 mg/kg to 7.7 mg/kg.

Total arsenic was reported at boring B-2 (zero to two foot depth interval) at a concentration of 0.95 mg/kg, which marginally exceeds its Residential PSRG of 0.68 mg/kg but not its Industrial/Commercial or Protection of Groundwater PSRGs. Total arsenic was also reported in the soil samples from borings B-1 and B-3 at concentrations of 0.19 mg/kg and 0.4 mg/kg, respectively, which are below the PSRGs. The arsenic concentrations are comparable and most likely naturally occurring and not indicative of a release.

A summary of the soil analytical results is presented in **Table 1** and shown on **Figure 3**. A copy of the laboratory analytical report provided by RED Lab is presented in **Appendix III**.

◆ Groundwater Sampling

During the advancement of the soil borings, groundwater was encountered at boring B-3 at a depth of approximately 6.5 ft.-bgs. Groundwater was not encountered at borings B-1 or B-2 within 10 ft.-bgs. Therefore, the Geoprobe® was used to advance boring B-3 into the groundwater table for the collection of a groundwater sample. A temporary monitor well (TW-1) was installed at soil boring B-3 using a five foot section of one-inch diameter, Schedule 40 PVC well riser attached to a ten foot section of 0.01-inch slotted screen. Due to the sandy soil condition, the temporary well was unable to be installed deeper than 10 ft.-bgs. Groundwater within the



temporary monitor well at soil boring B-3 was measured at 6.5 ft.-bgs. The temporary well was purged until dry and did not recover. Therefore, a groundwater sample was not obtained.

Upon completion of the soil and attempted groundwater sampling, the well materials were removed and the soil borings backfilled with bentonite pellets and soil cuttings. Investigative derived wastes (IDW), such as soil cuttings generated during the soil boring advancement and decontamination water, were spread on the ground in accordance with the procedures specified by North Carolina Department of Environmental Quality (NCDEQ). Used gloves and tubing were bagged and disposed off-site.

◆ Conclusion and Recommendations

The geophysical survey identified one anomalous feature (Anomaly A). Anomaly A is likely related to a small buried isolated metallic target Responses indicative of a potential UST were not identified in the geophysical data sets collected at the site.

S&ME advanced three soil borings (B-1 through B-3) to a depth of approximately 10 ft.-bgs at the site. An attempt was made to advance an additional soil boring (B-4). However, due to existing fencing, thick wooded area and a steep slope, S&ME was unable to access the area of soil boring B-4. No petroleum odors, staining or elevated PID readings were noted within soil samples collected from the soil borings. Selected soil samples from the soil borings were analyzed onsite for TPH-GRO and TPH-DRO using UVF spectroscopy. One soil sample from each boring was also analyzed for total chromium, total lead and total arsenic by Con-Test Laboratories.

TPH-DRO was reported at one soil boring at a depth of approximately two to four ft.-bgs at a concentration below its North Carolina TPH Action Level.

The chromium detections in soil are likely naturally occurring and in the trivalent state. The reported chromium detections in soil are well below the PSRGs for trivalent chromium. If required, speciated laboratory analysis and calculations will confirm whether the total chromium is comprised of trivalent and/or hexavalent chromium. Total lead detections in the soil were reported at levels below the PSRGs and are likely naturally occurring. Total arsenic was detected in one soil sample at a concentration marginally above the Residential PSRG. However, the total arsenic detections in soil are likely naturally occurring.

During the soil boring advancement, groundwater was encountered at one soil boring (B-3) at a depth of approximately 6.5 ft.-bgs. Groundwater was not encountered at borings B-1 or B-2. One temporary well (TW-1) was installed at soil boring B-3. However, the well purged dry and did not recover. Therefore, a groundwater sample was not collected.

S&ME recommends maintaining an awareness level for the presence of marginally impacted petroleum in soil (below TPH Action Levels) at the site for the safety of workers and the public. If petroleum stained or odorous soils are encountered during construction, these soils should be properly handled and disposed at a licensed facility.

◆ Limitations

The results of this preliminary investigation are limited to the boring locations presented herein. The results of this Preliminary Site Assessment are not all inclusive and may not represent existing conditions across the entire



**Preliminary Site Assessment Report
NCDOT Project I-5986B, WBS Element 47532.1.3
Parcel 11-Copart
Dunn, Harnett County, North Carolina
S&ME Project No. 4305-18-175**

property. These results only reflect the current conditions at the locations sampled on the date this Preliminary Site Assessment was performed. This report has been prepared in accordance with generally accepted environmental engineering and geophysical practice for specific application to this project. The conclusions and recommendations contained in this report are based upon applicable standards of our practice in this geographic area at the time this report was prepared. No other warranty, expressed or implied, is made.

The geophysical methods used for this survey have inherent limitations. Site metallic features (e.g., buildings, reinforced concrete, vehicles, etc.) and overhead transmission lines can produce a false electromagnetic response and may mask subsurface features. The depth of exploration of the GPR signal is highly site specific, and is greatly limited by signal attenuation (absorption) of the subsurface materials. Signal attenuation is dependent upon the electrical conductivity of the subsurface materials. Signal attenuation is greatest in materials with relatively high electrical conductivities such as clay soils, and lowest in relatively low conductivity materials such as unsaturated sand. For this project location, the GPR data sets appear to have a maximum depth of penetration of approximately about five feet below ground surface.

Regardless of the thoroughness of a geophysical study, there is always a possibility that actual conditions may not match the interpretations. The results should be considered accurate only to the degree implied by the methods used and the method's limitations and data coverage. Accordingly, the possibility exists that not all features at a project site will be located due to either subsurface soil conditions or the occurrence of features outside the lateral limits and below the depth of penetration of the methods used. As with most surface geophysical methods, resolution of the subsurface will also decrease with depth. As such, the size and/or contrast of features compared to the imaged subsurface media must be significant enough to produce the anticipated response. The location and/or determination (or the lack thereof) of potential buried features is based on our review of the provided information and of the geophysical survey. Under no circumstances does S&ME assume any responsibility for damages resulting from the presence of subsurface features that may exist but were not identified by our survey.

This Preliminary Site Assessment was performed solely for NCDOT regarding the above-referenced site and assessment area. This report is provided for the sole use of NCDOT. Use of this report by any other parties will be at such party's sole risk. S&ME disclaims liability for any such use or reliance by third parties. The observations presented in this report are indicative of conditions during the time of the assessment and of the specific areas referenced.



◆ Closing

S&ME appreciates the opportunity to provide these services to you. If you have any questions or comments regarding this report, please contact us at your convenience.

Sincerely,

S&ME, Inc.

Jamie T Honeycutt
Environmental Professional
jhoneycutt@smeinc.com

DocuSigned by:
Jamie Honeycutt
4C890EAEC25F488...

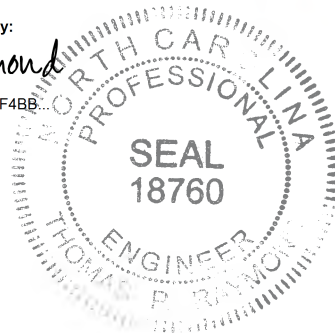
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1/22/2019



Attachments:

Table 1: Summary of Soil Sampling Results

- Figure 1:** Vicinity Map
- Figure 2:** Site Map
- Figure 3:** Soil Constituent Map
- Figure 4:** TDEM Path Location Plan
- Figure 5:** TDEM Data Plot A
- Figure 6:** TDEM Data Plot B
- Figure 7:** TDEM Data Plot B-Detail
- Figure 8:** Geophysical Anomaly Location Plan
- Figure 9:** Geophysical Anomaly Location Plan-Detail
- Figure 10:** Example GPR Data – Lines 7, 8 and 9

- Appendix I:** Photographs
- Appendix II:** Boring Logs
- Appendix III:** Laboratory Analytical Reports and Chain of Custody

Tables



TABLE 1
SUMMARY OF SOIL SAMPLING RESULTS
NCDOT Project I-5986B
Parcel 11 - (Copart)
Copart Lane
Dunn, Harnett County, North Carolina
S&ME Project No. 4305-18-175

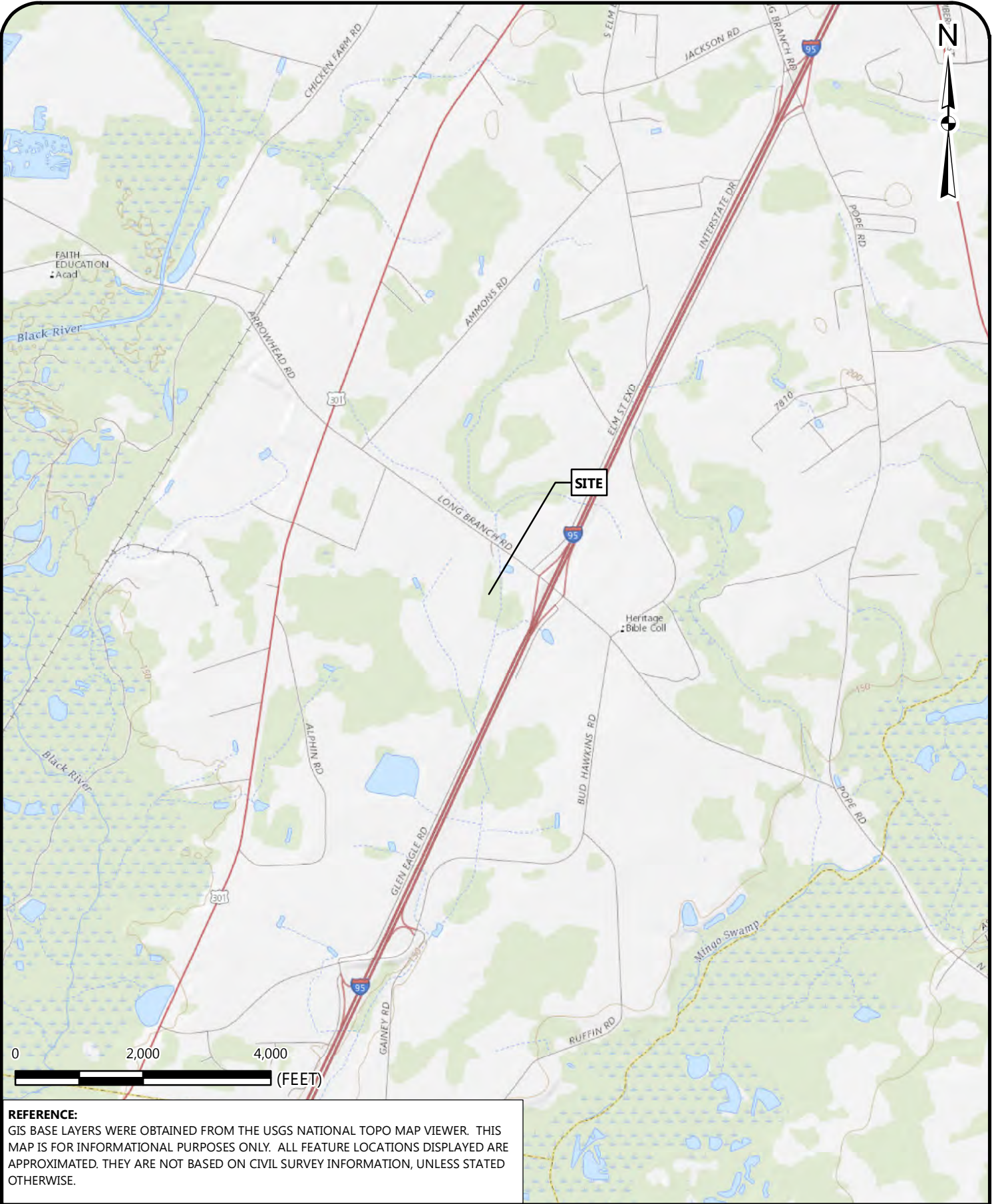
Analytical Method→			Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) by Ultraviolet Fluorescence (UVF) Spectrometry		Total Metals by EPA Method 6020		
Sample ID	Date	Contaminant of Concern→	TPH-GRO	TPH-DRO	Lead	Chromium*	Arsenic
		Sample Depth (ft.-bgs)					
Parcel 11 B-1	10/22/2018	8 to 10	<0.58	<0.58	6.1	7.2	0.19 J
Parcel 11 B-2	10/22/2018	0 to 2	<0.45	<0.45	7.7	21	0.95**
		2 to 4	<0.57	<0.57	NA	NA	NA
Parcel 11 B-3	10/22/2018	2 to 4	<0.24	0.24	3.2	7.2	0.4
		6 to 8	<0.4	<0.4	NA	NA	NA
North Carolina TPH Action Levels			50	100	Not Applicable		
IHSB Residential Health Based PSRG			Not Applicable		400	23,000	0.68
IHSB Industrial/Commercial Health Based PSRG			Not Applicable		800	350,000	3.0
IHSB Protection of Groundwater PSRG			Not Applicable		270	360,000	5.8

