

PSA REPORT

**PRELIMINARY SITE ASSESSMENT
PARCEL #002
MAC I FAMILY LTD PARTNERSHIP PROPERTY
1101 HIGHWAY 29
CONCORD, CABARRUS COUNTY, NC
STATE PROJECT B-5136
WBS ELEMENT 42295.1.1**

Prepared for

North Carolina Department of Transportation
Geotechnical Engineering Unit
Geoenvironmental Section
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March 14, 2013, Revised May 21, 2013



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URS Job No. 3182 7879

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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.



Walter Plekan, L.G.
Project Manager
URS Corporation – North Carolina

2061
NC License No.

5-21-13
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). The assessment area includes a site located on the north side of US 29, just east of the intersection with Davidson Highway. This PSA was conducted in Concord, Cabarrus County, North Carolina (**Figure 1**) for the Mattress Center facility, owned by Mac I Family Ltd Partnership, located at 1101 Highway 29 (the Site). The PSA was performed only within the proposed right-of-way and/or easement for this parcel.

This PSA was performed in general accordance with:

- NCDOT’s 30 November 2012 Request for Technical and Cost Proposal (RFP) for the Site property. 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 21 December 2012 Technical and Cost Proposal for the Site property.
- NCDOT’s 8 January 2013 Notice to Proceed for the Site property.

The scope of work included a geophysical survey, soil sampling using a direct push technology (DPT) rig, and laboratory analyses (Total Petroleum Hydrocarbons or TPH) of selected soil samples from within the Site property. The geophysical survey was first conducted by URS in order to identify potential UST and/or anomaly locations within the Site property. Based on the results of the geophysical survey and anecdotal evidence, boring locations were identified and the DPT borings were completed by a drilling subcontractor (Probe Technology of Concord, 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. The major Site features and the surrounding area are shown on **Figures 1** and **2**. The parcel is bounded by US Concord parkway North and buffer to the south and east, Old Davidson Place NW then commercial and residential properties to the north, and a commercial property to the west. The property currently serves as a mattress retail facility.

A review of historical aerials (**Appendix A**) obtained from the Cabarrus County GIS indicates that the present day structure was erected between 1986 and 2001, and very little change is observed on the property from 1986 through present day. It should be noted that NCDOT Parcel 2 is on the eastern half (right side) of the photograph, NCDOT Parcel 1 is on the western half.

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 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 between January 22 and 24, 2010. Ground surface conditions consisted primarily of concrete or asphalt with some grassy areas.

The geophysical investigation was conducted using the electromagnetic (EM) method augmented by ground-penetrating radar (GPR). The EM survey was completed using the hand-held Schonstedt GA-52Cx Magnetic Locator and the Geonics, Ltd. EM-61 MKII (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. URS utilized the Schonstedt GA-52Cx to conduct a search of the portions of the survey area not accessible due to the size of the EM-61 instrument in order to identify anomalies indicative of USTs (i.e. between trees, man-made obstructions, etc.).

A Trimble ProXRT global positioning system (GPS) was used to record positional data coincident with the EM-61 data. The ProXRT 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 better. URS also used the GPS system to record the locations of relevant site features within the survey area.

Prior to conducting the GPR investigation, 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.

The GPR was used to conduct a broad search of the parcel in areas where metal detection methods proved unreliable due to metallic interference, or where further investigation of EM anomalies were determined necessary. GPR surveying consisted of in-field analysis of real-time data. As a result, no post-processing of the GPR data was completed. However, GPR anomalies that appeared to be indicative of USTs were saved to a data file. The objective of augmenting the EM-61 survey with follow-up GPR surveying was to further characterize EM-61 anomalies that could not be readily attributed to existing site features.

The EM-61 data were pre-processed using the program DAT61 MK2 (Geonics Ltd). The program was used to prepare the data for contouring in Surfer (Golden Software, Inc.). Contoured data represent EM-61 Channel 1 and differential responses. The Channel 1 response represents data recorded at the earliest time interval along the EM-61 response decay curve. These data are applicable to detection of subsurface objects including USTs and other underground obstructions (e.g. utility lines).

2.2 SOIL BORING INSTALLATION AND MEDIA SAMPLING

Nine direct-push soil borings, P2-SB1 through P2-SB9, were installed from February 5-6, 2013 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[®] 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 appropriate for the parameters being analyzed. 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 1 and differential response results are provided as plan view, color-enhanced contour maps in **Figures 3** and **4**, respectively. The results presented in **Figures 3** and **4** 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 corresponds to the range of 0 to 100 milliVolts (mV).

The Channel 1 results in **Figure 3** indicate high response anomalies, red in color, where known metallic features exist. A large metal shed door is evident in the center of the contour map where a large, red anomaly is evident. In addition, two subsurface utilities are interpreted as blue contours, and highlighted with dashed lines to the east of the shed.

The Channel 1 results in **Figure 3** indicate a slight increase in negative response values within the northern portion of the survey area. This slight increase in negative response values is indicated in **Figure 3** by the yellow contours. Because the ground surface consists of asphalt across this portion of the site, the localized increase in negative response values suggests a slightly elevated background metallic signature of the materials beneath the asphalt. These near-surface conditions may include sub-base or fill materials with a relatively higher metallic mineral content or the presence of unreinforced concrete beneath the asphalt. The effects of these conditions appear to be widespread in the Channel 1 data (**Figure 3**) and appear less in differential response data (**Figure 4**).

The effects of surface and near-surface conditions appear to be slightly muted in the differential response data, thus facilitating the identification of deeper anomalies characteristic of USTs. Because the differential response data in **Figure 4** depict more well-defined footprints of EM signatures and enable muting of surface effects, these response data were utilized to select the target locations for inclusion in the follow-up GPR survey. In this particular instance, no anomalies indicative of a potential UST was identified in **Figure 4**. There appears to be slight increase in response values in the eastern portion of the survey area, indicated by small dark blue and orange anomalies in **Figure 4**. Because the ground surface consists of a landscaped berm over this portion of the site, the localized increase in response values suggests a slightly elevated background metallic signature of the materials beneath the surveyed area.

The results of the sweep search with the Schonstedt in areas inaccessible by the EM-61 and GPR did not identify anomalies indicative of buried metallic obstructions.

Due to the size of the parcel and ease of traversing the survey area, a follow-up GPR survey across the survey area was conducted. The instrument did not indicate reflections consistent with the characteristics of USTs.

3.2 SOIL SAMPLING RESULTS

A total of nine soil borings were advanced to depths between 4 and 10 ft bgs during the PSA investigation at the Site property. Boring locations are shown in **Figure 2** and analytical results (TPH) are summarized in **Table 1**. The soil was described as reddish sandy silt. The boring logs are included as **Appendix B** and the complete laboratory report is included in **Appendix C**.

As shown in **Appendix B**, soil headspace screening in the field did not detect organic vapors above approximately 5.4 parts per million (ppm). TPH (GRO) was not detected in any of the soil samples collected for laboratory analysis. TPH (DRO) was detected in soil sample P2-SB7-9 (14.1 mg/kg) at a concentration just above the NCDENR Action Level of 10 mg/kg.

TPH (DRO) was also detected in soil samples P2-SB-1-7 (8.8 mg/kg) and P2-SB4-4 (9.9 mg/kg) at concentrations just below the laboratory's method detection limit but below the NCDENR Action Levels.

The approximate extents of potential impacts associated with P2-SB7-9 are depicted as a conservative approach. The areas shown is approximately 100 square feet, using a uniform depth of 5-ft; the volume of impacted soil that potentially could be encountered at depth is approximately 18 cubic yards.

3.3 SUMMARY

The following summarizes the findings of NCDOT Parcel 2 - Mattress Center facility, owned by Mac I Family Ltd Partnership, located at 1101 Highway 29:

- Historical files reviewed did not indicate the past use of the property as a gas/service station. A NCDENR incident number was not identified for the site;
- The geophysical survey did not indicate the presence of USTs or associated features;
- Field screening did not detect the presence of organic vapors above background concentrations;
- Soil sample P2-SB7-9 reported a concentration in excess of the regulatory standards for TPH (DRO), however, a constituent analysis of this sample for VOCs and SVOCs would likely not exceed NCDENRs' more stringent soil-to-groundwater maximums soil contaminant concentration action levels. As soil impacts were not evident in the field, additional soil borings were not installed; and
- Future site workers are unlikely to encounter the impacted soil due to the depth (approx. 9 ft bls). The estimated area of impacted soil is depicted Figure 2.

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.

URS Corporation, *Technical and Cost Proposal, Preliminary Site Assessment, Rev*, December 21, 2012.

United States Environmental Protection Agency, *Contract Laboratory Program National Functional Guidelines for Organic Data Review*, 1999.

North Carolina Department of Transportation, Request for Technical and Cost Proposal, Preliminary Site Assessment, B-5136(42295.1.1), November 30, 2012.

North Carolina Department of Transportation, Notice to Proceed - Preliminary Site Assessment, B-5136(42295.1.1), January 8, 2013.

Tables

Table 1
Parcel 002 - Mac I Family Ltd Partnership Property
Summary of Analytical Results - Solid Samples
TIP #B-5136 42295.1.1

Analytical Method			EPA 8015 Modified by EPA 3546	EPA 8015 Modified by EPA 5035A/5030B
Sample ID	Constituent of Concern		TPH - Diesel Range Organics (DRO)	TPH - Gasoline Range Organics (GRO)
	Date Collected (mm/dd/yy)	Sample Depth (ft. BGS)	mg/kg	mg/kg
P2-SB-1-7	02/05/2013	7	8.8	ND
P2-SB-2-4	02/05/2013	4	ND	ND
P2-SB-3-10	02/05/2013	10	ND	ND
P2-SB-4-4	02/06/2013	4	9.9	ND
P2-SB-5-8	02/05/2013	8	ND	ND
P2-SB-6-3	02/05/2013	3	ND	ND
P2-SB-7-9	02/06/2013	9	14.1	ND
P2-SB-8-10	02/06/2013	10	ND	ND
P2-SB-9-9	02/06/2013	9	ND	ND
NCDENR UST Section Action Levels			10	10
NCDENR Non-UST Petroleum Action Levels			10	10

NOTES:

ND = Not Detected

TPH = Total Petroleum Hydrocarbons

ft. BGS = feet below ground surface

mg/kg = milligrams per kilogram

Bold data above the NCDENR Action Levels

Figures

P:\Jobs4\Projects\NCDOT\31827879 B-5136 - Cabarrus PSA\7.0 Graphics\7.2 - AutoCad\Figure 1 - 002.dwg March 12, 2013 - 2:05 PM

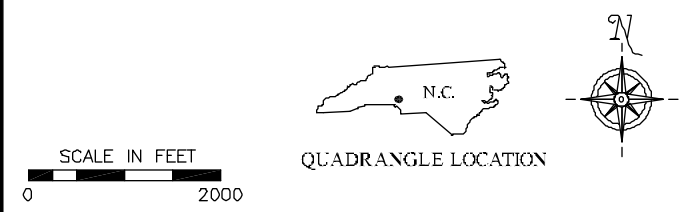
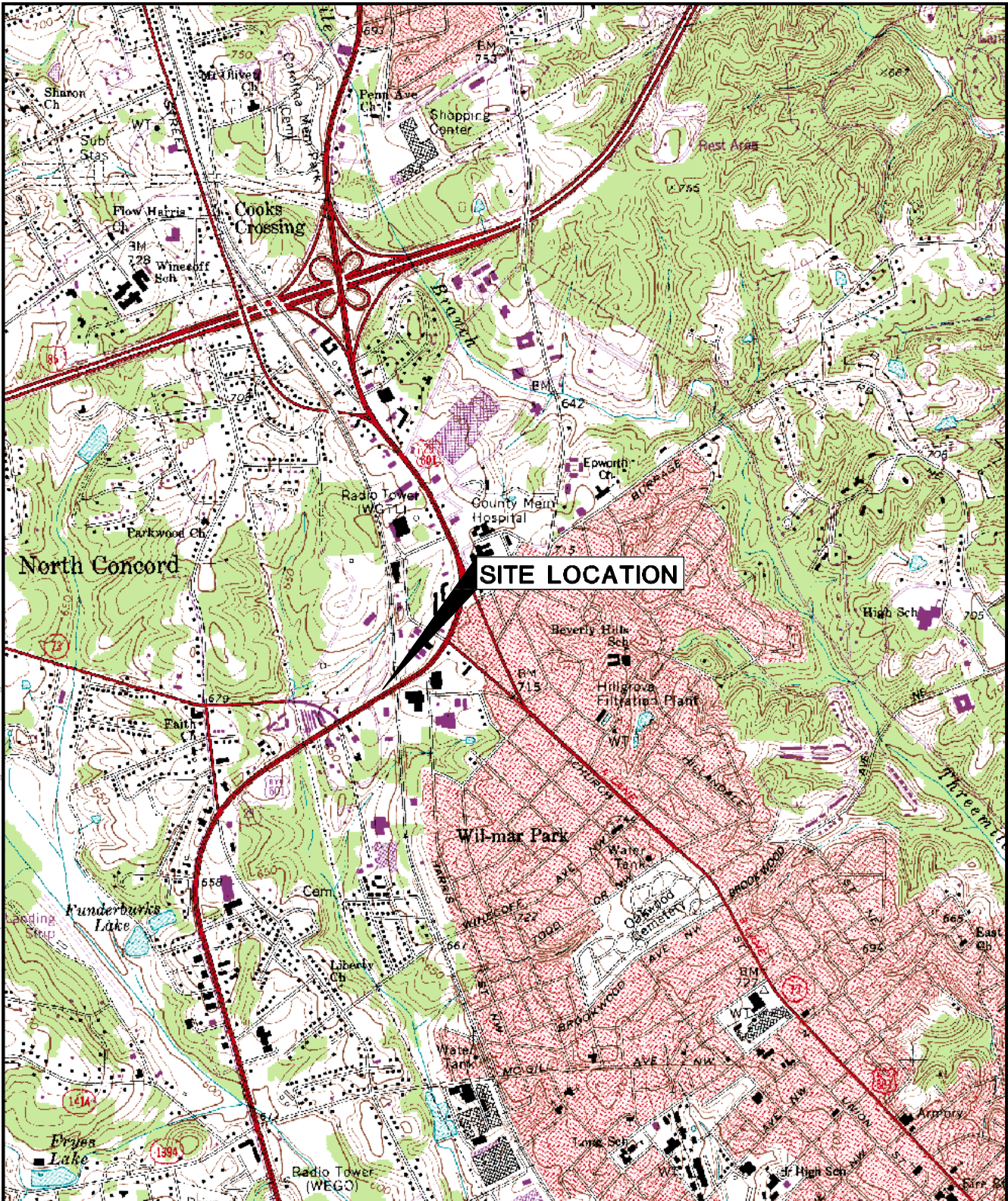


FIGURE 1. LOCATION MAP
PARCEL 002, 1101 HIGHWAY 29
STATE PROJECT B-5136, CONCORD, NC

Prepared for:
NC DOT

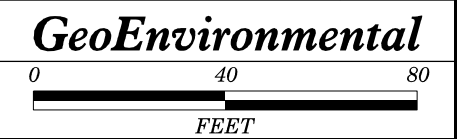
DRAWN BY: TSH
 DATE: 01/26/13
 PROJECT NO. 31827879



URS
 RDU, NORTH CAROLINA 27560

Fig.
1

SOURCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE
 CONCORD, NC - DATED 1969, PHOTOREVISED 1987



GeoEnvironmental

LEGEND

- SB2 SOIL BORING LOCATION
- PROPOSED RIGHT-OF-WAY
- PROPOSED EASEMENT
- PROPOSED DRAINAGE STRUCTURE
- KNOWN SOIL CONTAMINATION
- EXISTING MONITORING WELL

SBI-10	ID - DEPTH
ND	TPH / DRO
ND	TPH / GRO

SOIL RESULTS ARE IN mg/kg

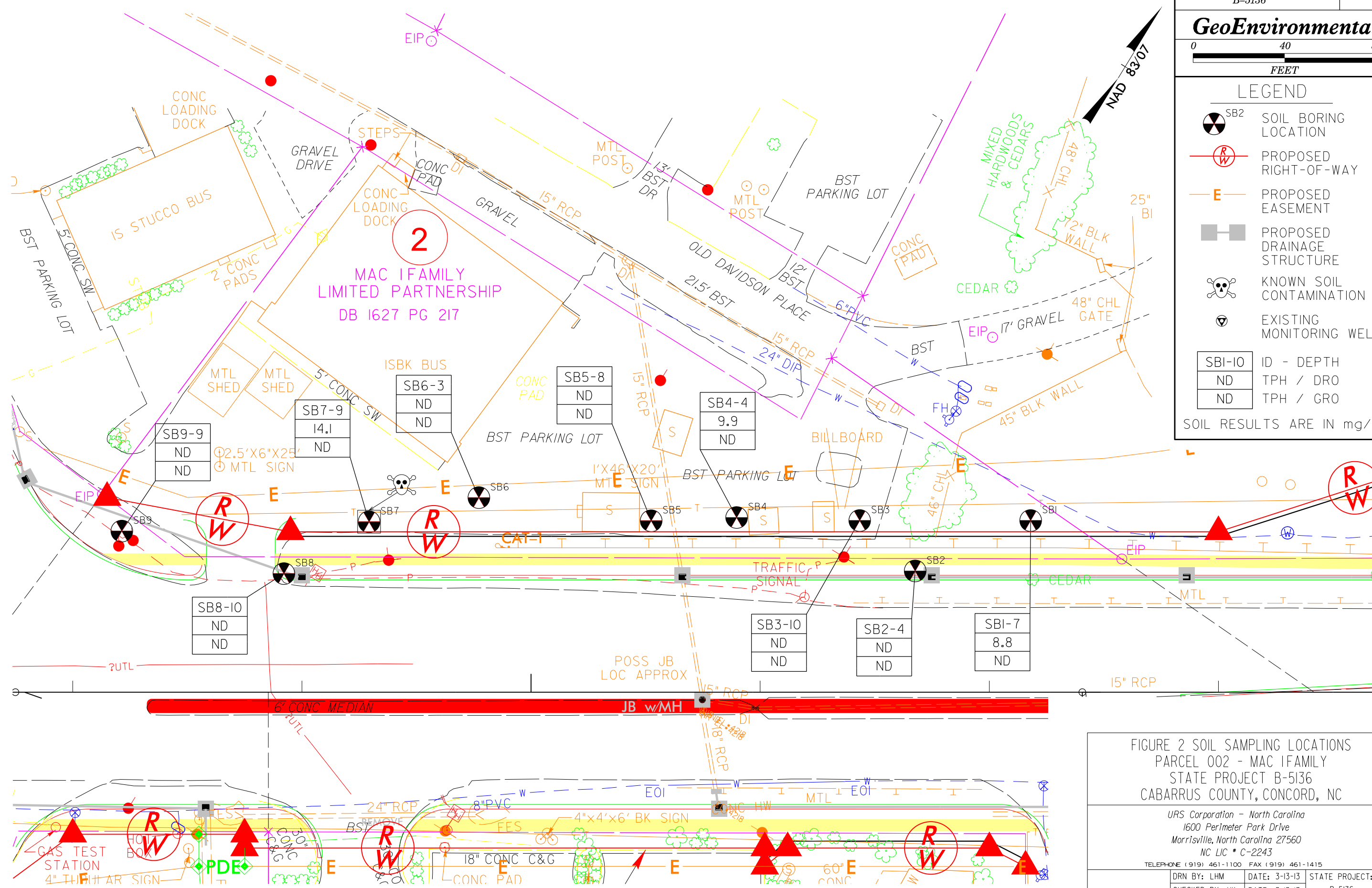


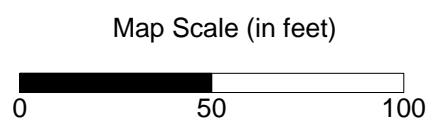
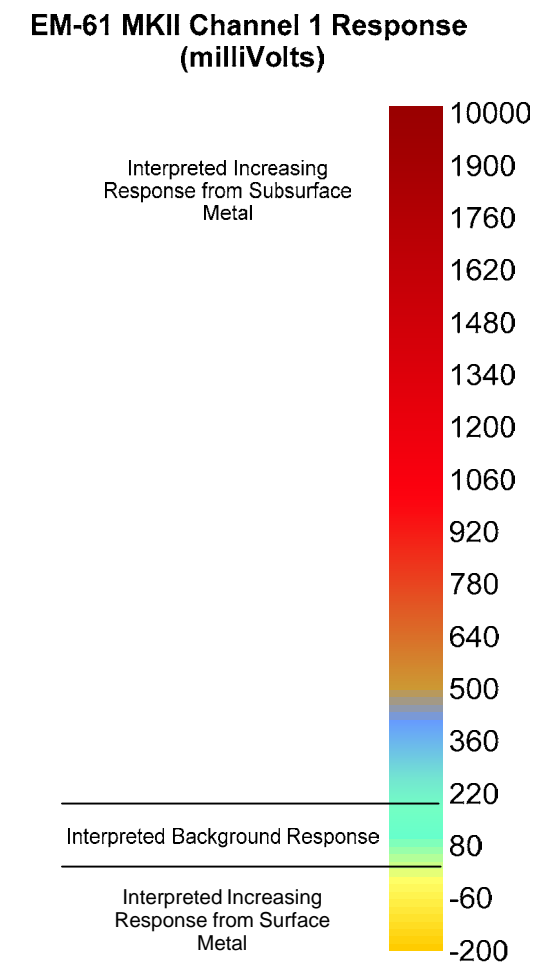
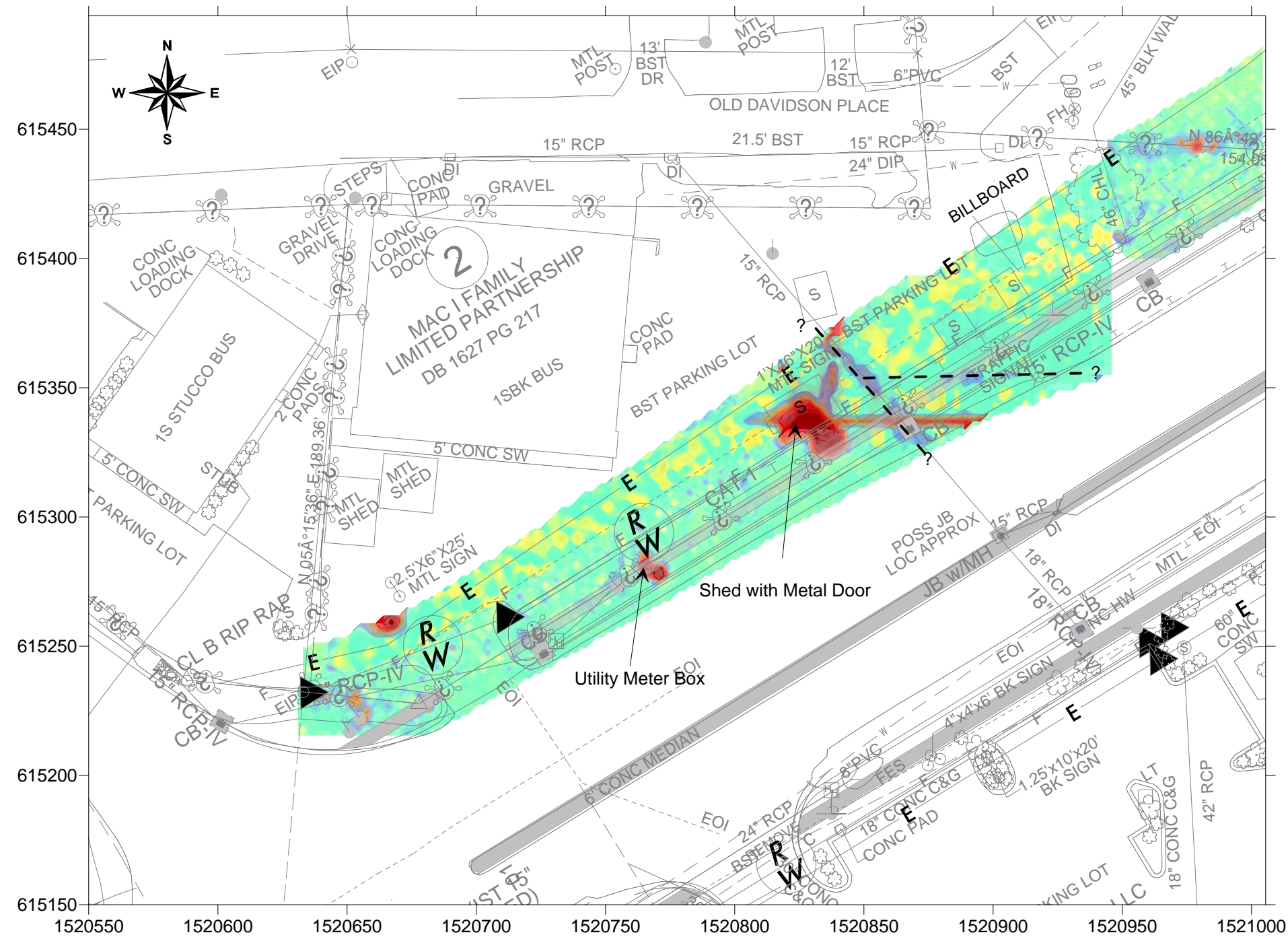
FIGURE 2 SOIL SAMPLING LOCATIONS
PARCEL 002 - MAC IFAMILY
STATE PROJECT B-5136
CABARRUS COUNTY, CONCORD, NC

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: LHM	DATE: 3-13-13	STATE PROJECT:
CHECKED BY: VK	DATE: 3-13-13	B-5136

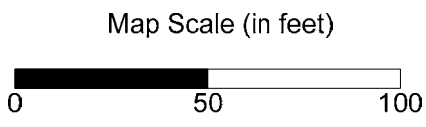
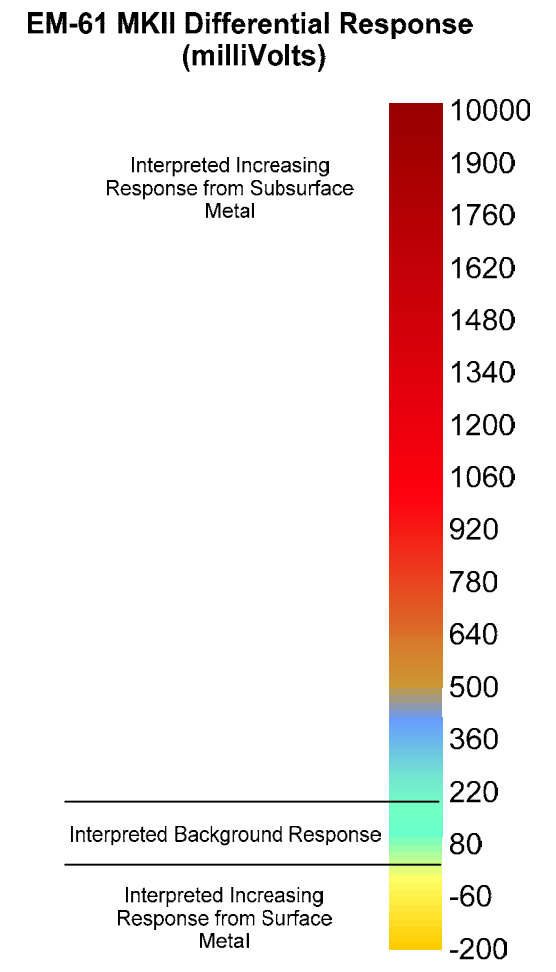
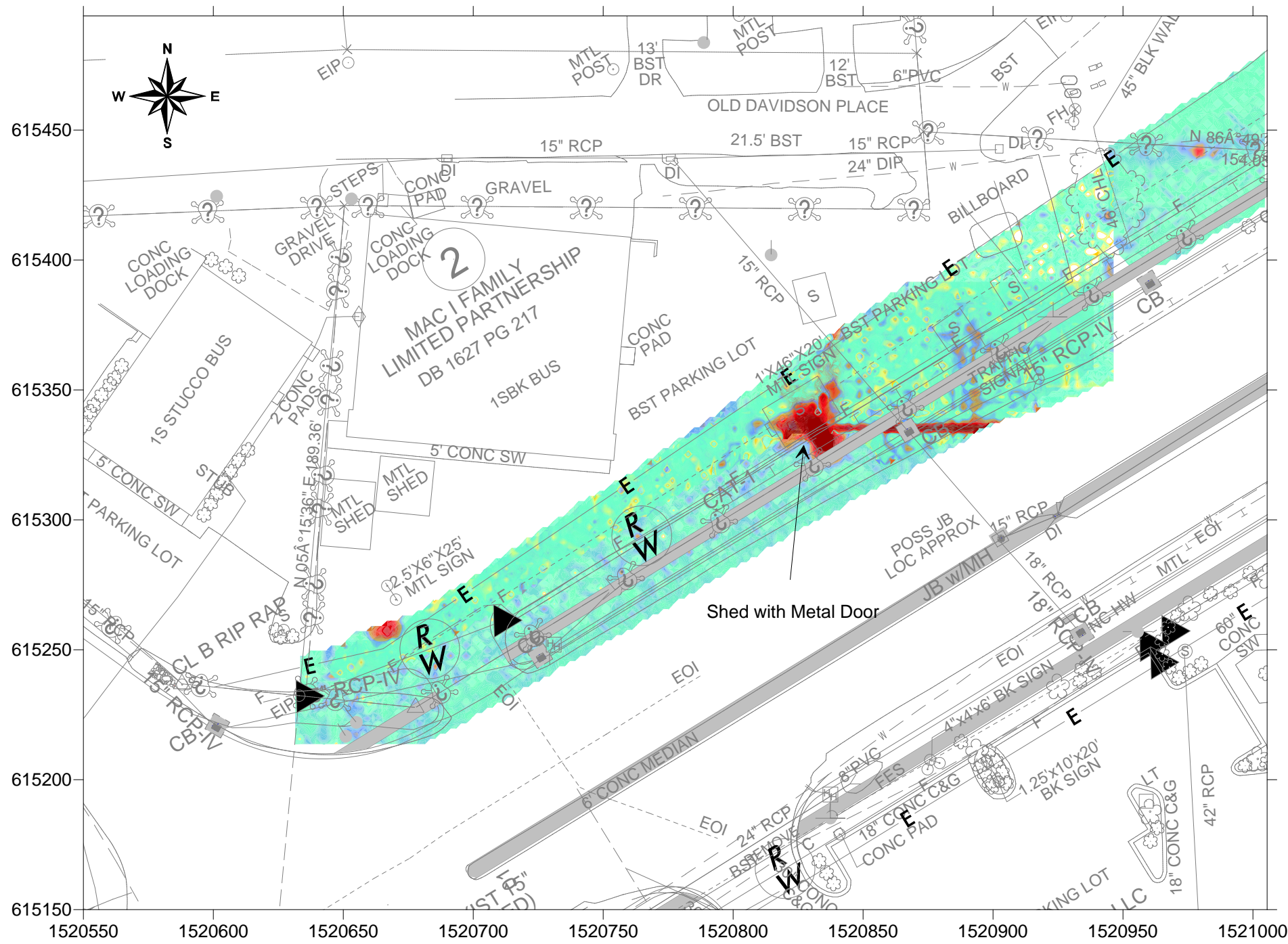
PARCEL LOCATION MAP



- Legend**
- Interpreted Subsurface Utility Center Line
 - ? Utility Termination Point not Known

- Notes:
1. Coordinates in NC State Plane NAD 83 grid.
 2. Data from Geonics, Ltd. EM-61 MKII instrument.
 3. Base drawing after file "B5136_Rdy_combine_dxf_export.dxf" provided by NCDOT.
 4. Location control from DGPS survey by URS.

		1600 Perimeter Park Drive, Suite 400 Raleigh, NC 27560 (910)-508-3869	
EM-61 MKII Channel 1 Response Contours MAC I FAMILY LTD PARTNERSHIP PROPERTY (Parcel #002)			
NCDOT WBS 42295.1.1, Cabarrus County			
Concord, North Carolina			
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER
MJM	03/06/13	MJM	03/06/13
		TJK	03/06/13
			31827879
			Figure 3



- Legend**
- Interpreted Subsurface Utility Center Line
 - ? Utility Termination Point not Known

- Notes:
- Coordinates in NC State Plane NAD 83 grid.
 - Data from Geonics, Ltd. EM-61 MKII instrument.
 - Base drawing after file "B5136_Rdy_combine_dxf_export.dxf" provided by NCDOT.
 - Location control from DGPS survey by URS.

URS 1600 Perimeter Park Drive, Suite 400
Raleigh, NC 27560
Geophysical Services (910)-508-3869

EM-61 MKII Differential Response Contours
MAC I FAMILY LTD PARTNERSHIP PROPERTY
(Parcel #002)

NCDOT WBS 42295.1.1, Cabarrus County

Concord, North Carolina

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	Figure 4		
MJM	03/06/13	MJM	03/06/13		TJK	03/06/13

Appendix A
Historical Information

Cabarrus County Map



Legend

BaseMap Service

—+— Railroad

— Streets

□ Counties

Aerial 1950

Value



▭ Cabarrus County

Map Printed On {2012-12-14 09:31}

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Cabarrus County Map



Legend

BaseMap Service

—+— Railroad

— Streets

□ Counties

Aerial 1956

Value
- High : 255
- Low : 0

▭ Cabarrus County

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Cabarrus County Map



Legend

BaseMap Service

—+— Railroad

— Streets

□ Counties

Aerial 1964

Value



▭ Cabarrus County

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Cabarrus County Map



Legend


BaseMapService

-  Railroad
-  Streets
-  Structure Footprints
-  Counties

Aerial 1964

Value
- High : 255

- Low : 0

 Cabarrus County

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Cabarrus County Map



Legend

BaseMap Service

—+— Railroad

— Streets

□ Counties

Aerial 1975

Value
- High : 255
- Low : 0

▭ Cabarrus County

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Cabarrus County Map




Legend

BaseMapService

-  Railroad
-  Streets
-  Structure Footprints
-  Counties

Aerial 1975

Value
- High : 255
- Low : 0

 Cabarrus County

Map Printed On {2012-12-14 09:50}

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Cabarrus County Map



Legend

BaseMap Service

—+— Railroad

— Streets

□ Counties

Aerial 1986

Value
- High : 255
- Low : 0

▭ Cabarrus County

Map Printed On {2012-12-14 09:42}

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Cabarrus County Map



Legend


BaseMapService

-  Railroad
-  Streets
-  Structure Footprints
-  Counties

Aerial 1986

Value

-  High : 255
-  Low : 0

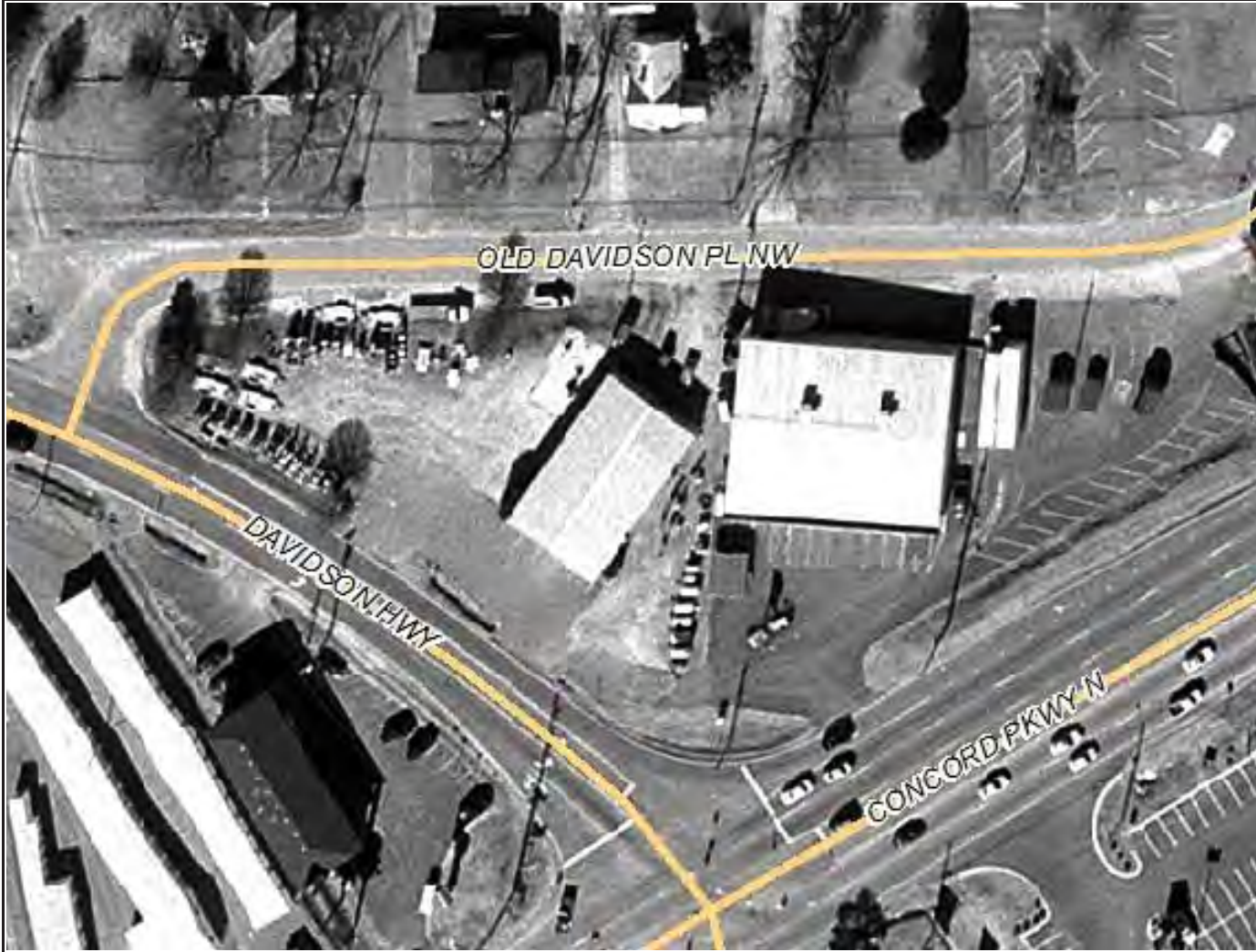
 Cabarrus County

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Cabarrus County Map



Legend

BaseMap Service

— Railroad

— Streets

□ Counties

Aerial 2001

Value

High : 255

Low : 0

Aerial 1987

Value

High : 255

Low : 0

Cabarrus County

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Cabarrus County Map



Legend

BaseMapService

- Railroad
- Streets
- Structure Footprints
- Counties

Aerial 2001

Value
- High : 255
- Low : 0

Cabarrus County

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Cabarrus County Map



Legend

BaseMap Service

—+— Railroad

— Streets

□ Counties

Aerial 2005

RGB

Red: Band_1

Green: Band_2

Blue: Band_3

□ Cabarrus County

Map Printed On {2012-12-14 09:44}

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Cabarrus County Map



Legend

BaseMap Service

—+— Railroad

— Streets

□ Counties

Aerial 2007

RGB

■ Red: Band_1

■ Green: Band_2

■ Blue: Band_3

Aerial 2005

RGB

■ Red: Band_1

■ Green: Band_2

■ Blue: Band_3

■ Cabarrus County

Map Printed On {2012-12-14 09:45}

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Cabarrus County Map



Legend

BaseMap Service

—+— Railroad

— Streets

□ Counties

Aerial 2009

RGB

■ Red: Band_1

■ Green: Band_2

■ Blue: Band_3

□ Cabarrus County

Map Printed On {2012-12-14 09:46}

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

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Cabarrus County Map



Legend

BaseMap Service

-  Railroad
-  Streets
-  Counties
-  Cabarrus County

Map Printed On {2012-12-14 09:47}

Disclaimer Cabarrus County shall not be held liable for any errors in the data represented on this map. This includes errors of omission, commission, concerning the content of the data, and relative positional accuracy of the data. The data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information represented on this map document.

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Appendix B
Boring Logs



BORING LOG: P2-SB1

Permit #	Drill Date 02/05/13	Site Parcel 002
Client NCDOT	Use	URS Corporation
Address 1101 Hwy 29, Concord, NC		Total Depth (ft) 10
Drilling Method Geoprobe direct push	Boring Depth (ft) 10	Boring Diam. (in) 2.25
Backfill Material bentonite	NA	Static Water Level unknown
Rmrks Groundwater not encountered	TOC Elevation	Sample Method Acetate liner

in boring

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram		
0	P2-SB-1	7'		1.1 ppm	Brown, fine- to medium-grained sandy clay, slightly moist			
2				0.3 ppm				
4				1.2 ppm	Red, clay, slightly moist, micaceous			
6				1.7 ppm	Red, fine- to medium-grained sandy clay, slightly moist, micaceous			
8				1.8 ppm				
10				1.8 ppm				
12							2.0 ppm	Red to red-orange, fine- to medium-grained sandy silt with some clay, slightly moist, micaceous
10							1.3 ppm	
8							1.5 ppm	
10							0.3 ppm	Red-orange, silty fine- to medium-grained sand, dry
10				Boring terminated at 10 ft bgs				

Notes:

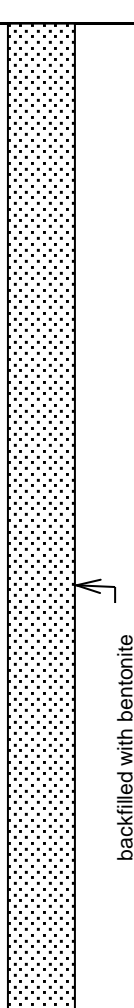
Geologist: Brandy Costner	Driller: Probe Tech
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BORING LOG: P2-SB2

Permit #	Drill Date 02/05/13	Site Parcel 002
Client NCDOT	Use	URS Corporation
Address 1101 Hwy 29, Concord, NC		Total Depth (ft) 10
Drilling Method Geoprobe direct push	Boring Depth (ft) 10	Boring Diam. (in) 2.25
Backfill Material bentonite	NA	Static Water Level unknown
Rmrks Groundwater not encountered	TOC Elevation	Sample Method Acetate liner

in boring

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram		
0	P2-SB2-4	4'		1.1 ppm	Brown to light brown, fine- to medium-grained sandy clay, slightly moist			
2				1.5 ppm				
4				1.4 ppm	Light brown-orange fine- to medium-grained sandy clay, wet			
6				2.4 ppm				
8				2.2 ppm	Red, clay, slightly moist, micaceous			
10				1.7 ppm				
12				2.2 ppm				
14							1.8 ppm	Red-orange, fine- to medium-grained sandy clay to clayey silt, fill material and asphalt present, slightly moist
16							1.7 ppm	
18							1.6 ppm	
20				Boring terminated at 10 ft bgs	Not to Scale			

Notes:

Geologist: **Brandy Costner** Driller: **Probe Tech**



BORING LOG: P2-SB3

Permit #	Drill Date 02/05/13	Site Parcel 002
Client NCDOT	Use	URS Corporation
Address 1101 Hwy 29, Concord, NC		Total Depth (ft) 10
Drilling Method Geoprobe direct push	Boring Depth (ft) 10	Boring Diam. (in) 2.25
Backfill Material bentonite	NA	Static Water Level unknown
Rmrks Groundwater not encountered	TOC Elevation	Sample Method Acetate liner

in boring

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram
0					Asphalt/gravel substrate	<p style="text-align: center;">backfilled with bentonite</p>
				1.8 ppm	Orange-brown, silty medium- to coarse-grained sand, dry	
				2.5 ppm		
2				2.4 ppm	Red-orange, clayey medium- to coarse-grained sand, slightly moist	
				2.5 ppm		
4				4.2 ppm	Red-orange, silty medium- to coarse-grained sand, slightly moist	
				1.3 ppm		
6				0.5 ppm	Light brown to light brown-orange, silty medium- to coarse-grained sand, saprolite, dry	
				1.0 ppm		
8				2.3 ppm		
				5.4 ppm		
10	P2-SB3-10	10'			Boring terminated at 10 ft bgs	Not to Scale
12						

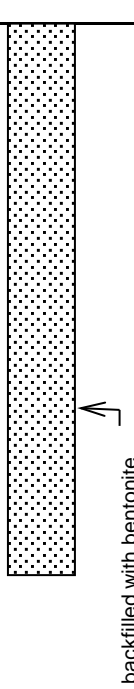
Notes:	
Geologist: Brandy Costner	Driller: Probe Tech



BORING LOG: P2-SB4

Permit #	Drill Date 02/05/13	Site Parcel 002
Client NCDOT	Use	URS Corporation
Address 1101 Hwy 29, Concord, NC		Total Depth (ft) 10
Drilling Method Geoprobe direct push	Boring Depth (ft) 10	Boring Diam. (in) 2.25
Backfill Material bentonite	NA	Static Water Level unknown
Rmrks Groundwater not encountered	TOC Elevation	Sample Method Acetate liner

in boring

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram
0	P2-SB4-4	4'		0.0 ppm	Asphalt/gravel substrate	
1				0.0 ppm	light brown-red, silty clay, slightly moist	
2				0.0 ppm	Red, silty clay, slightly moist, micaceous	
3				0.4 ppm	Red-orange, medium- to coarse-grained sandy clay, slightly moist	
4				0.7 ppm	Light brown, silty, medium- to coarse-grained sand, dry	
5				0.2 ppm	Light brown, silty, medium- to coarse-grained sand, dry	
6					Boring refused at 5.5 ft bgs	
8						
10						
12						Not to Scale

Notes:

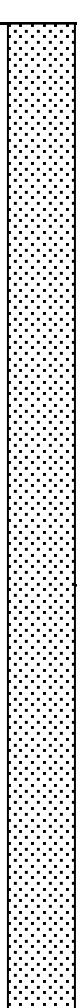
Geologist: **Brandy Costner** Driller: **Probe Tech**



BORING LOG: P2-SB5

Permit #	Drill Date 02/05/13	Site	Parcel 002
Client NCDOT	Use	URS Corporation	
Address 1101 Hwy 29, Concord, NC		Total Depth (ft)	10
Drilling Method Geoprobe direct push	Boring Depth (ft) 10	Boring Diam. (in)	2.25
Backfill Material bentonite	NA	Static Water Level	unknown
Rmrks Groundwater not encountered	TOC Elevation	Sample Method	Acetate liner

in boring

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram			
0	P2-SB5-8	8'		3.4 ppm	Asphalt/gravel substrate				
1				3.2 ppm	Light brown, fine- to medium-grained sandy clay, slightly moist				
2				3.4 ppm	Red-brown clay, slightly moist, micaceous				
3				4.2 ppm	Red, fine- to medium-grained sandy clay, slightly moist, micaceous				
4				3.1 ppm	Red, fine- to medium-grained sandy clay, slightly moist, micaceous				
5				3.1 ppm	Red, fine- to medium-grained sandy clay, slightly moist, micaceous				
6				3.7 ppm	Red, fine- to medium-grained sandy clay, slightly moist, micaceous				
7				4.2 ppm	Red-orange, fine sandy silt, dry, micaceous				
8				3.8 ppm	Red-orange, fine sandy silt, dry, micaceous				
9				3.6 ppm	Red-orange, fine sandy silt, dry, micaceous				
10								Boring terminated at 10 ft bgs	Not to Scale

Notes:

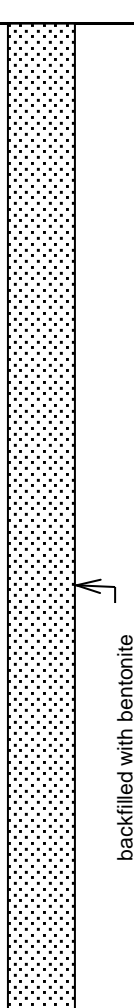
Geologist: Brandy Costner	Driller: Probe Tech
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BORING LOG: P2-SB6

Permit #	Drill Date 02/05/13	Site Parcel 002
Client NCDOT	Use	URS Corporation
Address 1101 Hwy 29, Concord, NC		Total Depth (ft) 10
Drilling Method Geoprobe direct push	Boring Depth (ft) 10	Boring Diam. (in) 2.25
Backfill Material bentonite	NA	Static Water Level unknown
Rmrks Groundwater not encountered	TOC Elevation	Sample Method Acetate liner

in boring

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram
0	P2-SB6-3	3'		1.7 ppm	Asphalt/gravel substrate	
2				2.0 ppm	Light red, clay, dry, micaceous	
4				2.7 ppm	Red to red-orange, silty clay to clayey silt, dry, micaceous	
6				2.3 ppm		
8				2.6 ppm		
10				2.0 ppm		
12				2.2 ppm		
14				2.8 ppm		
16				1.6 ppm		
18				2.1 ppm		
20				Boring terminated at 10 ft bgs	Not to Scale	

Notes:

Geologist: **Brandy Costner** Driller: **Probe Tech**



BORING LOG: P2-SB7

Permit #	Drill Date 02/06/13	Site	Parcel 002
Client NCDOT	Use	URS Corporation	
Address 1101 Hwy 29, Concord, NC		Total Depth (ft)	10
Drilling Method Geoprobe direct push	Boring Depth (ft) 10	Boring Diam. (in)	2.25
Backfill Material bentonite	NA	Static Water Level	unknown
Rmrks Groundwater not encountered	TOC Elevation	Sample Method	Acetate liner

in boring

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram
0					Asphalt/gravel substrate	<p style="text-align: center;">backfilled with bentonite</p>
				1.7 ppm	Red, clay, slightly moist, micaceous	
				2.0 ppm	Red, clay to fine- to medium-grained sandy clay, moist, micaceous	
2				2.7 ppm		
				2.3 ppm	Red, fine- to medium-grained sandy clay, moist, micaceous	
				2.6 ppm	Red-orange, fine- to medium-grained sandy silt to sandy clay, slightly moist, micaceous	
				2.0 ppm		
6				2.2 ppm		
				2.8 ppm	Red-orange, fine- to medium-grained sandy silt, slightly moist	
	P2-SB7-9	9'		1.6 ppm		
				2.1 ppm	Light brown, fine- to medium-grained sandy silt, dry	
10					Boring terminated at 10 ft bgs	
12						Not to Scale

Notes:

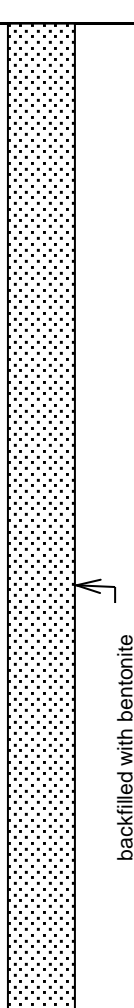
Geologist: Brandy Costner	Driller: Probe Tech
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BORING LOG: P2-SB8

Permit #	Drill Date 02/06/13	Site Parcel 002
Client NCDOT	Use	URS Corporation
Address 1101 Hwy 29, Concord, NC		Total Depth (ft) 10
Drilling Method Geoprobe direct push	Boring Depth (ft) 10	Boring Diam. (in) 2.25
Backfill Material bentonite	NA	Static Water Level unknown
Rmrks Groundwater not encountered	TOC Elevation	Sample Method Acetate liner

in boring

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram
0				0.8 ppm	Brown, medium- to coarse-grained sandy silt, dry	 <p style="text-align: center;">backfilled with bentonite</p>
2			1.0 ppm			
4			1.4 ppm	Red, clayey fine- to medium-grained sandy silt to sandy clay, slightly moist, micaceous		
6			1.2 ppm			
8			1.3 ppm			
10			1.6 ppm			
10	P2-SB8-10	10'		1.3 ppm	Red-orange, fine- to medium-grained sandy silt, moist	
10				1.6 ppm		
10				2.3 ppm		
10				2.4 ppm	Boring terminated at 10 ft bgs	
12					Boring terminated at 10 ft bgs	Not to Scale

Notes:	
Geologist: Brandy Costner	Driller: Probe Tech



BORING LOG: P2-SB9

Permit #	Drill Date 02/06/13	Site	Parcel 002
Client NCDOT	Use	URS Corporation	
Address 1101 Hwy 29, Concord, NC		Total Depth (ft)	10
Drilling Method Geoprobe direct push	Boring Depth (ft) 10	Boring Diam. (in)	2.25
Backfill Material bentonite	NA	Static Water Level	unknown
Rmrks Groundwater not encountered	TOC Elevation	Sample Method	Acetate liner

in boring

Depth (ft.)	Sample ID	Sample Depth (ft)	Blows/ 6"	OVA (ppm)	Geologic Description	Typical Diagram
0				1.2 ppm	Brown to red-brown, silty fine- to medium-grained sand, slightly moist	
2				1.6 ppm		
4				1.6 ppm	Red, clayey fine- to medium-grained sand to sandy clay, slightly moist, micaceous	
6				1.5 ppm	Red, clayey fine- to medium-grained sand, slightly moist, micaceous	
8				1.9 ppm		
10				1.4 ppm		
12				1.6 ppm	Red-orange, silty fine- to medium-grained sand	
14				1.3 ppm		
16				1.6 ppm	Light brown, silty fine- to medium-grained sand, dry	
18				1.4 ppm		
20					Boring terminated at 10 ft bgs	Not to Scale

Notes:

Geologist: **Brandy Costner** Driller: **Probe Tech**

Appendix C
Laboratory Report



Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinsey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

February 19, 2013

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

RE: Project: TIP# B-5136 42295.1.1
Pace Project No.: 92147546

Dear Chemical Engineer:

Enclosed are the analytical results for sample(s) received by the laboratory on February 08, 2013. 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,

Kevin Godwin for
Kevin Herring
kevin.herring@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
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Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: TIP# B-5136 42295.1.1
Pace Project No.: 92147546

Charlotte Certification IDs

9800 Kinsey 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

SAMPLE SUMMARY

Project: TIP# B-5136 42295.1.1

Pace Project No.: 92147546

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92147546001	P8-SB1-3	Solid	02/06/13 17:05	02/08/13 16:05
92147546002	P8-SB2-8	Solid	02/06/13 17:10	02/08/13 16:05
92147546003	P8-SB3-8	Solid	02/07/13 15:05	02/08/13 16:05
92147546004	P8-SB4-10	Solid	02/07/13 15:10	02/08/13 16:05
92147546005	P8-SB5-5	Solid	02/07/13 15:15	02/08/13 16:05
92147546006	P8-SB6-10	Solid	02/07/13 15:20	02/08/13 16:05
92147546007	P8-SB7-10	Solid	02/07/13 15:25	02/08/13 16:05
92147546008	P8-SB8-9	Solid	02/07/13 15:30	02/08/13 16:05
92147546009	P8-SB9-10	Solid	02/07/13 15:35	02/08/13 16:05
92147546010	P8-SB10-10	Solid	02/07/13 15:40	02/08/13 16:05
92147546011	P8-SB11-10	Solid	02/07/13 15:45	02/08/13 16:05
92147546012	P8-SB12-10	Solid	02/07/13 15:50	02/08/13 16:05

REPORT OF LABORATORY ANALYSIS

SAMPLE ANALYTE COUNT

Project: TIP# B-5136 42295.1.1

Pace Project No.: 92147546

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92147546001	P8-SB1-3	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546002	P8-SB2-8	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546003	P8-SB3-8	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546004	P8-SB4-10	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546005	P8-SB5-5	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546006	P8-SB6-10	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546007	P8-SB7-10	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546008	P8-SB8-9	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546009	P8-SB9-10	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546010	P8-SB10-10	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546011	P8-SB11-10	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92147546012	P8-SB12-10	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C

REPORT OF LABORATORY ANALYSIS

HITS ONLY

Project: TIP# B-5136 42295.1.1
Pace Project No.: 92147546

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92147546001	P8-SB1-3					
ASTM D2974-87	Percent Moisture	11.6 %		0.10	02/12/13 08:16	
92147546002	P8-SB2-8					
ASTM D2974-87	Percent Moisture	19.3 %		0.10	02/12/13 08:17	
92147546003	P8-SB3-8					
ASTM D2974-87	Percent Moisture	14.9 %		0.10	02/12/13 08:17	
92147546004	P8-SB4-10					
ASTM D2974-87	Percent Moisture	28.4 %		0.10	02/12/13 08:18	
92147546005	P8-SB5-5					
EPA 8015 Modified	Diesel Components	27.6 mg/kg		6.3	02/12/13 00:13	
ASTM D2974-87	Percent Moisture	20.9 %		0.10	02/12/13 08:18	
92147546006	P8-SB6-10					
ASTM D2974-87	Percent Moisture	21.6 %		0.10	02/12/13 08:18	
92147546007	P8-SB7-10					
ASTM D2974-87	Percent Moisture	20.5 %		0.10	02/12/13 08:18	
92147546008	P8-SB8-9					
ASTM D2974-87	Percent Moisture	10 %		0.10	02/12/13 08:18	
92147546009	P8-SB9-10					
ASTM D2974-87	Percent Moisture	21.3 %		0.10	02/12/13 08:18	
92147546010	P8-SB10-10					
ASTM D2974-87	Percent Moisture	22.4 %		0.10	02/12/13 08:18	
92147546011	P8-SB11-10					
ASTM D2974-87	Percent Moisture	19.6 %		0.10	02/12/13 08:18	
92147546012	P8-SB12-10					
ASTM D2974-87	Percent Moisture	19.8 %		0.10	02/12/13 08:18	

REPORT OF LABORATORY ANALYSIS



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PROJECT NARRATIVE

Project: TIP# B-5136 42295.1.1
Pace Project No.: 92147546

Method: EPA 8015 Modified
Description: 8015 GCS THC-Diesel
Client: NCDOT West Central
Date: February 19, 2013

General Information:

12 samples were analyzed for EPA 8015 Modified. All samples were received in acceptable condition with any exceptions noted below.

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 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:

REPORT OF LABORATORY ANALYSIS

Page 6 of 24

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PROJECT NARRATIVE

Project: TIP# B-5136 42295.1.1
Pace Project No.: 92147546

Method: EPA 8015 Modified
Description: Gasoline Range Organics
Client: NCDOT West Central
Date: February 19, 2013

General Information:

12 samples were analyzed for EPA 8015 Modified. All samples were received in acceptable condition with any exceptions noted below.

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 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

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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

Sample: P8-SB1-3 **Lab ID: 92147546001** Collected: 02/06/13 17:05 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel									
Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546									
Diesel Components	ND	mg/kg	5.7	5.1	1	02/10/13 12:18	02/11/13 23:26	68334-30-5	
Surrogates									
n-Pentacosane (S)	67	%	41-119		1	02/10/13 12:18	02/11/13 23:26	629-99-2	
Gasoline Range Organics									
Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B									
Gasoline Range Organics	ND	mg/kg	5.6	5.6	1	02/13/13 14:11	02/15/13 12:52	8006-61-9	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-167		1	02/13/13 14:11	02/15/13 12:52	460-00-4	
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	11.6	%	0.10	0.10	1		02/12/13 08:16		



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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

Sample: P8-SB2-8 **Lab ID: 92147546002** Collected: 02/06/13 17:10 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components Surrogates	ND	mg/kg	6.2	5.6	1	02/10/13 12:18	02/11/13 23:26	68334-30-5	
n-Pentacosane (S)	71	%	41-119		1	02/10/13 12:18	02/11/13 23:26	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics Surrogates	ND	mg/kg	5.7	5.7	1	02/13/13 14:11	02/15/13 13:15	8006-61-9	
4-Bromofluorobenzene (S)	102	%	70-167		1	02/13/13 14:11	02/15/13 13:15	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	19.3	%	0.10	0.10	1		02/12/13 08:17		



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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1

Pace Project No.: 92147546

Sample: P8-SB3-8 **Lab ID: 92147546003** Collected: 02/07/13 15:05 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components Surrogates	ND	mg/kg	5.9	5.3	1	02/10/13 12:18	02/11/13 23:49	68334-30-5	
n-Pentacosane (S)	78	%	41-119		1	02/10/13 12:18	02/11/13 23:49	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics Surrogates	ND	mg/kg	4.9	4.9	1	02/13/13 14:11	02/15/13 13:38	8006-61-9	
4-Bromofluorobenzene (S)	96	%	70-167		1	02/13/13 14:11	02/15/13 13:38	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	14.9	%	0.10	0.10	1		02/12/13 08:17		



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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

Sample: P8-SB4-10 Lab ID: **92147546004** Collected: 02/07/13 15:10 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components Surrogates	ND	mg/kg	7.0	6.3	1	02/10/13 12:18	02/11/13 23:49	68334-30-5	
n-Pentacosane (S)	70	%	41-119		1	02/10/13 12:18	02/11/13 23:49	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics Surrogates	ND	mg/kg	6.9	6.9	1	02/13/13 14:11	02/15/13 14:01	8006-61-9	
4-Bromofluorobenzene (S)	105	%	70-167		1	02/13/13 14:11	02/15/13 14:01	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	28.4	%	0.10	0.10	1		02/12/13 08:18		



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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1

Pace Project No.: 92147546

Sample: P8-SB5-5 **Lab ID: 92147546005** Collected: 02/07/13 15:15 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel									
Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546									
Diesel Components	27.6	mg/kg	6.3	5.7	1	02/10/13 12:18	02/12/13 00:13	68334-30-5	
Surrogates									
n-Pentacosane (S)	64	%	41-119		1	02/10/13 12:18	02/12/13 00:13	629-99-2	
Gasoline Range Organics									
Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B									
Gasoline Range Organics	ND	mg/kg	5.7	5.7	1	02/13/13 14:11	02/15/13 14:24	8006-61-9	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-167		1	02/13/13 14:11	02/15/13 14:24	460-00-4	
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	20.9	%	0.10	0.10	1		02/12/13 08:18		

ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1

Pace Project No.: 92147546

Sample: P8-SB6-10 **Lab ID: 92147546006** Collected: 02/07/13 15:20 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components Surrogates	ND	mg/kg	6.4	5.7	1	02/10/13 12:18	02/12/13 00:13	68334-30-5	
n-Pentacosane (S)	70	%	41-119		1	02/10/13 12:18	02/12/13 00:13	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics Surrogates	ND	mg/kg	5.5	5.5	1	02/13/13 14:11	02/15/13 14:47	8006-61-9	
4-Bromofluorobenzene (S)	107	%	70-167		1	02/13/13 14:11	02/15/13 14:47	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	21.6	%	0.10	0.10	1		02/12/13 08:18		



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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

Sample: P8-SB7-10 **Lab ID: 92147546007** Collected: 02/07/13 15:25 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components Surrogates	ND	mg/kg	6.3	5.7	1	02/10/13 12:18	02/12/13 00:36	68334-30-5	
n-Pentacosane (S)	67	%	41-119		1	02/10/13 12:18	02/12/13 00:36	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics Surrogates	ND	mg/kg	6.2	6.2	1	02/13/13 14:11	02/15/13 15:10	8006-61-9	
4-Bromofluorobenzene (S)	94	%	70-167		1	02/13/13 14:11	02/15/13 15:10	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	20.5	%	0.10	0.10	1		02/12/13 08:18		



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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

Sample: P8-SB8-9 **Lab ID: 92147546008** Collected: 02/07/13 15:30 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components Surrogates	ND	mg/kg	5.6	5.0	1	02/10/13 12:18	02/12/13 01:00	68334-30-5	
n-Pentacosane (S)	73	%	41-119		1	02/10/13 12:18	02/12/13 01:00	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics Surrogates	ND	mg/kg	5.0	5.0	1	02/13/13 14:11	02/15/13 15:33	8006-61-9	
4-Bromofluorobenzene (S)	93	%	70-167		1	02/13/13 14:11	02/15/13 15:33	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	10	%	0.10	0.10	1		02/12/13 08:18		



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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1

Pace Project No.: 92147546

Sample: P8-SB9-10 **Lab ID: 92147546009** Collected: 02/07/13 15:35 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components Surrogates	ND	mg/kg	6.4	5.7	1	02/10/13 12:18	02/12/13 01:23	68334-30-5	
n-Pentacosane (S)	73	%	41-119		1	02/10/13 12:18	02/12/13 01:23	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics Surrogates	ND	mg/kg	6.2	6.2	1	02/13/13 14:11	02/15/13 15:56	8006-61-9	
4-Bromofluorobenzene (S)	106	%	70-167		1	02/13/13 14:11	02/15/13 15:56	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	21.3	%	0.10	0.10	1		02/12/13 08:18		



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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

Sample: P8-SB10-10 **Lab ID: 92147546010** Collected: 02/07/13 15:40 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components Surrogates	ND	mg/kg	6.4	5.8	1	02/10/13 12:18	02/12/13 01:23	68334-30-5	
n-Pentacosane (S)	77	%	41-119		1	02/10/13 12:18	02/12/13 01:23	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics Surrogates	ND	mg/kg	6.3	6.3	1	02/13/13 14:11	02/15/13 16:19	8006-61-9	
4-Bromofluorobenzene (S)	91	%	70-167		1	02/13/13 14:11	02/15/13 16:19	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	22.4	%	0.10	0.10	1		02/12/13 08:18		



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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

Sample: P8-SB11-10 **Lab ID: 92147546011** Collected: 02/07/13 15:45 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components Surrogates	ND	mg/kg	6.2	5.6	1	02/10/13 12:18	02/12/13 01:46	68334-30-5	
n-Pentacosane (S)	64	%	41-119		1	02/10/13 12:18	02/12/13 01:46	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics Surrogates	ND	mg/kg	5.8	5.8	1	02/13/13 14:11	02/15/13 16:41	8006-61-9	
4-Bromofluorobenzene (S)	89	%	70-167		1	02/13/13 14:11	02/15/13 16:41	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	19.6	%	0.10	0.10	1		02/12/13 08:18		



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ANALYTICAL RESULTS

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

Sample: P8-SB12-10 **Lab ID: 92147546012** Collected: 02/07/13 15:50 Received: 02/08/13 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components Surrogates	ND	mg/kg	6.2	5.6	1	02/10/13 12:18	02/12/13 01:46	68334-30-5	
n-Pentacosane (S)	71	%	41-119		1	02/10/13 12:18	02/12/13 01:46	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics Surrogates	ND	mg/kg	6.2	6.2	1	02/13/13 14:11	02/15/13 17:04	8006-61-9	
4-Bromofluorobenzene (S)	109	%	70-167		1	02/13/13 14:11	02/15/13 17:04	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87							
Percent Moisture	19.8	%	0.10	0.10	1		02/12/13 08:18		



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QUALITY CONTROL DATA

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

QC Batch: GCV/6640 Analysis Method: EPA 8015 Modified
 QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
 Associated Lab Samples: 92147546001, 92147546002, 92147546003, 92147546004, 92147546005, 92147546006, 92147546007, 92147546008, 92147546009, 92147546010, 92147546011, 92147546012

METHOD BLANK: 921268 Matrix: Solid
 Associated Lab Samples: 92147546001, 92147546002, 92147546003, 92147546004, 92147546005, 92147546006, 92147546007, 92147546008, 92147546009, 92147546010, 92147546011, 92147546012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	5.7	02/15/13 10:12	
4-Bromofluorobenzene (S)	%	102	70-167	02/15/13 10:12	

LABORATORY CONTROL SAMPLE: 921269

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	23.7	25.4	107	70-165	
4-Bromofluorobenzene (S)	%			99	70-167	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921746 921747

Parameter	Units	92147464014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Gasoline Range Organics	mg/kg	ND	22.5	22.5	30.0	26.8	132	117	47-187	12	30	
4-Bromofluorobenzene (S)	%						101	99	70-167			



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QUALITY CONTROL DATA

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

QC Batch: OEXT/20733 Analysis Method: EPA 8015 Modified
 QC Batch Method: EPA 3546 Analysis Description: 8015 Solid GCSV
 Associated Lab Samples: 92147546001, 92147546002, 92147546003, 92147546004, 92147546005, 92147546006, 92147546007, 92147546008, 92147546009, 92147546010, 92147546011, 92147546012

METHOD BLANK: 919679 Matrix: Solid
 Associated Lab Samples: 92147546001, 92147546002, 92147546003, 92147546004, 92147546005, 92147546006, 92147546007, 92147546008, 92147546009, 92147546010, 92147546011, 92147546012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Components	mg/kg	ND	5.0	02/11/13 23:03	
n-Pentacosane (S)	%	74	41-119	02/11/13 23:03	

LABORATORY CONTROL SAMPLE: 919680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Components	mg/kg	66.7	44.5	67	49-113	
n-Pentacosane (S)	%			72	41-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 919681 919682

Parameter	Units	92147546007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Components	mg/kg	ND	83.9	83.9	60.2	69.2	69	80	10-146	14	30	
n-Pentacosane (S)	%						75	74	41-119			



Pace Analytical Services, Inc.
 205 East Meadow Road - Suite A
 Eden, NC 27288
 (336)623-8921

Pace Analytical Services, Inc.
 2225 Riverside Dr.
 Asheville, NC 28804
 (828)254-7176

Pace Analytical Services, Inc.
 9800 Kinsey Ave. Suite 100
 Huntersville, NC 28078
 (704)875-9092

QUALITY CONTROL DATA

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

QC Batch: PMST/5302 Analysis Method: ASTM D2974-87
 QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
 Associated Lab Samples: 92147546001, 92147546002, 92147546003, 92147546004, 92147546005, 92147546006, 92147546007,
 92147546008, 92147546009, 92147546010, 92147546011, 92147546012

SAMPLE DUPLICATE: 919407

Parameter	Units	92147555001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	22.2	17.2	26	25	R1

SAMPLE DUPLICATE: 919430

Parameter	Units	92147546001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.6	11.6	0	25	

QUALIFIERS

Project: TIP# B-5136 42295.1.1
Pace Project No.: 92147546

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

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.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

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

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

R1 RPD value was outside control limits.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: TIP# B-5136 42295.1.1
 Pace Project No.: 92147546

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92147546001	P8-SB1-3	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546002	P8-SB2-8	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546003	P8-SB3-8	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546004	P8-SB4-10	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546005	P8-SB5-5	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546006	P8-SB6-10	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546007	P8-SB7-10	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546008	P8-SB8-9	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546009	P8-SB9-10	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546010	P8-SB10-10	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546011	P8-SB11-10	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546012	P8-SB12-10	EPA 3546	OEXT/20733	EPA 8015 Modified	GCSV/13926
92147546001	P8-SB1-3	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546002	P8-SB2-8	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546003	P8-SB3-8	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546004	P8-SB4-10	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546005	P8-SB5-5	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546006	P8-SB6-10	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546007	P8-SB7-10	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546008	P8-SB8-9	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546009	P8-SB9-10	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546010	P8-SB10-10	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546011	P8-SB11-10	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546012	P8-SB12-10	EPA 5035A/5030B	GCV/6640	EPA 8015 Modified	GCV/6641
92147546001	P8-SB1-3	ASTM D2974-87	PMST/5302		
92147546002	P8-SB2-8	ASTM D2974-87	PMST/5302		
92147546003	P8-SB3-8	ASTM D2974-87	PMST/5302		
92147546004	P8-SB4-10	ASTM D2974-87	PMST/5302		
92147546005	P8-SB5-5	ASTM D2974-87	PMST/5302		
92147546006	P8-SB6-10	ASTM D2974-87	PMST/5302		
92147546007	P8-SB7-10	ASTM D2974-87	PMST/5302		
92147546008	P8-SB8-9	ASTM D2974-87	PMST/5302		
92147546009	P8-SB9-10	ASTM D2974-87	PMST/5302		
92147546010	P8-SB10-10	ASTM D2974-87	PMST/5302		
92147546011	P8-SB11-10	ASTM D2974-87	PMST/5302		
92147546012	P8-SB12-10	ASTM D2974-87	PMST/5302		

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: Company: URS Corp Report To: Walt Plekan Attention: Walt Plekan Invoice Information: 1682229

Section B Required Project Information: Address: 14000 Farmwell Rd Copy To: Walt Plekan Company Name: URS Address: Charlotte, NC 28210 Purchase Order No.: 11111111 Project Name: URS# 42895.1.1 Reference: URS# 42895.1.1 Project Number: 31827879 Requested Analysis Filtered (Y/N): NC

Section C Invoice Information: Address: Charlotte, NC 28210 Company Name: URS Address: Charlotte, NC 28210 Reference: URS# 42895.1.1 Project Manager: URS# 42895.1.1 Pace Profile #: 51097-1 Regulatory Agency: NPDES GROUND WATER DRINKING WATER UST RCRA OTHER

Requested Date/Date: Standard Project Name: URS# 42895.1.1 Project Number: 31827879 Pace Profile #: 51097-1 Site Location: NC STATE: NC

ITEM #	Section D Required Client Information Matrix Codes MATRIX / CODE DW WT WW P SL WIP AR TS OT	Matrix Codes MATRIX / CODE Drinking Water Water Waste Water Product Scal/Solid Oil Wipe Air Tissue Other	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB			H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol				
1	P8-SB1-3		2G		2/6/13	1705	4	2										001
2	P8-SB2-8				2/6/13	1710	1											002
3	P8-SB3-8				2/9/13	1505												003
4	P8-SB4-10					1510												004
5	P8-SB5-5					1515												005
6	P8-SB6-10					1520												006
7	P8-SB7-10					1525												007
8	P8-SB8-9					1530												008
9	P8-SB9-10					1535												009
10	P8-SB10-10					1540												010
11	P8-SB11-10					1545												011
12	P8-SB12-10					1550												012

REINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
<u>Wendy Cook URS</u>	<u>2/11/13</u>	<u>0800</u>	<u>Wendy Cook URS</u>	<u>2/13/13</u>	<u>17:00</u>	
<u>Wendy Cook URS</u>	<u>2-8-13</u>	<u>16:10</u>	<u>Wendy Cook URS</u>	<u>2/11/13</u>	<u>17:00</u>	

SAMPLER NAME AND SIGNATURE		DATE Signed (MM/DD/YY)	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
<u>Wendy Cook URS</u>		<u>2/11/13</u>				
<u>Wendy Cook URS</u>		<u>2-8-13</u>				

ORIGINAL



Document Name: **Sample Condition Upon Receipt (SCUR)**

Document Revised: October 31, 2012

Page 1 of 2

Document Number:
F-CHR-CS-03-rev.08

Issuing Authority:
Pace Huntersville Quality Office

Client Name: UPF Project # 92147546

Where Received: Huntersville Asheville Eden Raleigh

Courier: Fed Ex UPS USPS Client Commercial Pace Other

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

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used: IR Gun T1101 T1102 Type of Ice: Wet Blue None Samples on Ice, cooling process has begun

Temp Correction Factor T1101: No Correction T1102: No Correction

Corrected Cooler Temp.: 5.4 C Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: Winn 10/13

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input 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 checked="" 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:		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" 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 checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" 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: [Signature] Date: 2/8/13 SRF Review: [Signature] Date: 2/11/13

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)