Prepared for

North Carolina Department of Transportation
Century Center Complex, Building B
1020 Birch Ridge Drive
Raleigh, North Carolina 27610

PRELIMINARY SITE ASSESSMENT

PARCEL 89

NC 211 IN WEST END

4039 NC HIGHWAY 211, MOORE COUNTY WEST END, NORTH CAROLINA

WBS #: 50218.1.1

TIP#: R-5726

Prepared by

Geosyntec Consultants of NC, PC
2501 Blue Ridge Road, Suite 430
Raleigh, North Carolina 27607

Project Number GN7039

October 2019

Geosyntec consultants

Date:	October 21, 2019
WBS Number:	50218.1.1
TIP Number:	R-5726
County:	Moore County
Description:	Preliminary Site Assessment
Address:	4039 NC 211, West End, North Carolina 27376
Parcel ID:	Parcel 89; Norris Randall Jessup and Kathy T. Jessup
Author:	R. Matthew Jenny, P.E.

I, R. Matthew Jenny, a Professional Engineer for Geosyntec Consultants of NC, PC do certify that the information in this report is correct and accurate to the best of my knowledge.

Not considered final until all signatures are completed

Geosyntec Consultants of NC, PC is licensed to practice engineering in North Carolina. The certification number (Firm's License Number) is C-3500.

Geosyntec Consultants of NC, PC is licensed to practice geology in North Carolina. The certification number (Firm's License Number) is C-295.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1. INTRODUCTION

1.1 Description

Geosyntec Consultants of NC, PC (Geosyntec) presents this technical report (Report) to the North Carolina Department of Transportation (NCDOT) for the Preliminary Site Assessment (PSA) of 4039 NC 211 in West End, North Carolina (the Site). The Site is associated with NCDOT TIP number R-5726, Parcel 89, and owned by Norris Randall Jessup and Kathy T. Jessup. A Site location map is presented in **Figure 1**.

Geosyntec understands NCDOT would like to acquire right-of-way (ROW) and Public Utility Easements (PUEs) for road improvements along NC 211 in West End, North Carolina. The principal purpose of this PSA is to assess the possible presence of underground storage tanks (USTs) and/or above-ground storage tanks (ASTs), determine the likelihood of environmental impacts (i.e., soil and/or groundwater contamination), and make recommendations for regulatory compliance within the project study area.

This report discusses the Site history, investigative methodology, observations, sampling results, conclusions, and recommendations.

1.2 Site Background

NCDOT Parcel 89 (Moore County Parcel 00016100 [Norris Randall Jessup and Kathy T. Jessup]) is located on 4039 NC HWY 211 in West End. **Figure 2** shows the general Site layout, including the locations of the soil borings advanced to investigate the subsurface of the Site. The property is approximately 1 acre and surrounded by a wire mesh security fence. It is bounded to the immediate south by NC 211 and to the north, west and east by residential land and forest. The Site is currently an abandoned restaurant. There are no known UST incidents associated with the Site.

1.3 Scope of Work

The scope of work consisted of a historical Site desktop review, geophysical survey, and sub-surface soil investigation. The geophysical survey was performed to locate potential metallic USTs, UST-associated product lines, non-UST metallic anomalies, and private underground utility lines within the immediate vicinity of the proposed soil boring locations. Following the geophysical survey, soil borings were advanced and soil samples

were collected from each location to determine if, and to what extent, contaminated soils are present within the study area.

2. HISTORY

Geosyntec reviewed publicly accessible online environmental databases (i.e., the North Carolina Department of Environmental Quality [NCDEQ] Laserfiche database, the NCDEQ Division of Waste Management Site Locator Tool, and the NCDEQ UST Section database) to research the Site history.

2.1 Historical Aerial Photographs

The following reviews the findings from the historical aerial photographs, as provided by Google Earth® imagery:

- The earliest aerial photographs date back to 1993. The existing above-grade structure can be identified in the historical photos, which is presumably the abandoned restaurant building. No significant deviations at the Site were identified between 1993 and 2018.

- The Site surroundings (residential and forest land) appear generally consistent from 1993 to 2018. Some minor land development can be identified to the east of the property in 2018.

2.2 Subject Site Findings

There are no known UST incidents associated with the property identified in the initial Site historical review. Further, other (i.e., non-UST) environmental incidents were not identified as part of a cursory desktop review.

Based upon the limited environmental history information, Geosyntec conducted a Site investigation inclusive of a geophysical survey and intrusive activities to screen soil and evaluate if there is contamination within the Site study area.

3. METHODS

3.1 Geophysical Investigation

The geophysical investigation was performed at the Site by Pyramid Environmental and Engineering P.C. (Pyramid) from July 29 to July 31, 2019 to locate and mark buried USTs, buried metallic drums, and/or buried utility lines within the accessible portions of the ROW/PUE extent. Generally, the tasks consisted of an electromagnetic induction-metal (EM) detection followed by ground penetrating radar (GPR) surveys.

The EM data was digitally collected at approximately 1-foot intervals along survey lines spaced approximately five feet apart. The EM unit can detect a metal drum down to a depth of approximately eight (8) to ten (10) feet. GPR scanning was conducted across selected EM metal detection anomalies, around the proposed boring locations, and across the entire ROW/PUE area along with a DitchWitch utility locator for buried utility line clearance. Additional details of the geophysical investigation methodology are provided in **Appendix A** of the report.

3.2 Sub-Surface Soil Investigation

The sub-surface investigation was conducted on August 12-15, 2019 using hand augers. The Site owner granted access inside the property fence to complete the geophysical survey; however, the owner was unable to unlock the gate to facilitate the drilling effort. Thus, SAEDACCO used hand augers to collect soil borings down to 10 feet below ground surface (ft bgs) to investigate the subsurface. North Carolina 811 was notified to mark utility lines within the existing ROW prior to completing the soil borings.

Soil sampling locations were selected in areas likely to be encountered during roadway construction. Specific priority was placed at locations proximal to the two probable metallic USTs identified as part of Pyramid's geophysical survey (explained in more detail in the Results section). The soil lithology was recorded, and the soil was screened using a photo-ionization detector (PID) with a 10.6 electron-Volt lamp at approximately 6-inch intervals. Soil samples were collected from each boring at an elevation corresponding to the highest PID reading. In instances where PID readings were null, field personnel used professional judgement (e.g., odors, staining, historical Site-use information) to determine the appropriate sampling depth.

Upon hand auguring completion, the soil cuttings were dispersed over the Site's natural areas and/or backfilled within the boring. Boring surface completions matched pre-existing conditions to the extent practical. Boring locations were surveyed with a global position system (GPS) unit. The hand auger was decontaminated with Liquinox® cleaning solution and deionized water between borings. Free product was not encountered during soil sampling, nor was other investigative derived waste (IDW) accumulated. As such, IDW drums were unnecessary.

Samples were sent off-site to Red Lab, LLC (Red Lab) and Prism Laboratories, Inc. (Prism). The samples sent to Red Lab were analyzed for Total Petroleum Hydrocarbon (TPH), gasoline-range organics (GRO), and diesel-range organics (DRO) by Ultra-Violet Fluorescence (UVF). Soil samples submitted to Prism were analyzed for volatile organic compounds (VOCs) by USEPA Method 8260B, reporting only benzene, toluene, ethylbenzene, and xylenes (BTEX). The analytical approaches are consistent with the UST Section Guidance. Samples were sent on ice under chain of custody procedures to the applicable laboratory.

4. RESULTS

4.1 Site Observations

On July 29, 2019 Geosyntec performed an initial Site walk with Pyramid prior to conducting work. The Site is an abandoned restaurant with a surrounding wire mesh security gate. Most part of the Site is covered with vegetation, except for the area south of the building, which is paved with gravel. **Appendix B** provides a photographic log of the field observations.

4.2 Geophysical Investigation Results

The geophysical survey was performed to locate and mark buried USTs, buried metallic drums, and/or buried utility lines within the ROW/PUE extent using both EM and GPR approaches.

Pyramid identified four metallic anomalies throughout the Site, most of which are probably attributed to buried utility lines, conduits, metal sign poles, and other miscellaneous metal objects/debris. One high-amplitude EM anomaly was suggestive of possible tank(s) and was investigated by GPR. According to Pyramid, the GPR results indicate the anomalies are two discreet, high-amplitude hyperbolic reflectors and two isolated lateral reflectors that are characteristic of USTs (the UST numbers are arbitrarily labeled**)**:

- UST #1 is approximately 15.5 feet long and 8.5 feet wide
- UST #2 is approximately 14 feet long and 8 feet wide

Collectively, the geophysical data recorded two probable metallic USTs at the Site. Pyramid's geophysical report is provided in **Appendix A**.

4.3 Sub-Surface Investigation Results

4.3.1 Field Sampling Observations and PID Results

Following the geophysical survey, the sub-surface investigation was performed to determine if, and to what extent, contaminated soils are present within the study area. Four (4) soil borings were completed during the investigation, each extending 10 ft bgs. PID soil screening values were null throughout the entirety of each soil boring. The soil

lithology generally consisted of top soil in the first three (3) ft bgs followed by sandy clay with some gravel. Groundwater was not encountered. Soil sampling locations are shown on **Figure 2** and GPS coordinates are recorded on **Table 1**. The boring logs are provided in **Appendix C**.

4.3.2 Soil Sampling Analytical Results

Four (4) soil samples were collected as part of the intrusive investigation and analyzed for TPH by UVF and VOCs by EPA Method 8260B. The TPH analytical data was screened against the TPH DRO and TPH GRO values established in the UST Section Guidance. The benzo(a)pyrene and BTEX analytical data were compared to the NCDEQ UST Section Maximum Soil Contaminant Concentrations (MSCCs).

The UVF fingerprinting data do not indicate soil screening level exceedances for the constituents analyzed. DRO was detected in the SB89-03 soil sample. No results exceeded the screening values. **Table 2** shows the TPH analytical results.

VOC analytical data was screened against the NCDEQ UST Section MSCCs. No detections were reported. The VOC analytical results are shown in **Table 3.**

The UVF analytical report, including the fingerprint matching data, is provided in **Appendix D**; the Prism analytical report is provided in **Appendix E**[1]. **Figure 3** displays the soil boring locations using a preliminary roadway design drawing base map.

[1]The Prism Laboratory report includes analytical results for samples collected from other parcels associated with NCDOT project R-5726.

5. SUMMARY

From August 12-15, 2019 Geosyntec completed an environmental PSA to determine the likelihood of contamination within the proposed acquisition area on the property located at 4039 NC 211 (Parcel 89), West End, North Carolina. The property is owned by Norris Randall Jessup and Kathy T. Jessup. The following summarizes the findings of this PSA.

Following a cursory desktop Site review, no environmental incidents associated with the Site were identified. A geophysical survey and intrusive soil investigation were performed as part of this scope of work. Pyramid identified two probable metallic USTs to the immediate southwest of the building. The USTs are approximately 14-15.5 feet long and 8-8.5 feet wide. The findings are located within the proposed PUE and are buried approximately 1.5 ft bgs. Four (4) soil borings were advanced within the PUE boundary to investigate the environmental impacts on the property, including two soil borings within the immediate vicinity of the underground anomalies. Petroleum impacts to Site soils were not identified during field screening or as part of analytical testing. Groundwater was not encountered.

The work performed herein did not identify petroleum impacts in shallow soils within the Site study area. It should be noted that the on-Site building restricts access to evaluate the soil conditions immediately north of the USTs. Nonetheless, Geosyntec anticipates a low likelihood of encountering shallow soil impacts within the proposed PUE extent. Geosyntec recommends excavating and properly disposing of the two probable USTs and their contents to facilitate roadway completion.

TABLES

Table 1
Soil Boring Coordinates
4039 NC 211, West End, North Carolina 27376
NCDOT Parcel 89
TIP: R-5726
WBS: 50218.1.1

Soil Boring ID	Longitude	Latitude
SB89-01-5.0-5.5	-79.592645	35.267694
SB89-02-5.5-6.0	-79.592542	35.267676
SB89-03-6.5-7.0	-79.592793	35.267731
SB89-04-7.0-7.5	-79.592380	35.267636

Note:
1) Coordinate datum reference: WGS 1984.

Table 2
Soil Analytical Results - TPH by UVF
4039 NC 211, West End, North Carolina 27376
NCDOT Parcel 89
TIP: R-5726
WBS: 50218.1.1

Analyte			BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	Benzo[a]pyrene
Units			mg/kg						
UST TPH Guidance			---	**50**	**100**	---	---	---	---
Soil-to-Water MSCCs			---	---	---	---	---	---	**0.096**
Residential Soil MSCCs			---	---	---	---	---	---	**0.088**
Commercial / Industrial MSCCs			---	---	---	---	---	---	**0.78**
Sample ID	**Sample Depth (ft bgs)**	**Sample Date**							
SB89-01-5.0-5.5	5.0-5.5	8/15/2019	<0.6	<0.6	<0.6	<0.6	<0.12	<0.19	<0.024
SB89-02-5.5-6.0	5.5-6.0	8/15/2019	<0.34	<0.34	<0.34	<0.34	<0.07	<0.11	<0.014
SB89-03-6.5-7.0	6.5-7.0	8/15/2019	<0.38	<0.38	**0.38**	**0.38**	**0.38**	<0.12	<0.015
SB89-04-7.0-7.5	7.0-7.5	8/15/2019	<0.46	<0.46	<0.46	<0.46	<0.09	<0.15	<0.018

Notes:

(1) mg/kg indicates milligrams per kilogram.

(2) NCDEQ UST Guidance references the 26 July 2016 Guidelines for North Carolina Action Limits for Total Petroleum Hydrocarbons (TPH).

(3) MSCC indicates North Carolina Department of Environmental Quality (NCDEQ) Underground Storage Tank (UST) Section Maximum Contaminant Concentration Levels, updated November 2016.

(4) < indicates analyte was not detected above the laboratory method detection limit (MDL).

(5) Detections are identified in bold.

(6) --- indicates screening criteria not established.

(7) UVF indicates ultraviolet fluorescence.

(8) TPH indicates total petroleum hydrocarbons.

(9) GRO indicates gasoline range organics.

(10) DRO indicates diesel range organics.

(11) PAH indicates polycyclic aromatic hydrocarbon.

(12) BTEX indicates benzene, toluene, ethylbenzene, and xylenes.

(13) ft. bgs indicates feet below ground surface.

Table 3
Soil Sampling Analytical Summary - VOCs
4039 NC 211, West End, North Carolina 27376
NCDOT Parcel 89
TIP: R-5726
WBS: 50218.1.1

Analyte	NCDEQ Residential Soil Cleanup Levels MSCC	NCDEQ Industrial/ Commercial Soil Cleanup Levels MSCC	NCDEQ Soil-to-Water Maximum Contaminant MSCC	Sample ID	SB89-1	SB89-2	SB89-3	SB89-4
				Sample Date	8/15/2019	8/15/2019	8/15/2019	8/15/2019
				Sample Depth (ft. bgs)	5.0-5.5	5.5-6.0	6.5-7.0	7.0-7.5
				Sample Type	Grab			
				Units	mg/kg			
Volatile Organic Compounds (VOCs) by EPA Method 8260B								
Benzene	**18**	**164**	**0.0056**	mg/kg	< 0.0056	< 0.0066	< 0.0065	< 0.0062
Ethylbenzene	**1,560**	**40,000**	**4.9**	mg/kg	< 0.0056	< 0.0066	< 0.0065	< 0.0062
m,p-Xylenes	**3,129**	**81,760**	**4.6**	mg/kg	< 0.011	< 0.013	< 0.013	< 0.012
o-Xylene	**3,129**	**81,760**	**4.6**	mg/kg	< 0.0056	< 0.0066	< 0.0065	< 0.0062
Toluene	**1,200**	**32,000**	**4.3**	mg/kg	< 0.0056	< 0.0066	< 0.0065	< 0.0062
Xylene (total)	**3,129**	**81,760**	**4.6**	mg/kg	< 0.017	< 0.020	< 0.019	< 0.019

Notes:

(1) North Carolina Department of Environmental Quality (NCDEQ) Underground Storage Tank (UST) Section Maximum Soil Contaminant Concentrations (MSCCs) as indicated in the NCDEQ UST Section *Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases* , amended April 2012.

(2) VOC indicates volatile organic compound.

(3) mg/kg indicates milligrams per kilogram.

