



April 29, 2019

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 148-PJ's Truck Bodies
1560 George Perry Lee Road
Dunn, Harnett County, North Carolina
S&ME Project 4305-18-175A

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. 4305-18-175 CO-01 REV-01 dated January 2, 2019, and Contract Number 7000018853 dated April 12, 2018 between NCDOT and S&ME, Inc., authorized by NCDOT in its January 8, 2019 Notice to Proceed Letter.

◆ Background/Project Information

Based on NCDOT's November 2, 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
148	JFP Properties, LLC	(PJ's Truck Bodies) 1560 George Perry Lee Road, Dunn, NC

The property is developed with a truck body manufacturing facility identified as PJ's Truck Bodies. The property is not listed with registered petroleum underground storage tanks (USTs) (active or closed). The property is also not listed with North Carolina Department of Environmental Quality (NCDEQ) Incidents associated with petroleum releases from USTs or aboveground storage tanks.

The PSA included a geophysical survey, subsequent limited soil sampling (three soil borings up to 10 feet below ground surface (ft.-bgs.) and limited 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 and groundwater 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 (Troxler Geologic, Inc.) was also used to locate and mark underground utilities.

◆ Geophysical Survey

On February 6, 2019, S&ME personnel performed a geophysical survey within accessible areas of the proposed ROW/easement at Parcel 148. 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 these 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, thick vegetation 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 seven GPR profiles (Lines 1 through 7) 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 anomaly was identified by the GPR survey (Anomaly I; **Figure 7**). Anomaly I is characterized by high amplitude GPR responses within the upper one ft.-bgs and likely related to an isolated buried target/debris. Anomaly A was also marked in the field using white spray paint. Example GPR profiles are presented in **Figure 8**.

◆ Soil Sampling

On February 25, 2019, Troxler Geologic, Inc. (Troxler'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 148. The approximate location of the soil borings are shown in **Figure 2**. A photographic log is included in **Appendix I**. Troxler's drill crew advanced the Geoprobe[®] borings up to a depth of approximately 10 ft.-bgs. During the advancement of the soil borings, groundwater was encountered at depths ranging from approximately 2.5 to four ft.-bgs. 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, one soil sample was selected from each boring. The soil sample from the two to four foot depth interval was selected from boring B-1 and the soil sample from the zero to two foot depth interval was selected from borings B-2 and B-3. The soil samples were provided to RED Lab, LLC (Red Lab) for on-site analysis. A total of three soil samples (one per boring) 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.

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-1, B-2 and B-3 at concentrations ranging from 0.05 milligrams per kilograms



(mg/kg) to 9.2 mg/kg, which are below its North Carolina TPH Action Level of 100 mg/kg. TPH-GRO was not reported at concentrations exceeding the laboratory method reporting limits. 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 within approximately 10 ft.-bgs. Therefore, the Geoprobe® was used to advance one of the soil borings into the groundwater table for the collection of a groundwater sample. Based on analytical results of soil samples and apparent downgradient location from the PJ's Truck Bodies facility, soil boring B-3 was selected for the collection of a groundwater sample. A temporary monitor well (TW-1) was installed at soil boring B-3 to a depth of approximately five ft.-bgs using a five foot section of one-inch diameter, Schedule 40 PVC 0.01-inch slotted screen that intersected the groundwater table. Groundwater within the temporary monitor well at soil boring B-3 was measured at 2.5 ft.-bgs. Groundwater from the temporary well was purged until relatively clear using disposable tubing attached to a peristaltic pump. The flow rate was reduced and laboratory supplied containers were filled directly from the tubing, labeled as B-3/TW-1 and placed in an insulated cooler with ice for transport to Con-Test Laboratories for analysis of VOCs by EPA Method 8260 and polycyclic aromatic compounds (PAHs) by EPA Method 8270.

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

Groundwater Analytical Results

Based upon analytical results of groundwater samples analyzed by Con-Test Laboratories, no target constituents were reported at concentrations exceeding the laboratory method reporting limits. A summary of the groundwater analytical results is presented in **Table 2** and shown on **Figure 3**. A copy of the laboratory analytical report provided by Con-Test Laboratories is presented in **Appendix III**.

◆ Conclusion and Recommendations

The geophysical survey identified one anomaly (Anomaly I) which is likely related to an isolated buried target/debris. 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 up to approximately 10 ft.-bgs at the site. 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. TPH-DRO were reported in the zero to two foot depth interval at two soil borings and the two to four foot depth interval at one soil boring at concentrations slightly above the laboratory method reporting limits, but well below the North Carolina TPH Action Level. During the soil boring advancement, groundwater was encountered at depths ranging from 2.5 ft.-bgs to four ft.-bgs. One temporary well (TW-1) was installed at soil



boring B-3. Groundwater at TW-1 was measured at 2.5 ft.-bgs and analyzed by Con-Test Laboratories for VOCs by EPA Method 8260 and PAHs by EPA Method 8270. No target constituents were reported in the groundwater sample at concentrations exceeding the laboratory method reporting limits.

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 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 ft.-bgs.

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.



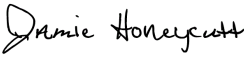
◆ Closing

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.

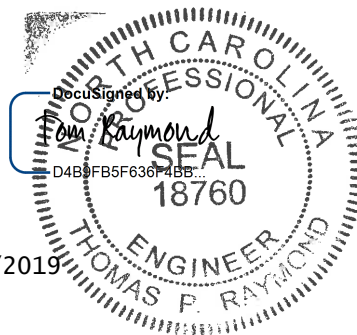
Jamie T Honeycutt
Environmental Professional
jhoneycutt@smeinc.com

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4C890EAEC25F488...

Michael W. Pfeifer
Senior Project Manager
mpfeifer@smeinc.com

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Thomas P. Raymond, P.E., P.M.P.
Senior Consultant
traymond@smeinc.com



5/6/2019

Attachments:

Table 1: Summary of Soil Sampling Results

Table 2: Summary of Groundwater Sampling Results

Figure 1: Vicinity Map

Figure 2: Site Map

Figure 3: Soil and Groundwater Constituent Map

Figure 4: TDEM Path Location Plan

Figure 5: TDEM Data Plot A

Figure 6: TDEM Data Plot B

Figure 7: Geophysical Anomaly Location Plan

Figure 8: Example GPR Data – Lines 1 and 2

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 148 - (PJ's Truck Bodies)
1560 George Perry Lee Road
Dunn, Harnett County, North Carolina
S&ME Project No. 4305-18-175A

Analytical Method→			Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) by Ultraviolet Fluorescence (UVF) Spectrometry	
Sample ID	Date	Contaminant of Concern→	TPH-GRO	TPH-DRO
		Sample Depth (ft.-bgs)		
B-1	2/25/2019	2 to 4	<0.44	0.05
B-2	2/25/2019	0 to 2	<0.28	0.38
B-3	2/25/2019	0 to 2	<0.47	9.2
North Carolina TPH Action Levels			50	100

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. Concentrations exceeding the North Carolina TPH Action Levels are shown in Shaded and **BOLD** fields.



TABLE 2
SUMMARY OF GROUNDWATER SAMPLING RESULTS
NCDOT Project I-5986B
Parcel 148 - (PJ's Truck Bodies)
1560 George Perry Lee Road
Dunn, Harnett County, North Carolina
S&ME Project No. 4305-18-175A

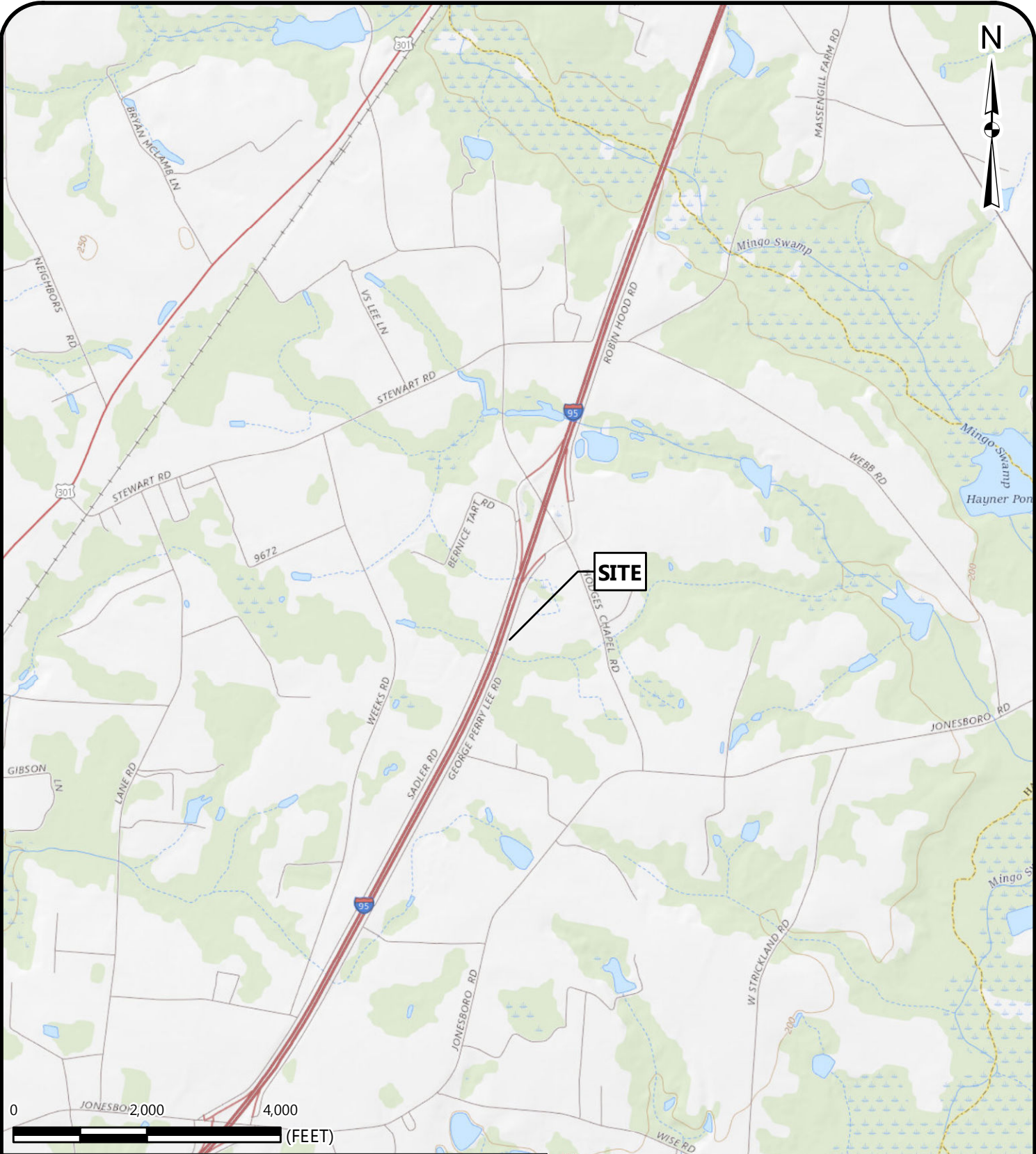
Analytical Method→		Volatile Organic Compounds by EPA Method 8260	Polycyclic Aromatic Compounds (PAHs) by EPA Method 8270
Sample ID	Contaminant of Concern→	Constituent Specific	Constituent Specific
	Date		
B-3/TW-1	2/25/2019	Below laboratory method reporting limits	Below laboratory method reporting limits
2L Standard (µg/L)		Not Applicable	Not Applicable

Notes:

1. Analytes that are not shown for the method were not detected.
2. Concentrations are reported in micrograms per liter (µg/L).
3. 2L Standard: North Carolina Groundwater Quality Standards: 15A NCAC 2L.0202
4. Concentrations exceeding the laboratory's reporting limits are shown in **BOLD** fields.
5. Concentrations exceeding the 2L Standards are shown in Shaded and **BOLD** fields.

Figures

Drawing Path: T:\Projects\2018\ENVV\4305-18-175A_NCDOT\GIS\Parcel 148\VICINITY 148.mxd plotted by aberntz 03-21-2019



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 I-5986B
 PARCEL NO. 148 (PJ'S TRUCK BODIES)
 1560 GEORGE PERRY LEE RD, DUNN, HARNETT CO., NORTH CAROLINA

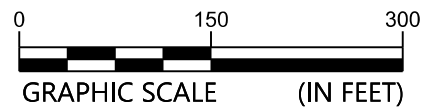
SCALE:
 1" = 2,000'
 DATE:
 3-21-19
 PROJECT NUMBER
 4305-18-175A

FIGURE NO.
1



LEGEND

- Geoenvironmental Boring:
- Underground Storage Tank (UST):
- Map Source: NCDOT Project I-5986B
- Image Source: NC ONEMAP, Dated 2016
- Known Soil Contamination:
- Possible Soil Contamination: - s -
- Existing Contamination Known - Water: - w -



SITE MAP

NCDOT Project: I-5986B
 PARCEL 148 - (PJ'S TRUCK BODIES)
 1560 George Perry Lee Road, Dunn, Harnett County, North Carolina

SCALE:	FIGURE NO.
1" = 150'	2
DATE:	
MARCH 2019	
PROJECT NUMBER	
4305-18-175A	



SOIL AND GROUNDWATER CONSTITUENT MAP

NC DOT I-5986B
PARCEL NO. 148 (PJ'S TRUCK BODIES)
1560 GEORGE PERRY LEE RD, DUNN, HARNETT COUNTY, NORTH CAROLINA

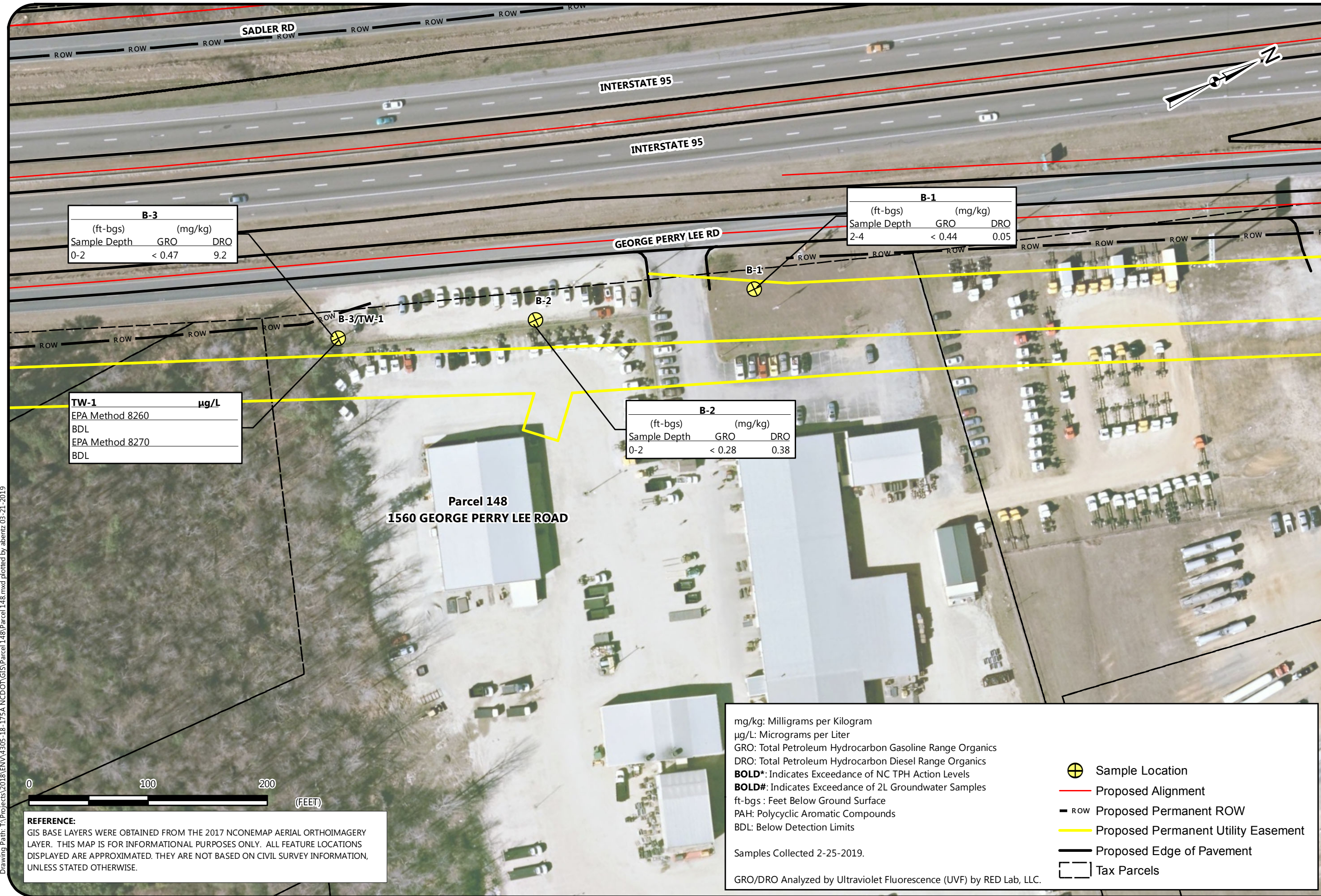
SCALE:
1" = 75'

DATE:
3-21-19

PROJECT NUMBER
4305-18-175

FIGURE NO.

3



B-3		
(ft-bgs)	(mg/kg)	
Sample Depth	GRO	DRO
0-2	< 0.47	9.2

B-1		
(ft-bgs)	(mg/kg)	
Sample Depth	GRO	DRO
2-4	< 0.44	0.05

TW-1	µg/L
EPA Method 8260	BDL
EPA Method 8270	BDL

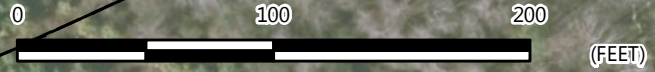
B-2		
(ft-bgs)	(mg/kg)	
Sample Depth	GRO	DRO
0-2	< 0.28	0.38

Parcel 148
1560 GEORGE PERRY LEE ROAD

mg/kg: Milligrams per Kilogram
 µg/L: Micrograms per Liter
 GRO: Total Petroleum Hydrocarbon Gasoline Range Organics
 DRO: Total Petroleum Hydrocarbon Diesel Range Organics
BOLD*: Indicates Exceedance of NC TPH Action Levels
BOLD#: Indicates Exceedance of 2L Groundwater Samples
 ft-bgs : Feet Below Ground Surface
 PAH: Polycyclic Aromatic Compounds
 BDL: Below Detection Limits

Samples Collected 2-25-2019.
 GRO/DRO Analyzed by Ultraviolet Fluorescence (UVF) by RED Lab, LLC.

- Sample Location
- Proposed Alignment
- Proposed Permanent ROW
- Proposed Permanent Utility Easement
- Proposed Edge of Pavement
- Tax Parcels



REFERENCE:
 GIS BASE LAYERS WERE OBTAINED FROM THE 2017 NCONEMAP AERIAL ORTHOIMAGERY LAYER. 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\ENVV4305-18-175A\NCDOT\GIS\Parcel 148.mxd plotted by abentz:03-21-2019



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



Google Earth

100 ft

LEGEND

..... Approximate TDEM Path



Approximate Requested Survey Area

TDEM PATH LOCATION PLAN

NC DOT PROJECT: I-5986B
 PARCEL 148 - (PJ'S TRUCK BODIES)
 1560 GEORGE PERRY LEE ROAD, DUNN, HARNETT COUNTY, NORTH CAROLINA

SCALE:
 AS SHOWN

DATE:
 3/22/2019

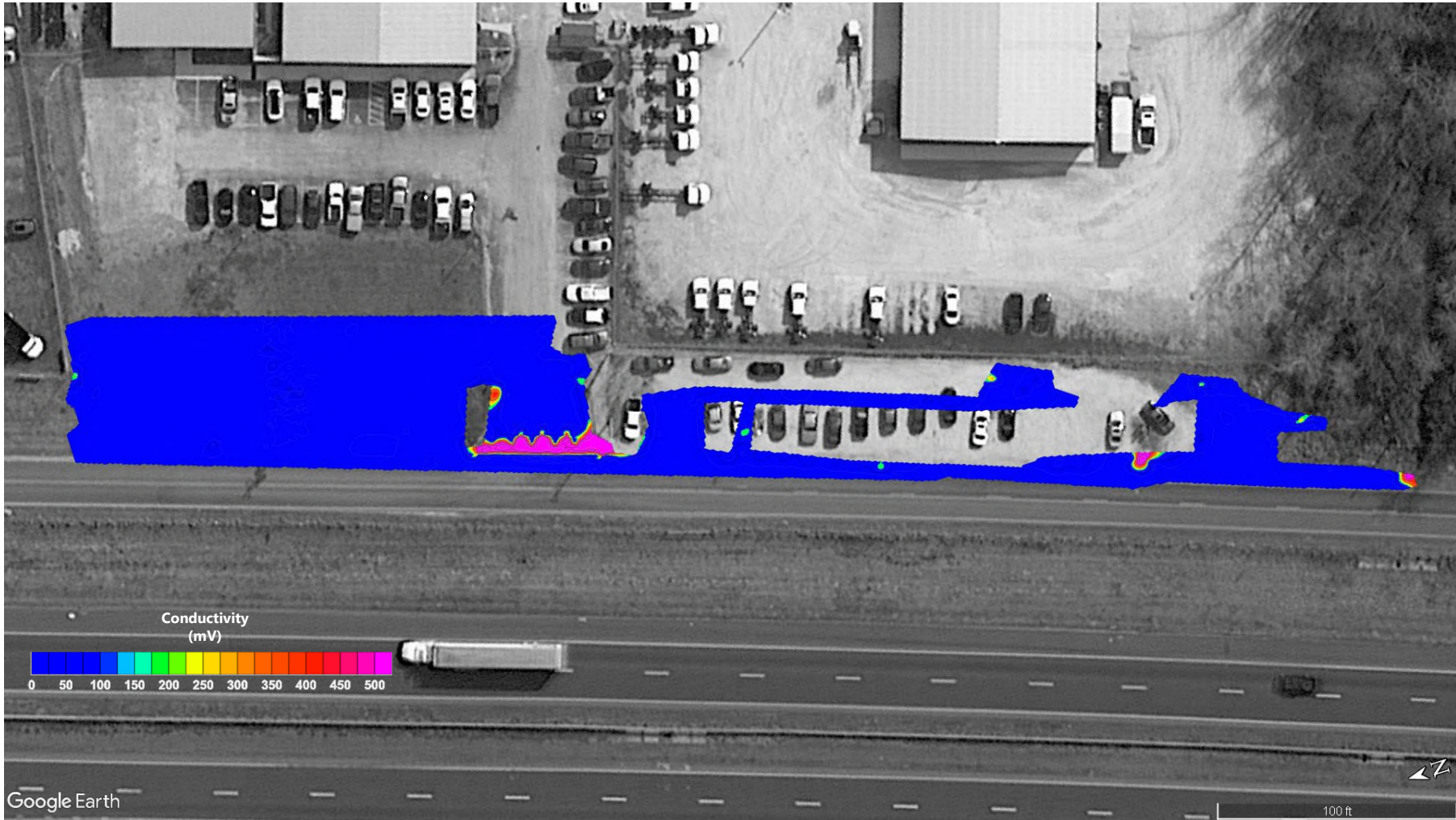
PROJECT NUMBER
 4305-18-175A

FIGURE NO.

4



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



TDEM DATA PLOT A

NC DOT PROJECT: I-5986B
PARCEL 148 - (PJ'S TRUCK BODIES)
1560 GEORGE PERRY LEE ROAD, DUNN, HARNETT COUNTY, NORTH CAROLINA

SCALE:
AS SHOWN

DATE:
3/22/2019

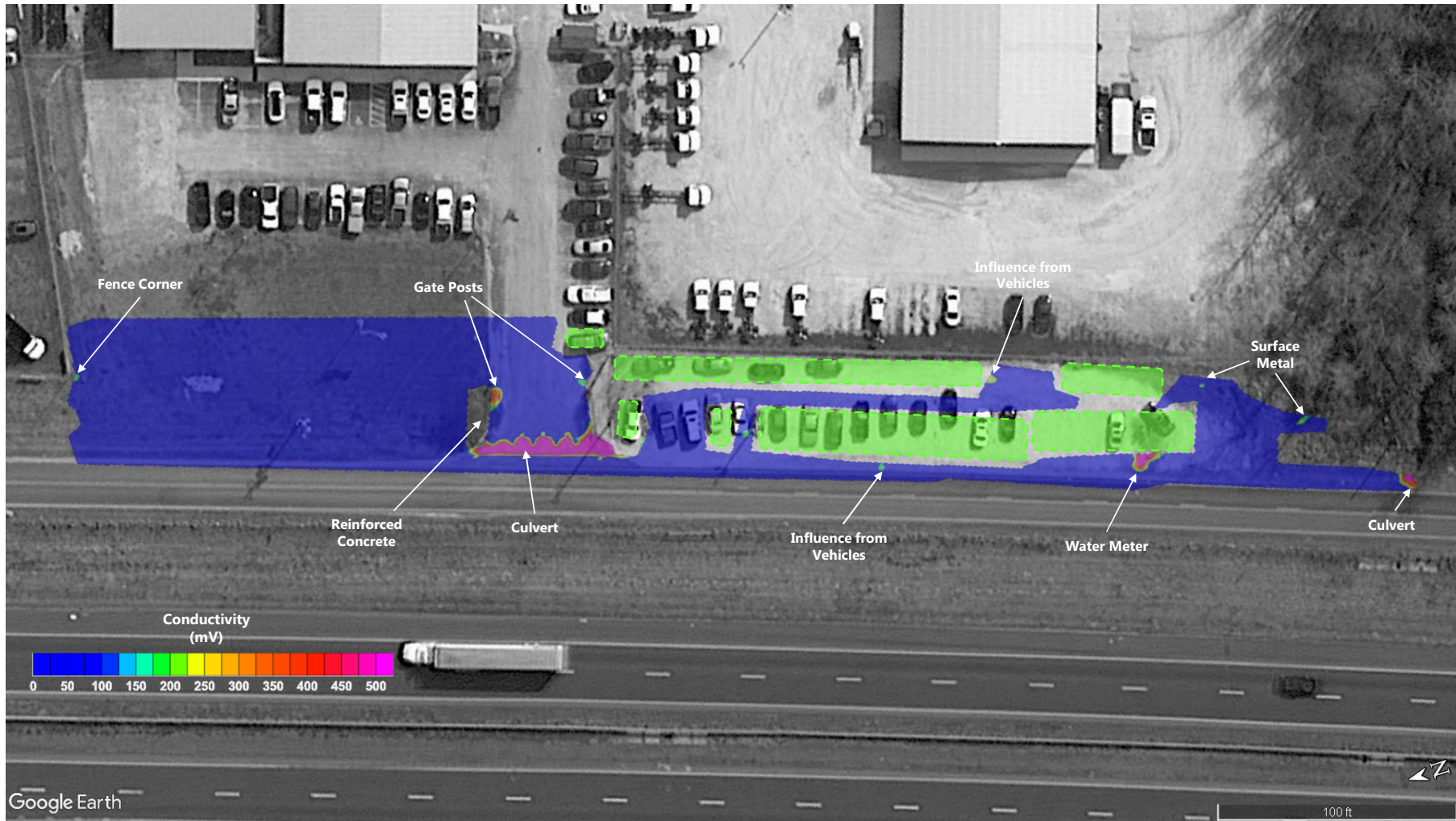
PROJECT NUMBER
4305-18-175A

FIGURE NO.


5



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



LEGEND

 Approximate Location of Vehicles

TDEM DATA PLOT B

NC DOT PROJECT: I-5986B
 PARCEL 148 - (PJ'S TRUCK BODIES)
 1560 GEORGE PERRY LEE ROAD, DUNN, HARNETT COUNTY, NORTH CAROLINA

SCALE:
 AS SHOWN

DATE:
 3/22/2019

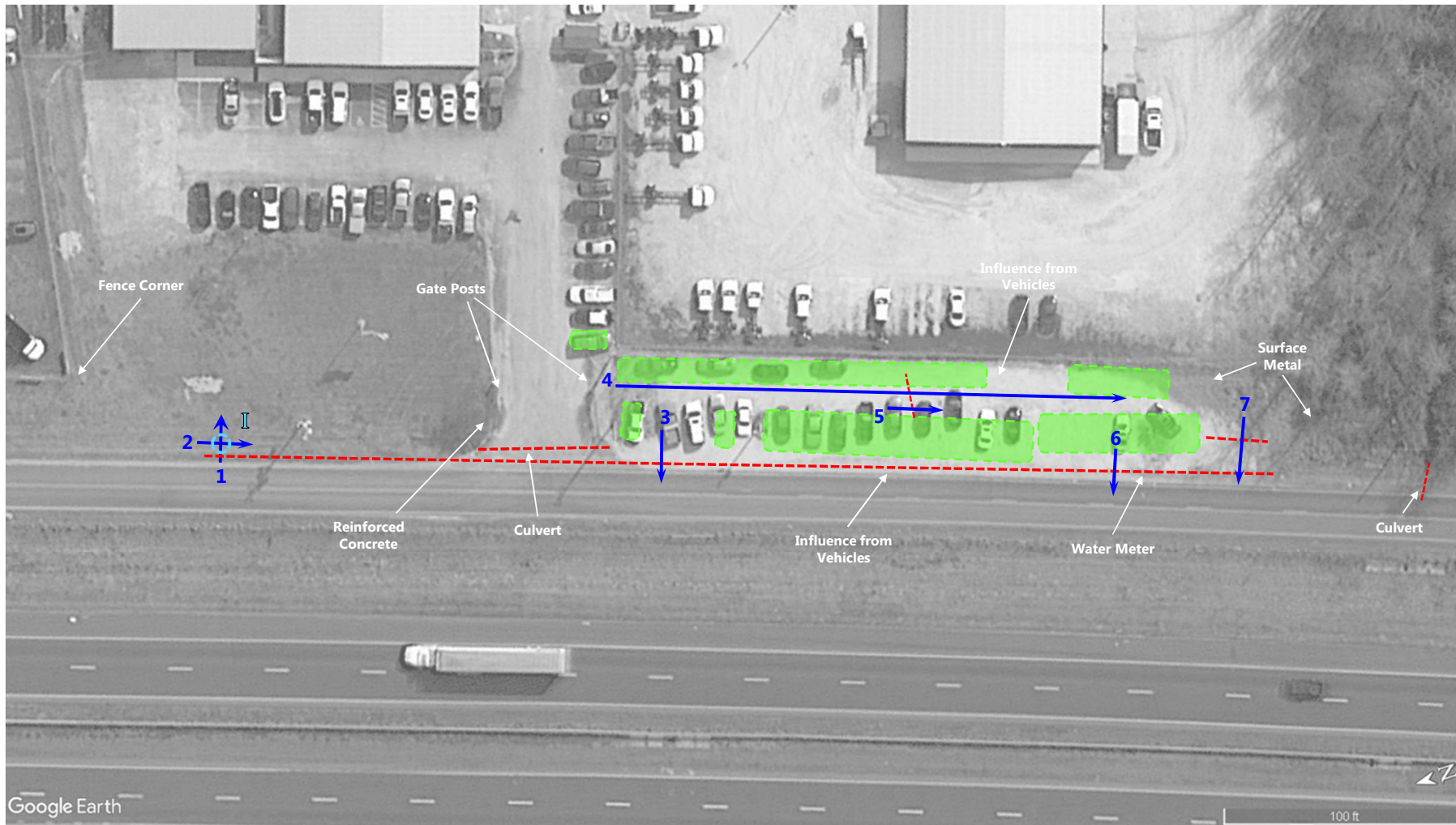
PROJECT NUMBER
 4305-18-175A

FIGURE NO.

6



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



LEGEND

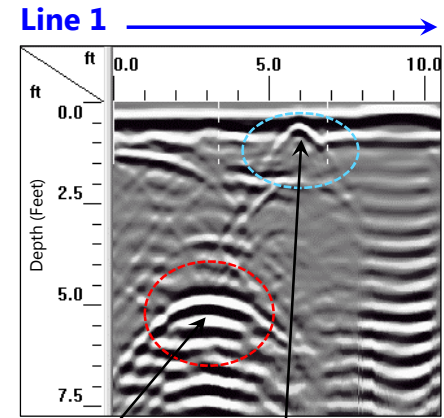
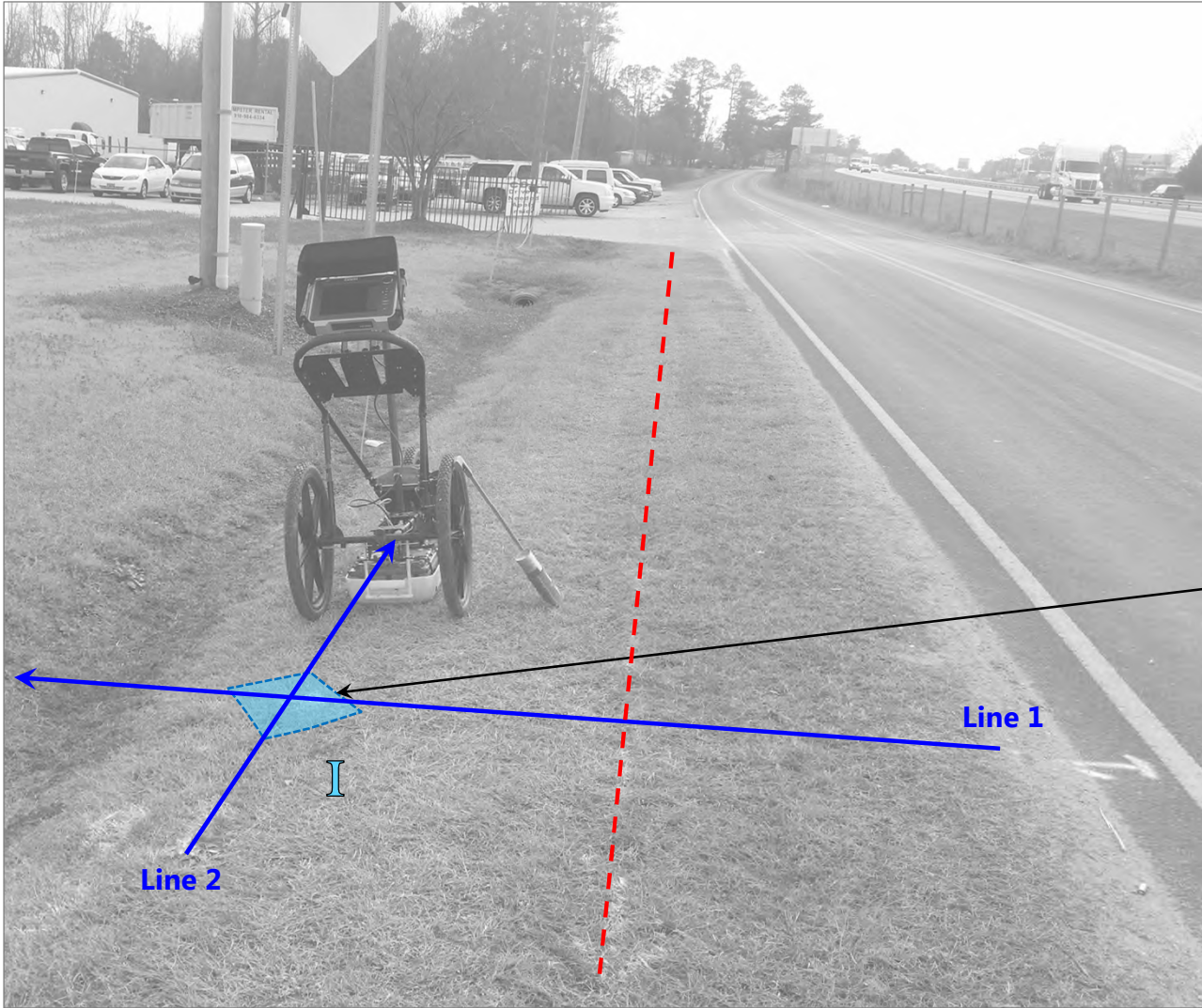
- Approximate Location of GPR Anomaly
- Approximate Location of Vehicles
- Approximate Location of Possible Utility
- Approximate Location of GPR Profile

GEOPHYSICAL ANOMALY LOCATION PLAN

NC DOT PROJECT: I-5986B
 PARCEL 148 - (PJ'S TRUCK BODIES)
 1560 GEORGE PERRY LEE ROAD, DUNN, HARNETT COUNTY, NORTH CAROLINA

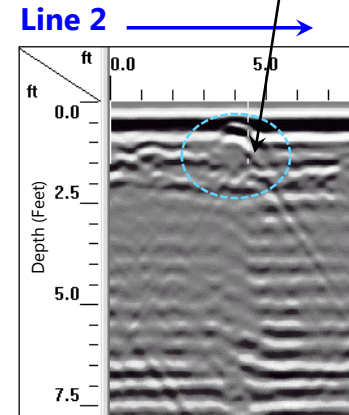
SCALE:
 AS SHOWN
 DATE:
 3/22/2019
 PROJECT NUMBER
 4305-18-175A
 FIGURE NO.

7



Possible Utility

GPR Anomaly I



EXAMPLE GPR DATA – LINES 1 AND 2

NCDOT PROJECT: I-5986B
 PARCEL 148 – (P)'S TRUCK BODIES
 1560 GEORGE PERRY LEE ROAD, DUNN, HARNETT COUNTY, NORTH CAROLINA

SCALE:
 AS SHOWN

DATE:
 3/22/2019

PROJECT NUMBER
 4305-18-175A

FIGURE NO.

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

Appendix I – Photographs



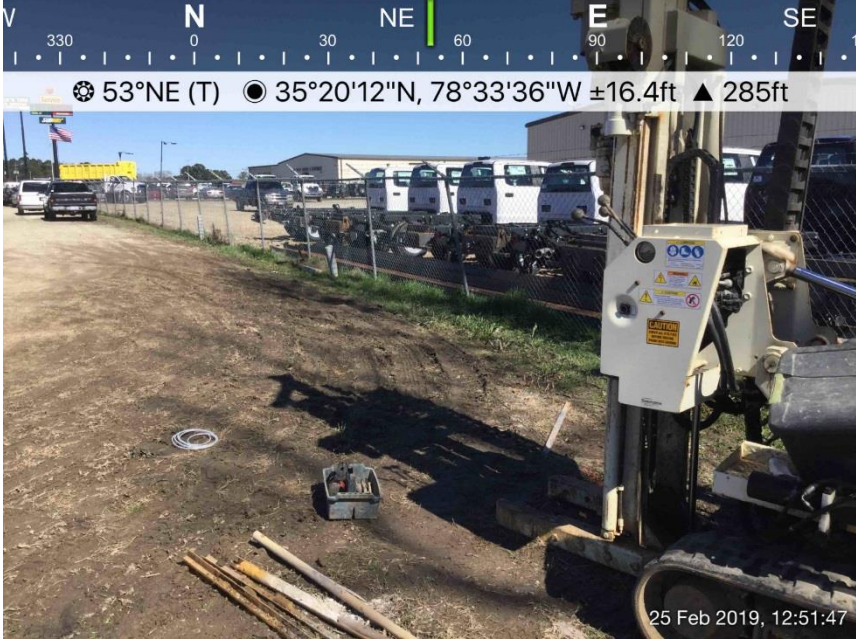
Preliminary Site Assessment Report
NCDOT Project I-5986B, WBS Element 47532.1.3
Parcel 148-PJ's Truck Bodies
Dunn, Harnett County, North Carolina
S&ME Project No. 4305-18-175A

		Date: 2/25/2019 Photographer: JTH				
1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Location / Orientation</td> <td>Front view of northern portion of site looking NE.</td> </tr> <tr> <td>Remarks</td> <td>Note soil boring B-1.</td> </tr> </table>	Location / Orientation	Front view of northern portion of site looking NE.	Remarks	Note soil boring B-1.	
Location / Orientation	Front view of northern portion of site looking NE.					
Remarks	Note soil boring B-1.					

		Date: 2/25/2019 Photographer: JTH				
2	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Location / Orientation</td> <td>Front view of southern portion of site looking NE.</td> </tr> <tr> <td>Remarks</td> <td>None</td> </tr> </table>	Location / Orientation	Front view of southern portion of site looking NE.	Remarks	None	
Location / Orientation	Front view of southern portion of site looking NE.					
Remarks	None					



Preliminary Site Assessment Report
NCDOT Project I-5986B, WBS Element 47532.1.3
Parcel 148-PJ's Truck Bodies
Dunn, Harnett County, North Carolina
S&ME Project No. 4305-18-175A

		Date: 2/25/2019 Photographer: JTH			
3	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Location / Orientation</td> <td>View of B-3/TW-1 located on southern portion of site.</td> </tr> <tr> <td>Remarks</td> <td>None</td> </tr> </table>	Location / Orientation	View of B-3/TW-1 located on southern portion of site.	Remarks	None
Location / Orientation	View of B-3/TW-1 located on southern portion of site.				
Remarks	None				

Appendix II – Boring Logs

Appendix III – Laboratory Analytical Reports and Chain of Custody



Hydrocarbon Analysis Results

Client: S&ME
 Address:
 Samples taken: Monday, February 25, 2019
 Samples extracted: Monday, February 25, 2019
 Samples analysed: Monday, February 25, 2019

Contact: JAMIE HONEYCUTT
 Operator: JENN RYAN

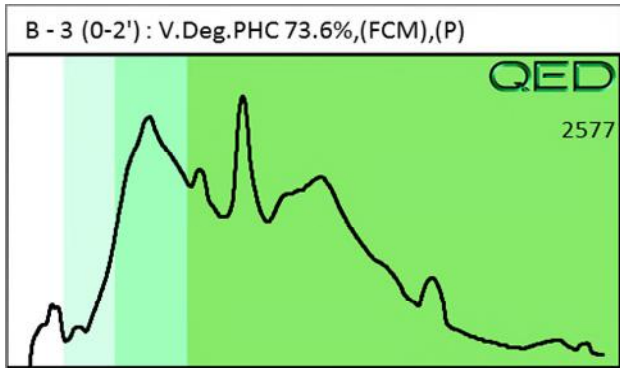
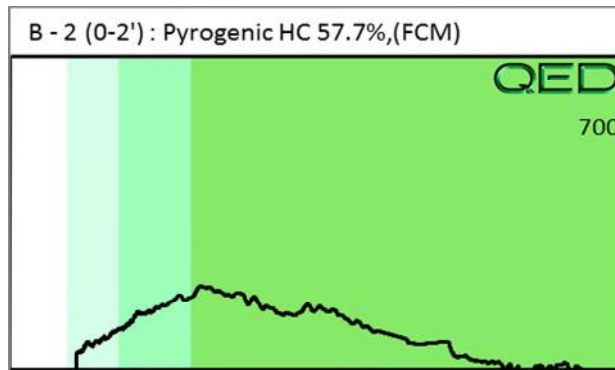
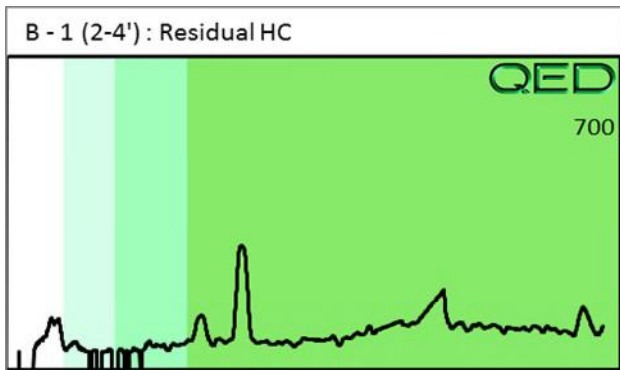
Project: 4305-18-175A; PARCEL 148

H09382

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	% Ratios			HC Fingerprint Match
										C5 - C10	C10 - C18	C18	
Soil	B - 1 (2-4')	17.7	<0.44	<0.44	0.05	0.05	0.05	0.004	<0.005	0	44.8	55.2	Residual HC
Soil	B - 2 (0-2')	11.4	<0.28	<0.28	0.38	0.38	0.16	0.008	<0.003	0	88.4	11.6	Pyrogenic HC 57.7%,(FCM)
Soil	B - 3 (0-2')	19.0	<0.47	<0.47	9.2	9.2	4.2	0.23	0.002	0	93.8	6.2	V.Deg.PHC 73.6%,(FCM),(P)

Initial Calibrator QC check: OK Final FCM QC Check: OK 95.4%

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



March 7, 2019

Jamie Honeycutt
S&ME, Inc - Raleigh, NC
3201 Spring Forest Rd.
Raleigh, NC 27616

Project Location: 1560 George Perry Lee Road
Client Job Number:
Project Number: 4305-18-175A
Laboratory Work Order Number: 19B1125

Enclosed are results of analyses for samples received by the laboratory on February 26, 2019. 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, flowing style.

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: Jamie Honeycutt

REPORT DATE: 3/7/2019

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 4305-18-175A

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 19B1125

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

PROJECT LOCATION: 1560 George Perry Lee Road

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-3/ TW-1	19B1125-01	Ground Water		SW-846 8260D SW-846 8270D	

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

EXECUTIVE SUMMARY

Client ID: **B-3/TW-1**

Lab ID: **19B1125-01**

No Results Detected

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 8260D, elevated reporting limits for sample(s) 19B1125-01 due to a foaming sample matrix.

For method 8270, only PAHs were requested and reported.

SW-846 8260D**Qualifications:****DL-01**

Elevated reporting limits for all volatile compounds due to foaming sample matrix.

Analyte & Samples(s) Qualified:

19B1125-01[B-3/ TW-1]

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:**2-Butanone (MEK)**

19B1125-01[B-3/ TW-1], B224607-BLK1, B224607-BS1, B224607-BSD1, S033110-CCV1

Acetone

19B1125-01[B-3/ TW-1], B224607-BLK1, B224607-BS1, B224607-BSD1, S033110-CCV1

Acrylonitrile

19B1125-01[B-3/ TW-1], B224607-BLK1, B224607-BS1, B224607-BSD1, S033110-CCV1

Chloromethane

19B1125-01[B-3/ TW-1], B224607-BLK1, B224607-BS1, B224607-BSD1, S033110-CCV1

Methylene Chloride

19B1125-01[B-3/ TW-1], B224607-BLK1, B224607-BS1, B224607-BSD1, S033110-CCV1

tert-Butyl Alcohol (TBA)

19B1125-01[B-3/ TW-1], B224607-BLK1, B224607-BS1, B224607-BSD1, S033110-CCV1

Tetrahydrofuran

19B1125-01[B-3/ TW-1], B224607-BLK1, B224607-BS1, B224607-BSD1, S033110-CCV1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:**1,4-Dioxane**

19B1125-01[B-3/ TW-1]

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.



Lisa A. Worthington
Project Manager

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

Project Location: 1560 George Perry Lee Road

Sample Description:

Work Order: 19B1125

Date Received: 2/26/2019

Field Sample #: B-3/ TW-1

Sampled: 2/25/2019 12:45

Sample ID: 19B1125-01

Sample Matrix: Ground Water

Sample Flags: DL-01

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	500	97	µg/L	10	V-05	SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Acrylonitrile	ND	50	5.8	µg/L	10	V-05	SW-846 8260D	2/28/19	3/1/19 18:04	LBD
tert-Amyl Methyl Ether (TAME)	ND	5.0	1.1	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Benzene	ND	10	1.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Bromobenzene	ND	10	1.5	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Bromochloromethane	ND	10	2.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Bromodichloromethane	ND	5.0	3.0	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Bromoform	ND	10	2.1	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Bromomethane	ND	20	9.4	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
2-Butanone (MEK)	ND	200	24	µg/L	10	V-05	SW-846 8260D	2/28/19	3/1/19 18:04	LBD
tert-Butyl Alcohol (TBA)	ND	200	22	µg/L	10	V-05	SW-846 8260D	2/28/19	3/1/19 18:04	LBD
n-Butylbenzene	ND	10	1.5	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
sec-Butylbenzene	ND	10	1.3	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
tert-Butylbenzene	ND	10	1.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	5.0	0.95	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Carbon Disulfide	ND	40	10	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Carbon Tetrachloride	ND	50	2.5	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Chlorobenzene	ND	10	1.6	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Chlorodibromomethane	ND	5.0	1.0	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Chloroethane	ND	20	2.8	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Chloroform	ND	20	2.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Chloromethane	ND	20	5.5	µg/L	10	V-05	SW-846 8260D	2/28/19	3/1/19 18:04	LBD
2-Chlorotoluene	ND	10	1.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
4-Chlorotoluene	ND	10	1.4	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	3.7	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,2-Dibromoethane (EDB)	ND	5.0	1.5	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Dibromomethane	ND	10	1.6	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,2-Dichlorobenzene	ND	10	1.7	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,3-Dichlorobenzene	ND	10	1.7	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,4-Dichlorobenzene	ND	10	1.5	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
trans-1,4-Dichloro-2-butene	ND	20	3.1	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Dichlorodifluoromethane (Freon 12)	ND	20	2.8	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,1-Dichloroethane	ND	10	1.6	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,2-Dichloroethane	ND	10	1.9	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,1-Dichloroethylene	ND	10	2.1	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
cis-1,2-Dichloroethylene	ND	10	1.5	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
trans-1,2-Dichloroethylene	ND	10	1.5	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,2-Dichloropropane	ND	10	1.3	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,3-Dichloropropane	ND	5.0	1.3	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
2,2-Dichloropropane	ND	10	2.1	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,1-Dichloropropene	ND	20	1.3	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
cis-1,3-Dichloropropene	ND	5.0	1.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
trans-1,3-Dichloropropene	ND	5.0	1.1	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Diethyl Ether	ND	20	2.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD

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

Project Location: 1560 George Perry Lee Road

Sample Description:

Work Order: 19B1125

Date Received: 2/26/2019

Field Sample #: B-3/ TW-1

Sampled: 2/25/2019 12:45

Sample ID: 19B1125-01

Sample Matrix: Ground Water

Sample Flags: DL-01

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	5.0	1.8	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,4-Dioxane	ND	500	260	µg/L	10	V-16	SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Ethylbenzene	ND	10	1.3	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Hexachlorobutadiene	ND	10	5.9	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
2-Hexanone (MBK)	ND	100	15	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Isopropylbenzene (Cumene)	ND	10	1.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
p-Isopropyltoluene (p-Cymene)	ND	10	1.5	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Methyl tert-Butyl Ether (MTBE)	ND	10	0.90	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Methylene Chloride	ND	50	32	µg/L	10	V-05	SW-846 8260D	2/28/19	3/1/19 18:04	LBD
4-Methyl-2-pentanone (MIBK)	ND	100	15	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Naphthalene	ND	50	1.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
n-Propylbenzene	ND	10	1.3	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Styrene	ND	10	1.5	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,1,1,2-Tetrachloroethane	ND	10	1.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,1,2,2-Tetrachloroethane	ND	5.0	1.6	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Tetrachloroethylene	ND	10	2.7	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Tetrahydrofuran	ND	100	11	µg/L	10	V-05	SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Toluene	ND	10	1.7	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,2,3-Trichlorobenzene	ND	50	1.4	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,2,4-Trichlorobenzene	ND	10	1.9	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,3,5-Trichlorobenzene	ND	10	1.7	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,1,1-Trichloroethane	ND	10	1.3	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,1,2-Trichloroethane	ND	10	2.4	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Trichloroethylene	ND	10	2.0	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Trichlorofluoromethane (Freon 11)	ND	20	1.5	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,2,3-Trichloropropane	ND	20	2.2	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	10	2.0	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,2,4-Trimethylbenzene	ND	10	1.8	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
1,3,5-Trimethylbenzene	ND	10	1.3	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
Vinyl Chloride	ND	20	1.3	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
m+p Xylene	ND	20	2.6	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD
o-Xylene	ND	10	1.3	µg/L	10		SW-846 8260D	2/28/19	3/1/19 18:04	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	91.0	70-130	3/1/19 18:04
Toluene-d8	97.0	70-130	3/1/19 18:04
4-Bromofluorobenzene	99.6	70-130	3/1/19 18:04

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

Project Location: 1560 George Perry Lee Road

Sample Description:

Work Order: 19B1125

Date Received: 2/26/2019

Field Sample #: B-3/ TW-1

Sampled: 2/25/2019 12:45

Sample ID: 19B1125-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene (SIM)	ND	0.30	0.033	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Acenaphthylene (SIM)	ND	0.20	0.035	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Anthracene (SIM)	ND	0.20	0.032	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Benzo(a)anthracene (SIM)	ND	0.050	0.016	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Benzo(a)pyrene (SIM)	ND	0.10	0.012	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Benzo(b)fluoranthene (SIM)	ND	0.050	0.015	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Benzo(g,h,i)perylene (SIM)	ND	0.50	0.018	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Benzo(k)fluoranthene (SIM)	ND	0.20	0.012	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Chrysene (SIM)	ND	0.20	0.015	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Dibenz(a,h)anthracene (SIM)	ND	0.10	0.017	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Fluoranthene (SIM)	ND	0.50	0.025	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Fluorene (SIM)	ND	1.0	0.034	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.10	0.018	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
2-Methylnaphthalene (SIM)	ND	1.0	0.062	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Naphthalene (SIM)	ND	1.0	0.26	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Phenanthrene (SIM)	ND	0.050	0.030	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Pyrene (SIM)	ND	1.0	0.023	µg/L	1		SW-846 8270D	3/4/19	3/6/19 16:45	CLA
Surrogates		% Recovery	Recovery Limits			Flag/Qual				
Nitrobenzene-d5 (SIM)		72.4	30-130						3/6/19 16:45	
2-Fluorobiphenyl		51.4	30-130						3/6/19 16:45	
p-Terphenyl-d14		62.0	30-130						3/6/19 16:45	

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Sample Extraction Data

Prep Method: SW-846 5030B-SW-846 8260D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19B1125-01 [B-3/ TW-1]	B224607	0.5	5.00	02/28/19

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19B1125-01 [B-3/ TW-1]	B224945	1000	1.00	03/04/19

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

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B224607 - SW-846 5030B

Blank (B224607-BLK1)

Prepared: 02/28/19 Analyzed: 03/01/19

Acetone	ND	50	µg/L							V-05
Acrylonitrile	ND	5.0	µg/L							V-05
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	20	µg/L							V-05
tert-Butyl Alcohol (TBA)	ND	20	µg/L							V-05
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	4.0	µg/L							
Carbon Tetrachloride	ND	5.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							V-05
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.60	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B224607 - SW-846 5030B

Blank (B224607-BLK1)

Prepared: 02/28/19 Analyzed: 03/01/19

Methylene Chloride	ND	5.0	µg/L							V-05
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	10	µg/L							V-05
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,3,5-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,2,3-Trichloropropane	ND	2.0	µg/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
1,3,5-Trimethylbenzene	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	22.7		µg/L	25.0		90.7	70-130			
Surrogate: Toluene-d8	24.2		µg/L	25.0		97.0	70-130			
Surrogate: 4-Bromofluorobenzene	25.0		µg/L	25.0		99.9	70-130			

LCS (B224607-BS1)

Prepared: 02/28/19 Analyzed: 03/01/19

Acetone	80.7	50	µg/L	100		80.7	70-160			V-05 †
Acrylonitrile	8.08	5.0	µg/L	10.0		80.8	70-130			V-05
tert-Amyl Methyl Ether (TAME)	9.02	0.50	µg/L	10.0		90.2	70-130			
Benzene	8.84	1.0	µg/L	10.0		88.4	70-130			
Bromobenzene	10.2	1.0	µg/L	10.0		102	70-130			
Bromochloromethane	10.0	1.0	µg/L	10.0		100	70-130			
Bromodichloromethane	9.96	0.50	µg/L	10.0		99.6	70-130			
Bromoform	10.3	1.0	µg/L	10.0		103	70-130			
Bromomethane	4.30	2.0	µg/L	10.0		43.0	40-160			†
2-Butanone (MEK)	75.3	20	µg/L	100		75.3	40-160			V-05 †
tert-Butyl Alcohol (TBA)	75.6	20	µg/L	100		75.6	40-160			V-05 †
n-Butylbenzene	9.08	1.0	µg/L	10.0		90.8	70-130			
sec-Butylbenzene	9.69	1.0	µg/L	10.0		96.9	70-130			
tert-Butylbenzene	9.61	1.0	µg/L	10.0		96.1	70-130			
tert-Butyl Ethyl Ether (TBEE)	8.31	0.50	µg/L	10.0		83.1	70-130			
Carbon Disulfide	9.39	4.0	µg/L	10.0		93.9	70-130			
Carbon Tetrachloride	9.38	5.0	µg/L	10.0		93.8	70-130			
Chlorobenzene	10.3	1.0	µg/L	10.0		103	70-130			
Chlorodibromomethane	10.4	0.50	µg/L	10.0		104	70-130			
Chloroethane	7.99	2.0	µg/L	10.0		79.9	70-130			
Chloroform	8.94	2.0	µg/L	10.0		89.4	70-130			
Chloromethane	6.00	2.0	µg/L	10.0		60.0	40-160			V-05 †
2-Chlorotoluene	10.4	1.0	µg/L	10.0		104	70-130			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B224607 - SW-846 5030B										
LCS (B224607-BS1)										
					Prepared: 02/28/19 Analyzed: 03/01/19					
4-Chlorotoluene	10.2	1.0	µg/L	10.0		102	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	8.40	5.0	µg/L	10.0		84.0	70-130			
1,2-Dibromoethane (EDB)	10.0	0.50	µg/L	10.0		100	70-130			
Dibromomethane	10.4	1.0	µg/L	10.0		104	70-130			
1,2-Dichlorobenzene	10.1	1.0	µg/L	10.0		101	70-130			
1,3-Dichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130			
1,4-Dichlorobenzene	9.94	1.0	µg/L	10.0		99.4	70-130			
trans-1,4-Dichloro-2-butene	9.29	2.0	µg/L	10.0		92.9	70-130			
Dichlorodifluoromethane (Freon 12)	6.39	2.0	µg/L	10.0		63.9	40-160			†
1,1-Dichloroethane	8.86	1.0	µg/L	10.0		88.6	70-130			
1,2-Dichloroethane	9.33	1.0	µg/L	10.0		93.3	70-130			
1,1-Dichloroethylene	8.72	1.0	µg/L	10.0		87.2	70-130			
cis-1,2-Dichloroethylene	9.06	1.0	µg/L	10.0		90.6	70-130			
trans-1,2-Dichloroethylene	9.25	1.0	µg/L	10.0		92.5	70-130			
1,2-Dichloropropane	9.03	1.0	µg/L	10.0		90.3	70-130			
1,3-Dichloropropane	9.41	0.50	µg/L	10.0		94.1	70-130			
2,2-Dichloropropane	9.26	1.0	µg/L	10.0		92.6	40-130			†
1,1-Dichloropropene	9.26	2.0	µg/L	10.0		92.6	70-130			
cis-1,3-Dichloropropene	9.48	0.50	µg/L	10.0		94.8	70-130			
trans-1,3-Dichloropropene	9.14	0.50	µg/L	10.0		91.4	70-130			
Diethyl Ether	8.59	2.0	µg/L	10.0		85.9	70-130			
Diisopropyl Ether (DIPE)	7.87	0.50	µg/L	10.0		78.7	70-130			
1,4-Dioxane	79.6	50	µg/L	100		79.6	40-130			†
Ethylbenzene	10.1	1.0	µg/L	10.0		101	70-130			
Hexachlorobutadiene	9.52	0.60	µg/L	10.0		95.2	70-130			
2-Hexanone (MBK)	81.6	10	µg/L	100		81.6	70-160			†
Isopropylbenzene (Cumene)	10.4	1.0	µg/L	10.0		104	70-130			
p-Isopropyltoluene (p-Cymene)	9.57	1.0	µg/L	10.0		95.7	70-130			
Methyl tert-Butyl Ether (MTBE)	9.12	1.0	µg/L	10.0		91.2	70-130			
Methylene Chloride	7.84	5.0	µg/L	10.0		78.4	70-130			V-05
4-Methyl-2-pentanone (MIBK)	80.4	10	µg/L	100		80.4	70-160			†
Naphthalene	9.64	2.0	µg/L	10.0		96.4	40-130			†
n-Propylbenzene	10.4	1.0	µg/L	10.0		104	70-130			
Styrene	10.5	1.0	µg/L	10.0		105	70-130			
1,1,1,2-Tetrachloroethane	10.7	1.0	µg/L	10.0		107	70-130			
1,1,2,2-Tetrachloroethane	10.5	0.50	µg/L	10.0		105	70-130			
Tetrachloroethylene	10.7	1.0	µg/L	10.0		107	70-130			
Tetrahydrofuran	7.01	10	µg/L	10.0		70.1	70-130			V-05, J
Toluene	9.76	1.0	µg/L	10.0		97.6	70-130			
1,2,3-Trichlorobenzene	10.4	5.0	µg/L	10.0		104	70-130			
1,2,4-Trichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130			
1,3,5-Trichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130			
1,1,1-Trichloroethane	9.55	1.0	µg/L	10.0		95.5	70-130			
1,1,2-Trichloroethane	10.3	1.0	µg/L	10.0		103	70-130			
Trichloroethylene	9.56	1.0	µg/L	10.0		95.6	70-130			
Trichlorofluoromethane (Freon 11)	7.86	2.0	µg/L	10.0		78.6	70-130			
1,2,3-Trichloropropane	10.2	2.0	µg/L	10.0		102	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	8.80	1.0	µg/L	10.0		88.0	70-130			
1,2,4-Trimethylbenzene	9.24	1.0	µg/L	10.0		92.4	70-130			
1,3,5-Trimethylbenzene	10.2	1.0	µg/L	10.0		102	70-130			
Vinyl Chloride	7.24	2.0	µg/L	10.0		72.4	40-160			†

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B224607 - SW-846 5030B

LCS (B224607-BS1)

Prepared: 02/28/19 Analyzed: 03/01/19

m+p Xylene	20.5	2.0	µg/L	20.0		102	70-130			
o-Xylene	10.4	1.0	µg/L	10.0		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	22.2		µg/L	25.0		88.7	70-130			
Surrogate: Toluene-d8	24.3		µg/L	25.0		97.3	70-130			
Surrogate: 4-Bromofluorobenzene	25.0		µg/L	25.0		100	70-130			

LCS Dup (B224607-BSD1)

Prepared: 02/28/19 Analyzed: 03/01/19

Acetone	88.3	50	µg/L	100		88.3	70-160	8.92	25	V-05 †
Acrylonitrile	8.01	5.0	µg/L	10.0		80.1	70-130	0.870	25	V-05
tert-Amyl Methyl Ether (TAME)	9.06	0.50	µg/L	10.0		90.6	70-130	0.442	25	
Benzene	8.85	1.0	µg/L	10.0		88.5	70-130	0.113	25	
Bromobenzene	10.1	1.0	µg/L	10.0		101	70-130	1.08	25	
Bromochloromethane	10.5	1.0	µg/L	10.0		105	70-130	4.20	25	
Bromodichloromethane	9.69	0.50	µg/L	10.0		96.9	70-130	2.75	25	
Bromoform	10.0	1.0	µg/L	10.0		100	70-130	2.76	25	
Bromomethane	5.33	2.0	µg/L	10.0		53.3	40-160	21.4	25	†
2-Butanone (MEK)	77.0	20	µg/L	100		77.0	40-160	2.34	25	V-05 †
tert-Butyl Alcohol (TBA)	76.4	20	µg/L	100		76.4	40-160	1.05	25	V-05 †
n-Butylbenzene	9.01	1.0	µg/L	10.0		90.1	70-130	0.774	25	
sec-Butylbenzene	9.51	1.0	µg/L	10.0		95.1	70-130	1.87	25	
tert-Butylbenzene	9.39	1.0	µg/L	10.0		93.9	70-130	2.32	25	
tert-Butyl Ethyl Ether (TBEE)	8.31	0.50	µg/L	10.0		83.1	70-130	0.00	25	
Carbon Disulfide	9.11	4.0	µg/L	10.0		91.1	70-130	3.03	25	
Carbon Tetrachloride	9.12	5.0	µg/L	10.0		91.2	70-130	2.81	25	
Chlorobenzene	10.2	1.0	µg/L	10.0		102	70-130	1.07	25	
Chlorodibromomethane	10.3	0.50	µg/L	10.0		103	70-130	1.06	25	
Chloroethane	8.33	2.0	µg/L	10.0		83.3	70-130	4.17	25	
Chloroform	9.00	2.0	µg/L	10.0		90.0	70-130	0.669	25	
Chloromethane	6.10	2.0	µg/L	10.0		61.0	40-160	1.65	25	V-05 †
2-Chlorotoluene	10.3	1.0	µg/L	10.0		103	70-130	1.16	25	
4-Chlorotoluene	10.2	1.0	µg/L	10.0		102	70-130	0.00	25	
1,2-Dibromo-3-chloropropane (DBCP)	8.73	5.0	µg/L	10.0		87.3	70-130	3.85	25	
1,2-Dibromoethane (EDB)	9.90	0.50	µg/L	10.0		99.0	70-130	1.50	25	
Dibromomethane	10.1	1.0	µg/L	10.0		101	70-130	2.44	25	
1,2-Dichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130	0.493	25	
1,3-Dichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130	0.295	25	
1,4-Dichlorobenzene	9.86	1.0	µg/L	10.0		98.6	70-130	0.808	25	
trans-1,4-Dichloro-2-butene	9.01	2.0	µg/L	10.0		90.1	70-130	3.06	25	
Dichlorodifluoromethane (Freon 12)	6.35	2.0	µg/L	10.0		63.5	40-160	0.628	25	†
1,1-Dichloroethane	8.90	1.0	µg/L	10.0		89.0	70-130	0.450	25	
1,2-Dichloroethane	9.09	1.0	µg/L	10.0		90.9	70-130	2.61	25	
1,1-Dichloroethylene	8.58	1.0	µg/L	10.0		85.8	70-130	1.62	25	
cis-1,2-Dichloroethylene	8.85	1.0	µg/L	10.0		88.5	70-130	2.35	25	
trans-1,2-Dichloroethylene	8.90	1.0	µg/L	10.0		89.0	70-130	3.86	25	
1,2-Dichloropropane	8.88	1.0	µg/L	10.0		88.8	70-130	1.68	25	
1,3-Dichloropropane	9.30	0.50	µg/L	10.0		93.0	70-130	1.18	25	
2,2-Dichloropropane	9.10	1.0	µg/L	10.0		91.0	40-130	1.74	25	†
1,1-Dichloropropene	9.09	2.0	µg/L	10.0		90.9	70-130	1.85	25	
cis-1,3-Dichloropropene	9.39	0.50	µg/L	10.0		93.9	70-130	0.954	25	
trans-1,3-Dichloropropene	9.27	0.50	µg/L	10.0		92.7	70-130	1.41	25	
Diethyl Ether	8.58	2.0	µg/L	10.0		85.8	70-130	0.116	25	
Diisopropyl Ether (DIPE)	7.87	0.50	µg/L	10.0		78.7	70-130	0.00	25	

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B224607 - SW-846 5030B										
LCS Dup (B224607-BSD1)										
					Prepared: 02/28/19 Analyzed: 03/01/19					
1,4-Dioxane	68.0	50	µg/L	100	68.0	68.0	40-130	15.7	50	† ‡
Ethylbenzene	9.73	1.0	µg/L	10.0	97.3	97.3	70-130	4.03	25	
Hexachlorobutadiene	9.55	0.60	µg/L	10.0	95.5	95.5	70-130	0.315	25	
2-Hexanone (MBK)	80.8	10	µg/L	100	80.8	80.8	70-160	1.03	25	†
Isopropylbenzene (Cumene)	10.2	1.0	µg/L	10.0	102	102	70-130	2.14	25	
p-Isopropyltoluene (p-Cymene)	9.48	1.0	µg/L	10.0	94.8	94.8	70-130	0.945	25	
Methyl tert-Butyl Ether (MTBE)	9.03	1.0	µg/L	10.0	90.3	90.3	70-130	0.992	25	
Methylene Chloride	7.76	5.0	µg/L	10.0	77.6	77.6	70-130	1.03	25	V-05
4-Methyl-2-pentanone (MIBK)	79.3	10	µg/L	100	79.3	79.3	70-160	1.40	25	†
Naphthalene	9.17	2.0	µg/L	10.0	91.7	91.7	40-130	5.00	25	†
n-Propylbenzene	10.1	1.0	µg/L	10.0	101	101	70-130	2.73	25	
Styrene	10.3	1.0	µg/L	10.0	103	103	70-130	2.30	25	
1,1,1,2-Tetrachloroethane	10.5	1.0	µg/L	10.0	105	105	70-130	2.36	25	
1,1,2,2-Tetrachloroethane	10.4	0.50	µg/L	10.0	104	104	70-130	0.764	25	
Tetrachloroethylene	10.8	1.0	µg/L	10.0	108	108	70-130	1.02	25	
Tetrahydrofuran	7.47	10	µg/L	10.0	74.7	74.7	70-130	6.35	25	V-05, J
Toluene	9.46	1.0	µg/L	10.0	94.6	94.6	70-130	3.12	25	
1,2,3-Trichlorobenzene	10.3	5.0	µg/L	10.0	103	103	70-130	1.74	25	
1,2,4-Trichlorobenzene	10.1	1.0	µg/L	10.0	101	101	70-130	2.75	25	
1,3,5-Trichlorobenzene	10.3	1.0	µg/L	10.0	103	103	70-130	1.08	25	
1,1,1-Trichloroethane	9.32	1.0	µg/L	10.0	93.2	93.2	70-130	2.44	25	
1,1,2-Trichloroethane	10.0	1.0	µg/L	10.0	100	100	70-130	2.36	25	
Trichloroethylene	9.69	1.0	µg/L	10.0	96.9	96.9	70-130	1.35	25	
Trichlorofluoromethane (Freon 11)	8.20	2.0	µg/L	10.0	82.0	82.0	70-130	4.23	25	
1,2,3-Trichloropropane	10.0	2.0	µg/L	10.0	100	100	70-130	1.09	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	8.76	1.0	µg/L	10.0	87.6	87.6	70-130	0.456	25	
1,2,4-Trimethylbenzene	9.12	1.0	µg/L	10.0	91.2	91.2	70-130	1.31	25	
1,3,5-Trimethylbenzene	9.95	1.0	µg/L	10.0	99.5	99.5	70-130	2.09	25	
Vinyl Chloride	7.35	2.0	µg/L	10.0	73.5	73.5	40-160	1.51	25	†
m+p Xylene	20.1	2.0	µg/L	20.0	100	100	70-130	2.12	25	
o-Xylene	10.1	1.0	µg/L	10.0	101	101	70-130	3.12	25	
Surrogate: 1,2-Dichloroethane-d4	22.7		µg/L	25.0		90.8	70-130			
Surrogate: Toluene-d8	24.2		µg/L	25.0		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	24.8		µg/L	25.0		99.2	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B224945 - SW-846 3510C										
Blank (B224945-BLK1)										
Prepared: 03/04/19 Analyzed: 03/05/19										
Acenaphthene (SIM)	ND	0.30	µg/L							
Acenaphthylene (SIM)	ND	0.20	µg/L							
Anthracene (SIM)	ND	0.20	µg/L							
Benzo(a)anthracene (SIM)	ND	0.050	µg/L							
Benzo(a)pyrene (SIM)	ND	0.10	µg/L							
Benzo(b)fluoranthene (SIM)	ND	0.050	µg/L							
Benzo(g,h,i)perylene (SIM)	ND	0.50	µg/L							
Benzo(k)fluoranthene (SIM)	ND	0.20	µg/L							
Chrysene (SIM)	ND	0.20	µg/L							
Dibenz(a,h)anthracene (SIM)	ND	0.10	µg/L							
Fluoranthene (SIM)	ND	0.50	µg/L							
Fluorene (SIM)	ND	1.0	µg/L							
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.10	µg/L							
2-Methylnaphthalene (SIM)	ND	1.0	µg/L							
Naphthalene (SIM)	ND	1.0	µg/L							
Phenanthrene (SIM)	ND	0.050	µg/L							
Pyrene (SIM)	0.023	1.0	µg/L							J
Surrogate: Nitrobenzene-d5 (SIM)	76.7		µg/L	100		76.7	30-130			
Surrogate: 2-Fluorobiphenyl	55.4		µg/L	100		55.4	30-130			
Surrogate: p-Terphenyl-d14	72.2		µg/L	100		72.2	30-130			
LCS (B224945-BS1)										
Prepared: 03/04/19 Analyzed: 03/05/19										
Acenaphthene (SIM)	35.8	7.5	µg/L	50.0		71.6	40-140			
Acenaphthylene (SIM)	35.1	5.0	µg/L	50.0		70.2	40-140			
Anthracene (SIM)	38.6	5.0	µg/L	50.0		77.1	40-140			
Benzo(a)anthracene (SIM)	35.0	1.2	µg/L	50.0		70.0	40-140			
Benzo(a)pyrene (SIM)	39.5	2.5	µg/L	50.0		79.0	40-140			
Benzo(b)fluoranthene (SIM)	40.0	1.2	µg/L	50.0		80.1	40-140			
Benzo(g,h,i)perylene (SIM)	37.3	12	µg/L	50.0		74.6	40-140			
Benzo(k)fluoranthene (SIM)	38.7	5.0	µg/L	50.0		77.4	40-140			
Chrysene (SIM)	34.9	5.0	µg/L	50.0		69.8	40-140			
Dibenz(a,h)anthracene (SIM)	38.6	2.5	µg/L	50.0		77.3	40-140			
Fluoranthene (SIM)	37.4	12	µg/L	50.0		74.8	40-140			
Fluorene (SIM)	36.2	25	µg/L	50.0		72.4	40-140			
Indeno(1,2,3-cd)pyrene (SIM)	39.6	2.5	µg/L	50.0		79.1	40-140			
2-Methylnaphthalene (SIM)	37.7	25	µg/L	50.0		75.4	40-140			
Naphthalene (SIM)	34.6	25	µg/L	50.0		69.2	40-140			
Phenanthrene (SIM)	37.5	1.2	µg/L	50.0		75.0	40-140			
Pyrene (SIM)	33.6	25	µg/L	50.0		67.2	40-140			
Surrogate: Nitrobenzene-d5 (SIM)	72.2		µg/L	100		72.2	30-130			
Surrogate: 2-Fluorobiphenyl	54.2		µg/L	100		54.2	30-130			
Surrogate: p-Terphenyl-d14	49.0		µg/L	100		49.0	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B224945 - SW-846 3510C										
LCS Dup (B224945-BSD1)										
					Prepared: 03/04/19 Analyzed: 03/05/19					
Acenaphthene (SIM)	31.9	7.5	µg/L	50.0		63.8	40-140	11.5	20	
Acenaphthylene (SIM)	31.9	5.0	µg/L	50.0		63.8	40-140	9.55	20	
Anthracene (SIM)	34.1	5.0	µg/L	50.0		68.2	40-140	12.3	20	
Benzo(a)anthracene (SIM)	31.8	1.2	µg/L	50.0		63.6	40-140	9.65	20	
Benzo(a)pyrene (SIM)	35.8	2.5	µg/L	50.0		71.5	40-140	9.97	20	
Benzo(b)fluoranthene (SIM)	36.3	1.2	µg/L	50.0		72.6	40-140	9.89	20	
Benzo(g,h,i)perylene (SIM)	34.0	12	µg/L	50.0		68.0	40-140	9.33	20	
Benzo(k)fluoranthene (SIM)	35.4	5.0	µg/L	50.0		70.8	40-140	8.77	20	
Chrysene (SIM)	31.6	5.0	µg/L	50.0		63.3	40-140	9.70	20	
Dibenz(a,h)anthracene (SIM)	36.1	2.5	µg/L	50.0		72.2	40-140	6.82	20	
Fluoranthene (SIM)	31.9	12	µg/L	50.0		63.8	40-140	16.0	20	
Fluorene (SIM)	30.6	25	µg/L	50.0		61.3	40-140	16.6	20	
Indeno(1,2,3-cd)pyrene (SIM)	36.5	2.5	µg/L	50.0		73.0	40-140	8.09	20	‡
2-Methylnaphthalene (SIM)	33.4	25	µg/L	50.0		66.8	40-140	12.1	20	
Naphthalene (SIM)	31.3	25	µg/L	50.0		62.6	40-140	10.0	20	
Phenanthrene (SIM)	33.9	1.2	µg/L	50.0		67.8	40-140	10.2	20	
Pyrene (SIM)	31.0	25	µg/L	50.0		62.0	40-140	8.13	20	
Surrogate: Nitrobenzene-d5 (SIM)	64.2		µg/L	100		64.2	30-130			
Surrogate: 2-Fluorobiphenyl	50.4		µg/L	100		50.4	30-130			
Surrogate: p-Terphenyl-d14	44.0		µg/L	100		44.0	30-130			

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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.
DL-01	Elevated reporting limits for all volatile compounds due to foaming sample matrix.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260D in Water</i>	
Acetone	NC
Acrylonitrile	NC
tert-Amyl Methyl Ether (TAME)	NC
Benzene	NC
Bromobenzene	NC
Bromochloromethane	NC
Bromodichloromethane	NC
Bromoform	NC
Bromomethane	NC
2-Butanone (MEK)	NC
tert-Butyl Alcohol (TBA)	NC
n-Butylbenzene	NC
sec-Butylbenzene	NC
tert-Butylbenzene	NC
tert-Butyl Ethyl Ether (TBEE)	NC
Carbon Disulfide	NC
Carbon Tetrachloride	NC
Chlorobenzene	NC
Chlorodibromomethane	NC
Chloroethane	NC
Chloroform	NC
Chloromethane	NC
2-Chlorotoluene	NC
4-Chlorotoluene	NC
1,2-Dibromo-3-chloropropane (DBCP)	NC
1,2-Dibromoethane (EDB)	NC
Dibromomethane	NC
1,2-Dichlorobenzene	NC
1,3-Dichlorobenzene	NC
1,4-Dichlorobenzene	NC
trans-1,4-Dichloro-2-butene	NC
Dichlorodifluoromethane (Freon 12)	NC
1,1-Dichloroethane	NC
1,2-Dichloroethane	NC
1,1-Dichloroethylene	NC
cis-1,2-Dichloroethylene	NC
trans-1,2-Dichloroethylene	NC
1,2-Dichloropropane	NC
1,3-Dichloropropane	NC
2,2-Dichloropropane	NC
1,1-Dichloropropene	NC
cis-1,3-Dichloropropene	NC
trans-1,3-Dichloropropene	NC
Diethyl Ether	NC
Diisopropyl Ether (DIPE)	NC
1,4-Dioxane	NC
Ethylbenzene	NC

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260D in Water</i>	
Hexachlorobutadiene	NC
2-Hexanone (MBK)	NC
Isopropylbenzene (Cumene)	NC
p-Isopropyltoluene (p-Cymene)	NC
Methyl tert-Butyl Ether (MTBE)	NC
Methylene Chloride	NC
4-Methyl-2-pentanone (MIBK)	NC
Naphthalene	NC
n-Propylbenzene	NC
Styrene	NC
1,1,1,2-Tetrachloroethane	NC
1,1,2,2-Tetrachloroethane	NC
Tetrachloroethylene	NC
Tetrahydrofuran	NC
Toluene	NC
1,2,3-Trichlorobenzene	NC
1,2,4-Trichlorobenzene	NC
1,3,5-Trichlorobenzene	NC
1,1,1-Trichloroethane	NC
1,1,2-Trichloroethane	NC
Trichloroethylene	NC
Trichlorofluoromethane (Freon 11)	NC
1,2,3-Trichloropropane	NC
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NC
1,2,4-Trimethylbenzene	NC
1,3,5-Trimethylbenzene	NC
Vinyl Chloride	NC
m+p Xylene	NC
o-Xylene	NC

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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	02/5/2020
RI	Rhode Island Department of Health	LAO00112	12/30/2019
NC	North Carolina Div. of Water Quality	652	12/31/2019
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	12/14/2019
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



785691220555



Delivered
Tuesday 2/26/2019 at 10:02 am



DELIVERED

Signed for by: B.BECCA

GET STATUS UPDATES

OBTAIN PROOF OF DELIVERY

FROM
RALEIGH, NC US

TO
EAST LONGMEADOW, MA US

Shipment Facts

TRACKING NUMBER 785691220555	SERVICE FedEx Priority Overnight	WEIGHT 51 lbs / 23.13 kgs
DIMENSIONS 24x14x14 in.	DELIVERED TO Shipping/Receiving	TOTAL PIECES 1
TOTAL SHIPMENT WEIGHT 51 lbs / 23.13 kgs	TERMS Third Party	PACKAGING Your Packaging
SPECIAL HANDLING SECTION Deliver Weekday	STANDARD TRANSIT 2/26/2019 by 10:30 am	SHIP DATE Mon 2/25/2019

ACTUAL DELIVERY
Tue 2/26/2019 10:02 am

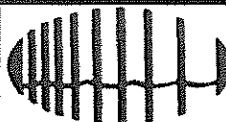
Travel History

Local Scan Time

Tuesday, 2/26/2019

10:02 am	EAST LONGMEADOW, MA	Delivered
7:56 am	WINDSOR LOCKS, CT	On FedEx vehicle for delivery
7:46 am	WINDSOR LOCKS, CT	At local FedEx facility
6:16 am	EAST GRANBY, CT	At destination sort facility

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 STME

Received By RAP Date 2/26/19 Time 10:02

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 # 5 Actual Temp - 4.0
 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 Who was notified? _____
 Are there Rushes? F Who was notified? _____
 Are there Short Holds? F Who was notified? _____

Is there enough Volume? T
 Is there Headspace where applicable? F MS/MSD? F
 Proper Media/Containers Used? T Is splitting samples required? F
 Were trip blanks received? F On COC? F
 Do all samples have the proper pH? NA Acid _____ Base _____

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.	2	1 Liter Plastic		16 oz Amb.
HCL-	3	500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		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: