

# **PRELIMINARY SITE ASSESSMENT**

**GLADE VALLEY – US HIGHWAY 21 SOUTH FROM ROARING GAP TO SPARTA  
PARCEL #145 SAGE MEADOW, INC. PROPERTY  
4864 US HIGHWAY 21 SOUTH  
GLADE VALLEY, ALLEGHANY COUNTY, NORTH CAROLINA**

**NCDOT WBS ELEMENT 37044.1.1  
STATE PROJECT R-3101**

**January 13, 2012**

**Prepared for:**

**Cyrus F. Parker, L.G., P.E.  
North Carolina Department of Transportation  
Geotechnical Engineering Unit  
GeoEnvironmental Section  
1589 Mail Service Center  
Raleigh, North Carolina 27699-1589**

**Prepared by:**

**Kleinfelder Southeast, Inc.  
6200 Harris Technology Blvd.  
Charlotte, North Carolina 28269**

**Kleinfelder Project No. 123173**

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PROJECT FOR WHICH THIS REPORT WAS PREPARED.**



January 13, 2012  
123173 | CLT12R009

Cyrus F. Parker, L.G., P.E.  
North Carolina Department of Transportation  
1589 Mail Service Center  
Raleigh, North Carolina 27699-1589

**Subject: Preliminary Site Assessment  
WBS Element No. 37044.1.1, State Project R-3101  
Parcel #145, Sage Meadow, Inc. Property  
4864 US Highway 21 South  
Glade Valley, Alleghany County, North Carolina**

Dear Mr. Parker:

Please find the enclosed report summarizing the sampling activities for the preliminary site assessment conducted at the referenced site. Laboratory analysis of soil samples collected at the site did not detect target constituents at concentrations exceeding the laboratory detection limits or the North Carolina action levels. This report summarizes our field activities, results, laboratory report, and conclusions.

Should questions arise or additional information be required, please contact the undersigned.

Sincerely,

**KLEINFELDER SOUTHEAST, INC.**

A handwritten signature in black ink, appearing to read "T. O'Quinn".

Travis O'Quinn  
Staff Professional I

A handwritten signature in blue ink, appearing to read "Craig D Neil".

Craig D Neil, P.G.  
Senior Professional

TLO/CDN:jc  
Enclosure

## PRELIMINARY SITE ASSESSMENT

**Site Name and Location:** Parcel #145 Sage Meadow, Inc. Property  
4864 US Hwy 21 South  
Glade Valley, Alleghany County, North Carolina

**Latitude and Longitude:** 36° 28' 04.56" N, 81° 03' 14.84" W

**Facility ID Number:** None Identified

**NCDOT Project No.:** NCDOT WBS Element 37044.1.1  
State Project R-3101

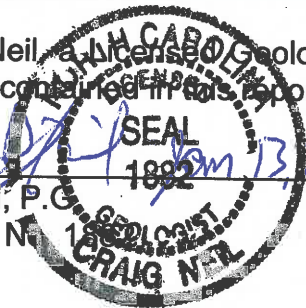
**Date of Report:** January 13, 2012

**Consultant:** Kleinfelder Southeast, Inc.  
6200 Harris Technology Blvd  
Charlotte, North Carolina 28269  
Attn: Mr. Craig D. Neil  
Phone: 704.598.1049 X457

### Seal and Signature of Certifying Licensed Geologist

I, Craig D Neil, a Licensed Geologist for Kleinfelder Southeast, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

  
Craig D Neil, P. G.  
NC License No. 1882



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## 1.0 INTRODUCTION

Kleinfelder Southeast, Inc. (Kleinfelder) has prepared this Preliminary Site Assessment (PSA) report documenting assessment activities performed at the Sage Meadow, Inc. Property (Parcel 145) located at 4864 US Highway 21 South in Glade Valley, Alleghany County, North Carolina (Figure 1). This assessment was conducted on behalf of the North Carolina Department of Transportation (NCDOT) in accordance with Kleinfelder's November 1, 2011 proposal.

NCDOT is proposing to widen US Highway 21 South (US 21) from Roaring Gap to Sparta. The proposed right-of-way includes a portion of Parcel 145 (Figure 2). Based on information provided by NCDOT, the site may have historically operated as a gasoline station. Therefore, there is concern that contaminated soils could be encountered during the construction activities at this site.

The purpose of this assessment was to determine the presence or absence of impacted soil at the subject property in proposed right-of-way construction areas related to the widening of US 21 from Roaring Gap to Sparta.

### 1.1 Site Description

The proposed right-of-way includes approximately 15 to 20 feet on each side of the current US 21. At the time of our site reconnaissance, the site contained a vacant yellow block building. No underground storage tanks (USTs) were registered at the site or identified during the site reconnaissance or during the geophysical investigation. Site photographs are shown in Appendix A.