Notes:

1. UVF analysis performed by RED Lab, LLC
2. Concentrations are reported in milligrams per kilogram (mg/Kg).
3. ft.-bgs:- feet below ground surface.
4. Concentrations exceeding the laboratory's reporting limits are shown in **BOLD** fields.
5. NA: Not Analyzed
6. Total Metals analyzed by Con-Test Laboratories.
7. J: Estimated concentration detected below the laboratory method reporting limit.
8. IHSB: North Carolina Department of Environmental Quality, Inactive Hazardous Sites Branch
9. PSRG: Preliminary Soil Remediation Goals (Feb. 2018)
10. Concentrations exceeding the North Carolina TPH Action Levels or IHSB PSRGs are shown in Shaded and **BOLD** fields.
11. *: Assumes chromium in the trivalent state (chromium III)
12. **: Arsenic was reported at a concentration exceeding the PSRG. However, arsenic appears to be naturally occurring.

Figures

Drawing Path: T:\Projects\2018\ENV\4305-18-175 NCDOT I-5986B PSA\GIS\Parcel11\VICINITY.mxd plotted by abentz 11-02-2018



REFERENCE:
GIS BASE LAYERS WERE OBTAINED FROM THE USGS NATIONAL TOPO MAP VIEWER. THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. ALL FEATURE LOCATIONS DISPLAYED ARE APPROXIMATED. THEY ARE NOT BASED ON CIVIL SURVEY INFORMATION, UNLESS STATED OTHERWISE.



VICINITY MAP

NCDOT PROJECT I-5986B
PARCEL 11 (COPART)
COPART LANE, DUNN, HARNETT COUNTY, NORTH CAROLINA

SCALE:
1" = 2,000'
DATE:
11-2-18
PROJECT NUMBER
4305-18-175

FIGURE NO.
1



SITE MAP

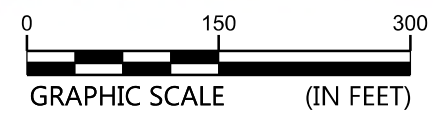
NCDOT PROJECT: I-5986B
 PARCEL 11 - (COPART)
 Copart Lane, Dunn, Harnett County, North Carolina

SCALE:	1"=100'
DATE:	DEC. 2018
PROJECT NUMBER	4305-18-175
FIGURE NO.	

Map Source: NCDOT Project I-5986B
 Image Source: NC ONEMAP, Dated 2016

LEGEND

- Geoenvironmental Boring:
- Underground Storage Tank (UST):
- TW-1: Temporary Monitor Well Location
- Known Soil Contamination:
- Possible Soil Contamination:





SOIL CONSTITUENT MAP

NCDOT PROJECT I-5986B
PARCEL 11 (COPART)
COPART LANE, DUNN, HARNETT COUNTY, NORTH CAROLINA



B-3					
(ft-bgs)	(mg/kg)				
Sample Depth	GRO	DRO	Lead	Chromium	Arsenic
2-4	<0.24	0.24	3.2	7.2	0.4
6-8	<0.4	<0.4	NA	NA	NA

B-2					
(ft-bgs)	(mg/kg)				
Sample Depth	GRO	DRO	Lead	Chromium	Arsenic
0-2	<0.45	<0.45	7.7	7.2	0.95
2-4	<0.57	<0.45	NA	NA	NA

B-1					
(ft-bgs)	(mg/kg)				
Sample Depth	GRO	DRO	Lead	Chromium	Arsenic
8-10	<0.58	<0.58	6.1	7.2	0.19

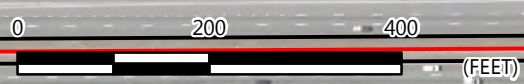
B-4
No Access - Not Sampled

mg/kg: Milligrams per Kilogram
 GRO: Total Petroleum Hydrocarbon Gasoline Range Organics
 DRO: Total Petroleum Hydrocarbon Diesel Range Organics
BOLD Indicates Exceedence of NC TPH Action Levels or IHSB PSRGs
 IHSB: North Carolina Department of Environmental Quality, Inactive Hazardous Sites Branch
 PSRG: Preliminary Soil Remediation Goals (Feb. 2018)
 NA : Not Analyzed
 ft-bgs : Feet Below Ground Surface

Samples Collected 10-22-2018.

GRO/DRO and Total Metals Analyzed by Ultraviolet Fluorescence (UVF) by RED Lab, LLC.

- Sample Location
- Edge of Pavement
- Centerline
- ROW Proposed Right-of-Way
- Proposed Permanent Utility Easement
- Proposed Construction Easement
- Tax Parcels



REFERENCE:
 GIS BASE LAYERS WERE OBTAINED FROM THE 2017 NCONMAP AERIAL ORTHOIMAGERY LAYER AND HARNETT COUNTY ROAD SHAPEFILE. THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. ALL FEATURE LOCATIONS DISPLAYED ARE APPROXIMATED. THEY ARE NOT BASED ON CIVIL SURVEY INFORMATION, UNLESS STATED OTHERWISE.

Drawing Path: T:\Projects\2018\ENV\4305-18-175 NCDOT I-5986B PSA\GIS\Parcel11\CONSTITUENT.mxd plotted by abentz 11-07-2018

SCALE:
1" = 200'

DATE:
11-7-18

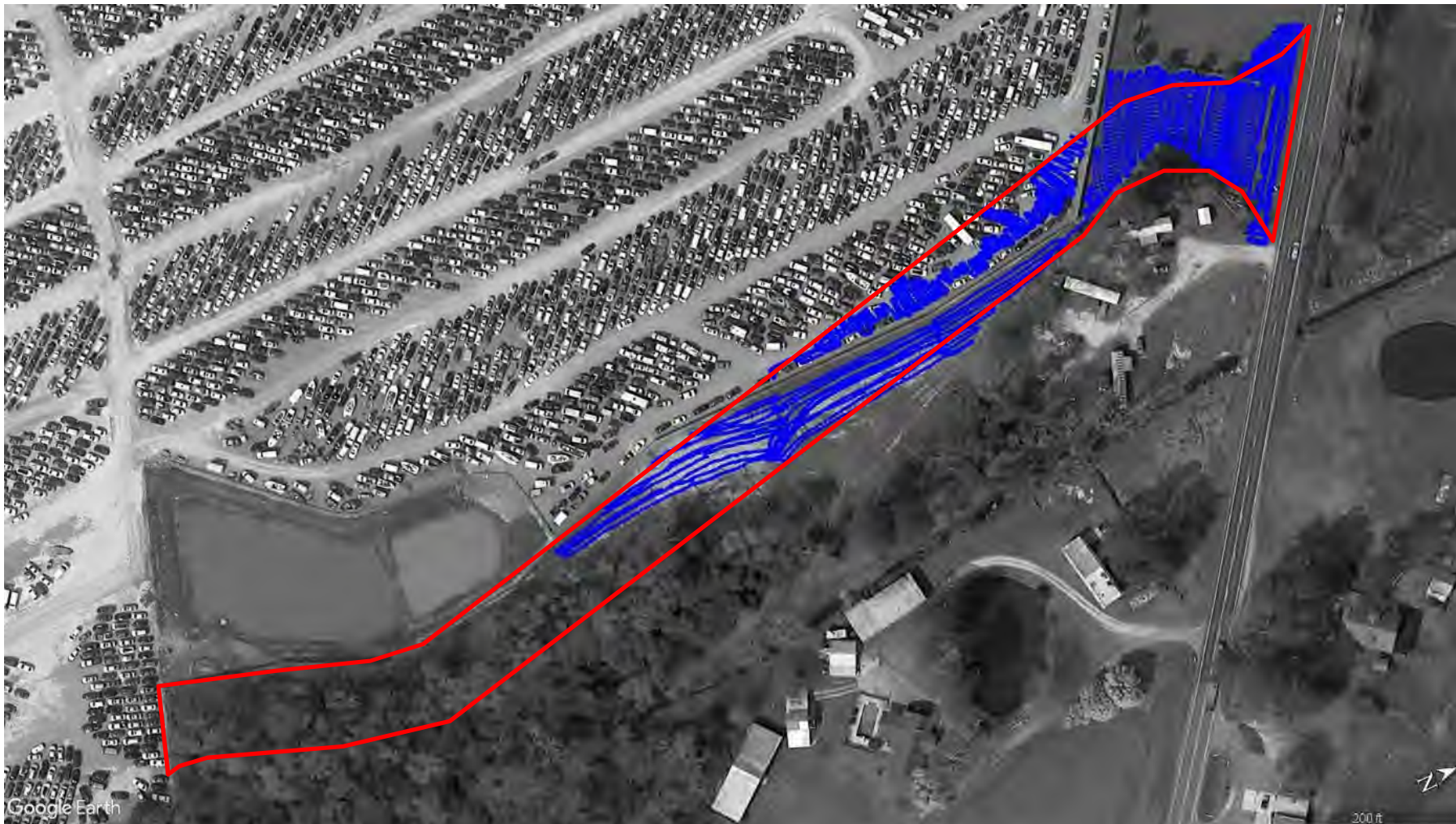
PROJECT NUMBER
4305-18-175

FIGURE NO.

3



REFERENCE:
 (GOOGLE EARTH PRO) AERIAL PHOTOGRAPH
 (DATED, MARCH, 04 2018)



LEGEND

■ ■ ■ ■ ■ Approximate TDEM Path



Approximate Requested Survey Area

TDEM PATH LOCATION PLAN

NC DOT PROJECT: I-59866
 PARCEL 11 - (COPART)
 COPART LANE, DUNN, HARNETT COUNTY, NORTH CAROLINA

SCALE:
 AS SHOWN

DATE:
 11/1/2018

PROJECT NUMBER
 4305-18-175

FIGURE NO.

4



REFERENCE:
 (GOOGLE EARTH PRO) AERIAL PHOTOGRAPH
 (DATED, MARCH, 04 2018)



LEGEND

----- Approximate Location of Fence

TDEM DATA PLOT A

NC DOT PROJECT: I-5986B
 PARCEL 11 - (COPART)
 COPART LANE, DUNN, HARNETT COUNTY, NORTH CAROLINA

SCALE:
 AS SHOWN

DATE:
 11/1/2018

PROJECT NUMBER
 4305-18-175

FIGURE NO.

5



REFERENCE:
 (GOOGLE EARTH PRO) AERIAL PHOTOGRAPH
 (DATED, MARCH, 04 2018)



Google Earth
 ©2018 Google

LEGEND

- - - - Approximate Location of Fence
- () Approximate Location of TDEM Anomaly

TDEM DATA PLOT B

NC DOT PROJECT: I-5986B
 PARCEL 11 - (COPART)
 COPART LANE, DUNN, HARNETT COUNTY, NORTH CAROLINA

SCALE:
 AS SHOWN
 DATE:
 11/1/2018
 PROJECT NUMBER
 4305-18-175
 FIGURE NO.



REFERENCE:
 (GOOGLE EARTH PRO) AERIAL PHOTOGRAPH
 (DATED, MARCH, 04 2018)



Google Earth

LEGEND

--- Approximate Location of Fence

○ Approximate Location of TDEM Anomaly

← Approximate Location of GPR Profile

GEOPHYSICAL ANOMALY LOCATION PLAN

NC DOT PROJECT: I-59866
 PARCEL 11 - (COPART)
 COPART LANE, DUNN, HARNETT COUNTY, NORTH CAROLINA

SCALE:
 AS SHOWN

DATE:
 11/1/2018

PROJECT NUMBER
 4305-18-175

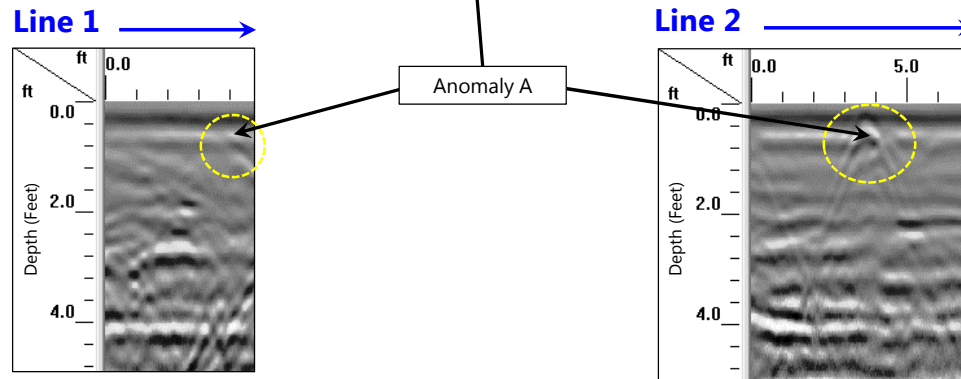
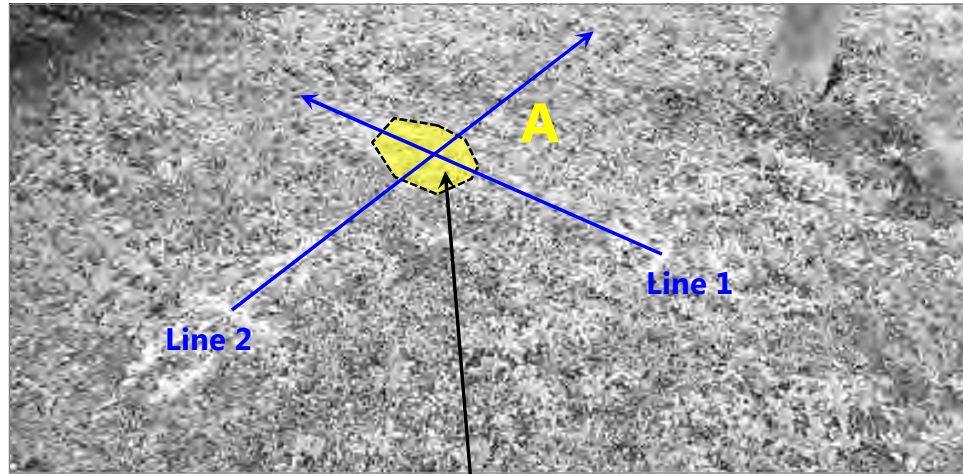
FIGURE NO.

7



EXAMPLE GPR DATA - LINES 1 AND 2

NCDOT PROJECT: I-5986B
PARCEL 11 - (COPART)
COPART LANE, DUNN, HARNETT COUNTY, NORTH CAROLINA



Note: Presented GPR profile depths are based on an assumed average dielectric and should be considered approximate

SCALE:
AS SHOWN

DATE:
11/1/2018

PROJECT NUMBER
4305-18-175

FIGURE NO.