(4) Concentrations exceeding MSCCs are highlighted as shown:

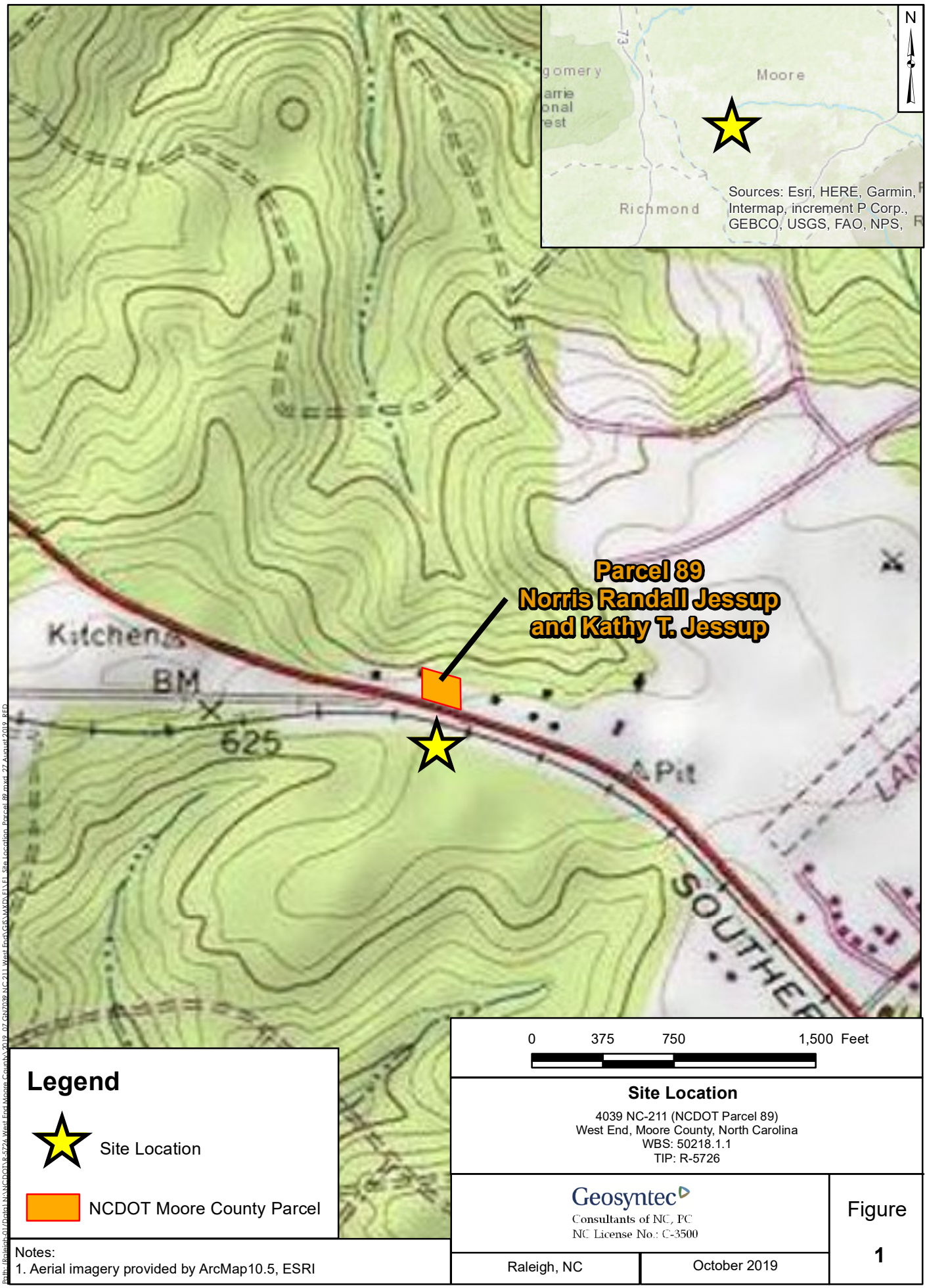
Residential	Industrial	Soil-to-Water

(5) ft bgs indicated feet below ground surface.

(6) < indicates analyte was not detected above the laboratory reporting limit (RL).

(7) Only benzene, toluene, ethylbenzene, and xylenes (BTEX) were reported.

FIGURES



Site Location

4039 NC-211 (NCDOT Parcel 89)
West End, Moore County, North Carolina
WBS: 50218.1.1
TIP: R-5726

Geosyntec
Consultants of NC, PC
NC License No.: C-3500

Raleigh, NC | October 2019

Figure 1

Path: J:\Raleigh-01\Data\N\NCDOT\R-5726 West End Moore County\2019_07 GN\2019 NC 211 West End\GIS\MXD\F1-F1 Site Location_Parcel 89.mxd 27 August 2019 RFD

Legend

- Soil Boring Locations
- Approximate PUE Extent
- Probable USTs
- NCDOT Moore County Parcel

0 25 50 100 Feet

Site Layout (Norris Randall Jessup and Kathy T. Jessup)

4039 NC-211 (NCDOT Parcel 89)
West End, Moore County, North Carolina
TIP: R-5726
WBS: 50218.1.1

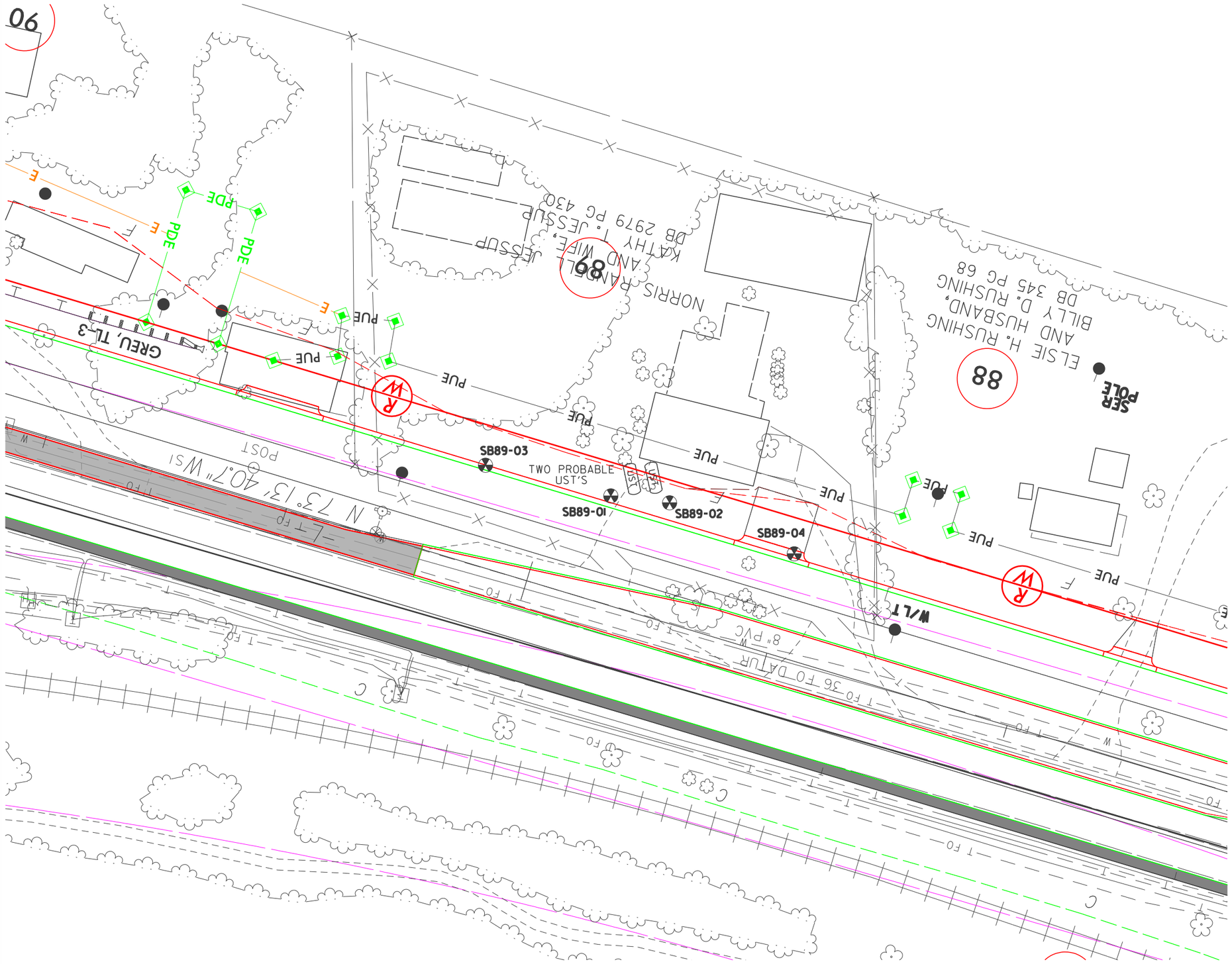
Notes:
1. Property boundary provided by Moore County, North Carolina GIS.
2. Aerial imagery provided by ArcMap10.5, ESRI
3. PUE indicates Public Utility Easement.
4. Soil boring locations are approximated by GPS; locations were not surveyed by a licensed surveyor.

Geosyntec
Consultants of NC, PC
NC License No.: C-3500

Ralegh, NC | October 2019

Figure
2

Path: (Raleigh-01/Data) N:\NCDOT\R-5726 West End Moore County\2019_07 GN7039 NC 211 West End\GIS\MXD\F2E_Parcel 89.mxd 27 August 2019 RED



LEGEND

- EXISTING RIGHT-OF-WAY
- EXISTING PROPERTY BOUNDARY
- PROPOSED RIGHT-OF-WAY LINE (RW)
- PUE — PROPOSED PERMANENT DRAINAGE
- PROPOSED SS CUT LINE
- PROPOSED SS FILL LINE
- E — TEMPORARY CONSTRUCTION EASEMENT
- SB89-xx — GEOENVIRONMENTAL BORING
- UST — PROBABLE UNDERGROUND STORAGE TANK

NOTES:

1. PSA PERFORMED IN THE PROPOSED ROW/PUE ONLY.
2. CONSTITUENTS ANALYZED WERE NOT DETECTED ABOVE APPLICABLE NCDEQ UST SECTION SCREENING CRITERION.

N

0 40' 80'

NCDOT PARCEL 89 SOIL BORING LOCATIONS
4039 HIGHWAY NC-211
WEST END, MOORE COUNTY,
NORTH CAROLINA
WBS: 50218.1.1 TIP: R-5726

Geosyntec consultants of NC, PC
NC License No: C-3500

FIGURE 3

PROJECT NO: GN7039 | OCTOBER 2019

APPENDIX A
Geophysical Investigation Report

PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2019-233)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCEL 89
NCDOT PROJECT R-5726 (50218.1.1)

4039 N.C. 211, WEST END, NC

August 23, 2019

Report prepared for: **Mr. Matt Jenny, P.E.**
Geosyntec Consultants of NC, PC
2501 Blue Ridge Road, Suite 430
Raleigh, NC 27607

Prepared by: _____
Eric C. Cross, P.G.
NC License #2181

Reviewed by: _____
Douglas A. Canavello, P.G.
NC License #1066

503 INDUSTRIAL AVENUE, GREENSBORO, NC 27406
P: 336.335.3174 F: 336.691.0648
C257: GEOLOGY C1251: ENGINEERING

GEOPHYSICAL INVESTIGATION REPORT
Parcel 89 - 4039 N.C. 211
West End, Moore County, North Carolina

Table of Contents

Figures

Appendices

LIST OF ACRONYMS

CADD .....Computer Assisted Drafting and Design
DF .....Dual Frequency
EM.....Electromagnetic
GPR.....Ground Penetrating Radar
GPS .....Global Positioning System
NCDOT.....North Carolina Department of Transportation
ROW .....Right-of-Way
UST .....Underground Storage Tank

EXECUTIVE SUMMARY

Project Description: Pyramid Environmental conducted a geophysical investigation for Geosyntec Consultants of NC, PC at Parcel 89, located at 4039 N.C. 211 in West End, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project R-5726). The survey was designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. Conducted from July 29-31, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

Geophysical Results: The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. A total of four EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. One high-amplitude EM anomaly was suggestive of possible tank(s) and was investigated by GPR. The GPR recorded evidence of two discreet, high-amplitude hyperbolic reflectors and two isolated lateral reflectors that were characteristic of USTs. From west to east:

- UST #1 was approximately 15.5 feet long and 8.5 feet wide
- UST #2 was approximately 14 feet long and 8 feet wide.

The remaining GPR did not record any additional evidence of buried structures such as USTs. Collectively, the geophysical data recorded evidence of two probable metallic USTs at Parcel 89.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Geosyntec Consultants of NC, PC at Parcel 89, located at 4039 N.C. 211 in West End, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project R-5726). The survey was designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. Conducted from July 29-31, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

The site included a vacant building surrounded by grass and dirt surfaces. An aerial photograph showing the survey area boundaries and ground-level photographs are shown in **Figure 1**.

FIELD METHODOLOGY

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. Pyramid collected the EM data using a Geonics EM61-MK2 (EM61) metal detector integrated with a Geode External GPS/GLONASS receiver. The integrated GPS system allows the location of the instrument to be recorded in real-time during data collection, resulting in an EM data set that is geo-referenced and can be overlain on aerial photographs and CADD drawings. A boundary grid was established around the perimeter of the site with marks every 10 feet to maintain orientation of the instrument throughout the survey and assure complete coverage of the area.

According to the instrument specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. Smaller objects (1-foot or less in size) can be detected to a maximum depth of 4 to 5 feet. The EM61 data were digitally collected at approximately 0.8-foot intervals along north-south trending or east-west trending, generally parallel survey lines, spaced five feet apart. The data were downloaded to a

computer and reviewed in the field and office using the Geonics NAV61 and Surfer for Windows Version 15.0 software programs.

GPR data were acquired across select EM anomalies on July 31, 2019, using a Geophysical Survey Systems, Inc. (GSSI) SIR 4000 controller coupled to a 350 MHz HS antenna. Data were collected both in reconnaissance fashion as well as along formal transect lines across EM features. The GPR data were viewed in real-time using a vertical scan of 512 samples, at a rate of 48 scans per second. GPR data were viewed down to a maximum depth of approximately 6 feet, based on dielectric constants calculated by the DF unit in the field during the reconnaissance scans. GPR transects across specific anomalies were saved to the hard drive of the DF unit for post-processing and figure generation.

Pyramid's classifications of USTs for the purposes of this report are based directly on the geophysical UST ratings provided by the NCDOT. These ratings are as follows:

Geophysical Surveys for Underground Storage Tanks
on NCDOT Projects

High Confidence	Intermediate Confidence	Low Confidence	No Confidence
Known UST Active tank - spatial location, orientation, and approximate depth determined by geophysics.	**Probable UST** Sufficient geophysical data from both magnetic and radar surveys that is characteristic of a tank. Interpretation may be supported by physical evidence such as fill/vent pipe, metal cover plate, asphalt/concrete patch, etc.	**Possible UST** Sufficient geophysical data from either magnetic or radar surveys that is characteristic of a tank. Additional data is not sufficient enough to confirm or deny the presence of a UST.	Anomaly noted but not characteristic of a UST. Should be noted in the text and may be called out in the figures at the geophysicist's discretion.

DISCUSSION OF RESULTS

Discussion of EM Results

A contour plot of the EM61 results obtained across the survey area at the property is presented in **Figure 2**. Each EM anomaly is numbered for reference in the figure. The following table presents the list of EM anomalies and the cause of the metallic response, if known:

LIST OF METALLIC ANOMALIES IDENTIFIED BY EM SURVEY

Metallic Anomaly #	Cause of Anomaly	Investigated with GPR
1	Trailer	✓
2	Fence	
3	Water Spigot	
4	**Two Probable USTs**	✓
5	Fence	
6	Sign	
7	Hydrant	

The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface, including a trailer, a fence, a water spigot, a sign and a hydrant. EM Anomaly 4 was associated with a high-amplitude EM anomaly that was suggestive of possible USTs and was investigated by GPR. Additionally, GPR was performed around the trailer to confirm that the metallic interference did not obscure any buried structures such as USTs.

Discussion of GPR Results

Figure 3 presents the locations of the formal GPR transects performed at the property as well as select transect images. All of the transect images are included in **Appendix A**. A total of five GPR transects were performed at the property. GPR Transects 1 and 2 were performed around the metallic interference caused by the trailer, and did not record any evidence of buried structures.

GPR Transects 3-5 were performed across EM Anomaly 4. These transects recorded two discreet, high-amplitude hyperbolic reflectors and two isolated lateral reflectors that were characteristic of USTs. The combined EM and GPR data result in these features being classified as two probable metallic USTs. From west to east: UST #1 was approximately 15.5 feet long and 8.5 feet wide and UST #2 was approximately 14 feet long and 8 feet wide. **Figure 4** provides the locations and sizes of the two probable USTs overlain on an aerial photograph as well as a ground-level photograph. **Figure 5** provides an overlay of the metal detection results and the two probable USTs onto the NCDOT Engineering plans.

Collectively, the geophysical data recorded evidence of two probable metallic USTs at Parcel 89.

SUMMARY & CONCLUSIONS

Pyramid's evaluation of the EM61 and GPR data collected at Parcel 89 in West End, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the accessible portions of the geophysical survey area.
- The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface.
- One high-amplitude EM anomaly was suggestive of possible tank(s) and was investigated by GPR.
- The GPR recorded evidence of two discreet, high-amplitude hyperbolic reflectors and two isolated lateral reflectors that were characteristic of USTs. From west to east:
    - UST #1 was approximately 15.5 feet long and 8.5 feet wide
    - UST #2 was approximately 14 feet long and 8 feet wide.
- The remaining GPR did not record any additional evidence of buried structures such as USTs.
- Collectively, the geophysical data recorded evidence of two probable metallic USTs at Parcel 89.

LIMITATIONS

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

results obtained for this project have not conclusively determined the definitive presence or absence of metallic USTs, but the evidence collected is sufficient to result in the conclusions made in this report. Additionally, it should be understood that areas containing extensive vegetation, reinforced concrete, or other restrictions to the accessibility of the geophysical instruments could not be fully investigated.