### 1.2 Site Location

The facility is located at 4864 US Highway 21 South in Glade Valley, North Carolina. The site is bound to the north by US 21 and wooded land. The property is bound to the south by a residence and east and west by wooded land.

## 2.0 SITE ASSESSMENT

### 2.1 Geophysical Investigation

Pyramid Environmental & Engineering, P.C (Pyramid) conducted a geophysical investigation of the entire property on November 9, 2011. Pyramid utilized ground penetration radar (GPR) and electromagnetic (EM) induction technology to identify potential geophysical anomalies and potential USTs at the site. Pyramid did not identify potential USTs within the survey area. A copy of the Pyramid Geophysical Investigation Report is included in Appendix B. Prior to conducting soil borings, utilities were marked by NC One Call and Taylor Wiseman & Taylor (TWT).

### 2.2 Soil Sampling

To determine if contaminated soil may be encountered during the proposed construction activities, four soil samples were collected along the NCDOT proposed right-of-way. Kleinfelder met Probe Technology at the site on December 20, 2011. Probe Technology advanced four soil borings (SB-1 to SB-4) by direct push technology (DPT). The approximate location of the borings is shown on Figure 3. Copies of the boring logs are included in Appendix C.

Soil borings were advanced to a depth of ten feet below the ground surface (bgs) at each location. Soil borings SB-1 through SB-4 were located in front of the structure along the proposed right-of-way. Soil samples were collected by driving a macrocore sampler in five foot intervals in each boring. Each five foot sample sleeve was divided in half and screened for volatile organic compounds in the field using a MiniRae 2000 photo-ionization detector (PID). In each boring, the soil interval with the highest PID reading was collected for laboratory analysis. If no organic vapors were detected, the sample collected from the bottom of the boring was submitted for analysis. The PID readings are summarized in Table 1. Copies of the boring logs are included in Appendix C.

Prior to the initial boring and after each subsequent boring, the sampling equipment was decontaminated. The soil samples collected for laboratory analysis were analyzed for total petroleum hydrocarbons (TPH) similar to diesel and gasoline (DRO/GRO) using EPA Method 8015B following 3550 and 5035 preparation. All soil samples were placed

into laboratory provided jars, labeled, and maintained on ice until delivered to Pace Analytical, a NCDOT contract laboratory, for chemical analysis.

### **3.0 RESULTS**

#### **3.1 Geophysical Investigation**

Pyramid concluded that the GPR and EM investigation did not detect metallic USTs within the survey area. Pyramid's report is included in Appendix B.

#### **3.2 Soil Sampling**

Diesel range organics (DRO) or Gasoline range organics (GRO) were not detected in soil samples above the laboratory detection limits or above the North Carolina action levels. The laboratory results are summarized in Table 2 and on Figure 3. The laboratory report and associated chain-of-custody document are included in Appendix D.

Based on laboratory analytical results and PID readings, no petroleum impacted soils above the North Carolina action levels were identified within the proposed right-of-way at the site.

### **4.0 CONCLUSIONS AND RECOMMENDATIONS**

Based on results of the laboratory analysis and field observations, Kleinfelder has the following conclusions:

- ◆ The GPR and EM investigation did not detect metallic USTs within the survey area.
- ◆ Groundwater was encountered at approximately eight feet bgs in the soil borings.
- ◆ DRO or GRO were not detected in the soil samples above the laboratory detection limits or above the North Carolina action levels.

- ◆ Based on the soil samples and PID readings, no petroleum impacted soils were identified within the proposed right-of-way at the site.

Based on the results of the laboratory analysis, Kleinfelder does not recommend additional assessment or remediation at the site.

## **5.0 LIMITATIONS**

Our work has been performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services were provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

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## TABLES

**TABLE 1: SOIL SAMPLE PID RESULTS**

<b>SAMPLE LOCATION</b>	<b>DEPTH (feet bgs)</b>	<b>PID READINGS</b>
SB-1	0.0 - 2.5	0.0
	2.5-5.0	0.0
	5.0-7.5	0.0
	7.5-10.0	<b>0.0</b>
SB-2	0.0 - 2.5	0.0
	2.5-5.0	0.0
	5.0-7.5	0.0
	7.5-10.0	<b>0.0</b>
SB-3	0.0 - 2.5	0.0
	2.5-5.0	0.0
	5.0-7.5	0.0
	7.5-10.0	<b>0.0</b>
SB-4	0.0 - 2.5	0.0
	2.5-5.0	0.0
	5.0-7.5	0.0
	7.5-10.0	<b>0.0</b>

**Notes:**

Samples were collected on December 20, 2011.