8

Appendix I – Photographs



1	Location / Orientation	Looking west into Copart facility from near B-2.	Date: 10/22/2018
	Remarks	None	Photographer: JTH



2	Location / Orientation	View looking south toward attempted B-4 location.	Date: 10/22/2018
	Remarks	B-4 is farther south.	Photographer: JTH



Appendix II – Boring Logs

Appendix III – Laboratory Analytical Reports and Chain of Custody



Hydrocarbon Analysis Results

Client: S&ME
Address: 310 COPART ROAD
 DUNN NC 28334

Samples taken Monday, October 22, 2018
Samples extracted Monday, October 22, 2018
Samples analysed Monday, October 22, 2018

Contact: JAMIE HONEYCUTT

Operator JENN RYAN

Project: 4305-18-175

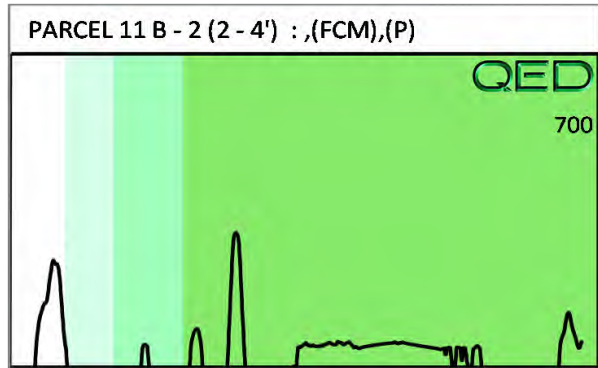
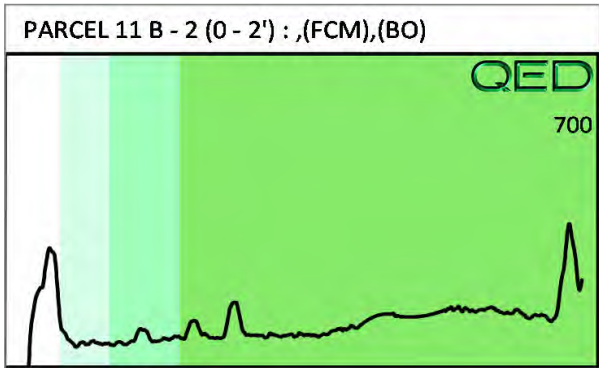
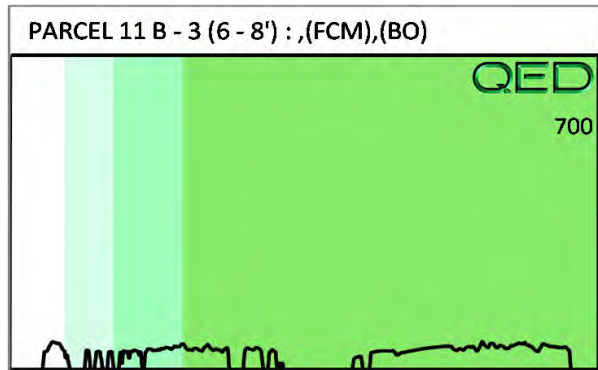
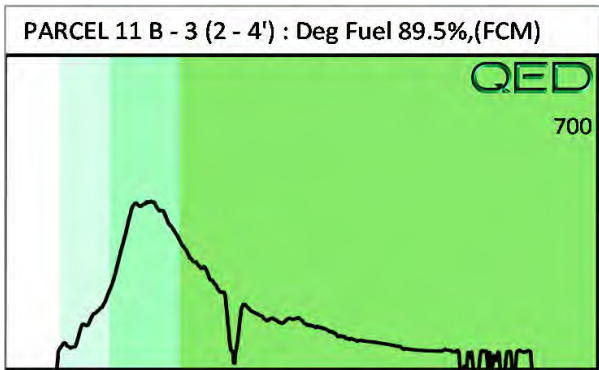
U00904

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	PARCEL 11 B - 3 (2 - 4')	9.8	<0.24	<0.24	0.24	0.24	<0.05	<0.08	<0.01	0	95.3	4.7	Deg Fuel 89.5%,(FCM)
s	PARCEL 11 B - 3 (6 - 8')	16.0	<0.4	<0.4	<0.4	<0.4	<0.08	<0.13	<0.016	0	0	0	PHC not detected,(BO)
s	PARCEL 11 B - 2 (0 - 2')	17.9	<0.45	<0.45	<0.45	<0.45	<0.09	<0.14	<0.018	0	100	0	Residual HC,(BO)
s	PARCEL 11 B - 2 (2 - 4')	22.6	<0.57	<0.57	<0.57	<0.57	<0.11	<0.18	<0.023	0	0	0	PHC not detected,(P)

Initial Calibrator QC check OK

Final FCM QC Check OK 96 %

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**



November 1, 2018

Michael Pfeifer
S&ME, Inc - Raleigh, NC
3201 Spring Forest Rd.
Raleigh, NC 27616

Project Location: Parcel 11
Client Job Number:
Project Number: 4305-18-175
Laboratory Work Order Number: 18J1181

Enclosed are results of analyses for samples received by the laboratory on October 23, 2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Kerry K. McGee". The signature is written in a cursive style with a large, prominent "K" and "M".

Kerry K. McGee
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

S&ME, Inc - Raleigh, NC
 3201 Spring Forest Rd.
 Raleigh, NC 27616
 ATTN: Michael Pfeifer

REPORT DATE: 11/1/2018

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 4305-18-175

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 18J1181

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Parcel 11

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Parcel 11 B-3 2-4'	18J1181-01	Soil		SM 2540G SW-846 6020B	
Parcel 11 B-2 0-2'	18J1181-02	Soil		SM 2540G SW-846 6020B	
Parcel 11 B-1 8-10'	18J1181-03	Soil		SM 2540G SW-846 6020B	

EXECUTIVE SUMMARY

Client ID: **Parcel 11 B-3 2-4'**

Lab ID: **18J1181-01**

Analyte	Results/Qual	DL	RL	Units	Method
Arsenic	0.40	0.030	0.18	mg/Kg dry	SW-846 6020B
Chromium	7.2	0.16	4.6	mg/Kg dry	SW-846 6020B
Lead	3.2	0.060	1.8	mg/Kg dry	SW-846 6020B
% Solids	88.5			% Wt	SM 2540G

Client ID: **Parcel 11 B-2 0-2'**

Lab ID: **18J1181-02**

Analyte	Results/Qual	DL	RL	Units	Method
Arsenic	0.95	0.035	0.21	mg/Kg dry	SW-846 6020B
Chromium	21	0.19	5.3	mg/Kg dry	SW-846 6020B
Lead	7.7	0.069	2.1	mg/Kg dry	SW-846 6020B
% Solids	78.1			% Wt	SM 2540G

Client ID: **Parcel 11 B-1 8-10'**

Lab ID: **18J1181-03**

Analyte	Results/Qual	DL	RL	Units	Method
Arsenic	0.19 J	0.032	0.19	mg/Kg dry	SW-846 6020B
Chromium	7.2	0.17	4.8	mg/Kg dry	SW-846 6020B
Lead	6.1	0.064	1.9	mg/Kg dry	SW-846 6020B
% Solids	83.5			% Wt	SM 2540G

Con-Test does not accept liability for the consequences of any actions taken solely on the basis of the information provided in the Executive Summary section of this report. Users must review this report in its entirety to determine data usability and assessment.

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 6020, all dilutions were performed as per standard operating procedure.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa A. Worthington", is written over a light gray rectangular background.

Lisa A. Worthington
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Parcel 11

Sample Description:

Work Order: 18J1181

Date Received: 10/23/2018

Field Sample #: Parcel 11 B-3 2-4'

Sampled: 10/22/2018 16:30

Sample ID: 18J1181-01

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	0.40	0.18	0.030	mg/Kg dry	5		SW-846 6020B	10/30/18	10/31/18 13:12	MJH
Chromium	7.2	4.6	0.16	mg/Kg dry	5		SW-846 6020B	10/30/18	10/31/18 13:12	MJH
Lead	3.2	1.8	0.060	mg/Kg dry	5		SW-846 6020B	10/30/18	10/31/18 13:12	MJH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Parcel 11

Sample Description:

Work Order: 18J1181

Date Received: 10/23/2018

Field Sample #: Parcel 11 B-3 2-4'

Sampled: 10/22/2018 16:30

Sample ID: 18J1181-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.5		% Wt	1		SM 2540G	10/29/18	10/30/18 10:43	JFC

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Parcel 11

Sample Description:

Work Order: 18J1181

Date Received: 10/23/2018

Field Sample #: Parcel 11 B-2 0-2'

Sampled: 10/22/2018 17:00

Sample ID: 18J1181-02

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	0.95	0.21	0.035	mg/Kg dry	5		SW-846 6020B	10/30/18	10/31/18 13:16	MJH
Chromium	21	5.3	0.19	mg/Kg dry	5		SW-846 6020B	10/30/18	10/31/18 13:16	MJH
Lead	7.7	2.1	0.069	mg/Kg dry	5		SW-846 6020B	10/30/18	10/31/18 13:16	MJH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Parcel 11

Sample Description:

Work Order: 18J1181

Date Received: 10/23/2018

Field Sample #: Parcel 11 B-2 0-2'

Sampled: 10/22/2018 17:00

Sample ID: 18J1181-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	78.1		% Wt	1		SM 2540G	10/29/18	10/30/18 10:43	JFC

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Parcel 11

Sample Description:

Work Order: 18J1181

Date Received: 10/23/2018

Field Sample #: Parcel 11 B-1 8-10'

Sampled: 10/22/2018 18:45

Sample ID: 18J1181-03

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	0.19	0.19	0.032	mg/Kg dry	5	J	SW-846 6020B	10/30/18	10/31/18 13:26	MJH
Chromium	7.2	4.8	0.17	mg/Kg dry	5		SW-846 6020B	10/30/18	10/31/18 13:26	MJH
Lead	6.1	1.9	0.064	mg/Kg dry	5		SW-846 6020B	10/30/18	10/31/18 13:26	MJH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Parcel 11

Sample Description:

Work Order: 18J1181

Date Received: 10/23/2018

Field Sample #: Parcel 11 B-1 8-10'

Sampled: 10/22/2018 18:45

Sample ID: 18J1181-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.5		% Wt	1		SM 2540G	10/29/18	10/30/18 10:43	JFC

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
18J1181-01 [Parcel 11 B-3 2-4']	B215886	10/29/18
18J1181-02 [Parcel 11 B-2 0-2']	B215886	10/29/18
18J1181-03 [Parcel 11 B-1 8-10']	B215886	10/29/18

Prep Method: SW-846 3050B-SW-846 6020B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
18J1181-01 [Parcel 11 B-3 2-4']	B216002	1.54	50.0	10/30/18
18J1181-02 [Parcel 11 B-2 0-2']	B216002	1.52	50.0	10/30/18
18J1181-03 [Parcel 11 B-1 8-10']	B216002	1.54	50.0	10/30/18

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B216002 - SW-846 3050B

Blank (B216002-BLK1)

Prepared: 10/30/18 Analyzed: 10/31/18

Arsenic	ND	0.17	mg/Kg wet							
Chromium	ND	4.2	mg/Kg wet							
Lead	ND	1.7	mg/Kg wet							

LCS (B216002-BS1)

Prepared: 10/30/18 Analyzed: 10/31/18

Arsenic	166	2.0	mg/Kg wet	161	103	83.2-116.8				
Chromium	146	50	mg/Kg wet	136	107	82.4-117.6				
Lead	110	20	mg/Kg wet	111	99.1	83-117.1				

LCS Dup (B216002-BSD1)

Prepared: 10/30/18 Analyzed: 10/31/18

Arsenic	177	2.0	mg/Kg wet	161	110	83.2-116.8	6.55	30		
Chromium	152	49	mg/Kg wet	136	111	82.4-117.6	3.76	30		
Lead	119	20	mg/Kg wet	111	108	83-117.1	8.23	30		

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
No results have been blank subtracted unless specified in the case narrative section.
- J Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 6020B in Soil</i>	
Arsenic	NY,VA,NH,NC,ME
Chromium	NY,NC,ME
Lead	NY,NC,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2019
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2019
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2019
RI	Rhode Island Department of Health	LAO00112	12/30/2018
NC	North Carolina Div. of Water Quality	652	12/31/2018
NJ	New Jersey DEP	MA007 NELAP	06/30/2019
FL	Florida Department of Health	E871027 NELAP	06/30/2019
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2019
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2018
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2019
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2019
NC-DW	North Carolina Department of Health	25703	07/31/2019



Company Name: **SPAC**
 Address: **3201 Spring Forest Dr Raleigh NC**
 Phone: **919 871-2660**
 Project Name: **NC001**
 Project Location: **Rowland II**
 Project Number: **1305-18-175**
 Project Manager: **Mike Pfeifer**
 Con-Test Quote Name/Number:
 Invoice Recipient:
 Sampled By: **Jamie T Honeycutt**

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	Matrix Code	Conc Code
1	Parcel 11 B-3 2-4'	10-7-72	1630		/	S	U
2	Parcel 11 B-2 0-2'		1700		/	S	U
3	Parcel 11 B-1 8-10'		1845		/	S	U

ANALYSIS REQUESTED

<input type="checkbox"/>	Field Filtered
<input type="checkbox"/>	Lab to Filter
<input type="checkbox"/>	Field Filtered
<input type="checkbox"/>	Lab to Filter

1 Matrix Codes:
 GW = Ground Water
 WW = Waste Water
 DW = Drinking Water
 A = Air
 S = Soil
 SL = Sludge
 SOL = Solid
 O = Other (please define)

2 Preservation Codes:
 I = Iced
 H = HCL
 M = Methanol
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium Bisulfate
 X = Sodium Hydroxide
 T = Sodium Thiosulfate
 O = Other (please define)

3 Container Codes:
 A = Amber Glass
 G = Glass
 P = Plastic
 ST = Sterile
 V = Vial
 S = Summa Canister
 T = Tedlar Bag
 O = Other (please define)

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
 H - High; M - Medium; L - Low; C - Clean; U - Unknown

Program Information

DSCA UST/Trust Fund

SWS Landfill REC

IHSB Orphaned Landfill

State Lead

Other:

Project Entity

Government Municipality

Federal Brownfield


City School

Other Chromatogram AHA-LAP, LLC

Comments:

Relinquished by: (signature) <i>Jamie Honeycutt</i>	Date/Time: 10-22-18/1900
Received by: (signature) <i>Grant Beech</i>	Date/Time: 10/23/18 1336
Relinquished by: (signature) <i>Grant Beech</i>	Date/Time: 10/23/18 1630
Received by: (signature) <i>[Signature]</i>	Date/Time: 10/24/18 924
Relinquished by: (signature) <i>[Signature]</i>	Date/Time:
Received by: (signature) <i>[Signature]</i>	Date/Time:



773547745711 



Delivered
Wednesday 10/24/2018 at 9:24 am



DELIVERED

Signed for by: P.BLAKE

GET STATUS UPDATES

OBTAIN PROOF OF DELIVERY

FROM
Raleigh, NC US

TO
EAST LONGMEADOW, MA US

Shipment Facts

TRACKING NUMBER
773547745711

SERVICE
FedEx Priority Overnight

WEIGHT
45.3 lbs / 20.55 kgs

DIMENSIONS
24x14x13 in.

DELIVERED TO
Shipping/Receiving

TOTAL PIECES
1


TOTAL SHIPMENT WEIGHT
45.3 lbs / 20.55 kgs


TERMS
Third Party

SHIPPER REFERENCE
80

PACKAGING
Your Packaging

SPECIAL HANDLING SECTION
Deliver Weekday, Additional Handling
Surcharge

STANDARD TRANSIT

10/24/2018 by 10:30 am

SHIP DATE

Tue 10/23/2018

ACTUAL DELIVERY
Wed 10/24/2018 9:24 am

Travel History

Local Scan Time 

Wednesday, 10/24/2018

9:24 am	EAST LONGMEADOW, MA	Delivered
8:03 am	WINDSOR LOCKS, CT	On FedEx vehicle for delivery
7:52 am	WINDSOR LOCKS, CT	At local FedEx facility
6:58 am	EAST GRANBY, CT	At destination sort facility
5:13 am	INDIANAPOLIS, IN	Departed FedEx location
12:19 am	INDIANAPOLIS, IN	Arrived at FedEx location

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples _____



con-test
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client S+ME

Received By RAP Date 10/24/18 Time 924

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____
Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 557 Actual Temp - 2.2
By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? NA Were Samples Tampered with? NA

Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? f

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T
Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? f

Are there Rushes? f

Are there Short Holds? f

Is there enough Volume? T

Is there Headspace where applicable? f

Proper Media/Containers Used? T

Were trip blanks received? f

Do all samples have the proper pH? NA

Who was notified? _____
Who was notified? _____
Who was notified? _____

MS/MSD? f

Is splitting samples required? f

On COC? f

Acid _____ Base _____

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Unused Media

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Comments: