

# PSA REPORT

**PRELIMINARY SITE ASSESSMENT  
PARCEL #159-ADDENDUM  
BETTY C. PERRY PROPERTY  
3822 US 401 S  
YOUNGSVILLE, FRANKLIN COUNTY, NC  
STATE PROJECT R-2814C  
WBS ELEMENT 34506.1.4**

Prepared for

North Carolina Department of Transportation  
Geotechnical Engineering Unit  
Geoenvironmental Section  
Century Center Complex, Building B  
1020 Birch Ridge Drive  
Raleigh, NC 27610  
Tel. (919) 250-4088

24 July 2015



URS Corporation – North Carolina  
1600 Perimeter Park Drive, Suite 400  
Morrisville, North Carolina 27560  
Tel. (919) 461-1100  
Fax. (919) 461-1415

**URS Job No. 3182 9895 /6039 7108**

# TABLE OF CONTENTS

---

Section 1	Introduction.....	1-1
	1.1 Introduction.....	1-1
	1.2 Background.....	1-1
Section 2	Methods of Investigation .....	2-1
	2.1 Geophysical Survey .....	2-1
	2.2 Soil Boring Installation and Media Sampling.....	2-2
	2.3 Quality Control/Quality Assurance Procedures.....	2-2
Section 3	Results .....	3-1
	3.1 Geophysical Survey Results .....	3-1
	3.2 Soil Sampling Results.....	3-1
	3.3 Summary .....	3-1
Section 4	Limitations .....	4-1
Section 5	References .....	5-1

## FIGURES

Figure 1	Location Map
Figure 2	Soil Sampling Locations
Figure 3	EM-61 MKII Channel 3 Response Contours

## APPENDICES

Appendix A	Boring Logs
Appendix B	Analytical Results

# Certification

---

This Report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my thorough inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.



---

Corey M. Scheip, L.G.  
Project Geologist  
URS Corporation – North Carolina

2368  
NC License No.

7/24/15  
Date

## 1.1 INTRODUCTION

This report documents a Preliminary Site Assessment (PSA) conducted by URS Corporation – North Carolina (URS) on behalf of the North Carolina Department of Transportation (NCDOT). This PSA is an addendum to the PSA submitted in March 2015 (Parcel 160) and was conducted at 3822 US 401 South, Louisburg, Wake County, North Carolina (**Figure 1**), owned by Betty C. Perry. (the site). For clarity, in this report, Parcel 159A will be used to denote the additional area of Parcel 160 (since renamed Parcel 159 by NCDOT). The assessment area is located on the north quadrant of the US 401 (Louisburg Road) and SR 1103 (Flat Rock Church Road) intersection on the north and west sides of the current on-site structure. The PSA was performed within the proposed right-of-way and/or easement for this parcel. This PSA was performed in general accordance with:

- NCDOT’s 1 December 2014 Request for Technical and Cost Proposal (RFP) for the site. The RFP established the following scope of work (SOW) for the project:
  - Locate USTs and estimate approximate size and contents (if any).
  - Evaluate whether contaminated soils are present with emphasis along planned drainage lines and ditches.
  - If contamination is evident, estimate the quantity of impacted soils and indicate the approximate area of soil contamination on a Site map.
  - Prepare a report including field activities, findings, and recommendations for each Site and submit to this office in triplicate and one electronic copy.
- URS’s 17 December 2014 Technical and Cost Proposal for the Site.
- NCDOT’s 10 January 2015 Notice to Proceed for the Site.
- May 2015 email correspondence and subsequent telephone conversations between URS and NCDOT regarding the additional area at Parcel 160 (since renamed Parcel 159 by NCDOT) for inclusion to the PSA.

The scope of work for this addendum included a geophysical survey, soil sampling using a direct push technology (DPT) rig, and laboratory soil testing services for Total Petroleum Hydrocarbons (TPH). URS conducted the geophysical survey first in order to identify potential UST and/or anomaly locations within the site. Based on the results of the geophysical survey and anecdotal evidence, boring locations were identified and completed by a drilling subcontractor (Regional Probing Services of Wake Forest, North Carolina) under the supervision of a URS geologist. Soil borings were located in areas that were cleared of underground utilities by NC One-Call. Analysis of soil samples were performed by Pace Analytical Services under direct contract with NCDOT.

## 1.2 BACKGROUND

The objective for this PSA is to assess the site for USTs, impacted soil, and to delineate potential impacts found in soils. A discrepancy was noted by URS in the property description (Parcel 161, owned by JVC Homes, Inc.) provided in the original 12/1/14 NCDOT PSA RFP. Upon review of the Franklin County Register of Deeds, the parcel information was determined to be Parcel 160,

owned by Betty C. Perry. The site has since be renamed to Parcel 159 by NCDOT. The property is currently occupied by the Triple G gas station and convenience store. This addendum specifically addresses the on-site areas north and west of the on-site structures.

The major site features and the surrounding area are shown on **Figures 1** and **2**. The parcel is bounded by Louisburg Road to the east, Flat Rock Church Road to the south, and residential properties to the west and north.

According to information supplied by NCDOT, there are two (2) tanks currently on the Site. Monitoring wells are located on the Site, however no groundwater incident reference was found in the NCDENR database.

## 2.1 GEOPHYSICAL SURVEY

The primary objective of the geophysical survey was to locate potential USTs or anomalies within the property, and a secondary objective was to identify the general locations of underground utilities at the property in advance of the planned subsurface investigation. The geophysical survey for the property was conducted by URS during the week of June 8, 2015. Ground surface conditions consisted primarily of broken concrete and grass covered areas.

The geophysical investigation was conducted using the electromagnetic (EM) method augmented by ground-penetrating radar (GPR). The EM survey was completed using a Geonics, Ltd. EM-61 MK2A (EM-61). The GPR survey was completed using a Sensors & Software, Inc. Noggin PLUS Smart Cart System with a 250 MHz scanning antenna.

EM-61 data were collected along parallel profiles with a nominal spacing of 5 feet where accessible. EM-61 data were recorded at a rate of 8 readings per second, which equates to an along-profile data point spacing of less than 1 foot. In areas inaccessible to the EM-61 (e.g. between trees, man-made obstructions, etc.), data were interpolated to provide a continuous electromagnetic surface.

A Hemisphere A100 global positioning system (GPS) was used to record positional data coincident with the EM-61 data. The A100 system provided real-time differential corrections via an Omnistar subscription service. The horizontal accuracy of the differential GPS (DGPS) data is generally 3 feet or less. URS also used the GPS system to record the locations of relevant site features within the survey area (e.g. utility poles, parked cars, etc.).

URS performed in-field analysis of the EM-61 data to identify anomalies indicative of potential USTs. Preliminary interpretations were based on an evaluation of the magnitude of the EM response as well as the dimensions of the anomaly in plan view.

In areas where the EM-61 encountered heavy surficial interference or where EM anomalies could not be readily attributed to site features, GPR was used to conduct a search for potential USTs. GPR surveying consisted of in-field analysis of real-time data. As a result, no post-processing of the GPR data was completed. Relevant GPR profiles were saved to a data file. GPR was selected to augment the EM-61 data due to its effectiveness at characterizing large subsurface metallic objects such as USTs.

The EM-61 data were pre-processed utilizing the accompanying software package, DAT61 MK2 (Geonics, Ltd), which is required before the data can be contoured and graphically displayed via Surfer (Golden Software, Inc.). The presented contoured data represent the Channel 3 response. The Channel 3 response represents the amplitude recorded at the third time interval along the EM-61 response decay curve. These data are applicable to detection of subsurface objects including USTs and other underground obstructions while simultaneously reducing the near-surface component. Common USTs are of sufficient size to resonate the induced magnetic field for long enough to be recorded in this time gate.

## 2.2 SOIL BORING INSTALLATION AND MEDIA SAMPLING

Four direct-push soil borings, P159A-SB1 through P159A-SB4, were completed on June 12, 2015, to assess the Site for impacted soil, as shown on **Figure 2**. Soil samples were collected and logged continuously at each soil boring location. Soil sample aliquots were field screened for organic vapors with a MiniRae<sup>®</sup> brand photo-ionization detection (PID) instrument calibrated daily with 100 parts per million (ppm) isobutylene.

Soil samples from select intervals were collected from each boring during the soil investigations for laboratory analysis. The samples were analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO) using USEPA Method 8015B.

## 2.3 QUALITY CONTROL/QUALITY ASSURANCE PROCEDURES

While in the field, pertinent observations were recorded in a logbook maintained by the URS field representative. This included pertinent field data collection activities and other observations, as appropriate. Each sample collected for laboratory analysis was assigned a unique sample identification number and placed in laboratory supplied containers. Samples collected for laboratory analyses were stored on ice in insulated coolers immediately following collection. Information on the custody, transfer, handling, and shipping of all samples was recorded on a chain-of-custody form that accompanied the samples to the laboratory.

Soil analytical data were evaluated based on the Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, October 1999). Sample results have been qualified based on the results of the data review process and are considered representative and valid for the purpose of this report.

### 3.1 GEOPHYSICAL SURVEY RESULTS

The results of the geophysical survey are presented in accordance with the NCDOT guidelines, dated May 19, 2009, for identifying and ranking potential USTs on NCDOT projects.

The EM-61 Channel 3 response results are provided as a plan view, color-enhanced contour map in **Figure 3**. The results presented in **Figure 3** are superimposed on the parcel base drawing provided by NCDOT. The interpreted background response is represented by the light blue to light green contours and generally corresponds to the range of -40 to 40 milliVolts (mV).

The Channel 3 results indicate an excited response (red) where known surface or near-surface metallic features exist. Observable surface features at the site include utility poles, signs, a backup generator and concrete pad, a large clothing donation bin, a propane AST, and debris. These features are responsible for higher than background near surface response over the site, as evident in **Figure 3**.

EM response across the site was attributable to observable surface features. A general GPR sweep across the requested survey area was performed. Results from the GPR sweep did not indicate any anomalies representative of a UST, therefore, the GPR data were not saved to disk.

### 3.2 SOIL SAMPLING RESULTS

A total of four soil borings were advanced to 8 feet below ground surface (ft bgs) or to refusal during the PSA investigation at the Site. Boring locations are shown in **Figure 2** and analytical results are summarized in **Appendix B**. Encountered soils consisted predominantly of brown, white, and orange silt and sandy silt. Boring logs are included as **Appendix A**.

As shown in **Appendix A**, soil headspace screening in the field detected minor levels of organic vapors ranging from 2.1 to 102.8 parts per million (ppm). The hydrocarbon analyses results for the four (4) samples submitted for laboratory analysis are summarized in **Appendix B**. Results indicate no detections of GRO or DRO.

### 3.3 SUMMARY

The following summarizes the findings of NCDOT Parcel 159A, located at 3822 US 401 South:

- The geophysical survey did not detect the presence of subsurface anomalies indicative of USTs on the parcel within the proposed easement.
- Field screening detected the presence of low levels of organic vapors in the borings at the site. Of these, 2 samples suggested elevated levels of organic vapors.
- None of the samples submitted for TPH analysis exceeded the NCDENR TPH Action Level of 10 mg/kg.

Based on the Site investigation, future Site workers are not likely to encounter impacted soil. If encountered, all impacted soil should be properly handled and disposed of in accordance with NCDENR regulations.



Opinions relating to environmental, geologic, and geotechnical conditions at this parcel are based on limited data, and actual conditions may vary from those encountered at the times and locations where the data was obtained, despite the use of due professional care. The geophysical investigation was conducted in accordance with reasonable and accepted engineering geophysics practices, and the interpretations and conclusions are rendered in a manner consistent with other consultants in our profession. All geophysical techniques have some level of uncertainty and limitations. No other representations of the reported information is expressed or implied, and no warranty or guarantee is included or intended. The results of the geophysical survey are presented in accordance with the NCDOT guidelines, dated May 19, 2009, for identifying and ranking potential USTs on NCDOT projects.

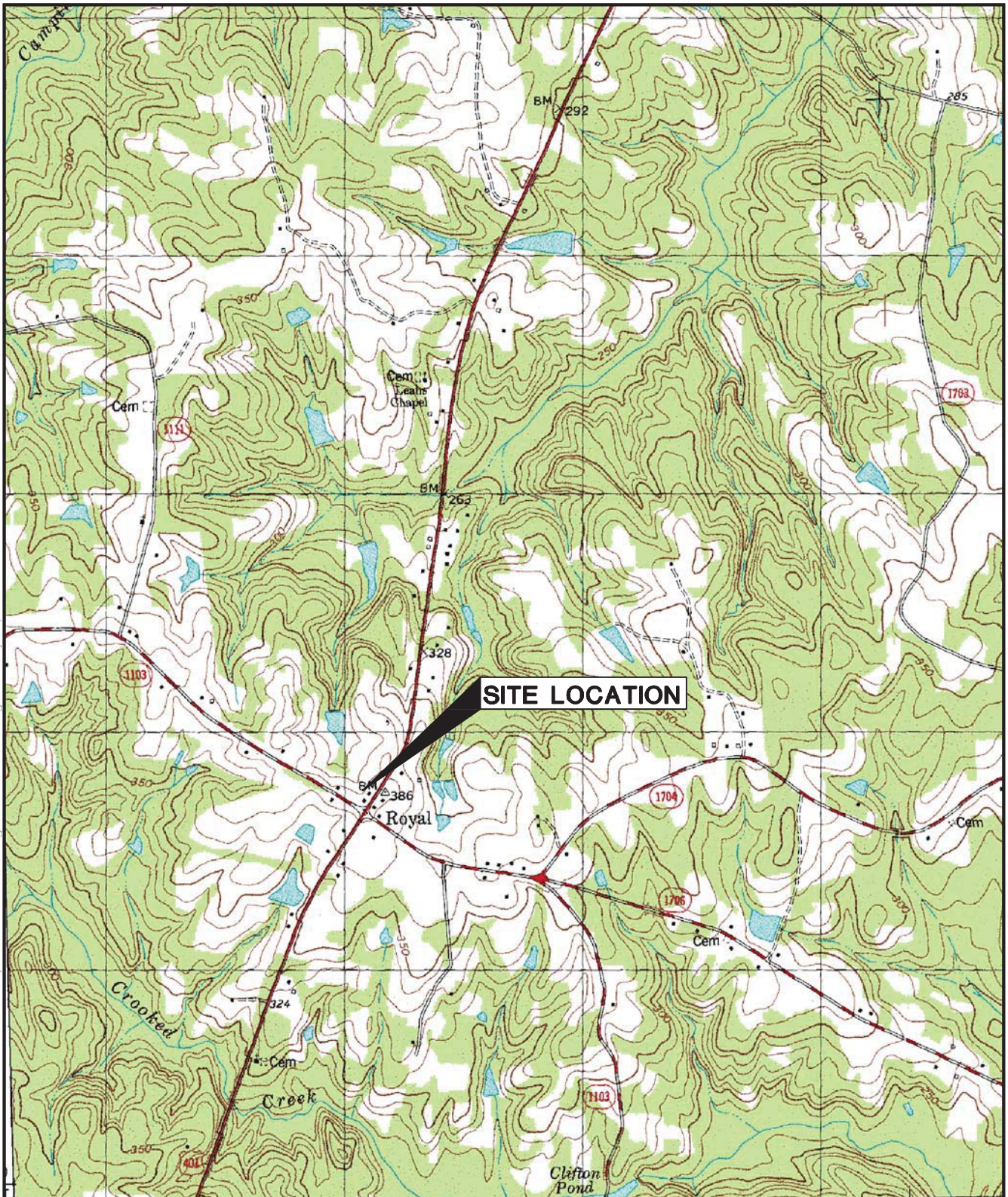
North Carolina Department of Transportation, Request for Technical and Cost Proposal, Preliminary Site Assessment, R-2814C, December 1, 2014.

North Carolina Department of Transportation, Notice to Proceed - Preliminary Site Assessment, R-2814C, January 10, 2015.

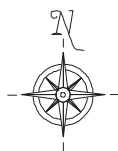
URS Corporation, Technical and Cost Proposal, Preliminary Site Assessment, R-2814, December 17, 2014.

Figures

P:\Jobs\4\Projects\NCDOT\31829895 R-2814C Wake PSA\6.0 Graphics\6.5 - Autocad\Figure 1 - 151-160.dwg January 20, 2015 - 1:31 PM



**SITE LOCATION**



**FIGURE 1. LOCATION MAP**  
**PARCEL 159 3822 US 401 S**  
**STATE PROJECT R-2814**  
**LOUISBURG, NC**

Prepared for:  
**NC DOT**



DRAWN BY: TSH  
 DATE: 1/19/15  
 PROJECT NO. 31829895

Fig.  
 1

SOURCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE  
 LOUISBURG, NC - DATED 1978, PHOTOREVISED 1984

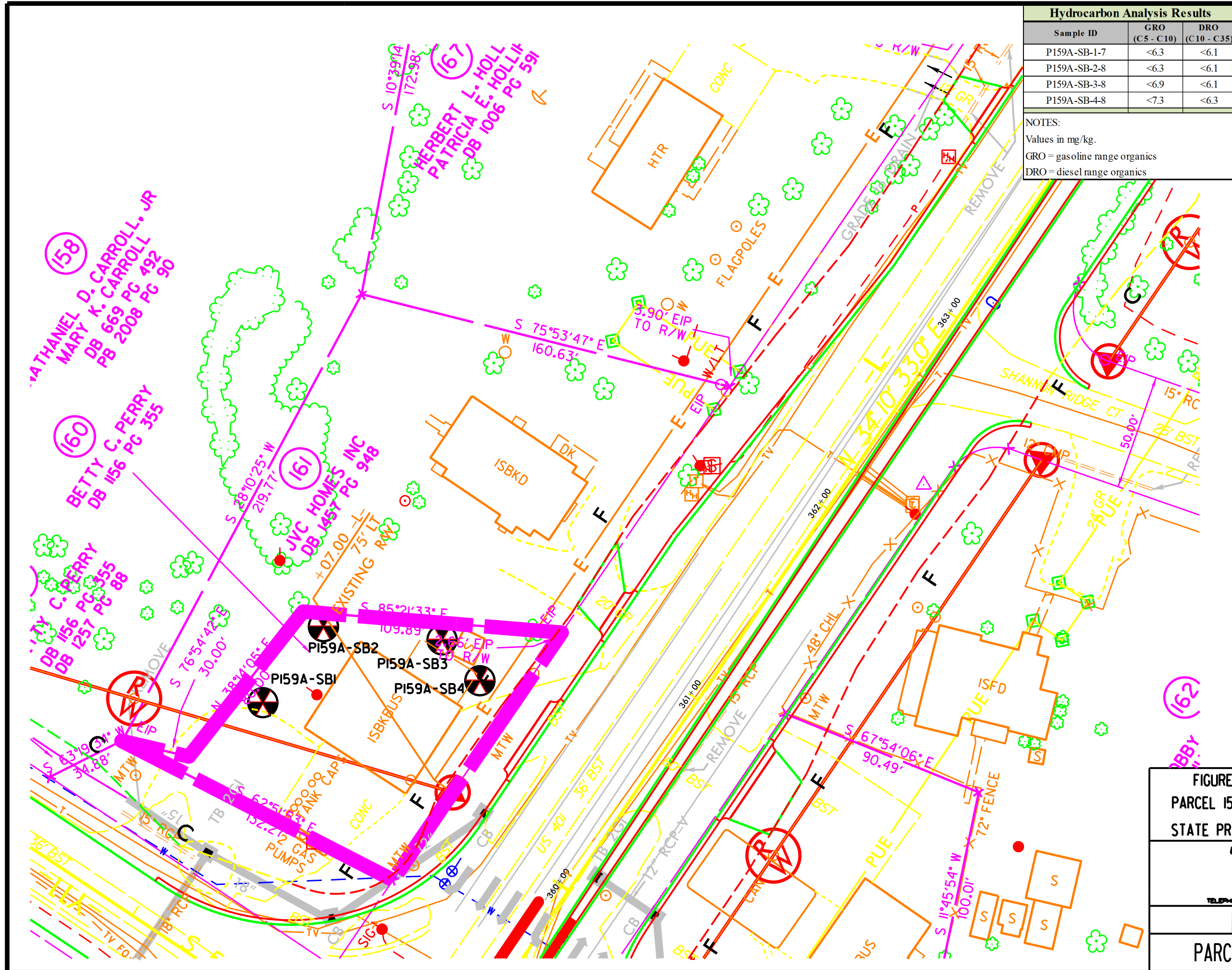
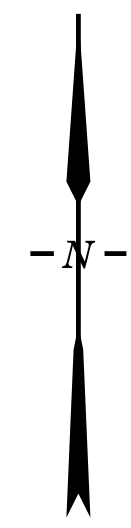
Hydrocarbon Analysis Results		
Sample ID	GRO (C5 - C10)	DRO (C10 - C35)
P159A-SB-1-7	<6.3	<6.1
P159A-SB-2-8	<6.3	<6.1
P159A-SB-3-8	<6.9	<6.1
P159A-SB-4-8	<7.3	<6.3

PROJECT REFERENCE NO.	R-2814C
SHEET	
<b>GeoEnvironmental</b>	

NOTES:  
 Values in mg/kg.  
 GRO = gasoline range organics  
 DRO = diesel range organics

LEGEND	
	P2-SB6 SOIL BORING LOCATION
	PROPOSED RIGHT-OF-WAY
	PROPOSED EASEMENT
	PROPOSED DRAINAGE STRUCTURE
	KNOWN SOIL CONTAMINATION
	EXISTING MONITORING WELL
	UNDERGROUND STORAGE TANK
P2-SBI-IO ID - DEPTH	

**PRELIMINARY PLANS**  
 DO NOT USE FOR CONSTRUCTION



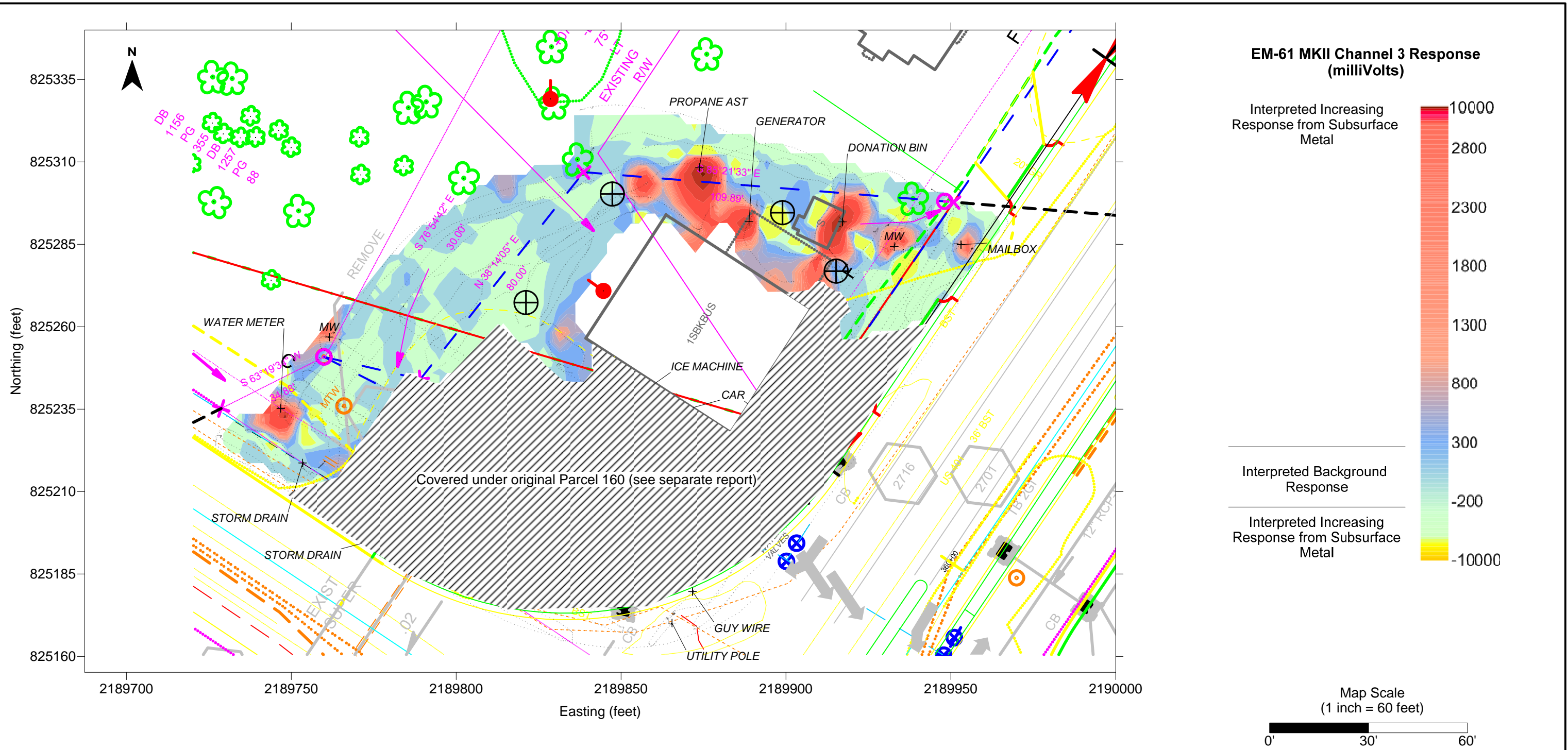
**FIGURE 2 SOIL SAMPLING LOCATIONS**  
**PARCEL 159A - BETTY C. PERRY PROPERTY**  
**STATE PROJECT R-2814C, WAKE COUNTY, NC**

URS Corporation - North Carolina  
 1600 Perimeter Park Drive  
 Morrisville, North Carolina 27560  
 NC LIC # C-2243  
 TELEPHONE (919) 461-1100 FAX (919) 461-1415

DRN BY: LHJ	DATE: 07-23-15	STATE PROJECT:
CHECKED BY: VR	DATE: 07-23-15	R-2814C

**PARCEL LOCATION MAP**

FIGURE  
**2**

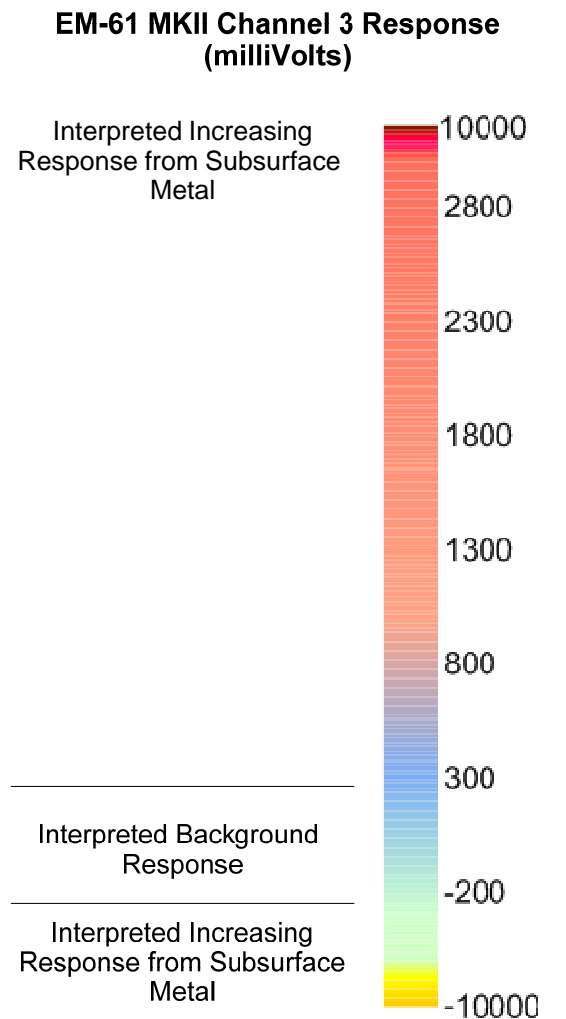


Notes:

1. Coordinates in NC State Plane NAD 83 (US Feet).
2. Data from Geonics, Ltd. EM-61 MKII instrument.
3. Base drawing after file "Parcel 160.dxf" provided by NCDOT.
4. Location control from DGPS survey by URS.
5. No EM anomalies selected for GPR survey.
6. Parcel 159-Addendum (159A) is additional area requested by NCDOT which covers areas to the north and west of the site building. Parcel 159 was formerly Parcel 160.

**Legend**

- |  |  |  |                                      |
|--|--|--|--------------------------------------|
|  | Soil Boring Location                       |  | Inaccessible Area                    |
|  | Interpreted Subsurface Utility Center Line |  | EM Anomalies selected for GPR survey |
|  | Utility Termination Point not Known        |  | Proposed Right-of-Way                |
|  | Property Boundary                          |  |                                      |



<b>AECOM</b>				1600 Perimeter Park Drive, Suite 400 Raleigh, NC 27560 (919)-461-1100
EM-61 MKII Channel 3 Response Contours Betty C. Perry Property (Parcel #159 Addendum; Tax PIN: 1882-95-8265)				
NCDOT WBS 34506.1.4, Wake-Franklin County				
Louisburg, Franklin County, North Carolina				
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	Figure 3
CMS	07/23/15	CMS	07/23/15	
		VEK	07/23/15	31829895

Appendix A  
Boring Logs



# BORING LOG: P159A-SB1

Permit #	Drill Date <b>06/12/15</b>	Site <b>Parcel #159-Addendum</b>
Client <b>NCDOT</b>	Use	URS Corporation
Address <b>3822 US 401 S, Louisburg, NC 27549</b>		Total Depth (ft) <b>7</b>
Drilling Method <b>Geoprobe Direct Push</b>	Boring Depth (ft) <b>7</b>	Boring Diam. (in) <b>1.5</b>
Backfill Material <b>Soil/Bentonite</b>		Static Water Level <b>unknown</b>
Remarks:	TOC Elevation <b>NA</b>	Sample Method <b>Acetate Liner (4 ft)</b>

Depth (ft)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram
0						<p style="text-align: center;"><b>Not to Scale</b></p>
1	P159A-SB1-2	0-2		2.1	Light brown, dry, loose, SILT with little fine sand and gravel Possible Fill	
2	P159A-SB1-4	2-4		2.7		
3					White to Orange, dry, loose, sandy SILT (weathered micaceous granite)	
4	P159A-SB1-6	4-6		2.7		
5					SAA, medium density	
6	P159A-SB1-7	6-7		18.3		
7	Boring Terminated at 7' bgs					
8						
9						
10						

Notes:

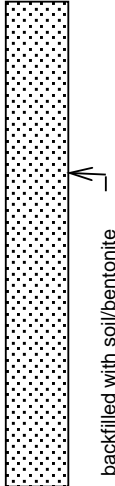
Geologist: <b>Joseph Kiker</b>	Driller: <b>Regional Probing Services, Youngsville, NC</b>
--------------------------------	--





# BORING LOG: P159A-SB2

Permit #	Drill Date <b>06/12/15</b>	Site <b>Parcel #159-Addendum</b>
Client <b>NCDOT</b>	Use	URS Corporation
Address <b>3822 US 401 S, Louisburg, NC 27549</b>		Total Depth (ft) <b>8</b>
Drilling Method <b>Geoprobe Direct Push</b>	Boring Depth (ft) <b>8</b>	Boring Diam. (in) <b>1.5</b>
Backfill Material <b>Soil/Bentonite</b>		Static Water Level <b>unknown</b>
Remarks:	TOC Elevation <b>NA</b>	Sample Method <b>Acetate Liner (4 ft)</b>

Depth (ft)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram
0	P159A-SB2-2	0-2		3.5	Light brown, dry, loose to medium dense, SILT with little fine sand and gravel. Possible Fill	 <p style="text-align: center;"><b>Not to Scale</b></p>
2		2-4		2.2	Light brown and White and Pink Mottled, dry, medium dense sandy SILT, micaceous. Possible weathered granite	
4	P159A-SB2-6	4-6		13.3		
6	P159A-SB2-8	6-8		102.8	SAA, loose	
8					Boring Terminated at 8' bgs	
10						

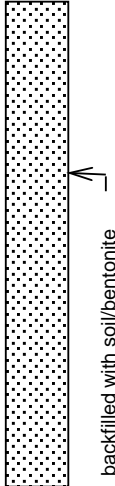
Notes:

Geologist: <b>Joseph Kiker</b>	Driller: <b>Regional Probing Services, Youngsville, NC</b>
--------------------------------	--



# BORING LOG: P159A-SB3

Permit #	Drill Date <b>06/12/15</b>	Site <b>Parcel #159-Addendum</b>
Client <b>NCDOT</b>	Use	URS Corporation
Address <b>3822 US 401 S, Louisburg, NC 27549</b>		Total Depth (ft) <b>8</b>
Drilling Method <b>Geoprobe Direct Push</b>	Boring Depth (ft) <b>8</b>	Boring Diam. (in) <b>1.5</b>
Backfill Material <b>Soil/Bentonite</b>		Static Water Level <b>unknown</b>
Remarks:	TOC Elevation <b>NA</b>	Sample Method <b>Acetate Liner (4 ft)</b>

Depth (ft)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram
0	P159A-SB3-2	0-2		5.4	Light brown, dry, loose, SILT with little fine sand	 <p style="text-align: center;">backfilled with soil/bentonite</p>
2					Light brown and White and Pink Mottled, dry, medium dense sandy SILT, micaceous. Possible weathered granite	
4	P159A-SB3-6	4-6	4.7			
6	P159A-SB3-8	6-8	5.9	SAA, loose		
8	Boring Terminated at 8' bgs					<p><b>Not to Scale</b></p>
10						

Notes:

Geologist: **Joseph Kiker**      Driller: **Regional Probing Services, Youngsville, NC**



# BORING LOG: P159A-SB4

Permit #	Drill Date <b>06/12/15</b>	Site <b>Parcel #159-Addendum</b>
Client <b>NCDOT</b>	Use	URS Corporation
Address <b>3822 US 401 S, Louisburg, NC 27549</b>		Total Depth (ft) <b>8</b>
Drilling Method <b>Geoprobe Direct Push</b>	Boring Depth (ft) <b>8</b>	Boring Diam. (in) <b>1.5</b>
Backfill Material <b>Soil/Bentonite</b>		Static Water Level <b>unknown</b>
Remarks:	TOC Elevation <b>NA</b>	Sample Method <b>Acetate Liner (4 ft)</b>

Depth (ft)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram
0					Light brown, dry, loose, SILT with little fine sand	<p style="text-align: center;"><b>Not to Scale</b></p>
2	P159A-SB4-2	0-2		6.3	Brownish-red and White and Pink Mottled, dry, medium dense sandy SILT, micaceous. Possible weathered granite	
4	P159A-SB4-4	2-4		8.4		
6	P159A-SB4-6	4-6		8.5	SAA, loose and more coarse	
8	P159A-SB4-8	6-8		8.6		
10					Boring Terminated at 8' bgs	

Notes:

Geologist: <b>Joseph Kiker</b>	Driller: <b>Regional Probing Services, Youngsville, NC</b>
--------------------------------	--

Appendix B  
Analytical Results

June 29, 2015

Chemical Testing Engineer  
NCDOT  
Materials & Tests Unit  
1801 Blue Ridge Road  
Raleigh, NC 27607

RE: Project: WBS 34506.1.4 R-2814C P159  
Pace Project No.: 92254351

Dear Chemical Engineer:

Enclosed are the analytical results for sample(s) received by the laboratory on June 13, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

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

Sincerely,



Nicole Gasiorowski  
nicole.gasiorowski@pacelabs.com  
Project Manager

Enclosures

cc: NC Chemists, AECOM  
Martha Meyers-Lee, AECOM



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

## CERTIFICATIONS

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

---

### **Charlotte Certification IDs**

9800 Kincey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12  
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
West Virginia Certification #: 357  
Virginia/VELAP Certification #: 460221

---

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

### SAMPLE ANALYTE COUNT

Project: WBS 34506.1.4 R-2814C P159  
Pace Project No.: 92254351

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92254351001	P159-SB1-7-06122015	EPA 8015 Modified	SWB	2	PASI-C
		EPA 8015 Modified	BFW	2	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92254351002	P159-SB2-8-06122015	EPA 8015 Modified	SWB	2	PASI-C
		EPA 8015 Modified	BFW	2	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92254351003	P159-SB3-8-06122015	EPA 8015 Modified	SWB	2	PASI-C
		EPA 8015 Modified	BFW	2	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92254351004	P159-SB4-8-06122015	EPA 8015 Modified	SWB	2	PASI-C
		EPA 8015 Modified	BFW	2	PASI-C
		ASTM D2974-87	KDF	1	PASI-C

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

## PROJECT NARRATIVE

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

---

**Method:** EPA 8015 Modified  
**Description:** 8015 GCS THC-Diesel  
**Client:** NCDOT East Central  
**Date:** June 29, 2015

### General Information:

4 samples were analyzed for EPA 8015 Modified. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

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

### Sample Preparation:

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

### Initial Calibrations (including MS Tune as applicable):

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

### Continuing Calibration:

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

### Surrogates:

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

### Method Blank:

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

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

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

QC Batch: OEXT/36015

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92255306003

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

- MSD (Lab ID: 1493977)
  - Diesel Range Organics(C10-C28)

M3: Matrix spike recovery was outside laboratory control limits due to matrix interferences.

- MS (Lab ID: 1493976)
  - Diesel Range Organics(C10-C28)

R1: RPD value was outside control limits.

- MSD (Lab ID: 1493977)
  - Diesel Range Organics(C10-C28)

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..



## PROJECT NARRATIVE

Project: WBS 34506.1.4 R-2814C P159  
Pace Project No.: 92254351

---

**Method:** EPA 8015 Modified  
**Description:** Gasoline Range Organics  
**Client:** NCDOT East Central  
**Date:** June 29, 2015

**General Information:**

4 samples were analyzed for EPA 8015 Modified. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

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

**Sample Preparation:**

The samples were prepared in accordance with EPA 5035A/5030B with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

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

**Continuing Calibration:**

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

**Internal Standards:**

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

**Surrogates:**

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

**Method Blank:**

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

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

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

**Additional Comments:**

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

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

## ANALYTICAL RESULTS

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

**Sample: P159-SB1-7-06122015**      **Lab ID: 92254351001**      Collected: 06/12/15 09:45      Received: 06/13/15 08:00      Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>								
Analytical Method: EPA 8015 Modified      Preparation Method: EPA 3546								
Diesel Range Organics(C10-C28)	ND	mg/kg	6.1	1	06/25/15 06:30	06/26/15 03:13		
<b>Surrogates</b>								
n-Pentacosane (S)	98	%	41-119	1	06/25/15 06:30	06/26/15 03:13	629-99-2	
<b>Gasoline Range Organics</b>								
Analytical Method: EPA 8015 Modified      Preparation Method: EPA 5035A/5030B								
Gas Range Organics (C6-C10)	ND	mg/kg	6.3	1	06/17/15 14:33	06/18/15 05:48		
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	83	%	70-167	1	06/17/15 14:33	06/18/15 05:48	460-00-4	
<b>Percent Moisture</b>								
Analytical Method: ASTM D2974-87								
Percent Moisture	<b>18.3</b>	%	0.10	1		06/17/15 11:02		

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

## ANALYTICAL RESULTS

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

**Sample: P159-SB2-8-06122015      Lab ID: 92254351002      Collected: 06/12/15 10:00      Received: 06/13/15 08:00      Matrix: Solid**

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>								
Analytical Method: EPA 8015 Modified    Preparation Method: EPA 3546								
Diesel Range Organics(C10-C28)	ND	mg/kg	6.1	1	06/25/15 06:30	06/26/15 03:37		
<b>Surrogates</b>								
n-Pentacosane (S)	96	%	41-119	1	06/25/15 06:30	06/26/15 03:37	629-99-2	
<b>Gasoline Range Organics</b>								
Analytical Method: EPA 8015 Modified    Preparation Method: EPA 5035A/5030B								
Gas Range Organics (C6-C10)	ND	mg/kg	6.3	1	06/17/15 14:33	06/18/15 06:11		
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	85	%	70-167	1	06/17/15 14:33	06/18/15 06:11	460-00-4	
<b>Percent Moisture</b>								
Analytical Method: ASTM D2974-87								
Percent Moisture	<b>18.2</b>	%	0.10	1		06/17/15 11:02		

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

## ANALYTICAL RESULTS

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

**Sample: P159-SB3-8-06122015**      **Lab ID: 92254351003**      Collected: 06/12/15 10:15      Received: 06/13/15 08:00      Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>								
Analytical Method: EPA 8015 Modified      Preparation Method: EPA 3546								
Diesel Range Organics(C10-C28)	ND	mg/kg	6.1	1	06/25/15 06:30	06/26/15 03:37		
<b>Surrogates</b>								
n-Pentacosane (S)	94	%	41-119	1	06/25/15 06:30	06/26/15 03:37	629-99-2	
<b>Gasoline Range Organics</b>								
Analytical Method: EPA 8015 Modified      Preparation Method: EPA 5035A/5030B								
Gas Range Organics (C6-C10)	ND	mg/kg	6.9	1	06/17/15 14:33	06/18/15 06:33		
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	80	%	70-167	1	06/17/15 14:33	06/18/15 06:33	460-00-4	
<b>Percent Moisture</b>								
Analytical Method: ASTM D2974-87								
Percent Moisture	<b>18.1</b>	%	0.10	1		06/17/15 11:02		

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

## ANALYTICAL RESULTS

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

**Sample: P159-SB4-8-06122015**      **Lab ID: 92254351004**      Collected: 06/12/15 10:30      Received: 06/13/15 08:00      Matrix: Solid

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

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>								
Analytical Method: EPA 8015 Modified      Preparation Method: EPA 3546								
Diesel Range Organics(C10-C28)	ND	mg/kg	6.3	1	06/25/15 06:30	06/26/15 04:01		
<b>Surrogates</b>								
n-Pentacosane (S)	101	%	41-119	1	06/25/15 06:30	06/26/15 04:01	629-99-2	
<b>Gasoline Range Organics</b>								
Analytical Method: EPA 8015 Modified      Preparation Method: EPA 5035A/5030B								
Gas Range Organics (C6-C10)	ND	mg/kg	7.3	1	06/17/15 14:33	06/18/15 06:55		
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	80	%	70-167	1	06/17/15 14:33	06/18/15 06:55	460-00-4	
<b>Percent Moisture</b>								
Analytical Method: ASTM D2974-87								
Percent Moisture	<b>20.4</b>	%	0.10	1		06/17/15 11:02		

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

### QUALITY CONTROL DATA

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

QC Batch: GCV/9505 Analysis Method: EPA 8015 Modified  
 QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics  
 Associated Lab Samples: 92254351001, 92254351002, 92254351003, 92254351004

METHOD BLANK: 1487323 Matrix: Solid  
 Associated Lab Samples: 92254351001, 92254351002, 92254351003, 92254351004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gas Range Organics (C6-C10)	mg/kg	ND	6.0	06/17/15 22:51	
4-Bromofluorobenzene (S)	%	89	70-167	06/17/15 22:51	

LABORATORY CONTROL SAMPLE: 1487324

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gas Range Organics (C6-C10)	mg/kg	50	48.3	97	70-165	
4-Bromofluorobenzene (S)	%			89	70-167	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1487325 1487326

Parameter	Units	92254637001		1487325		1487326		% Rec Limits	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec			
Gas Range Organics (C6-C10)	mg/kg	ND	47.5	47.5	47.9	52.5	99	108	47-187	9
4-Bromofluorobenzene (S)	%						86	85	70-167	

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

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

### QUALITY CONTROL DATA

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

QC Batch: OEXT/36015 Analysis Method: EPA 8015 Modified  
 QC Batch Method: EPA 3546 Analysis Description: 8015 Solid GCSV  
 Associated Lab Samples: 92254351001, 92254351002, 92254351003, 92254351004

METHOD BLANK: 1493974 Matrix: Solid  
 Associated Lab Samples: 92254351001, 92254351002, 92254351003, 92254351004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics(C10-C28)	mg/kg	ND	5.0	06/26/15 02:49	
n-Pentacosane (S)	%	103	41-119	06/26/15 02:49	

LABORATORY CONTROL SAMPLE: 1493975

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Range Organics(C10-C28)	mg/kg	66.7	65.7	99	49-113	
n-Pentacosane (S)	%			103	41-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1493976 1493977

Parameter	Units	92255306003		MSD		MS		MSD		% Rec Limits	RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Diesel Range Organics(C10-C28)	mg/kg	541	73.2	73.2	476	323	-89	-298	10-146	38	M1, M3, R1	
n-Pentacosane (S)	%						72	76	41-119			

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

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

**QUALITY CONTROL DATA**

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

QC Batch: PMST/7998

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 92254351001, 92254351002, 92254351003, 92254351004

SAMPLE DUPLICATE: 1486535

Parameter	Units	92254417001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	15.3	17.6	14	

SAMPLE DUPLICATE: 1486536

Parameter	Units	92254351004 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	20.4	17.2	17	

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

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..



## QUALIFIERS

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

---

### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

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

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

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

TNI - The NELAC Institute.

### LABORATORIES

PASI-C Pace Analytical Services - Charlotte

### ANALYTE QUALIFIERS

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

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

R1 RPD value was outside control limits.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WBS 34506.1.4 R-2814C P159

Pace Project No.: 92254351

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92254351001	P159-SB1-7-06122015	EPA 3546	OEXT/36015	EPA 8015 Modified	GCSV/21783
92254351002	P159-SB2-8-06122015	EPA 3546	OEXT/36015	EPA 8015 Modified	GCSV/21783
92254351003	P159-SB3-8-06122015	EPA 3546	OEXT/36015	EPA 8015 Modified	GCSV/21783
92254351004	P159-SB4-8-06122015	EPA 3546	OEXT/36015	EPA 8015 Modified	GCSV/21783
92254351001	P159-SB1-7-06122015	EPA 5035A/5030B	GCV/9505	EPA 8015 Modified	GCV/9511
92254351002	P159-SB2-8-06122015	EPA 5035A/5030B	GCV/9505	EPA 8015 Modified	GCV/9511
92254351003	P159-SB3-8-06122015	EPA 5035A/5030B	GCV/9505	EPA 8015 Modified	GCV/9511
92254351004	P159-SB4-8-06122015	EPA 5035A/5030B	GCV/9505	EPA 8015 Modified	GCV/9511
92254351001	P159-SB1-7-06122015	ASTM D2974-87	PMST/7998		
92254351002	P159-SB2-8-06122015	ASTM D2974-87	PMST/7998		
92254351003	P159-SB3-8-06122015	ASTM D2974-87	PMST/7998		
92254351004	P159-SB4-8-06122015	ASTM D2974-87	PMST/7998		

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..

Document Number:  
F-CHR-CS-003-rev.16

Issuing Authority:  
Pace Huntersville Quality Office

Client Name: Aelum

\* Page 2 of 2 is for Internal Use Only

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble V  ip  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used: IR Gun T1401 Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 4.8 °C Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: APG-15-15

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>APG</u>	
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

SCURF Review: NMG Date: 6-15-15

SRF Review: APG Date: 6/16/15

WO# : 92254351



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

**CHAIN-OF-CUSTODY / Analytical Request Document**  
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A** Required Client Information: **Section B** Required Project Information: **Section C** Invoice Information:

Company: **AECOM** Report To: **Martha Meyers-Lee** Attention: **Nicole Gasiorewski**

Address: **1600 Terimeter Park** Copy To: **Vernon Keys** Company Name: **Pace Analytical Charlotte**

Email To: **Vernon.Keys@aecom.com** Purchase Order No.: **60397108** Address: **9800 Kinney Ave, Suite 100**

Phone: **540-226-1434** Fax: Project Name: **WOOD R-2814C** Pace Quote Reference: **Nicole Gasiorewski**

Requested Due Date/TAT: **10 DAY TAT** Project Number: Pace Project Manager: **Nicole Gasiorewski** Pace Profile #: **5354-11**

REGULATORY AGENCY:  NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA

Site Location: **NC**

**Section D** Required Client Information

Matrix Codes MATRIX / CODE  
 Drinking Water DW  
 Water WT  
 Waste Water WW  
 Product P  
 Soil/Solid SL  
 Oil OL  
 Wipe WP  
 Air AR  
 Tissue TS  
 Other OT

**SAMPLE ID**  
(A-Z, 0-9 / . -)  
Sample IDs MUST BE UNIQUE

MATRIX CODE (see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

COLLECTED: **GRAB** COMPOSITE END/GRAB

Preservatives:  H<sub>2</sub>SO<sub>4</sub>  HNO<sub>3</sub>  HCl  NaOH  Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  Methanol  Other

Analysis Test:  TPH-GRO  TPH-GRO  %moisture/solids

Requested Analysis Filtered (Y/N)

Residual Chlorine (Y/N)

Pace Project No./ Lab I.D. **02254351**

ITEM #	DATE	TIME	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
1	6/12	0945				4	X								X		
2	6/12	1000				4	X								X		
3	6/12	1015				4	X								X		
4	6/12	1030				4	X								X		
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

**ADDITIONAL COMMENTS**

Relinquished by / Affiliation: **Q. Kiker** Date: **6/30** Accepted by / Affiliation: **Alamy Pace** Date: **6-13-15**

Temp in °C: **9.8**

Received on Ice (Y/N): **V**

Custody Sealed Cooler (Y/N): **V**

Samples Intact (Y/N): **V**

**ORIGINAL**

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: **Joseph Kiker**

SIGNATURE of SAMPLER: **J. Kiker**

DATE Signed (MM/DD/YY): **06/12/2015**