APPROXIMATE BOUNDARIES OF GEOPHYSICAL SURVEY AREA

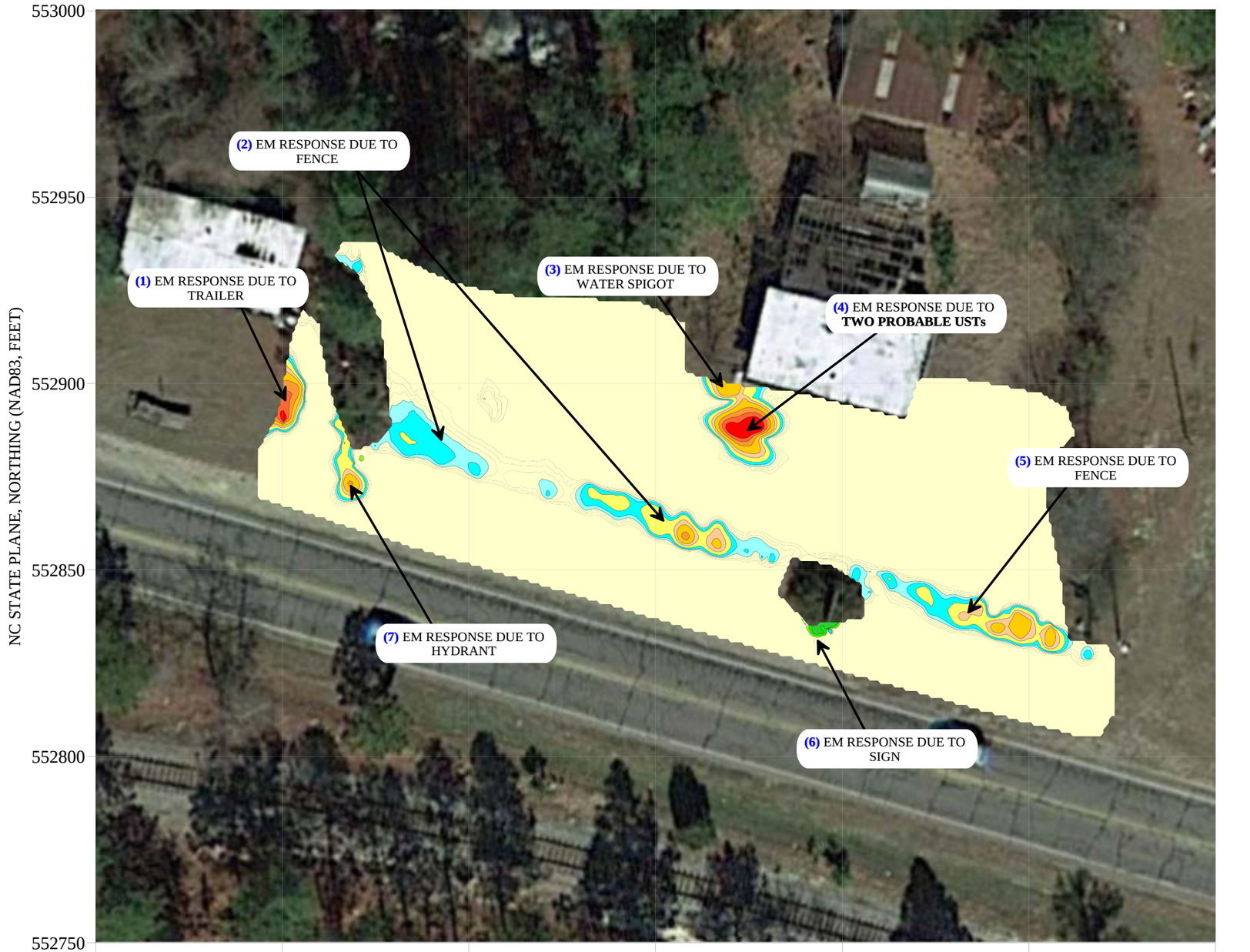
View of Survey Area
(Facing Approximately West)

View of Survey Area
(Facing Approximately East)

N

PYRAMID GEOPHYSICS 503 INDUSTRIAL AVENUE GREENSBORO, NC 27406 (336) 335-3174 (p) (336) 691-0648 (f) License # C1251 Eng. / License # C257 Geology	PROJECT PARCEL 89 WEST END, NORTH CAROLINA NCDOT PROJECT R-5726	TITLE PARCEL 89 - GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS	DATE 8/8/2019 PYRAMID PROJECT #: 2019-233	CLIENT GEOSYNTEC **FIGURE 1**

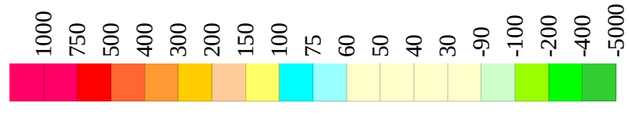
EM61 METAL DETECTION RESULTS



EVIDENCE OF TWO PROBABLE METALLIC USTs WAS OBSERVED.

The contour plot shows the differential results of the EM61 instrument in millivolts (mV). The differential results focus on larger metallic objects such as USTs and drums. The EM data were collected on July 29 and August 7, 2019, using a Geonics EM61-MK2 instrument. Verification GPR data were collected using a GSSI SIR 4000 controller with a 350 MHz HS antenna on July 31 and August 7, 2019.

EM61 Metal Detection Response (millivolts)

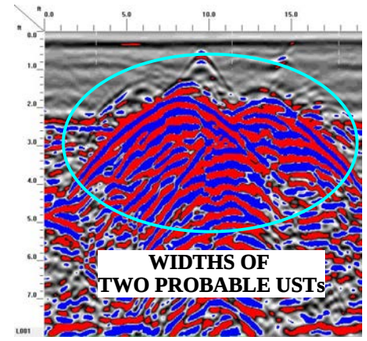


N

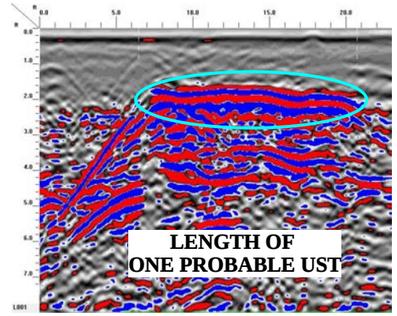
PYRAMID GEOPHYSICS
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27406
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

PROJECT	PARCEL 89 WEST END, NORTH CAROLINA NCDOT PROJECT R-5726	TITLE	PARCEL 89 - EM61 METAL DETECTION CONTOUR MAP	DATE 8/8/2019 PYRAMID PROJECT #: 2019-233
CLIENT	GEOSYNTEC			**FIGURE 2**

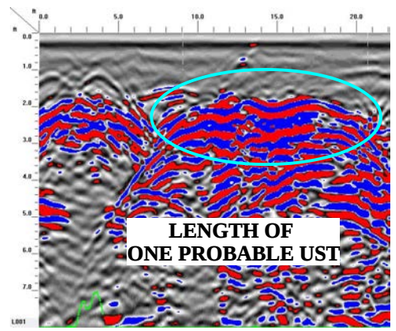
LOCATIONS OF GPR TRANSECTS



GPR TRANSECT 1 (T1)



GPR TRANSECT 2 (T2)



GPR TRANSECT 3 (T3)

N

PYRAMID GEOPHYSICS
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27406
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

PROJECT	PARCEL 89 WEST END, NORTH CAROLINA NCDOT PROJECT R-5726	TITLE	PARCEL 89 - GPR TRANSECT LOCATIONS AND SELECT IMAGES	DATE	8/8/2019
				PYRAMID PROJECT #:	2019-233
CLIENT	GEOSYNTEC				
FIGURE 3					

View of Two Probable USTs
Facing Approximately North

View of Two Probable USTs
Facing Approximately East

N

PYRAMID GEOPHYSICS
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27406
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

PROJECT	PARCEL 89 WEST END, NORTH CAROLINA NCDOT PROJECT R-5726	TITLE	PARCEL 89 - LOCATIONS AND SIZES OF TWO PROBABLE USTs	DATE 8/8/2019 CLIENT GEOSYNTEC
				PYRAMID PROJECT #: 2019-233 **FIGURE 4**

TWO PROBABLE USTs

EM61 METAL DETECTION CONTOURS (SEE FIGURE 2 FOR ANOMALY LABELS)

LEGEND

- EXISTING ROW
- EXISTING PROPERTY BOUNDARY
- PROPOSED ROW LINE
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED PERMANENT DRAINAGE
- PROPOSED SS CUT LINE
- PROPOSED SS FILL LINE
- PROBABLE UST

MILLIVOLTS (mV)

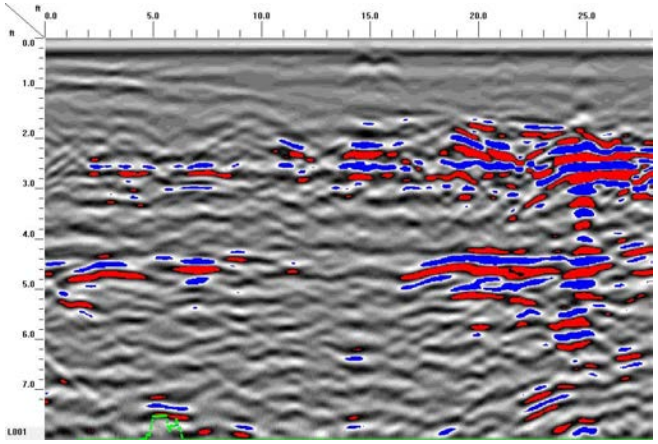
1000 750 500 400 300 200 150 100 75 60 50 40 30 -90 -100 -200 -400 -5000

N

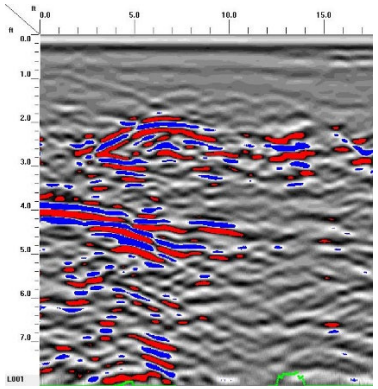
0 25 50
FEET

TITLE: OVERLAY OF METAL DETECTION RESULTS AND TWO PROBABLE USTs ON NCDOT ENGINEERING PLANS	
PROJECT: PARCEL 89, WEST END, NORTH CAROLINA, NCDOT PROJECT R-5726	
PYRAMID GEOPHYSICS 503 INDUSTRIAL AVENUE GREENSBORO, NC 27406 336.335.3174 (p) 336.691.0648 (f) License # C1251 Eng. / #C257 Geology	
DATE: 08-20-2019	REVISION NO. 0
PYRAMID PROJECT NO. 2019-233	FIGURE NO. 5

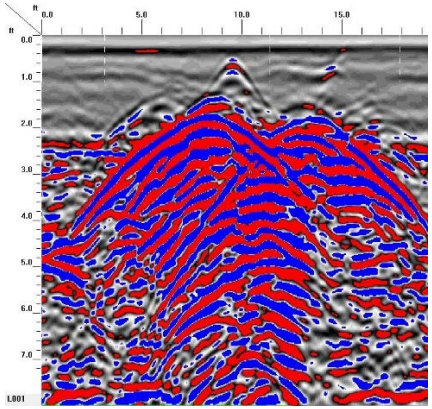
Appendix A – GPR Transect Images



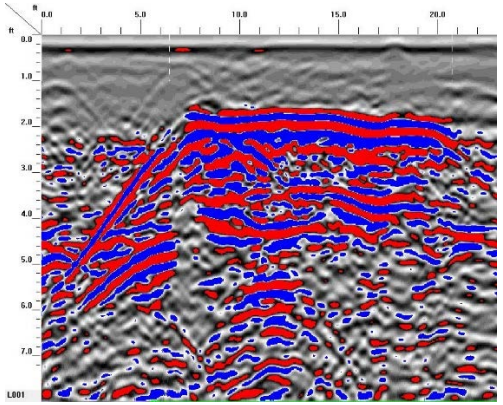
GPR TRANSECT 1



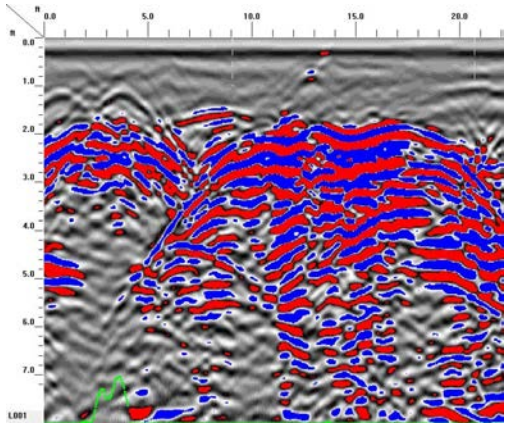
GPR TRANSECT 2



GPR TRANSECT 3



GPR TRANSECT 4



GPR TRANSECT 5

APPENDIX B
Photographic Log

GEOSYNTEC CONSULTANTS
Photographic Record

Geosyntec Consultants of NC, PC

Client: NCDOT	**Project Number: GN7039**
Site Name: R-5726 - Parcel 89	**Site Location: 4039 NC 211, West End, NC**

Photograph 1	
Date: 29 July 2019	
Direction: NW	
Comments: View of the southwestern side of the Site building and the two probable USTs. The PUE area extends to the southern edge of the Site building.	

Photograph 2	
Date: 29 July 2019	
Direction: NE	
Comments: View of the southeastern side of the Site.	

APPENDIX C
Soil Boring Logs

Geosyntec consultants

BORING LOG

BORING NO. SB89-01
SHEET 1 OF 1

DRILLING CO.: Snedeaer	Status: ☐ Well Installed ☐ Plugged & Abdnd. ☐	SITE: NCDOT West End	Borehole Location Sketch Map
METHOD & TOOLS: Hand Auger		PROJECT NO.: GN7039	
RIG: —		N: E:	
BIT DIAMETER: —	DRILLER: Trey	SUPERVISOR: M Wang	
GROUND ELEV.:	☐ Surveyed ☐ Estimated	DATE: 8/15/19	

Top (Depth)	☐ Feet ☐ Meters Lithology Log	Graphic Log	Depth Scale	Well	SPT Blows/6*	Run (No.)	Rec. (%)	Drilling Log
~~0-0.5~~ 0-5 ft	0-0.5 ft Organic Debris 0.5-2 ft, brown fine sand, dry-moist, 2-5 ft, light brown fine-medium sand, dry-moist, poorly sorted.						100	Hand Auger PID=0
5-10 ft	5-7.5 ft. Same as 2-5 ft interval 7.5-10 ft, saprolite, brown sand, fine-medium, mixed with clay & gravels. Crednaly samples are collected from 5-5.5 ft @ 0900 SB89-01-5-5.5						100	Hand Auger PID=0

MW

Geosyntec consultants

BORING LOG

BORING NO. SB89-02

SHEET 1 OF 1

DRILLING CO.: Soedacco

METHOD & TOOLS: Hand Auger

RIG: —

BIT DIAMETER: — DRILLER: Trey B

GROUND ELEV.: ☐ Surveyed ☐ Estimated

Status: ☐ Well Installed ☐ Plugged & Abdnd. ☐

SITE: NCDOT West End

PROJECT NO.: GN7039

N: E:

SUPERVISOR: M Way

DATE: 8/15/19

Borehole Location Sketch Map

Top (Depth) ☐ Feet ☐ Meters	Lithology Log	Graphic Log	Depth Scale	Well	SPT Blows/6"	Run (No.)	Rec. (%)	Drilling Log
0-5 ft	0-0.5 ft, organic debris 0.5-~~ft~~ 2.5 ft, brown fine-medium sand, dry-moist, some gravels, 2.5-5 ft, Light brown fine-medium sand, dry-moist, poorly sorted						100	Hand Auger PID=0
5-10 ft	5-7 ft. same as above. 7-10 ft, saprolite, brown fine-medium sand, mixed with reddish color clay & gravels, Hard, dry-moist Sample are collected from 5.5-6 ft @ 0940 SB89-02-5.5-6						100	PID=0

Geosyntec consultants

BORING LOG

BORING NO. SB89-03

SHEET 1 OF 1

DRILLING CO.: Cascade	Status: ☐ Well Installed ☐ Plugged & Abdnd. ☐	SITE: NCDOT Wast Trail	Borehole Location Sketch Map
METHOD & TOOLS: Hand Auger		PROJECT NO.: GN7039	
RIG: —		N: E:	
BIT DIAMETER: —	DRILLER: Trey B	SUPERVISOR: M Wang	
GROUND ELEV.: ☐ Surveyed ☐ Estimated		DATE: 8/15/19	

Top (Depth) ☐ Feet ☐ Meters	Lithology Log	Graphic Log	Depth Scale	Well	SPT Blows/6"	Run (No.)	Rec. (%)	Drilling Log
0-5 ft	0-0.5ft Organic Debris						100	Hand Auger PID=0
	0.5-2.5ft Brown fine-medium sand, dry-moist, loose.							
	2.5-5 ft, Light brown sand, fine-medium, poorly sorted, loose							
5-10 ft	5-7 ft, same as above.						low	PID=0
	7-10 ft, saprolite, brown sand mixed with grey clay & reddish ~~tan~~ gravel							
	samples are collected from 6.5-7 ft, @ 1030							
	SB89-03-6.5-7							

MW

Geosyntec consultants

BORING LOG

BORING NO. SB89-04

SHEET 1 OF 1

DRILLING CO.: Saedacco

METHOD & TOOLS: Hand Auger

RIG: —

BIT DIAMETER: — DRILLER: Troy B

GROUND ELEV.: ☐ Surveyed ☐ Estimated

Status: ☐ Well Installed ☐ Plugged & Abdnd. ☐

SITE: West End.

PROJECT NO.: 60N7039

N: E:

SUPERVISOR: M Wang

DATE: 8/15/19

Borehole Location Sketch Map

Top (Depth) ☐ Feet ☐ Meters	Lithology Log	Graphic Log	Depth Scale	Well	SPT Blows/6"	Run (No.)	Rec. (%)	Drilling Log
0-5 ft	0-0.5 ft Organic Debris 0.5-2 ft. brown sand, fine-medium, loose, dry-moist 2-5 ft, Light brown sand, fine, dry, loose, poorly sorted.						100	Hand Auger PID=0
5-10 ft	5-7 ft, same as 2-5 ft interval 7-10 ft, saprolite, dk moist brown sand, some clay & gravels. dry-moist, loose-compact, Hard to penetrate Samples are collected from 7-7.5 ft. @ 1120 SB89-04-7-7.5						100	Hand Auger PID=0

APPENDIX D
Red Lab UVF Report

QED

AQROS

Hydrocarbon Analysis Results

Client: Geosytec
Address: 2501 Blue Ridge Rd
Suite 430
Raleigh, NC 27606

Contact: Michael Wang

Project: 9795515334

Samples taken Tuesday, August 13, 2019
Samples extracted Tuesday, August 13, 2019
Samples analysed Friday, August 16, 2019

Operator Harry Wooten

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	SB89-1-5-5.5	24.1	<0.6	<0.6	<0.6	<0.6	<0.12	<0.19	<0.024	0	0	0	PHC not detected
s	SB89-2-5.5-6	13.7	<0.34	<0.34	<0.34	<0.34	<0.07	<0.11	<0.014	0	82.6	17.4	,(FCM),(P)
s	SB89-3-6.5-7	15.1	<0.38	<0.38	0.38	0.38	0.38	<0.12	<0.015	0	55.7	44.3	Residual HC
s	SB89-4-7-7.5	18.4	<0.46	<0.46	<0.46	<0.46	<0.09	<0.15	<0.018	94	6	0	Residual HC

Initial Calibrator QC check OK

Final FCM QC Check OK 103.7 %

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

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

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

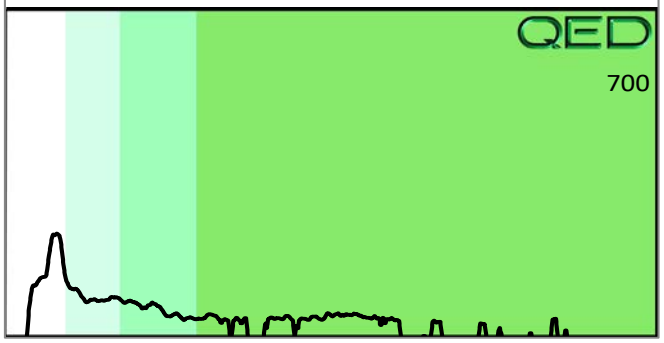
% Ratios estimated aromatic carbon number proportions : HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only. **Data generated by HC-1 Analyser**

QED Hydrocarbon Fingerprints

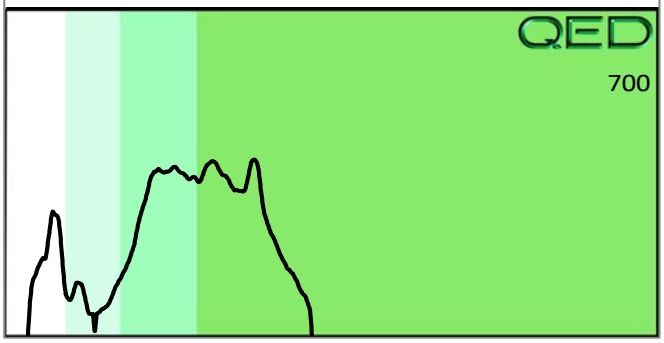
Project: R5726

8/16/19

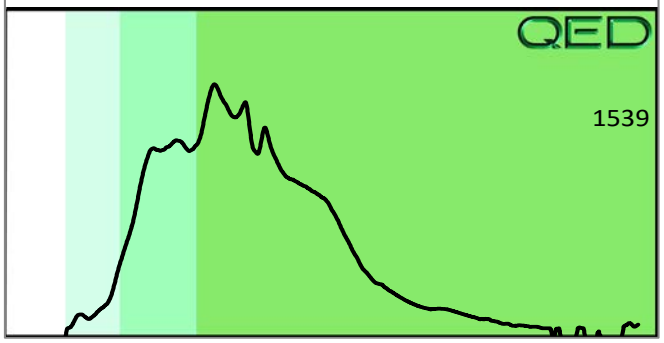
SB89-1-5-5.5 : PHC not detected



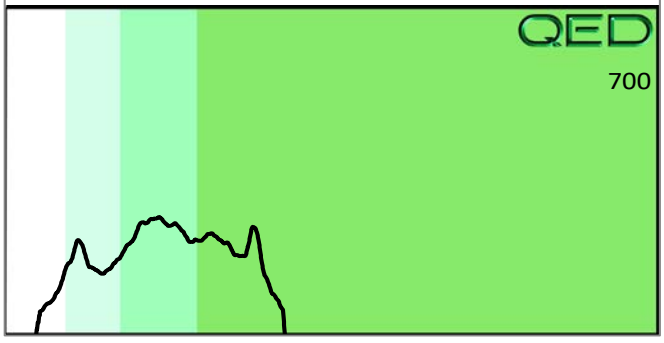
SB89-2-5.5-6 : ,(FCM),(P)



SB89-3-6.5-7 : Residual HC



SB89-4-7-7.5 : Residual HC



APPENDIX E
Prism Laboratories Analytical Report

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions

NC Certification No. 402
NC Drinking Water Cert No. 37735
SC Certification No. 99012

Case Narrative

8/28/19 11:20

Geosyntec Consultants of NC, PC - Raleigh
Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End
Project No.: GN7039
Lab Submittal Date: 08/16/2019
Prism Work Order: 9080260

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

Please call if you have any questions relating to this analytical report.

Respectfully,

PRISM LABORATORIES, INC.

Robbi A. Jones

President/Project Manager

Reviewed By Robbi A. Jones

President/Project Manager

Data Qualifiers Key Reference:

SR	Surrogate recovery outside the QC limits.
BRL	Below Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
*	Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J.

Sample Receipt Summary

08/28/2019

Prism Work Order: 9080260

Client Sample ID	Lab Sample ID	Matrix	Date/Time Sampled	Date/Time Received
SB13-01-7.5-8.0	9080260-01	Solid	08/12/19 10:30	08/16/19 9:15
SB13-02-7-7.5	9080260-02	Solid	08/12/19 11:00	08/16/19 9:15
SB13-03-6.5-7.0	9080260-03	Solid	08/12/19 11:30	08/16/19 9:15
SB43-01-4.5-5.0	9080260-04	Solid	08/13/19 13:40	08/16/19 9:15
SB43-02-6.5-7.0	9080260-05	Solid	08/13/19 14:00	08/16/19 9:15
SB43-03-7.0-7.5	9080260-06	Solid	08/13/19 14:30	08/16/19 9:15
SB43-04-7.5-8.0	9080260-07	Solid	08/13/19 14:45	08/16/19 9:15
SB66867-01-5-5.5	9080260-08	Solid	08/13/19 8:40	08/16/19 9:15
SB66867-02-4.0-4.5	9080260-09	Solid	08/13/19 9:10	08/16/19 9:15
SB66867-03-6.5-7	9080260-10	Solid	08/13/19 10:20	08/16/19 9:15
SB66867-04-5.5-6.0	9080260-11	Solid	08/13/19 9:45	08/16/19 9:15
SB66867-05-7-7.5	9080260-12	Solid	08/13/19 11:10	08/16/19 9:15
SB66867-06-7.5-8	9080260-13	Solid	08/13/19 12:20	08/16/19 9:15
SB69-01-6.0-6.5	9080260-14	Solid	08/12/19 13:00	08/16/19 9:15
SB69-02-4.0-4.5	9080260-15	Solid	08/12/19 13:30	08/16/19 9:15
SB69-03-5.0-5.5	9080260-16	Solid	08/12/19 14:00	08/16/19 9:15
SB69-04-5.0-5.5	9080260-17	Solid	08/12/19 14:45	08/16/19 9:15
SB69-05-9.5-10	9080260-18	Solid	08/12/19 15:25	08/16/19 9:15
SB69-06-9-9.5	9080260-19	Solid	08/12/19 16:15	08/16/19 9:15
SB69-07-5.0-5.5	9080260-20	Solid	08/12/19 16:45	08/16/19 9:15
SB69-08-6.0-6.5	9080260-21	Solid	08/13/19 13:00	08/16/19 9:15
SB78-01-7-7.5	9080260-22	Solid	08/13/19 15:50	08/16/19 9:15
SB78-02-5.5-6	9080260-23	Solid	08/14/19 8:25	08/16/19 9:15
SB78-03-6-6.5	9080260-24	Solid	08/14/19 9:00	08/16/19 9:15
SB78-04-6.5-7	9080260-25	Solid	08/14/19 9:30	08/16/19 9:15
SB89-01-5-5.5	9080260-26	Solid	08/15/19 9:00	08/16/19 9:15
SB89-02-5.5-6	9080260-27	Solid	08/15/19 9:40	08/16/19 9:15
SB89-03-6.5-7	9080260-28	Solid	08/15/19 10:30	08/16/19 9:15
SB89-04-7-7.5	9080260-29	Solid	08/15/19 11:30	08/16/19 9:15
SB102-01-2.5-3	9080260-30	Solid	08/14/19 10:50	08/16/19 9:15
SB102-02-5.5-6	9080260-31	Solid	08/14/19 11:35	08/16/19 9:15
SB102-03-7-7.5	9080260-32	Solid	08/14/19 13:00	08/16/19 9:15
SB102-04-7.5-8	9080260-33	Solid	08/14/19 13:30	08/16/19 9:15

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

SB102-05-4.5-5	9080260-34	Solid	08/14/19 14:00	08/16/19 9:15
SB102-06-0.5-1	9080260-35	Solid	08/14/19 14:50	08/16/19 9:15
SB102-07-7.5-8	9080260-36	Solid	08/14/19 15:35	08/16/19 9:15
SB102-08-8-8.5	9080260-37	Solid	08/14/19 16:05	08/16/19 9:15
SB102-09-8.5-9	9080260-38	Solid	08/14/19 16:45	08/16/19 9:15
SB102-10-9-9.5	9080260-39	Solid	08/14/19 17:20	08/16/19 9:15

Samples were received in good condition at 3.3 degrees C unless otherwise noted.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Summary of Detections

08/28/2019

Prism Work Order: 9080260

Prism ID	Client ID	Parameter	Method	Result	Units

There were no detections reported.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB13-01-7.5-8.0
Prism Sample ID: 9080260-01
Prism Work Order: 9080260
Time Collected: 08/12/19 10:30
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**91.0**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0071	0.0011	1	8260D	8/20/19 17:51	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0071	0.0011	1	8260D	8/20/19 17:51	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.014	0.0018	1	8260D	8/20/19 17:51	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0071	0.00075	1	8260D	8/20/19 17:51	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0071	0.0011	1	8260D	8/20/19 17:51	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.021	0.0025	1	8260D	8/20/19 17:51	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*99 %*	*70-130*
Dibromofluoromethane	*112 %*	*84-123*
Toluene-d8	*95 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB13-02-7-7.5
Prism Sample ID: 9080260-02
Prism Work Order: 9080260
Time Collected: 08/12/19 11:00
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**86.2**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0069	0.0011	1	8260D	8/20/19 18:21	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0069	0.0010	1	8260D	8/20/19 18:21	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.014	0.0018	1	8260D	8/20/19 18:21	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0069	0.00074	1	8260D	8/20/19 18:21	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0069	0.0011	1	8260D	8/20/19 18:21	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.021	0.0025	1	8260D	8/20/19 18:21	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*98 %*	*70-130*
Dibromofluoromethane	*114 %*	*84-123*
Toluene-d8	*94 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB13-03-6.5-7.0
Prism Sample ID: 9080260-03
Prism Work Order: 9080260
Time Collected: 08/12/19 11:30
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**95.0**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0051	0.00079	1	8260D	8/20/19 18:51	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0051	0.00077	1	8260D	8/20/19 18:51	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.010	0.0013	1	8260D	8/20/19 18:51	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0051	0.00054	1	8260D	8/20/19 18:51	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0051	0.00081	1	8260D	8/20/19 18:51	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.015	0.0018	1	8260D	8/20/19 18:51	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*70-130*
Dibromofluoromethane	*116 %*	*84-123*
Toluene-d8	*95 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB43-01-4.5-5.0
Prism Sample ID: 9080260-04
Prism Work Order: 9080260
Time Collected: 08/13/19 13:40
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**97.8**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0053	0.00083	1	8260D	8/20/19 19:21	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0053	0.00080	1	8260D	8/20/19 19:21	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.011	0.0014	1	8260D	8/20/19 19:21	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0053	0.00056	1	8260D	8/20/19 19:21	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0053	0.00084	1	8260D	8/20/19 19:21	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.016	0.0019	1	8260D	8/20/19 19:21	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*70-130*
Dibromofluoromethane	*113 %*	*84-123*
Toluene-d8	*95 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB43-02-6.5-7.0
Prism Sample ID: 9080260-05
Prism Work Order: 9080260
Time Collected: 08/13/19 14:00
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**91.4**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0073	0.0011	1	8260D	8/22/19 15:18	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0073	0.0011	1	8260D	8/22/19 15:18	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.015	0.0019	1	8260D	8/22/19 15:18	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0073	0.00077	1	8260D	8/22/19 15:18	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0073	0.0012	1	8260D	8/22/19 15:18	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.022	0.0026	1	8260D	8/22/19 15:18	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*103 %*	*70-130*	
Dibromofluoromethane	*127 %*	*84-123*	*SR*
Toluene-d8	*93 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB43-03-7.0-7.5
Prism Sample ID: 9080260-06
Prism Work Order: 9080260
Time Collected: 08/13/19 14:30
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**75.6**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0061	0.00095	1	8260D	8/20/19 20:21	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0061	0.00091	1	8260D	8/20/19 20:21	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.012	0.0016	1	8260D	8/20/19 20:21	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0061	0.00065	1	8260D	8/20/19 20:21	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0061	0.00097	1	8260D	8/20/19 20:21	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.018	0.0022	1	8260D	8/20/19 20:21	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*70-130*
Dibromofluoromethane	*120 %*	*84-123*
Toluene-d8	*96 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB43-04-7.5-8.0
Prism Sample ID: 9080260-07
Prism Work Order: 9080260
Time Collected: 08/13/19 14:45
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**84.1**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0054	0.00085	1	8260D	8/20/19 20:51	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0054	0.00082	1	8260D	8/20/19 20:51	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.011	0.0014	1	8260D	8/20/19 20:51	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0054	0.00058	1	8260D	8/20/19 20:51	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0054	0.00086	1	8260D	8/20/19 20:51	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.016	0.0020	1	8260D	8/20/19 20:51	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*101 %*	*70-130*
Dibromofluoromethane	*119 %*	*84-123*
Toluene-d8	*95 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB66867-01-5-5.5
Prism Sample ID: 9080260-08
Prism Work Order: 9080260
Time Collected: 08/13/19 08:40
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**90.8**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0050	0.00078	1	8260D	8/20/19 21:21	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0050	0.00075	1	8260D	8/20/19 21:21	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.010	0.0013	1	8260D	8/20/19 21:21	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0050	0.00053	1	8260D	8/20/19 21:21	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0050	0.00080	1	8260D	8/20/19 21:21	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.015	0.0018	1	8260D	8/20/19 21:21	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*99 %*	*70-130*
Dibromofluoromethane	*122 %*	*84-123*
Toluene-d8	*95 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB66867-02-4.0-4.5
Prism Sample ID: 9080260-09
Prism Work Order: 9080260
Time Collected: 08/13/19 09:10
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**86.8**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0061	0.00096	1	8260D	8/20/19 21:51	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0061	0.00092	1	8260D	8/20/19 21:51	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.012	0.0016	1	8260D	8/20/19 21:51	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0061	0.00065	1	8260D	8/20/19 21:51	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0061	0.00098	1	8260D	8/20/19 21:51	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.018	0.0022	1	8260D	8/20/19 21:51	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*100 %*	*70-130*
Dibromofluoromethane	*118 %*	*84-123*
Toluene-d8	*97 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB66867-03-6.5-7
Prism Sample ID: 9080260-10
Prism Work Order: 9080260
Time Collected: 08/13/19 10:20
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**90.8**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0059	0.00092	1	8260D	8/20/19 22:20	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0059	0.00088	1	8260D	8/20/19 22:20	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.012	0.0015	1	8260D	8/20/19 22:20	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0059	0.00063	1	8260D	8/20/19 22:20	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0059	0.00094	1	8260D	8/20/19 22:20	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.018	0.0021	1	8260D	8/20/19 22:20	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*99 %*	*70-130*
Dibromofluoromethane	*120 %*	*84-123*
Toluene-d8	*95 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB66867-04-5.5-6.0
Prism Sample ID: 9080260-11
Prism Work Order: 9080260
Time Collected: 08/13/19 09:45
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**94.1**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0056	0.00088	1	8260D	8/20/19 22:50	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0056	0.00085	1	8260D	8/20/19 22:50	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.011	0.0014	1	8260D	8/20/19 22:50	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0056	0.00060	1	8260D	8/20/19 22:50	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0056	0.00090	1	8260D	8/20/19 22:50	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.017	0.0020	1	8260D	8/20/19 22:50	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*97 %*	*70-130*
Dibromofluoromethane	*118 %*	*84-123*
Toluene-d8	*96 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB66867-05-7-7.5
Prism Sample ID: 9080260-12
Prism Work Order: 9080260
Time Collected: 08/13/19 11:10
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**89.3**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0060	0.00094	1	8260D	8/20/19 23:20	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0060	0.00091	1	8260D	8/20/19 23:20	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.012	0.0015	1	8260D	8/20/19 23:20	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0060	0.00064	1	8260D	8/20/19 23:20	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0060	0.00096	1	8260D	8/20/19 23:20	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.018	0.0022	1	8260D	8/20/19 23:20	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*70-130*
Dibromofluoromethane	*119 %*	*84-123*
Toluene-d8	*94 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB66867-06-7.5-8
Prism Sample ID: 9080260-13
Prism Work Order: 9080260
Time Collected: 08/13/19 12:20
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**89.0**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0049	0.00076	1	8260D	8/19/19 16:12	JLB	P9H0310
Ethylbenzene	BRL	mg/kg dry	0.0049	0.00074	1	8260D	8/19/19 16:12	JLB	P9H0310
m,p-Xylenes	BRL	mg/kg dry	0.0098	0.0013	1	8260D	8/19/19 16:12	JLB	P9H0310
o-Xylene	BRL	mg/kg dry	0.0049	0.00052	1	8260D	8/19/19 16:12	JLB	P9H0310
Toluene	BRL	mg/kg dry	0.0049	0.00078	1	8260D	8/19/19 16:12	JLB	P9H0310
Xylenes, total	BRL	mg/kg dry	0.015	0.0018	1	8260D	8/19/19 16:12	JLB	P9H0310

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*100 %*	*70-130*
Dibromofluoromethane	*110 %*	*84-123*
Toluene-d8	*97 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB69-01-6.0-6.5
Prism Sample ID: 9080260-14
Prism Work Order: 9080260
Time Collected: 08/12/19 13:00
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**90.5**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0052	0.00081	1	8260D	8/21/19 19:41	JLB	P9H0366
Ethylbenzene	BRL	mg/kg dry	0.0052	0.00078	1	8260D	8/21/19 19:41	JLB	P9H0366
m,p-Xylenes	BRL	mg/kg dry	0.010	0.0013	1	8260D	8/21/19 19:41	JLB	P9H0366
o-Xylene	BRL	mg/kg dry	0.0052	0.00055	1	8260D	8/21/19 19:41	JLB	P9H0366
Toluene	BRL	mg/kg dry	0.0052	0.00082	1	8260D	8/21/19 19:41	JLB	P9H0366
Xylenes, total	BRL	mg/kg dry	0.016	0.0019	1	8260D	8/21/19 19:41	JLB	P9H0366

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*103 %*	*70-130*
Dibromofluoromethane	*123 %*	*84-123*
Toluene-d8	*92 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB69-02-4.0-4.5
Prism Sample ID: 9080260-15
Prism Work Order: 9080260
Time Collected: 08/12/19 13:30
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**95.0**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0080	0.0012	1	8260D	8/21/19 0:20	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0080	0.0012	1	8260D	8/21/19 0:20	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.016	0.0020	1	8260D	8/21/19 0:20	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0080	0.00085	1	8260D	8/21/19 0:20	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0080	0.0013	1	8260D	8/21/19 0:20	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.024	0.0029	1	8260D	8/21/19 0:20	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*103 %*	*70-130*
Dibromofluoromethane	*122 %*	*84-123*
Toluene-d8	*95 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB69-03-5.0-5.5
Prism Sample ID: 9080260-16
Prism Work Order: 9080260
Time Collected: 08/12/19 14:00
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**93.2**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0043	0.00067	1	8260D	8/21/19 0:49	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0043	0.00064	1	8260D	8/21/19 0:49	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.0086	0.0011	1	8260D	8/21/19 0:49	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0043	0.00046	1	8260D	8/21/19 0:49	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0043	0.00068	1	8260D	8/21/19 0:49	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.013	0.0015	1	8260D	8/21/19 0:49	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*70-130*
Dibromofluoromethane	*121 %*	*84-123*
Toluene-d8	*96 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB69-04-5.0-5.5
Prism Sample ID: 9080260-17
Prism Work Order: 9080260
Time Collected: 08/12/19 14:45
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**92.2**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/22/19 10:22**	**EDV**	**P9H0353**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0049	0.00076	1	8260D	8/21/19 1:19	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0049	0.00074	1	8260D	8/21/19 1:19	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.0098	0.0013	1	8260D	8/21/19 1:19	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0049	0.00052	1	8260D	8/21/19 1:19	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0049	0.00078	1	8260D	8/21/19 1:19	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.015	0.0018	1	8260D	8/21/19 1:19	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*100 %*	*70-130*
Dibromofluoromethane	*123 %*	*84-123*
Toluene-d8	*94 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB69-05-9.5-10
Prism Sample ID: 9080260-18
Prism Work Order: 9080260
Time Collected: 08/12/19 15:25
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**91.0**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0056	0.00088	1	8260D	8/21/19 1:50	JLB	P9H0347
Ethylbenzene	BRL	mg/kg dry	0.0056	0.00084	1	8260D	8/21/19 1:50	JLB	P9H0347
m,p-Xylenes	BRL	mg/kg dry	0.011	0.0014	1	8260D	8/21/19 1:50	JLB	P9H0347
o-Xylene	BRL	mg/kg dry	0.0056	0.00060	1	8260D	8/21/19 1:50	JLB	P9H0347
Toluene	BRL	mg/kg dry	0.0056	0.00089	1	8260D	8/21/19 1:50	JLB	P9H0347
Xylenes, total	BRL	mg/kg dry	0.017	0.0020	1	8260D	8/21/19 1:50	JLB	P9H0347

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*99 %*	*70-130*
Dibromofluoromethane	*119 %*	*84-123*
Toluene-d8	*94 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB69-06-9-9.5
Prism Sample ID: 9080260-19
Prism Work Order: 9080260
Time Collected: 08/12/19 16:15
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**87.3**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0046	0.00072	1	8260D	8/22/19 15:47	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0046	0.00069	1	8260D	8/22/19 15:47	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.0092	0.0012	1	8260D	8/22/19 15:47	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0046	0.00049	1	8260D	8/22/19 15:47	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0046	0.00073	1	8260D	8/22/19 15:47	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.014	0.0017	1	8260D	8/22/19 15:47	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*99 %*	*70-130*	
Dibromofluoromethane	*125 %*	*84-123*	*SR*
Toluene-d8	*92 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB69-07-5.0-5.5
Prism Sample ID: 9080260-20
Prism Work Order: 9080260
Time Collected: 08/12/19 16:45
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**93.3**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0051	0.00080	1	8260D	8/22/19 16:17	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0051	0.00077	1	8260D	8/22/19 16:17	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.010	0.0013	1	8260D	8/22/19 16:17	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0051	0.00055	1	8260D	8/22/19 16:17	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0051	0.00082	1	8260D	8/22/19 16:17	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.015	0.0019	1	8260D	8/22/19 16:17	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*102 %*	*70-130*	
Dibromofluoromethane	*127 %*	*84-123*	*SR*
Toluene-d8	*94 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB69-08-6.0-6.5
Prism Sample ID: 9080260-21
Prism Work Order: 9080260
Time Collected: 08/13/19 13:00
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**85.7**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0060	0.00094	1	8260D	8/26/19 19:27	JLB	P9H0434
Ethylbenzene	BRL	mg/kg dry	0.0060	0.00091	1	8260D	8/26/19 19:27	JLB	P9H0434
m,p-Xylenes	BRL	mg/kg dry	0.012	0.0015	1	8260D	8/26/19 19:27	JLB	P9H0434
o-Xylene	BRL	mg/kg dry	0.0060	0.00064	1	8260D	8/26/19 19:27	JLB	P9H0434
Toluene	BRL	mg/kg dry	0.0060	0.00096	1	8260D	8/26/19 19:27	JLB	P9H0434
Xylenes, total	BRL	mg/kg dry	0.018	0.0022	1	8260D	8/26/19 19:27	JLB	P9H0434

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*112 %*	*70-130*
Dibromofluoromethane	*96 %*	*84-123*
Toluene-d8	*101 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB78-01-7-7.5
Prism Sample ID: 9080260-22
Prism Work Order: 9080260
Time Collected: 08/13/19 15:50
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**83.4**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0053	0.00082	1	8260D	8/22/19 17:34	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0053	0.00079	1	8260D	8/22/19 17:34	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.011	0.0013	1	8260D	8/22/19 17:34	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0053	0.00056	1	8260D	8/22/19 17:34	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0053	0.00084	1	8260D	8/22/19 17:34	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.016	0.0019	1	8260D	8/22/19 17:34	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*100 %*	*70-130*	
Dibromofluoromethane	*132 %*	*84-123*	*SR*
Toluene-d8	*96 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB78-02-5.5-6
Prism Sample ID: 9080260-23
Prism Work Order: 9080260
Time Collected: 08/14/19 08:25
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**97.8**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0043	0.00067	1	8260D	8/19/19 16:42	JLB	P9H0310
Ethylbenzene	BRL	mg/kg dry	0.0043	0.00065	1	8260D	8/19/19 16:42	JLB	P9H0310
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0043	0.00050	1	8260D	8/19/19 16:42	JLB	P9H0310
m,p-Xylenes	BRL	mg/kg dry	0.0086	0.0011	1	8260D	8/19/19 16:42	JLB	P9H0310
o-Xylene	BRL	mg/kg dry	0.0043	0.00046	1	8260D	8/19/19 16:42	JLB	P9H0310
Toluene	BRL	mg/kg dry	0.0043	0.00068	1	8260D	8/19/19 16:42	JLB	P9H0310
Xylenes, total	BRL	mg/kg dry	0.013	0.0015	1	8260D	8/19/19 16:42	JLB	P9H0310

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*70-130*
Dibromofluoromethane	*109 %*	*84-123*
Toluene-d8	*96 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB78-03-6-6.5
Prism Sample ID: 9080260-24
Prism Work Order: 9080260
Time Collected: 08/14/19 09:00
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**85.2**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0068	0.0011	1	8260D	8/19/19 17:12	JLB	P9H0310
Ethylbenzene	BRL	mg/kg dry	0.0068	0.0010	1	8260D	8/19/19 17:12	JLB	P9H0310
m,p-Xylenes	BRL	mg/kg dry	0.014	0.0017	1	8260D	8/19/19 17:12	JLB	P9H0310
o-Xylene	BRL	mg/kg dry	0.0068	0.00072	1	8260D	8/19/19 17:12	JLB	P9H0310
Toluene	BRL	mg/kg dry	0.0068	0.0011	1	8260D	8/19/19 17:12	JLB	P9H0310
Xylenes, total	BRL	mg/kg dry	0.020	0.0024	1	8260D	8/19/19 17:12	JLB	P9H0310

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*103 %*	*70-130*
Dibromofluoromethane	*110 %*	*84-123*
Toluene-d8	*96 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB78-04-6.5-7
Prism Sample ID: 9080260-25
Prism Work Order: 9080260
Time Collected: 08/14/19 09:30
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**85.1**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0062	0.00097	1	8260D	8/22/19 18:04	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0062	0.00093	1	8260D	8/22/19 18:04	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.012	0.0016	1	8260D	8/22/19 18:04	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0062	0.00066	1	8260D	8/22/19 18:04	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0062	0.00099	1	8260D	8/22/19 18:04	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.019	0.0022	1	8260D	8/22/19 18:04	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*98 %*	*70-130*	
Dibromofluoromethane	*130 %*	*84-123*	*SR*
Toluene-d8	*93 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB89-01-5-5.5
Prism Sample ID: 9080260-26
Prism Work Order: 9080260
Time Collected: 08/15/19 09:00
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**96.3**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0056	0.00088	1	8260D	8/22/19 18:34	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0056	0.00085	1	8260D	8/22/19 18:34	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.011	0.0014	1	8260D	8/22/19 18:34	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0056	0.00060	1	8260D	8/22/19 18:34	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0056	0.00090	1	8260D	8/22/19 18:34	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.017	0.0020	1	8260D	8/22/19 18:34	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*98 %*	*70-130*	
Dibromofluoromethane	*127 %*	*84-123*	*SR*
Toluene-d8	*94 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB89-02-5.5-6
Prism Sample ID: 9080260-27
Prism Work Order: 9080260
Time Collected: 08/15/19 09:40
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**96.6**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0066	0.0010	1	8260D	8/22/19 19:04	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0066	0.0010	1	8260D	8/22/19 19:04	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.013	0.0017	1	8260D	8/22/19 19:04	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0066	0.00070	1	8260D	8/22/19 19:04	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0066	0.0011	1	8260D	8/22/19 19:04	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.020	0.0024	1	8260D	8/22/19 19:04	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*100 %*	*70-130*	
Dibromofluoromethane	*135 %*	*84-123*	*SR*
Toluene-d8	*93 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB89-03-6.5-7
Prism Sample ID: 9080260-28
Prism Work Order: 9080260
Time Collected: 08/15/19 10:30
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**92.2**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0065	0.0010	1	8260D	8/22/19 19:34	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0065	0.00098	1	8260D	8/22/19 19:34	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.013	0.0017	1	8260D	8/22/19 19:34	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0065	0.00069	1	8260D	8/22/19 19:34	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0065	0.0010	1	8260D	8/22/19 19:34	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.019	0.0023	1	8260D	8/22/19 19:34	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*102 %*	*70-130*	
Dibromofluoromethane	*128 %*	*84-123*	*SR*
Toluene-d8	*90 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB89-04-7-7.5
Prism Sample ID: 9080260-29
Prism Work Order: 9080260
Time Collected: 08/15/19 11:30
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**93.9**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0062	0.00097	1	8260D	8/22/19 20:03	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0062	0.00094	1	8260D	8/22/19 20:03	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.012	0.0016	1	8260D	8/22/19 20:03	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0062	0.00066	1	8260D	8/22/19 20:03	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0062	0.00099	1	8260D	8/22/19 20:03	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.019	0.0022	1	8260D	8/22/19 20:03	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*98 %*	*70-130*	
Dibromofluoromethane	*136 %*	*84-123*	*SR*
Toluene-d8	*91 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB102-01-2.5-3
Prism Sample ID: 9080260-30
Prism Work Order: 9080260
Time Collected: 08/14/19 10:50
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**89.8**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0069	0.0011	1	8260D	8/22/19 20:33	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0069	0.0010	1	8260D	8/22/19 20:33	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.014	0.0018	1	8260D	8/22/19 20:33	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0069	0.00073	1	8260D	8/22/19 20:33	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0069	0.0011	1	8260D	8/22/19 20:33	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.021	0.0025	1	8260D	8/22/19 20:33	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*101 %*	*70-130*	
Dibromofluoromethane	*134 %*	*84-123*	*SR*
Toluene-d8	*92 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB102-02-5.5-6
Prism Sample ID: 9080260-31
Prism Work Order: 9080260
Time Collected: 08/14/19 11:35
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**96.4**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0059	0.00093	1	8260D	8/22/19 21:03	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0059	0.00089	1	8260D	8/22/19 21:03	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.012	0.0015	1	8260D	8/22/19 21:03	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0059	0.00063	1	8260D	8/22/19 21:03	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0059	0.00095	1	8260D	8/22/19 21:03	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.018	0.0021	1	8260D	8/22/19 21:03	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*100 %*	*70-130*	
Dibromofluoromethane	*133 %*	*84-123*	*SR*
Toluene-d8	*91 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB102-03-7-7.5
Prism Sample ID: 9080260-32
Prism Work Order: 9080260
Time Collected: 08/14/19 13:00
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**94.4**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0053	0.00082	1	8260D	8/22/19 21:33	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0053	0.00079	1	8260D	8/22/19 21:33	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.011	0.0014	1	8260D	8/22/19 21:33	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0053	0.00056	1	8260D	8/22/19 21:33	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0053	0.00084	1	8260D	8/22/19 21:33	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.016	0.0019	1	8260D	8/22/19 21:33	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*99 %*	*70-130*	
Dibromofluoromethane	*132 %*	*84-123*	*SR*
Toluene-d8	*91 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB102-04-7.5-8
Prism Sample ID: 9080260-33
Prism Work Order: 9080260
Time Collected: 08/14/19 13:30
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**80.6**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0060	0.00094	1	8260D	8/22/19 22:03	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0060	0.00091	1	8260D	8/22/19 22:03	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.012	0.0015	1	8260D	8/22/19 22:03	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0060	0.00064	1	8260D	8/22/19 22:03	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0060	0.00096	1	8260D	8/22/19 22:03	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.018	0.0022	1	8260D	8/22/19 22:03	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*97 %*	*70-130*	
Dibromofluoromethane	*131 %*	*84-123*	*SR*
Toluene-d8	*92 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB102-05-4.5-5
Prism Sample ID: 9080260-34
Prism Work Order: 9080260
Time Collected: 08/14/19 14:00
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**97.4**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0070	0.0011	1	8260D	8/22/19 22:33	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0070	0.0011	1	8260D	8/22/19 22:33	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.014	0.0018	1	8260D	8/22/19 22:33	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0070	0.00075	1	8260D	8/22/19 22:33	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0070	0.0011	1	8260D	8/22/19 22:33	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.021	0.0025	1	8260D	8/22/19 22:33	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*103 %*	*70-130*	
Dibromofluoromethane	*138 %*	*84-123*	*SR*
Toluene-d8	*96 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB102-06-0.5-1
Prism Sample ID: 9080260-35
Prism Work Order: 9080260
Time Collected: 08/14/19 14:50
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**88.1**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0075	0.0012	1	8260D	8/22/19 23:02	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0075	0.0011	1	8260D	8/22/19 23:02	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.015	0.0019	1	8260D	8/22/19 23:02	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0075	0.00080	1	8260D	8/22/19 23:02	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0075	0.0012	1	8260D	8/22/19 23:02	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.022	0.0027	1	8260D	8/22/19 23:02	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*103 %*	*70-130*	
Dibromofluoromethane	*143 %*	*84-123*	*SR*
Toluene-d8	*89 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB102-07-7.5-8
Prism Sample ID: 9080260-36
Prism Work Order: 9080260
Time Collected: 08/14/19 15:35
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**83.5**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0043	0.00067	1	8260D	8/22/19 23:33	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0043	0.00065	1	8260D	8/22/19 23:33	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.0086	0.0011	1	8260D	8/22/19 23:33	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0043	0.00046	1	8260D	8/22/19 23:33	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0043	0.00069	1	8260D	8/22/19 23:33	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.013	0.0016	1	8260D	8/22/19 23:33	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*102 %*	*70-130*	
Dibromofluoromethane	*135 %*	*84-123*	*SR*
Toluene-d8	*91 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB102-08-8-8.5
Prism Sample ID: 9080260-37
Prism Work Order: 9080260
Time Collected: 08/14/19 16:05
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**87.9**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/23/19 8:10**	**EDV**	**P9H0369**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0058	0.00090	1	8260D	8/26/19 18:57	JLB	P9H0434
Ethylbenzene	BRL	mg/kg dry	0.0058	0.00087	1	8260D	8/26/19 18:57	JLB	P9H0434
m,p-Xylenes	BRL	mg/kg dry	0.012	0.0015	1	8260D	8/26/19 18:57	JLB	P9H0434
o-Xylene	BRL	mg/kg dry	0.0058	0.00061	1	8260D	8/26/19 18:57	JLB	P9H0434
Toluene	BRL	mg/kg dry	0.0058	0.00092	1	8260D	8/26/19 18:57	JLB	P9H0434
Xylenes, total	BRL	mg/kg dry	0.017	0.0021	1	8260D	8/26/19 18:57	JLB	P9H0434

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*103 %*	*70-130*
Dibromofluoromethane	*93 %*	*84-123*
Toluene-d8	*99 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB102-09-8.5-9
Prism Sample ID: 9080260-38
Prism Work Order: 9080260
Time Collected: 08/14/19 16:45
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**87.0**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/26/19 8:25**	**EDV**	**P9H0406**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0053	0.00082	1	8260D	8/23/19 0:32	JLB	P9H0389
Ethylbenzene	BRL	mg/kg dry	0.0053	0.00079	1	8260D	8/23/19 0:32	JLB	P9H0389
m,p-Xylenes	BRL	mg/kg dry	0.011	0.0014	1	8260D	8/23/19 0:32	JLB	P9H0389
o-Xylene	BRL	mg/kg dry	0.0053	0.00056	1	8260D	8/23/19 0:32	JLB	P9H0389
Toluene	BRL	mg/kg dry	0.0053	0.00084	1	8260D	8/23/19 0:32	JLB	P9H0389
Xylenes, total	BRL	mg/kg dry	0.016	0.0019	1	8260D	8/23/19 0:32	JLB	P9H0389

Surrogate	Recovery	Control Limits	
4-Bromofluorobenzene	*98 %*	*70-130*	
Dibromofluoromethane	*140 %*	*84-123*	*SR*
Toluene-d8	*95 %*	*76-129*	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No.: GN7039
Sample Matrix: Solid

Client Sample ID: SB102-10-9-9.5
Prism Sample ID: 9080260-39
Prism Work Order: 9080260
Time Collected: 08/14/19 17:20
Time Submitted: 08/16/19 09:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**89.4**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**8/26/19 8:25**	**EDV**	**P9H0406**
Volatile Organic Compounds by GC/MS									
Benzene	BRL	mg/kg dry	0.0048	0.00075	1	8260D	8/26/19 18:27	JLB	P9H0434
Ethylbenzene	BRL	mg/kg dry	0.0048	0.00072	1	8260D	8/26/19 18:27	JLB	P9H0434
m,p-Xylenes	BRL	mg/kg dry	0.0096	0.0012	1	8260D	8/26/19 18:27	JLB	P9H0434
o-Xylene	BRL	mg/kg dry	0.0048	0.00051	1	8260D	8/26/19 18:27	JLB	P9H0434
Toluene	BRL	mg/kg dry	0.0048	0.00077	1	8260D	8/26/19 18:27	JLB	P9H0434
Xylenes, total	BRL	mg/kg dry	0.014	0.0017	1	8260D	8/26/19 18:27	JLB	P9H0434

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*104 %*	*70-130*
Dibromofluoromethane	*95 %*	*84-123*
Toluene-d8	*98 %*	*76-129*

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

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 P9H0310 - 5035										
Blank (P9H0310-BLK1)				Prepared & Analyzed: 08/19/19						
1,1,1,2-Tetrachloroethane	BRL	0.0050	mg/kg wet							
1,1,1-Trichloroethane	BRL	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	BRL	0.0050	mg/kg wet							
1,1,2-Trichloroethane	BRL	0.0050	mg/kg wet							
1,1-Dichloroethane	BRL	0.0050	mg/kg wet							
1,1-Dichloroethylene	BRL	0.0050	mg/kg wet							
1,1-Dichloropropylene	BRL	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	BRL	0.010	mg/kg wet							
1,2,3-Trichloropropane	BRL	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	BRL	0.010	mg/kg wet							
1,2,4-Trimethylbenzene	BRL	0.0050	mg/kg wet							
1,2-Dibromoethane	BRL	0.0050	mg/kg wet							
1,2-Dichlorobenzene	BRL	0.0050	mg/kg wet							
1,2-Dichloroethane	BRL	0.0050	mg/kg wet							
1,2-Dichloropropane	BRL	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	BRL	0.0050	mg/kg wet							
1,3-Dichlorobenzene	BRL	0.0050	mg/kg wet							
1,3-Dichloropropane	BRL	0.0050	mg/kg wet							
1,4-Dichlorobenzene	BRL	0.0050	mg/kg wet							
2,2-Dichloropropane	BRL	0.0050	mg/kg wet							
2-Chlorotoluene	BRL	0.0050	mg/kg wet							
4-Chlorotoluene	BRL	0.0050	mg/kg wet							
4-Isopropyltoluene	BRL	0.0050	mg/kg wet							
Acetone	BRL	0.020	mg/kg wet							
Benzene	BRL	0.0050	mg/kg wet							
Bromobenzene	BRL	0.0050	mg/kg wet							
Bromochloromethane	BRL	0.0050	mg/kg wet							
Bromodichloromethane	BRL	0.0050	mg/kg wet							
Bromoform	BRL	0.0050	mg/kg wet							
Bromomethane	BRL	0.010	mg/kg wet							
Carbon Tetrachloride	BRL	0.0050	mg/kg wet							
Chlorobenzene	BRL	0.0050	mg/kg wet							
Chloroethane	BRL	0.010	mg/kg wet							
Chloroform	BRL	0.0050	mg/kg wet							
Chloromethane	BRL	0.010	mg/kg wet							
cis-1,2-Dichloroethylene	BRL	0.0050	mg/kg wet							
cis-1,3-Dichloropropylene	BRL	0.0050	mg/kg wet							
Dibromochloromethane	BRL	0.0050	mg/kg wet							
Dichlorodifluoromethane	BRL	0.010	mg/kg wet							
Ethylbenzene	BRL	0.0050	mg/kg wet							
Isopropyl Ether	BRL	0.0050	mg/kg wet							
Isopropylbenzene (Cumene)	BRL	0.0050	mg/kg wet							
m,p-Xylenes	BRL	0.010	mg/kg wet							
Methyl Butyl Ketone (2-Hexanone)	BRL	0.020	mg/kg wet							
Methyl Ethyl Ketone (2-Butanone)	BRL	0.020	mg/kg wet							
Methyl Isobutyl Ketone	BRL	0.020	mg/kg wet							

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End
Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

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 P9H0310 - 5035										
Blank (P9H0310-BLK1)				Prepared & Analyzed: 08/19/19						
Methylene Chloride	BRL	0.0050	mg/kg wet							
Methyl-tert-Butyl Ether	BRL	0.0050	mg/kg wet							
Naphthalene	BRL	0.010	mg/kg wet							
n-Butylbenzene	BRL	0.0050	mg/kg wet							
n-Propylbenzene	BRL	0.0050	mg/kg wet							
o-Xylene	BRL	0.0050	mg/kg wet							
sec-Butylbenzene	BRL	0.0050	mg/kg wet							
Styrene	BRL	0.0050	mg/kg wet							
tert-Butylbenzene	BRL	0.0050	mg/kg wet							
Tetrachloroethylene	BRL	0.0050	mg/kg wet							
Toluene	BRL	0.0050	mg/kg wet							
trans-1,2-Dichloroethylene	BRL	0.0050	mg/kg wet							
trans-1,3-Dichloropropylene	BRL	0.0050	mg/kg wet							
Trichloroethylene	BRL	0.0050	mg/kg wet							
Trichlorofluoromethane	BRL	0.010	mg/kg wet							
Vinyl acetate	BRL	0.010	mg/kg wet							
Vinyl chloride	BRL	0.010	mg/kg wet							
Xylenes, total	BRL	0.015	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*50.9*		*ug/L*	*50.00*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*53.9*		*ug/L*	*50.00*		*108*	*84-123*			
Surrogate: Toluene-d8	*49.2*		*ug/L*	*50.00*		*98*	*76-129*			
LCS (P9H0310-BS1)				Prepared & Analyzed: 08/19/19						
1,1,1,2-Tetrachloroethane	0.0442	0.0050	mg/kg wet	0.05000		88	72-115			
1,1,1-Trichloroethane	0.0460	0.0050	mg/kg wet	0.05000		92	67-131			
1,1,2,2-Tetrachloroethane	0.0421	0.0050	mg/kg wet	0.05000		84	56-126			
1,1,2-Trichloroethane	0.0421	0.0050	mg/kg wet	0.05000		84	70-133			
1,1-Dichloroethane	0.0432	0.0050	mg/kg wet	0.05000		86	74-127			
1,1-Dichloroethylene	0.0394	0.0050	mg/kg wet	0.05000		79	67-149			
1,1-Dichloropropylene	0.0453	0.0050	mg/kg wet	0.05000		91	71-130			
1,2,3-Trichlorobenzene	0.0432	0.010	mg/kg wet	0.05000		86	68-130			
1,2,3-Trichloropropane	0.0419	0.0050	mg/kg wet	0.05000		84	60-137			
1,2,4-Trichlorobenzene	0.0450	0.010	mg/kg wet	0.05000		90	66-125			
1,2,4-Trimethylbenzene	0.0442	0.0050	mg/kg wet	0.05000		88	69-129			
1,2-Dibromoethane	0.0426	0.0050	mg/kg wet	0.05000		85	70-132			
1,2-Dichlorobenzene	0.0425	0.0050	mg/kg wet	0.05000		85	72-123			
1,2-Dichloroethane	0.0446	0.0050	mg/kg wet	0.05000		89	68-128			
1,2-Dichloropropane	0.0437	0.0050	mg/kg wet	0.05000		87	73-130			
1,3,5-Trimethylbenzene	0.0440	0.0050	mg/kg wet	0.05000		88	69-128			
1,3-Dichlorobenzene	0.0429	0.0050	mg/kg wet	0.05000		86	71-120			
1,3-Dichloropropane	0.0428	0.0050	mg/kg wet	0.05000		86	75-124			
1,4-Dichlorobenzene	0.0428	0.0050	mg/kg wet	0.05000		86	71-123			
2,2-Dichloropropane	0.0463	0.0050	mg/kg wet	0.05000		93	50-142			
2-Chlorotoluene	0.0437	0.0050	mg/kg wet	0.05000		87	67-124			
4-Chlorotoluene	0.0438	0.0050	mg/kg wet	0.05000		88	71-126			
4-Isopropyltoluene	0.0451	0.0050	mg/kg wet	0.05000		90	68-129			
Acetone	0.120	0.020	mg/kg wet	0.1000		120	29-198			

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End
Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

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 P9H0310 - 5035										
LCS (P9H0310-BS1)				Prepared & Analyzed: 08/19/19						
Benzene	0.0433	0.0050	mg/kg wet	0.05000		87	74-127			
Bromobenzene	0.0429	0.0050	mg/kg wet	0.05000		86	73-125			
Bromochloromethane	0.0422	0.0050	mg/kg wet	0.05000		84	72-134			
Bromodichloromethane	0.0456	0.0050	mg/kg wet	0.05000		91	75-122			
Bromoform	0.0467	0.0050	mg/kg wet	0.05000		93	66-135			
Bromomethane	0.0437	0.010	mg/kg wet	0.05000		87	20-180			
Carbon Tetrachloride	0.0464	0.0050	mg/kg wet	0.05000		93	64-143			
Chlorobenzene	0.0429	0.0050	mg/kg wet	0.05000		86	74-118			
Chloroethane	0.0420	0.010	mg/kg wet	0.05000		84	33-149			
Chloroform	0.0442	0.0050	mg/kg wet	0.05000		88	73-127			
Chloromethane	0.0382	0.010	mg/kg wet	0.05000		76	45-143			
cis-1,2-Dichloroethylene	0.0432	0.0050	mg/kg wet	0.05000		86	76-134			
cis-1,3-Dichloropropylene	0.0444	0.0050	mg/kg wet	0.05000		89	71-125			
Dibromochloromethane	0.0446	0.0050	mg/kg wet	0.05000		89	73-122			
Dichlorodifluoromethane	0.0405	0.010	mg/kg wet	0.05000		81	26-146			
Ethylbenzene	0.0435	0.0050	mg/kg wet	0.05000		87	74-128			
Isopropyl Ether	0.0443	0.0050	mg/kg wet	0.05000		89	59-159			
Isopropylbenzene (Cumene)	0.0440	0.0050	mg/kg wet	0.05000		88	68-126			
m,p-Xylenes	0.0886	0.010	mg/kg wet	0.1000		89	75-124			
Methyl Butyl Ketone (2-Hexanone)	0.0480	0.020	mg/kg wet	0.05000		96	61-157			
Methyl Ethyl Ketone (2-Butanone)	0.0510	0.020	mg/kg wet	0.05000		102	63-149			
Methyl Isobutyl Ketone	0.0451	0.020	mg/kg wet	0.05000		90	57-162			
Methylene Chloride	0.0414	0.0050	mg/kg wet	0.05000		83	74-129			
Methyl-tert-Butyl Ether	0.0432	0.0050	mg/kg wet	0.05000		86	70-130			
Naphthalene	0.0428	0.010	mg/kg wet	0.05000		86	57-157			
n-Butylbenzene	0.0460	0.0050	mg/kg wet	0.05000		92	65-135			
n-Propylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	67-130			
o-Xylene	0.0442	0.0050	mg/kg wet	0.05000		88	74-126			
sec-Butylbenzene	0.0446	0.0050	mg/kg wet	0.05000		89	66-131			
Styrene	0.0438	0.0050	mg/kg wet	0.05000		88	77-121			
tert-Butylbenzene	0.0445	0.0050	mg/kg wet	0.05000		89	67-132			
Tetrachloroethylene	0.0449	0.0050	mg/kg wet	0.05000		90	68-130			
Toluene	0.0435	0.0050	mg/kg wet	0.05000		87	71-129			
trans-1,2-Dichloroethylene	0.0444	0.0050	mg/kg wet	0.05000		89	73-132			
trans-1,3-Dichloropropylene	0.0448	0.0050	mg/kg wet	0.05000		90	68-123			
Trichloroethylene	0.0453	0.0050	mg/kg wet	0.05000		91	75-133			
Trichlorofluoromethane	0.0452	0.010	mg/kg wet	0.05000		90	44-146			
Vinyl acetate	0.0456	0.010	mg/kg wet	0.05000		91	85-161			
Vinyl chloride	0.0430	0.010	mg/kg wet	0.05000		86	48-147			
Xylenes, total	0.133	0.015	mg/kg wet	0.1500		89	74-126			
Surrogate: 4-Bromofluorobenzene	*49.3*		*ug/L*	*50.00*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*50.5*		*ug/L*	*50.00*		*101*	*84-123*			
Surrogate: Toluene-d8	*49.4*		*ug/L*	*50.00*		*99*	*76-129*			

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End
Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

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 P9H0310 - 5035										
LCS Dup (P9H0310-BSD1)				Prepared & Analyzed: 08/19/19						
1,1,1,2-Tetrachloroethane	0.0447	0.0050	mg/kg wet	0.05000		89	72-115	1	20	
1,1,1-Trichloroethane	0.0444	0.0050	mg/kg wet	0.05000		89	67-131	4	20	
1,1,2,2-Tetrachloroethane	0.0413	0.0050	mg/kg wet	0.05000		83	56-126	2	20	
1,1,2-Trichloroethane	0.0422	0.0050	mg/kg wet	0.05000		84	70-133	0.4	20	
1,1-Dichloroethane	0.0423	0.0050	mg/kg wet	0.05000		85	74-127	2	20	
1,1-Dichloroethylene	0.0402	0.0050	mg/kg wet	0.05000		80	67-149	2	20	
1,1-Dichloropropylene	0.0441	0.0050	mg/kg wet	0.05000		88	71-130	3	20	
1,2,3-Trichlorobenzene	0.0433	0.010	mg/kg wet	0.05000		87	68-130	0.1	20	
1,2,3-Trichloropropane	0.0413	0.0050	mg/kg wet	0.05000		83	60-137	2	20	
1,2,4-Trichlorobenzene	0.0438	0.010	mg/kg wet	0.05000		88	66-125	3	20	
1,2,4-Trimethylbenzene	0.0436	0.0050	mg/kg wet	0.05000		87	69-129	1	20	
1,2-Dibromoethane	0.0434	0.0050	mg/kg wet	0.05000		87	70-132	2	20	
1,2-Dichlorobenzene	0.0426	0.0050	mg/kg wet	0.05000		85	72-123	0.1	20	
1,2-Dichloroethane	0.0446	0.0050	mg/kg wet	0.05000		89	68-128	0.1	20	
1,2-Dichloropropane	0.0435	0.0050	mg/kg wet	0.05000		87	73-130	0.4	20	
1,3,5-Trimethylbenzene	0.0430	0.0050	mg/kg wet	0.05000		86	69-128	2	20	
1,3-Dichlorobenzene	0.0428	0.0050	mg/kg wet	0.05000		86	71-120	0.1	20	
1,3-Dichloropropane	0.0437	0.0050	mg/kg wet	0.05000		87	75-124	2	20	
1,4-Dichlorobenzene	0.0424	0.0050	mg/kg wet	0.05000		85	71-123	0.8	20	
2,2-Dichloropropane	0.0445	0.0050	mg/kg wet	0.05000		89	50-142	4	20	
2-Chlorotoluene	0.0426	0.0050	mg/kg wet	0.05000		85	67-124	3	20	
4-Chlorotoluene	0.0434	0.0050	mg/kg wet	0.05000		87	71-126	1	20	
4-Isopropyltoluene	0.0442	0.0050	mg/kg wet	0.05000		88	68-129	2	20	
Acetone	0.126	0.020	mg/kg wet	0.1000		126	29-198	5	20	
Benzene	0.0421	0.0050	mg/kg wet	0.05000		84	74-127	3	20	
Bromobenzene	0.0431	0.0050	mg/kg wet	0.05000		86	73-125	0.4	20	
Bromochloromethane	0.0425	0.0050	mg/kg wet	0.05000		85	72-134	0.8	20	
Bromodichloromethane	0.0450	0.0050	mg/kg wet	0.05000		90	75-122	1	20	
Bromoform	0.0463	0.0050	mg/kg wet	0.05000		93	66-135	1	20	
Bromomethane	0.0415	0.010	mg/kg wet	0.05000		83	20-180	5	20	
Carbon Tetrachloride	0.0452	0.0050	mg/kg wet	0.05000		90	64-143	3	20	
Chlorobenzene	0.0424	0.0050	mg/kg wet	0.05000		85	74-118	1	20	
Chloroethane	0.0404	0.010	mg/kg wet	0.05000		81	33-149	4	20	
Chloroform	0.0438	0.0050	mg/kg wet	0.05000		88	73-127	1	20	
Chloromethane	0.0366	0.010	mg/kg wet	0.05000		73	45-143	4	20	
cis-1,2-Dichloroethylene	0.0429	0.0050	mg/kg wet	0.05000		86	76-134	0.7	20	
cis-1,3-Dichloropropylene	0.0441	0.0050	mg/kg wet	0.05000		88	71-125	0.6	20	
Dibromochloromethane	0.0444	0.0050	mg/kg wet	0.05000		89	73-122	0.5	20	
Dichlorodifluoromethane	0.0389	0.010	mg/kg wet	0.05000		78	26-146	4	20	
Ethylbenzene	0.0430	0.0050	mg/kg wet	0.05000		86	74-128	1	20	
Isopropyl Ether	0.0437	0.0050	mg/kg wet	0.05000		87	59-159	1	20	
Isopropylbenzene (Cumene)	0.0430	0.0050	mg/kg wet	0.05000		86	68-126	2	20	
m,p-Xylenes	0.0871	0.010	mg/kg wet	0.1000		87	75-124	2	20	
Methyl Butyl Ketone (2-Hexanone)	0.0482	0.020	mg/kg wet	0.05000		96	61-157	0.4	20	
Methyl Ethyl Ketone (2-Butanone)	0.0512	0.020	mg/kg wet	0.05000		102	63-149	0.3	20	
Methyl Isobutyl Ketone	0.0442	0.020	mg/kg wet	0.05000		88	57-162	2	20	

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End
Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

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 P9H0310 - 5035										
LCS Dup (P9H0310-BSD1)			Prepared & Analyzed: 08/19/19							
Methylene Chloride	0.0412	0.0050	mg/kg wet	0.05000		82	74-129	0.2	20	
Methyl-tert-Butyl Ether	0.0434	0.0050	mg/kg wet	0.05000		87	70-130	0.6	20	
Naphthalene	0.0426	0.010	mg/kg wet	0.05000		85	57-157	0.4	20	
n-Butylbenzene	0.0448	0.0050	mg/kg wet	0.05000		90	65-135	3	20	
n-Propylbenzene	0.0432	0.0050	mg/kg wet	0.05000		86	67-130	2	20	
o-Xylene	0.0441	0.0050	mg/kg wet	0.05000		88	74-126	0.3	20	
sec-Butylbenzene	0.0439	0.0050	mg/kg wet	0.05000		88	66-131	2	20	
Styrene	0.0445	0.0050	mg/kg wet	0.05000		89	77-121	2	20	
tert-Butylbenzene	0.0432	0.0050	mg/kg wet	0.05000		86	67-132	3	20	
Tetrachloroethylene	0.0425	0.0050	mg/kg wet	0.05000		85	68-130	6	20	
Toluene	0.0426	0.0050	mg/kg wet	0.05000		85	71-129	2	20	
trans-1,2-Dichloroethylene	0.0430	0.0050	mg/kg wet	0.05000		86	73-132	3	20	
trans-1,3-Dichloropropylene	0.0444	0.0050	mg/kg wet	0.05000		89	68-123	0.9	20	
Trichloroethylene	0.0435	0.0050	mg/kg wet	0.05000		87	75-133	4	20	
Trichlorofluoromethane	0.0419	0.010	mg/kg wet	0.05000		84	44-146	8	20	
Vinyl acetate	0.0467	0.010	mg/kg wet	0.05000		93	85-161	2	20	
Vinyl chloride	0.0404	0.010	mg/kg wet	0.05000		81	48-147	6	20	
Xylenes, total	0.131	0.015	mg/kg wet	0.1500		87	74-126	1	20	
Surrogate: 4-Bromofluorobenzene	*50.0*		*ug/L*	*50.00*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*50.3*		*ug/L*	*50.00*		*101*	*84-123*			
Surrogate: Toluene-d8	*49.6*		*ug/L*	*50.00*		*99*	*76-129*			
Batch P9H0347 - 5035										
Blank (P9H0347-BLK1)			Prepared & Analyzed: 08/20/19							
Benzene	BRL	0.0050	mg/kg wet							
Ethylbenzene	BRL	0.0050	mg/kg wet							
m,p-Xylenes	BRL	0.010	mg/kg wet							
o-Xylene	BRL	0.0050	mg/kg wet							
Toluene	BRL	0.0050	mg/kg wet							
Xylenes, total	BRL	0.015	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*50.2*		*ug/L*	*50.00*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*53.2*		*ug/L*	*50.00*		*106*	*84-123*			
Surrogate: Toluene-d8	*48.9*		*ug/L*	*50.00*		*98*	*76-129*			

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End
Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

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 P9H0347 - 5035										
LCS (P9H0347-BS1)				Prepared & Analyzed: 08/20/19						
Benzene	0.0533	0.0050	mg/kg wet	0.05000		107	74-127			
Ethylbenzene	0.0547	0.0050	mg/kg wet	0.05000		109	74-128			
m,p-Xylenes	0.111	0.010	mg/kg wet	0.1000		111	75-124			
o-Xylene	0.0558	0.0050	mg/kg wet	0.05000		112	74-126			
Toluene	0.0546	0.0050	mg/kg wet	0.05000		109	71-129			
Xylenes, total	0.167	0.015	mg/kg wet	0.1500		111	74-126			
Surrogate: 4-Bromofluorobenzene	*48.7*		*ug/L*	*50.00*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*51.6*		*ug/L*	*50.00*		*103*	*84-123*			
Surrogate: Toluene-d8	*48.6*		*ug/L*	*50.00*		*97*	*76-129*			
LCS Dup (P9H0347-BSD1)				Prepared & Analyzed: 08/20/19						
Benzene	0.0520	0.0050	mg/kg wet	0.05000		104	74-127	2	20	
Ethylbenzene	0.0536	0.0050	mg/kg wet	0.05000		107	74-128	2	20	
m,p-Xylenes	0.109	0.010	mg/kg wet	0.1000		109	75-124	2	20	
o-Xylene	0.0549	0.0050	mg/kg wet	0.05000		110	74-126	2	20	
Toluene	0.0532	0.0050	mg/kg wet	0.05000		106	71-129	2	20	
Xylenes, total	0.164	0.015	mg/kg wet	0.1500		109	74-126	2	20	
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/L*	*50.00*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*51.5*		*ug/L*	*50.00*		*103*	*84-123*			
Surrogate: Toluene-d8	*49.0*		*ug/L*	*50.00*		*98*	*76-129*			
Matrix Spike (P9H0347-MS1)	**Source: 9080260-01**			Prepared: 08/20/19 Analyzed: 08/21/19						
Benzene	0.0524	0.0055	mg/kg dry	0.05504	BRL	95	60-135			
Ethylbenzene	0.0536	0.0055	mg/kg dry	0.05504	BRL	97	44-144			
m,p-Xylenes	0.110	0.011	mg/kg dry	0.1101	BRL	100	36-148			
o-Xylene	0.0546	0.0055	mg/kg dry	0.05504	BRL	99	43-143			
Toluene	0.0528	0.0055	mg/kg dry	0.05504	BRL	96	57-135			
Xylenes, total	0.165	0.017	mg/kg dry	0.1651	BRL	100	36-148			
Surrogate: 4-Bromofluorobenzene	*45.8*		*ug/L*	*50.00*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*51.8*		*ug/L*	*50.00*		*104*	*84-123*			
Surrogate: Toluene-d8	*47.2*		*ug/L*	*50.00*		*94*	*76-129*			

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

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 P9H0347 - 5035										
Matrix Spike Dup (P9H0347-MSD1)		**Source: 9080260-01**		Prepared: 08/20/19 Analyzed: 08/21/19						
Benzene	0.0486	0.0054	mg/kg dry	0.05417	BRL	90	60-135	8	20	
Ethylbenzene	0.0499	0.0054	mg/kg dry	0.05417	BRL	92	44-144	7	19	
m,p-Xylenes	0.103	0.011	mg/kg dry	0.1083	BRL	95	36-148	7	20	
o-Xylene	0.0519	0.0054	mg/kg dry	0.05417	BRL	96	43-143	5	17	
Toluene	0.0495	0.0054	mg/kg dry	0.05417	BRL	91	57-135	7	22	
Xylenes, total	0.154	0.016	mg/kg dry	0.1625	BRL	95	36-148	6	20	
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/L*	*50.00*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*55.3*		*ug/L*	*50.00*		*111*	*84-123*			
Surrogate: Toluene-d8	*47.2*		*ug/L*	*50.00*		*94*	*76-129*			
Batch P9H0366 - 5035										
Blank (P9H0366-BLK1)				Prepared & Analyzed: 08/21/19						
Benzene	BRL	0.0050	mg/kg wet							
Ethylbenzene	BRL	0.0050	mg/kg wet							
m,p-Xylenes	BRL	0.010	mg/kg wet							
o-Xylene	BRL	0.0050	mg/kg wet							
Toluene	BRL	0.0050	mg/kg wet							
Xylenes, total	BRL	0.015	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*51.2*		*ug/L*	*50.00*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*60.3*		*ug/L*	*50.00*		*121*	*84-123*			
Surrogate: Toluene-d8	*47.1*		*ug/L*	*50.00*		*94*	*76-129*			
LCS (P9H0366-BS1)				Prepared & Analyzed: 08/21/19						
Benzene	0.0531	0.0050	mg/kg wet	0.05000		106	74-127			
Ethylbenzene	0.0562	0.0050	mg/kg wet	0.05000		112	74-128			
m,p-Xylenes	0.115	0.010	mg/kg wet	0.1000		115	75-124			
o-Xylene	0.0575	0.0050	mg/kg wet	0.05000		115	74-126			
Toluene	0.0550	0.0050	mg/kg wet	0.05000		110	71-129			
Xylenes, total	0.173	0.015	mg/kg wet	0.1500		115	74-126			
Surrogate: 4-Bromofluorobenzene	*48.7*		*ug/L*	*50.00*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*54.0*		*ug/L*	*50.00*		*108*	*84-123*			
Surrogate: Toluene-d8	*48.9*		*ug/L*	*50.00*		*98*	*76-129*			

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

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 P9H0366 - 5035										
LCS Dup (P9H0366-BSD1)				Prepared & Analyzed: 08/21/19						
Benzene	0.0494	0.0050	mg/kg wet	0.05000		99	74-127	7	20	
Ethylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	74-128	7	20	
m,p-Xylenes	0.107	0.010	mg/kg wet	0.1000		107	75-124	7	20	
o-Xylene	0.0540	0.0050	mg/kg wet	0.05000		108	74-126	6	20	
Toluene	0.0511	0.0050	mg/kg wet	0.05000		102	71-129	7	20	
Xylenes, total	0.161	0.015	mg/kg wet	0.1500		107	74-126	7	20	
Surrogate: 4-Bromofluorobenzene	*48.8*		*ug/L*	*50.00*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*53.0*		*ug/L*	*50.00*		*106*	*84-123*			
Surrogate: Toluene-d8	*48.5*		*ug/L*	*50.00*		*97*	*76-129*			
Batch P9H0389 - 5035										
Blank (P9H0389-BLK1)				Prepared & Analyzed: 08/22/19						
Benzene	BRL	0.0050	mg/kg wet							
Ethylbenzene	BRL	0.0050	mg/kg wet							
m,p-Xylenes	BRL	0.010	mg/kg wet							
o-Xylene	BRL	0.0050	mg/kg wet							
Toluene	BRL	0.0050	mg/kg wet							
Xylenes, total	BRL	0.015	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*50.8*		*ug/L*	*50.00*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*61.1*		*ug/L*	*50.00*		*122*	*84-123*			
Surrogate: Toluene-d8	*47.1*		*ug/L*	*50.00*		*94*	*76-129*			
LCS (P9H0389-BS1)				Prepared & Analyzed: 08/22/19						
Benzene	0.0502	0.0050	mg/kg wet	0.05000		100	74-127			
Ethylbenzene	0.0535	0.0050	mg/kg wet	0.05000		107	74-128			
m,p-Xylenes	0.111	0.010	mg/kg wet	0.1000		111	75-124			
o-Xylene	0.0542	0.0050	mg/kg wet	0.05000		108	74-126			
Toluene	0.0520	0.0050	mg/kg wet	0.05000		104	71-129			
Xylenes, total	0.165	0.015	mg/kg wet	0.1500		110	74-126			
Surrogate: 4-Bromofluorobenzene	*47.1*		*ug/L*	*50.00*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*55.3*		*ug/L*	*50.00*		*111*	*84-123*			
Surrogate: Toluene-d8	*44.9*		*ug/L*	*50.00*		*90*	*76-129*			

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

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 P9H0389 - 5035										
LCS Dup (P9H0389-BSD1)				Prepared & Analyzed: 08/22/19						
Benzene	0.0473	0.0050	mg/kg wet	0.05000		95	74-127	6	20	
Ethylbenzene	0.0501	0.0050	mg/kg wet	0.05000		100	74-128	7	20	
m,p-Xylenes	0.104	0.010	mg/kg wet	0.1000		104	75-124	6	20	
o-Xylene	0.0514	0.0050	mg/kg wet	0.05000		103	74-126	5	20	
Toluene	0.0489	0.0050	mg/kg wet	0.05000		98	71-129	6	20	
Xylenes, total	0.155	0.015	mg/kg wet	0.1500		104	74-126	6	20	
Surrogate: 4-Bromofluorobenzene	*47.0*		*ug/L*	*50.00*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*53.8*		*ug/L*	*50.00*		*108*	*84-123*			
Surrogate: Toluene-d8	*48.6*		*ug/L*	*50.00*		*97*	*76-129*			
Matrix Spike (P9H0389-MS1)		**Source: 9080260-19**		Prepared: 08/22/19 Analyzed: 08/23/19						
Benzene	0.0476	0.0057	mg/kg dry	0.05685	BRL	84	60-135			
Ethylbenzene	0.0509	0.0057	mg/kg dry	0.05685	BRL	90	44-144			
m,p-Xylenes	0.107	0.011	mg/kg dry	0.1137	BRL	94	36-148			
o-Xylene	0.0492	0.0057	mg/kg dry	0.05685	BRL	87	43-143			
Toluene	0.0487	0.0057	mg/kg dry	0.05685	BRL	86	57-135			
Xylenes, total	0.156	0.017	mg/kg dry	0.1705	BRL	91	36-148			
Surrogate: 4-Bromofluorobenzene	*46.8*		*ug/L*	*50.00*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*60.8*		*ug/L*	*50.00*		*122*	*84-123*			
Surrogate: Toluene-d8	*46.1*		*ug/L*	*50.00*		*92*	*76-129*			
Matrix Spike Dup (P9H0389-MSD1)		**Source: 9080260-19**		Prepared: 08/22/19 Analyzed: 08/23/19						
Benzene	0.0501	0.0057	mg/kg dry	0.05696	BRL	88	60-135	5	20	
Ethylbenzene	0.0491	0.0057	mg/kg dry	0.05696	BRL	86	44-144	4	19	
m,p-Xylenes	0.104	0.011	mg/kg dry	0.1139	BRL	91	36-148	3	20	
o-Xylene	0.0490	0.0057	mg/kg dry	0.05696	BRL	86	43-143	0.5	17	
Toluene	0.0511	0.0057	mg/kg dry	0.05696	BRL	90	57-135	5	22	
Xylenes, total	0.153	0.017	mg/kg dry	0.1709	BRL	89	36-148	2	20	
Surrogate: 4-Bromofluorobenzene	*45.0*		*ug/L*	*50.00*		*90*	*70-130*			
Surrogate: Dibromofluoromethane	*61.7*		*ug/L*	*50.00*		*123*	*84-123*			
Surrogate: Toluene-d8	*46.6*		*ug/L*	*50.00*		*93*	*76-129*			

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

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 P9H0434 - 5035										
Blank (P9H0434-BLK1)				Prepared & Analyzed: 08/26/19						
Benzene	BRL	0.0050	mg/kg wet							
Ethylbenzene	BRL	0.0050	mg/kg wet							
m,p-Xylenes	BRL	0.010	mg/kg wet							
o-Xylene	BRL	0.0050	mg/kg wet							
Toluene	BRL	0.0050	mg/kg wet							
Xylenes, total	BRL	0.015	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*51.0*		*ug/L*	*50.00*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*46.7*		*ug/L*	*50.00*		*93*	*84-123*			
Surrogate: Toluene-d8	*49.6*		*ug/L*	*50.00*		*99*	*76-129*			
LCS (P9H0434-BS1)				Prepared & Analyzed: 08/26/19						
Benzene	0.0513	0.0050	mg/kg wet	0.05000		103	74-127			
Ethylbenzene	0.0516	0.0050	mg/kg wet	0.05000		103	74-128			
m,p-Xylenes	0.100	0.010	mg/kg wet	0.1000		100	75-124			
o-Xylene	0.0501	0.0050	mg/kg wet	0.05000		100	74-126			
Toluene	0.0516	0.0050	mg/kg wet	0.05000		103	71-129			
Xylenes, total	0.150	0.015	mg/kg wet	0.1500		100	74-126			
Surrogate: 4-Bromofluorobenzene	*52.0*		*ug/L*	*50.00*		*104*	*70-130*			
Surrogate: Dibromofluoromethane	*44.7*		*ug/L*	*50.00*		*89*	*84-123*			
Surrogate: Toluene-d8	*51.0*		*ug/L*	*50.00*		*102*	*76-129*			
LCS Dup (P9H0434-BSD1)				Prepared & Analyzed: 08/26/19						
Benzene	0.0480	0.0050	mg/kg wet	0.05000		96	74-127	7	20	
Ethylbenzene	0.0479	0.0050	mg/kg wet	0.05000		96	74-128	7	20	
m,p-Xylenes	0.0930	0.010	mg/kg wet	0.1000		93	75-124	7	20	
o-Xylene	0.0468	0.0050	mg/kg wet	0.05000		94	74-126	7	20	
Toluene	0.0481	0.0050	mg/kg wet	0.05000		96	71-129	7	20	
Xylenes, total	0.140	0.015	mg/kg wet	0.1500		93	74-126	7	20	
Surrogate: 4-Bromofluorobenzene	*52.6*		*ug/L*	*50.00*		*105*	*70-130*			
Surrogate: Dibromofluoromethane	*43.7*		*ug/L*	*50.00*		*87*	*84-123*			
Surrogate: Toluene-d8	*50.0*		*ug/L*	*50.00*		*100*	*76-129*			

Geosyntec Consultants of NC, PC - Raleigh
Attn: Michael Wang
2501 Blue Ridge Road, Ste 430
Raleigh, NC 27607

Project: NCDOT R-5726 West End

Project No: GN7039

Prism Work Order: 9080260
Time Submitted: 8/16/2019 9:15:00AM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9H0353 - Solids, Dry Weight										
Duplicate (P9H0353-DUP1)		**Source: 9080260-04**		Prepared: 08/21/19 Analyzed: 08/22/19						
% Solids	91.4	0.100	% by Weight		97.8			7	20	
Duplicate (P9H0353-DUP2)		**Source: 9080260-14**		Prepared: 08/21/19 Analyzed: 08/22/19						
% Solids	96.6	0.100	% by Weight		90.5			7	20	
Batch P9H0369 - Solids, Dry Weight										
Duplicate (P9H0369-DUP1)		**Source: 9080260-20**		Prepared: 08/22/19 Analyzed: 08/23/19						
% Solids	93.3	0.100	% by Weight		93.3			0.02	20	
Duplicate (P9H0369-DUP2)		**Source: 9080260-23**		Prepared: 08/22/19 Analyzed: 08/23/19						
% Solids	97.6	0.100	% by Weight		97.8			0.1	20	
Batch P9H0406 - Solids, Dry Weight										
Duplicate (P9H0406-DUP1)		**Source: 9080260-39**		Prepared: 08/23/19 Analyzed: 08/26/19						
% Solids	88.6	0.100	% by Weight		89.4			0.9	20	

Sample Extraction Data

Prep Method: Solids, Dry Weight

Lab Number	Batch	Initial	Final	Date/Time
9080260-01	P9H0353	30 g	30 g	08/21/19 10:40
9080260-02	P9H0353	30 g	30 g	08/21/19 10:40
9080260-03	P9H0353	30 g	30 g	08/21/19 10:40
9080260-04	P9H0353	30 g	30 g	08/21/19 10:40
9080260-05	P9H0353	30 g	30 g	08/21/19 10:40
9080260-06	P9H0353	30 g	30 g	08/21/19 10:40
9080260-07	P9H0353	30 g	30 g	08/21/19 10:40
9080260-08	P9H0353	30 g	30 g	08/21/19 10:40
9080260-09	P9H0353	30 g	30 g	08/21/19 10:40
9080260-10	P9H0353	30 g	30 g	08/21/19 10:40
9080260-11	P9H0353	30 g	30 g	08/21/19 10:40
9080260-12	P9H0353	30 g	30 g	08/21/19 10:40
9080260-13	P9H0353	30 g	30 g	08/21/19 10:40
9080260-14	P9H0353	30 g	30 g	08/21/19 10:40
9080260-15	P9H0353	30 g	30 g	08/21/19 10:40
9080260-16	P9H0353	30 g	30 g	08/21/19 10:40
9080260-17	P9H0353	30 g	30 g	08/21/19 10:40
9080260-18	P9H0369	30 g	30 g	08/22/19 11:13
9080260-19	P9H0369	30 g	30 g	08/22/19 11:13
9080260-20	P9H0369	30 g	30 g	08/22/19 11:13
9080260-21	P9H0369	30 g	30 g	08/22/19 11:13
9080260-22	P9H0369	30 g	30 g	08/22/19 11:13
9080260-23	P9H0369	30 g	30 g	08/22/19 11:13
9080260-24	P9H0369	30 g	30 g	08/22/19 11:13
9080260-25	P9H0369	30 g	30 g	08/22/19 11:13
9080260-26	P9H0369	30 g	30 g	08/22/19 11:13
9080260-27	P9H0369	30 g	30 g	08/22/19 11:13
9080260-28	P9H0369	30 g	30 g	08/22/19 11:13
9080260-29	P9H0369	30 g	30 g	08/22/19 11:13
9080260-30	P9H0369	30 g	30 g	08/22/19 11:13
9080260-31	P9H0369	30 g	30 g	08/22/19 11:13
9080260-32	P9H0369	30 g	30 g	08/22/19 11:13
9080260-33	P9H0369	30 g	30 g	08/22/19 11:13
9080260-34	P9H0369	30 g	30 g	08/22/19 11:13
9080260-35	P9H0369	30 g	30 g	08/22/19 11:13
9080260-36	P9H0369	30 g	30 g	08/22/19 11:13
9080260-37	P9H0369	30 g	30 g	08/22/19 11:13
9080260-38	P9H0406	30 g	30 g	08/23/19 12:00
9080260-39	P9H0406	30 g	30 g	08/23/19 12:00

Prep Method: 5035

Lab Number	Batch	Initial	Final	Date/Time
9080260-01	P9H0347	3.89 g	5 mL	08/20/19 10:00
9080260-02	P9H0347	4.18 g	5 mL	08/20/19 10:00
9080260-03	P9H0347	5.17 g	5 mL	08/20/19 10:00
9080260-04	P9H0347	4.83 g	5 mL	08/20/19 10:00
9080260-05	P9H0389	3.77 g	5 mL	08/22/19 10:00
9080260-06	P9H0347	5.45 g	5 mL	08/20/19 10:00
9080260-07	P9H0347	5.48 g	5 mL	08/20/19 10:00
9080260-08	P9H0347	5.5 g	5 mL	08/20/19 10:00
9080260-09	P9H0347	4.69 g	5 mL	08/20/19 10:00
9080260-10	P9H0347	4.68 g	5 mL	08/20/19 10:00
9080260-11	P9H0347	4.72 g	5 mL	08/20/19 10:00
9080260-12	P9H0347	4.64 g	5 mL	08/20/19 10:00
9080260-13	P9H0310	5.74 g	5 mL	08/19/19 10:00
9080260-14	P9H0366	5.34 g	5 mL	08/21/19 10:00

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Sample Extraction Data

Prep Method: 5035

Lab Number	Batch	Initial	Final	Date/Time
9080260-15	P9H0347	3.3 g	5 mL	08/20/19 10:00
9080260-16	P9H0347	6.27 g	5 mL	08/20/19 10:00
9080260-17	P9H0347	5.54 g	5 mL	08/20/19 10:00
9080260-18	P9H0347	4.89 g	5 mL	08/20/19 10:00
9080260-19	P9H0389	6.23 g	5 mL	08/22/19 10:00
9080260-20	P9H0389	5.21 g	5 mL	08/22/19 10:00
9080260-21	P9H0434	4.84 g	5 mL	08/26/19 11:00
9080260-22	P9H0389	5.69 g	5 mL	08/22/19 10:00
9080260-23	P9H0310	5.96 g	5 mL	08/19/19 10:00
9080260-24	P9H0310	4.34 g	5 mL	08/19/19 10:00
9080260-25	P9H0389	4.74 g	5 mL	08/22/19 10:00
9080260-26	P9H0389	4.6 g	5 mL	08/22/19 10:00
9080260-27	P9H0389	3.91 g	5 mL	08/22/19 10:00
9080260-28	P9H0389	4.18 g	5 mL	08/22/19 10:00
9080260-29	P9H0389	4.28 g	5 mL	08/22/19 10:00
9080260-30	P9H0389	4.06 g	5 mL	08/22/19 10:00
9080260-31	P9H0389	4.36 g	5 mL	08/22/19 10:00
9080260-32	P9H0389	5.01 g	5 mL	08/22/19 10:00
9080260-33	P9H0389	5.13 g	5 mL	08/22/19 10:00
9080260-34	P9H0389	3.66 g	5 mL	08/22/19 10:00
9080260-35	P9H0389	3.79 g	5 mL	08/22/19 10:00
9080260-36	P9H0389	6.93 g	5 mL	08/22/19 10:00
9080260-37	P9H0434	4.94 g	5 mL	08/26/19 11:00
9080260-38	P9H0389	5.45 g	5 mL	08/22/19 10:00
9080260-39	P9H0434	5.81 g	5 mL	08/26/19 11:00

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC. — Full-Service Analytical & Environmental Solutions

449 Springbrook Road • Charlotte, NC 28217
Phone 704/529-6364 • Fax: 704/525-0409

PAGE 1 OF 4 QUOTE # TO ENSURE PROPER BILLING: GN7039

Project Name: NCDOT, West End
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (NO)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
Invoice To: Geosyntec
Address: —

Client Company Name: Geosyntec
Report To/Contact Name: Michael Wang
Reporting Address: 2501 Blue Ridge Rd. Ste 430, Raleigh, NC, 27607
Phone: 919-551-5334 Fax (Yes) (No): No
Email Address: mwang@geosyntec.com
EDD Type: PDF X Excel X Other
Site Location Name: NCDOT West End
Site Location Physical Address: West End, NC

Purchase Order No./Billing Reference GN7039
Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days
"Working Days" ☐ 6-9 Days ☒ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 14:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	✓		
Received ON WET ICE?	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?			4
VOLATILES rec'd W/OUT HEADSPACE?			4
PROPER CONTAINERS used?	✓		

TEMP: Therm ID: IR-14 Observed: 3.2 °C / Corr: 3.3 °C

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
Certification: NELAC___ DoD___ FL___ NC X
SC___ OTHER___ N/A___
Water Chlorinated: YES___ NO X
Sample Iced Upon Collection: YES X NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	NO.	SIZE	PRESERVATIVES	ANALYSIS REQUESTED 8260	REMARKS	PRISM LAB ID NO.
SB13-01-7.5-8.0	8/12/19	1030	Soil	VOA	4		multiple	✓	BTEX ONLY	01
SB13-02-7-7.5	8/12/19	1100	Soil					✓		02
SB13-03-6.5-7.0	8/12/19	1130	Soil					✓		03
SB43-01-4.5-5	8/13/19	1340						✓		04
SB43-02-6.5-7	8/13/19	1400						✓		05
SB43-03-7-7.5	8/13/19	1430						✓		06
SB43-04-7.5-8	8/13/19	1445						✓		07
SB6867-01-5-5.5	8/13/19	0840						✓		08
SB6867-02-4.5-5	8/13/19	0910	↓	↓	↓		↓	✓	↓	09
SB6867-03-6.5-7	8/13/19	1020	Soil	VOA	4		multiple	✓	BTEX ONLY	10

PRESS DOWN FIRMLY - 3 COPIES

Sampler's Signature Michael Wang Sampled By (Print Name) Michael Wang Affiliation

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

		Date	Military/Hours
Relinquished By: (Signature) Michael Wang	Received By: (Signature)	~~8/15/19~~	~~1600~~
Relinquished By: (Signature)	Received By: (Signature)	Date	
Relinquished By: (Signature)	Received For Prism Laboratories By:	Date 8-16-19	0915

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.
☒ Fed Ex ☐ UPS ☐ Hand-delivered ☐ Prism Field Service ☐ Other

COC Group No. 9080260

Additional Comments:

PRISM USE ONLY
Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC
☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____

SEE REVERSE FOR TERMS & CONDITIONS

*CONTAINER TYPE CODES: A = Amber C = Clear G= Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

ORIGINAL

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

449 Springbrook Road • Charlotte, NC 28217
Phone 704/529-6364 • Fax: 704/525-0409

PAGE 2 OF 4 QUOTE # TO ENSURE PROPER BILLING: GN 7039

Project Name: NCDOT West End

Short Hold Analysis: (Yes) (No) UST Project: (Yes) (NO)

*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements

Invoice To: Geosyntec

Address:

Client Company Name: Geosyntec

Report To/Contact Name: Michael Wang

Reporting Address: 2501 Blue Ridge Rd. Ste 430, Raleigh, NC. 27607

Phone: 919-551-5334 Fax (Yes) (No): No

Email Address: mwang@geosyntec.com

EDD Type: PDF X Excel X Other

Site Location Name: NCDOT West End

Site Location Physical Address: West End NC

Purchase Order No./Billing Reference GN7039

Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days

"Working Days" ☐ 6-9 Days X Standard 10 days ☐ Rush Work Must Be Pre-Approved

Samples received after 14:00 will be processed next business day.

Turnaround time is based on business days, excluding weekends and holidays.

(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	✓		
Received ON WET ICE?	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?			✓
VOLATILES rec'd W/OUT HEADSPACE?			✓
PROPER CONTAINERS used?	✓		

TEMP: Therm ID: #01-14 Observed: 3.2 °C / Corr: 3.3 °C

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC___ DoD___ FL___ NC X SC___ OTHER___ N/A___

Water Chlorinated: YES___ NO X

Sample Iced Upon Collection: YES X NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	SAMPLE CONTAINER NO.	SAMPLE CONTAINER SIZE	PRESERVATIVES	ANALYSIS REQUESTED 8260	REMARKS	PRISM LAB ID NO.
SB66867-04.5-6.0	8/13/19	0945	Soil	VOA	4		multiple	X	BTEX ONLY	11
SB66867-05-7.5	8/13/19	1110	Soil					X		12
SB66867-06-7.5-8	8/13/19	1220	Soil					X		13
SB69-01-6.0-6.5	8/12/19	1300						X		14
SB69-02-4.0-4.5	8/12/19	1330						X		15
SB69-03-5-5.5	8/12/19	1400						X		16
SB69-04-5-5.5	8/12/19	1445						X		17
SB69-05-9.5-10	8/12/19	1525						X		18
SB69-06-9-9.5	8/12/19	1615						X		19
SB69-07-5.0-5.5	8/12/19	1645	Soil	VOA	4		multiple	X	BTEX ONLY	20

Sampler's Signature Michael Wang Sampled By (Print Name) Michael Wang Affiliation

PRESS DOWN FIRMLY - 3 COPIES

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

		Date	Military/Hours
Relinquished By: (Signature) Michael Wang	Received By: (Signature)	~~8-16-19~~	~~1500~~
Relinquished By: (Signature)	Received By: (Signature)	Date	
Relinquished By: (Signature)	Received For Prism Laboratories By:	Date 8-16-19	0915

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☐ Prism Field Service ☐ Other

COC Group No. 90 & 0260

Additional Comments:

PRISM USE ONLY

Site Arrival Time:

Site Departure Time:

Field Tech Fee:

Mileage:

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC
☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____

*CONTAINER TYPE CODES: A = Amber C = Clear G= Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

449 Springbrook Road • Charlotte, NC 28217
Phone 704/529-6364 • Fax: 704/525-0409

PAGE 3 OF 4 QUOTE # TO ENSURE PROPER BILLING: GN7039

Project Name: NCDOT West End
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (NO)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
Invoice To: Geosyntec
Address:

Client Company Name: Geosyntec
Report To/Contact Name: Michael Wang
Reporting Address: 2501 Blue Ridge Rd Ste 430, Raleigh, NC, 27607
Phone: 919-551-5334 Fax (Yes) (No): NO
Email Address: MiWang@geosyntec.com
EDD Type: PDF X Excel X Other
Site Location Name: NCDOT West End
Site Location Physical Address: West End, NC

Purchase Order No./Billing Reference GN7039
Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days
"Working Days" ☐ 6-9 Days ☒ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 14:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	✓		
Received ON WET ICE?	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?			✓
VOLATILES rec'd W/OUT HEADSPACE?			✓
PROPER CONTAINERS used?	✓		

TEMP: Therm ID: IR1-19 Observed: 3.2 °C / Corr: 3.3 °C

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
Certification: NELAC___ DoD___ FL___ NC X
SC___ OTHER___ N/A___
Water Chlorinated: YES___ NO X
Sample Iced Upon Collection: YES X NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	SAMPLE CONTAINER NO.	SAMPLE CONTAINER SIZE	PRESERVATIVES	ANALYSIS REQUESTED 8260	REMARKS	PRISM LAB ID NO.
SB69-08-6-6.5	8/13/19	1300	Soil	VOA	4		Multiple	X	BTEX ONLY	21
SB68-01-7-7.5	8/13/19	1550						X		22
SB78-02-5.5-6	8/14/19	0825						X		23
SB78-03-6-6.5	8/14/19	0900						X		24
SB78-04-6.5-7	8/14/19	0930						X		25
SB89-01-5-5.5	8/15/19	0900						X		26
SB89-02-5.5-6	8/15/19	0940						X		27
SB89-03-6.5-7	8/15/19	1030						X		28
SB89-04-7-7.5	8/15/19	1130						X		29
SB102-01-2.5-3	8/14/19	1050	Soil	VOA	4		Multiple	X	BTEX ONLY	30

PRESS DOWN FIRMLY - 3 COPIES

Sampler's Signature Sampled By (Print Name) Michael Wang Affiliation

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

		Date	Military/Hours
Relinquished By: (Signature)	Received By: (Signature)	~~8/15/19~~	~~1600~~
Relinquished By: (Signature)	Received By: (Signature)	Date	
Relinquished By: (Signature)	Received For Prism Laboratories By:	Date 8-15-19	0915

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☐ Prism Field Service ☐ Other

COC Group No. 9080260

Additional Comments:

PRISM USE ONLY
Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐

*CONTAINER TYPE CODES: A = Amber C = Clear G= Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions
449 Springbrook Road • Charlotte, NC 28217
Phone 704/529-6364 • Fax: 704/525-0409

PAGE 4 OF 4 QUOTE # TO ENSURE PROPER BILLING: GN7039

Project Name: ~~GN7039~~ NCDOT West End

Short Hold Analysis: (Yes) (No) UST Project: (Yes) (NO)

*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements

Invoice To: Geosyntec

Address:

Client Company Name: Geosyntec

Report To/Contact Name: Michael Wang

Reporting Address: 2501 Blue Ridge Rd Ste 430, Raleigh, NC 27607

Phone: 919-551-533 Fax (Yes) (No): NO

Email Address: mwang@Geosyntec.com

EDD Type: PDF X Excel X Other

Site Location Name: NCDOT West End

Site Location Physical Address: West End, NC

Purchase Order No./Billing Reference

Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days

"Working Days" ☐ 6-9 Days ☒ Standard 10 days ☐ Rush Work Must Be Pre-Approved

Samples received after 14:00 will be processed next business day.

Turnaround time is based on business days, excluding weekends and holidays.

(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	✓		
Received ON WET ICE?	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?			✓
VOLATILES rec'd W/OUT HEADSPACE?			✓
PROPER CONTAINERS used?	✓		

TEMP: Therm ID: ~~DC-14~~ Observed: 3.2 °C / Corr: 3.3 °C

Page 60 of 60

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC___ DoD___ FL___ NC X

SC___ OTHER___ N/A___

Water Chlorinated: YES___ NO X

Sample Iced Upon Collection: YES X NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	SAMPLE CONTAINER NO.	SAMPLE CONTAINER SIZE	PRESERVATIVES	ANALYSIS REQUESTED DoD	REMARKS	PRISM LAB ID NO.
SB102-02-5.5-6	8/14/19	1135	Soil	VOA	4		Multiple	X	BTEX ONLY	31
SB102-03-7-7.5	8/14/19	1300						X		32
SB102-04-7.5-8	8/14/19	1330						X		33
SB102-05-4.5-5	8/14/19	1400						X		34
SB102-06-0.5-1	8/14/19	1450						X		35
SB102-07-7.5-8	8/14/19	1535						X		36
SB102-08-8-8.5	8/14/19	1605						X		37
SB102-09-8.5-9	8/14/19	1645						X		38
SB102-10-9-9.5	8/14/19	1720	Soil	VOA	4		Multiple	X	BTEX ONLY	39

Sampler's Signature: [signature] Sampled By (Print Name): Michael Wang Affiliation

PRESS DOWN FIRMLY - 3 COPIES

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

		Date	Military/Hours
Relinquished By: (Signature) [signature]	Received By: (Signature)	~~8/15/19~~	~~1600~~
Relinquished By: (Signature)	Received By: (Signature)	Date	
Relinquished By: (Signature)	Received For Prism Laboratories By: [signature]	Date 8-16-19	0915

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☐ Prism Field Service ☐ Other

COC Group No. 9080260

Additional Comments:

PRISM USE ONLY

Site Arrival Time:

Site Departure Time:

Field Tech Fee:

Mileage:

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC
☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____

SEE REVERSE FOR TERMS & CONDITIONS

*CONTAINER TYPE CODES: A = Amber C = Clear G= Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

ORIGINAL