Readings reported in parts per million

feet bgs = feet below ground surface

**Bold** = Selected for laboratory analysis

**TABLE 2: SOIL SAMPLE ANALYTICAL SUMMARY**

<b>SAMPLE ID</b>	<b>DEPTH</b>	<b>COLLECTION DATE</b>	<b>DRO</b>	<b>GRO</b>
SB-1	7.5-10.0	12/20/2011	<6.8	<7.1
SB-2	7.5-10.0	12/20/2011	<5.9	<5.6
SB-3	7.5-10.0	12/20/2011	<6.1	<6.5
SB-4	7.5-10.0	12/20/2011	<5.6	<5.6
State Action Level (Petroleum UST)			10	10

**Notes:**

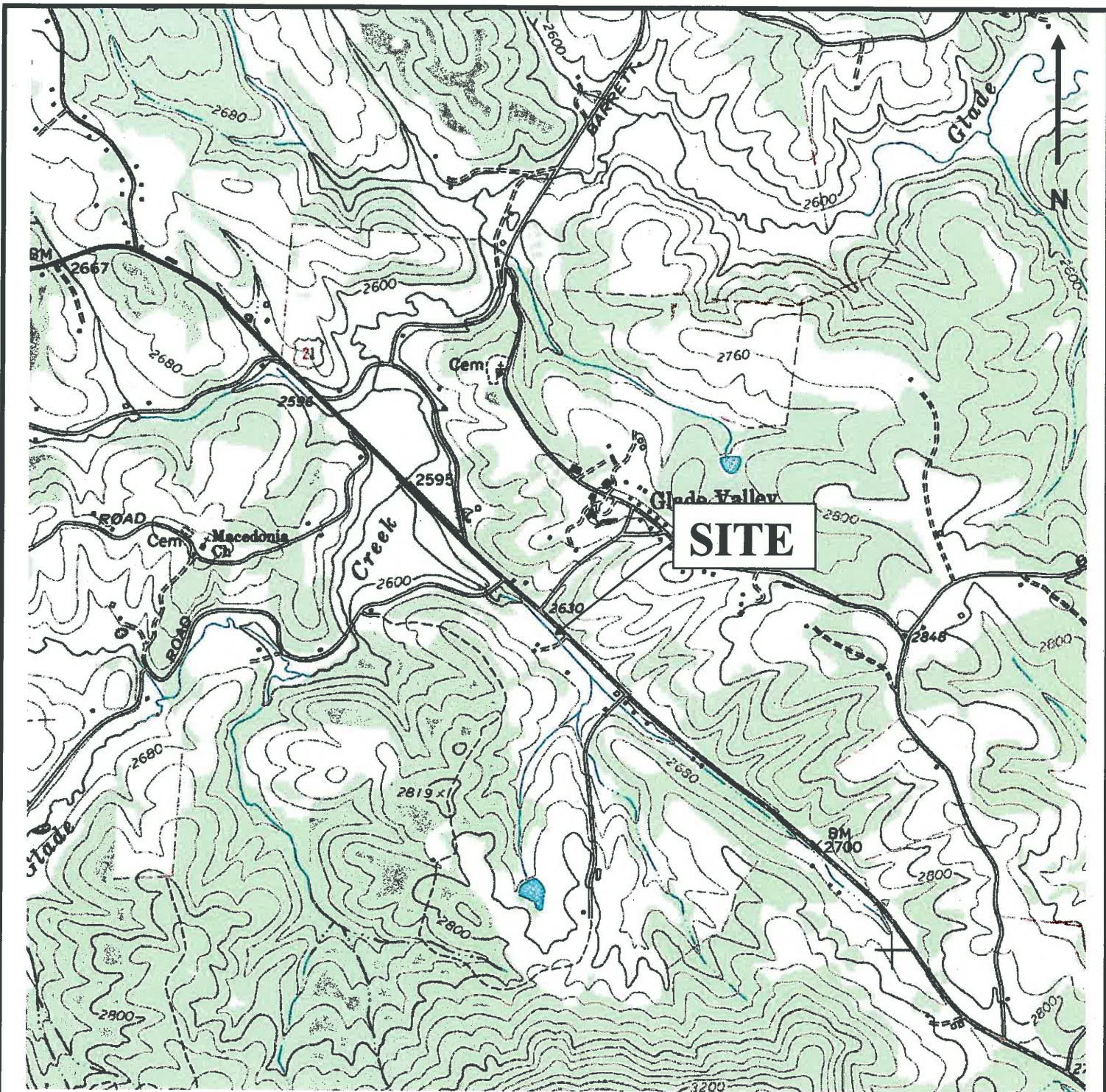
Results presented in milligrams per kilogram, analogous to parts per million

DRO = Diesel Range Organics

GRO = Gasoline Range Organics

**Bold** denotes concentration exceeds the State Action Level for Petroleum USTs

## **FIGURES**



0 0.5 Mile  
 0 2000 Feet



6200 HARRIS TECHNOLOGY BOULEVARD  
 CHARLOTTE, NORTH CAROLINA  
 PHONE: 704.598.1049

**FIGURE 1  
 SITE LOCATION MAP**

**PARCEL #145 – SAGE MEADOW, INC PROPERTY  
 4864 US HWY 21 SOUTH  
 GLADE VALLEY, NORTH CAROLINA**

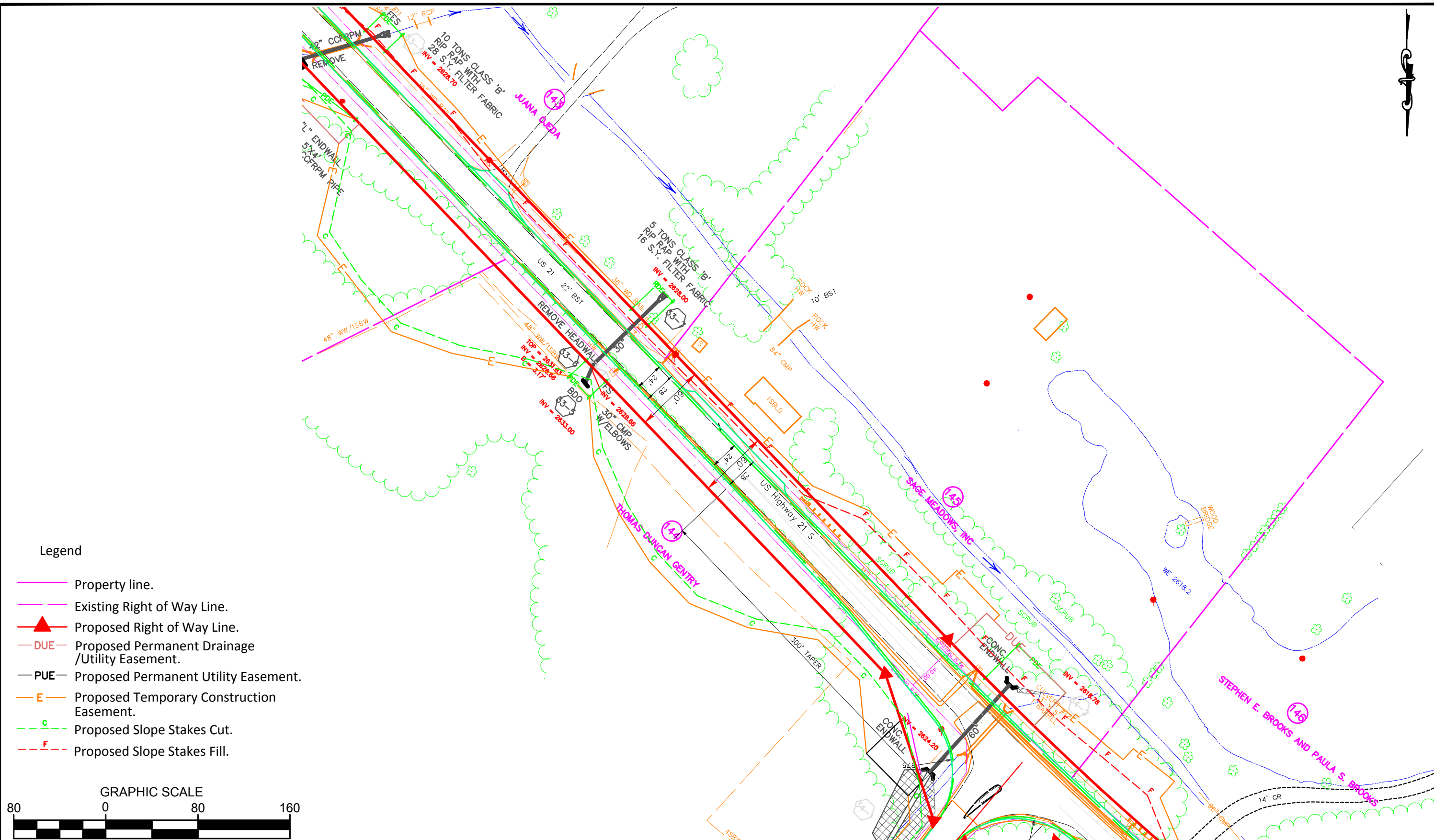
DATE: 1/6/2012

APPROVED BY:

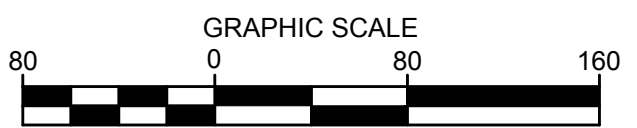
SCALE: as shown

SOURCE: USGS Topographic  
 Orthophoto Map, NC Glade Valley 1968

PROJECT NO: 123173



- Legend**
- Property line.
  - - - Existing Right of Way Line.
  - ▲ Proposed Right of Way Line.
  - - - DUE Proposed Permanent Drainage /Utility Easement.
  - - - PUE Proposed Permanent Utility Easement.
  - - - E Proposed Temporary Construction Easement.
  - - - C Proposed Slope Stakes Cut.
  - - - F Proposed Slope Stakes Fill.

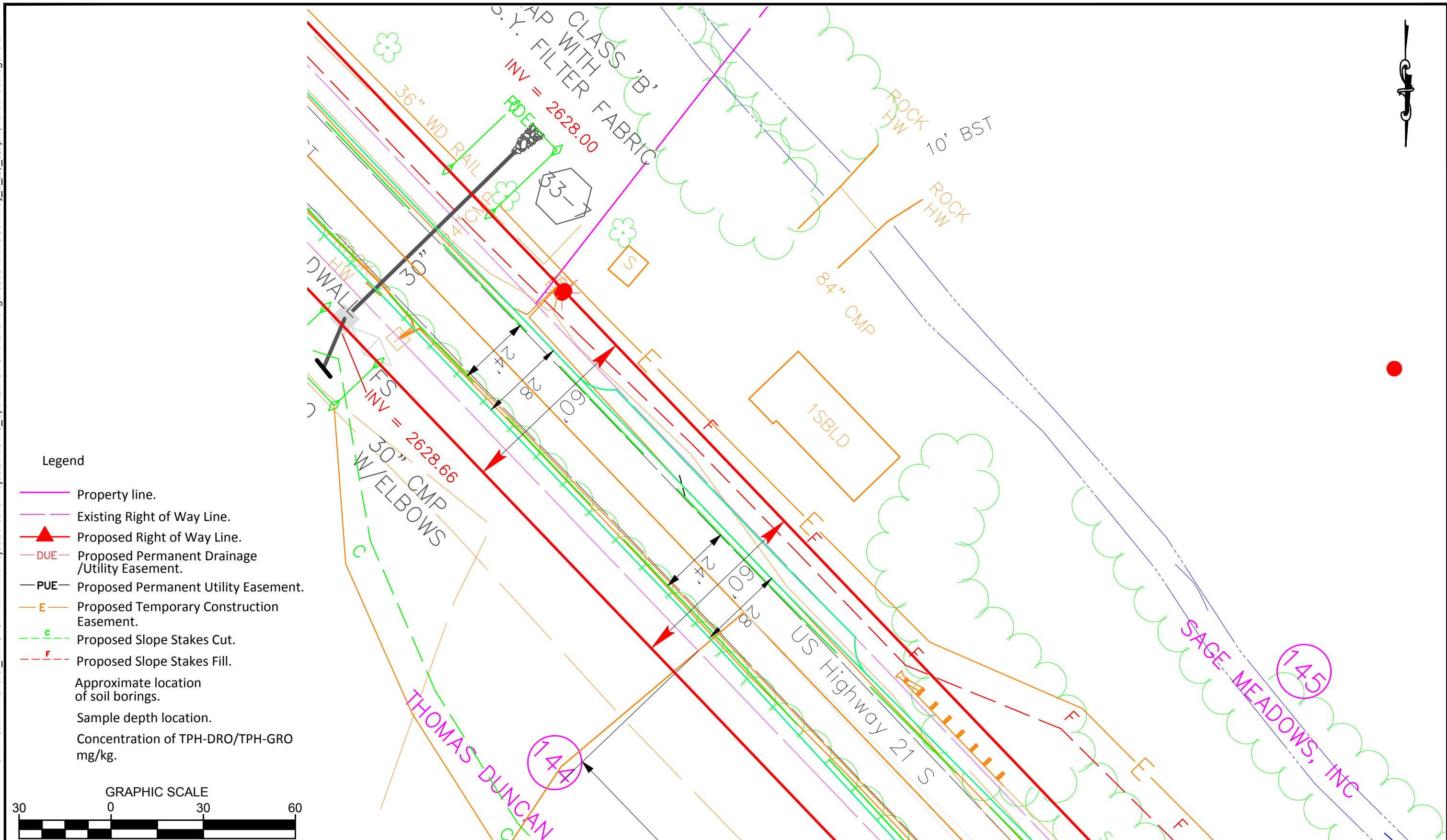


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DRAWN:	APR 2012
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FILE NAME:	Parcel 111-145_042012.dwg

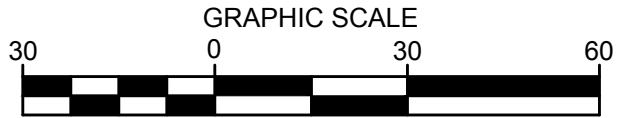
<b>SITE LOCATION MAP</b>	
<b>Parcel # 145</b> <b>Sage Meadow, Inc. Property</b>	
NCDOT WBS ELEMENT 37044.1.1 STATE PROJECT R-3101 4864 US Hwy 21 South GLADE VALLEY, NORTH CAROLINA	

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- Legend
- Property line.
  - Existing Right of Way Line.
  - Proposed Right of Way Line.
  - DUE Proposed Permanent Drainage /Utility Easement.
  - PUE Proposed Permanent Utility Easement.
  - E Proposed Temporary Construction Easement.
  - C Proposed Slope Stakes Cut.
  - F Proposed Slope Stakes Fill.

Approximate location of soil borings.  
Sample depth location.  
Concentration of TPH-DRO/TPH-GRO mg/kg.



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PROJECT NO.	123173
DRAWN:	APR 2012
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FILE NAME:	Parcel 111-145_042012.dwg

<b>BORING LOCATION MAP</b> <b>Parcel # 145</b> <b>Sage Meadow, Inc. Property</b>
NC DOT WBS ELEMENT 37044.1.1 STATE PROJECT R-3101 4846 US Hwy 21 South GLADE VALLEY, NORTH CAROLINA

FIGURE  
**3**

**APPENDIX A**



**SITE PHOTOGRAPHS  
KLEINFELDER PROJECT NO. 123173  
PARCEL NO. 145**



**Photograph 1 View of the structures located onsite.**



**Photograph 2 View of looking from north to south along  
US Hwy 21 S.**

## **APPENDIX B**

**GEOPHYSICAL INVESTIGATION REPORT**

***EM61 & GPR SURVEYS***

**SAGE MEADOW, INC. PROPERTY (PARCEL 145)**

**4864 US Highway 21 South**

**Glade Valley, North Carolina**

**State Project R-3101 WBS Element 37044.1.1**

**December 6, 2011**

**Report prepared for: NC Department of Transportation  
GeoTechnical Engineering Unit  
GeoEnvironmental Section  
1589 Mail Service Center  
Raleigh, North Carolina 27699-1589**

**Prepared by:**   
**Mark J. Denil, P.G.**

**Reviewed by:**   
**Douglas Canavello, P.G.**

**PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.**

**P.O. Box 16265**

**GREENSBORO, NC 27416-0265**

**(336) 335-3174**

**NC Department of Transportation  
GEOPHYSICAL INVESTIGATION REPORT  
SAGE MEADOW, INC. PROPERTY (PARCEL 145)  
4864 US Highway 21 South  
Glade Valley, North Carolina  
State Project R-2612B WBS Element 34483.1.1**

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FIGURES

- Figure 1            Geophysical Equipment & Site Photographs
- Figure 2            EM61 Metal Detection Results

## **1.0 INTRODUCTION**

Pyramid Environmental conducted a geophysical investigation for the North Carolina Department of Transportation (NCDOT) – Geotechnical Unit across the proposed right-of-way (ROW) area at the Sage Meadow, Inc. property (Parcel 145) located at 4864 US Highway 21 South near Glade Valley, North Carolina. Conducted on November 9, 2011, the geophysical investigation was performed as part of the NCDOT preliminary site assessment for the US Highway 21 from Roaring Gap to Sparta project (State Project R-3101, WBS Element – 37044.1.1), to determine if unknown, metallic, underground storage tanks (USTs) were present beneath the proposed ROW area of the property.

The Sage Meadow, Inc. property consists of a vacant store building surrounded by gravel or grass-covered yards. The proposed ROW area includes the portion of property that lies between the building and US Highway 21 and consists primarily of flat-lying, grass or gravel-covered terrain. The geophysical survey area has a maximum length and width of 215 feet and 40 feet, respectively.

NCDOT representative Mr. Ethan J. Caldwell, LG, PE provided site information which identified the geophysical survey area to Pyramid Environmental personnel during the week of October 17, 2011. Photographs of the geophysical equipment used in this investigation and the geophysical survey area of the Sage Meadow, Inc. property are shown in **Figure 1**.

## **2.0 FIELD METHODOLOGY**

Prior to conducting the geophysical investigation, a 10-foot by 10-foot survey grid was established across the geophysical survey area using measuring tapes, pin flags and water-based marking paint. These grid marks were used as X-Y coordinates for location control when collecting the geophysical data and establishing base maps for the geophysical results.

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection surveys. The EM survey was performed on November 9, 2011 using a Geonics EM61-MK1 metal detection instrument. According to the instrument specifications, the EM61 can detect a metal drum down to a

maximum depth of approximately 8 feet. Smaller objects (1-foot or less in size) can be detected to a maximum depth of 4 to 5 feet. All of the EM61 data were digitally collected at approximately 0.8 foot intervals along easterly-westerly, parallel survey lines spaced five feet apart. All of the data were downloaded to a computer and reviewed in the field and office using the Geonics DAT61W and Surfer for Windows Version 7.0 software programs.

Preliminary geophysical results obtained from the site were emailed to Kleinfelder representative Mr. Craig Neal, PG during the week of November 21, 2011.

### **3.0 DISCUSSION OF RESULTS**

Contour plots of the EM61 bottom coil and differential results are presented in **Figure 2**. The bottom coil results represent the most sensitive component of the EM61 instrument and detect metal objects regardless of size. The bottom coil response can be used to delineate metal conduits or utility lines, small, isolated metal objects, and areas containing insignificant metal debris. The differential results are obtained from the difference between the top and bottom coils of the EM61 instrument. The differential results focus on the larger metal objects such as drum and UST-size objects and ignore the smaller insignificant metal objects.

The linear EM61 bottom coil anomalies intersecting grid coordinates X=40 Y=140 and X=50 Y=140 are probably in response to buried utility lines or conduits. The low-amplitude EM61 bottom coil anomalies (uncolored contours) that are randomly scattered across the survey area are probably in response to buried miscellaneous metal debris or insignificant objects.

The negative EM61 differential anomalies centered near grid coordinates X=50 Y=155, X=55 Y=8 and X=65 Y=38 are probably in response to metal sign poles, utility cable boxes and/or utility pole. The high-amplitude EM61 differential anomalies (contours shaded in orange and red) centered near grid coordinates X=32 Y=88, X=32 Y=103 and X=32 Y=118 are probably in response to the buildings' metal window frames and/or the building structure.

Due to the absence of unexplained EM61 differential anomalies, ground penetrating radar scans were not conducted at the Sage Meadow, Inc. property. The EM61 metal detection results suggest that the proposed ROW area (geophysical survey area) at this site does not contain buried, metallic USTs.

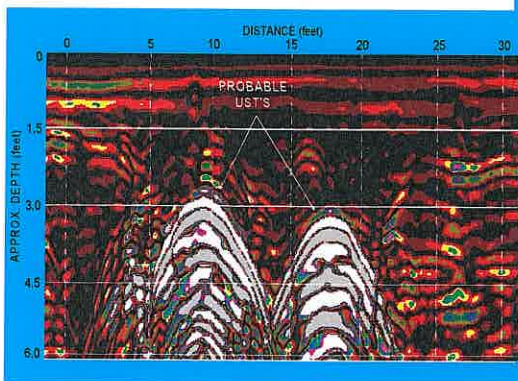
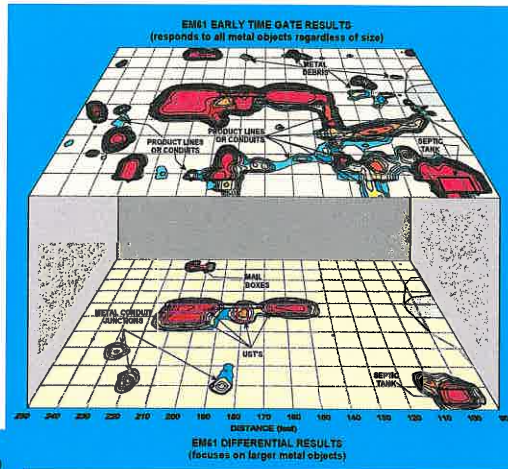
#### **4.0 SUMMARY & CONCLUSIONS**

Our evaluation of the EM61 data collected across the proposed ROW area at the Sage Meadow, Inc. property (Parcel 145) located at 4864 US Highway 21 South near Glade Valley, North Carolina, provides the following summary and conclusions:

- The EM61 surveys provided reliable results for the detection of metallic USTs within the accessible portions of the proposed ROW area of the site.
- The linear EM61 bottom coil anomalies intersecting grid coordinates X=40 Y=140 and X=50 Y=140 are probably in response to buried utility lines or conduits.
- The high-amplitude EM61 differential anomalies (contours shaded in orange and red) centered near grid coordinates X=32 Y=88, X=32 Y=103 and X=32 Y=118 are probably in response to the buildings' metal window frames and/or the building structure.
- The EM61 metal detection results suggest that the proposed ROW area (geophysical survey area) at this site does not contain buried, metallic USTs.

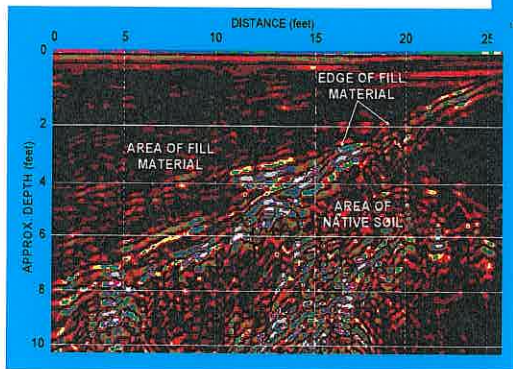
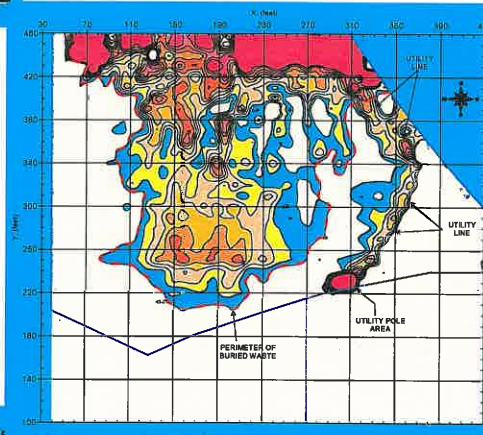
#### **5.0 LIMITATIONS**

EM61 surveys have been performed and this report prepared for the NCDOT in accordance with generally accepted guidelines for EM61 surveys. It is generally recognized that the results of the EM61 survey are non-unique and may not represent actual subsurface conditions. The EM61 results obtained for this project have not conclusively determined that the surveyed portion of the site does not contain buried metallic USTs but that none were detected.



**FIGURES**  
(on the following pages)

Figures shown on this page are for esthetic purposes only and are not related to the geophysical results discussed in this report.







The photograph shows the Geonics EM61 metal detector that was used to conduct the metal detection survey across the proposed Right-of-Way area at Parcel 145 on November 10, 2011. Due to an absence of unexplained EM61 differential anomalies, ground penetrating radar scans were not performed at this site.



The photograph shows the front portion of the Sage Meadow, Inc. property (Parcel 145) located at 4864 US Highway 21 South near Glade Valley, North Carolina. The geophysical investigation was performed across the front portion of the property. The photograph is viewed in a northwesterly direction.

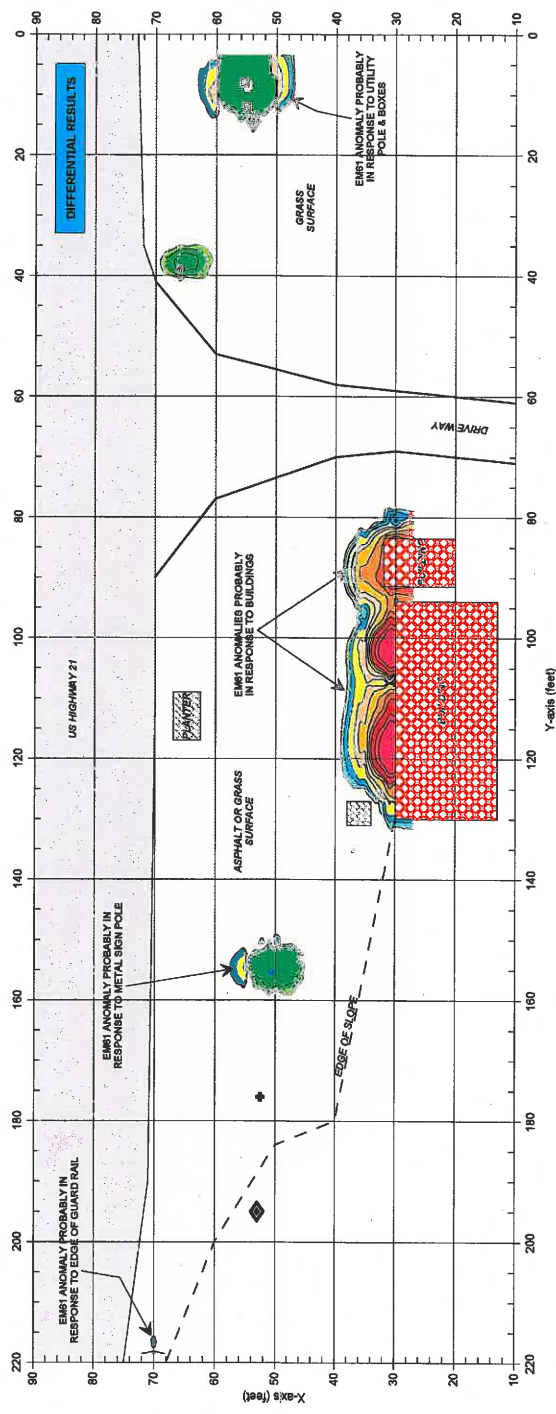
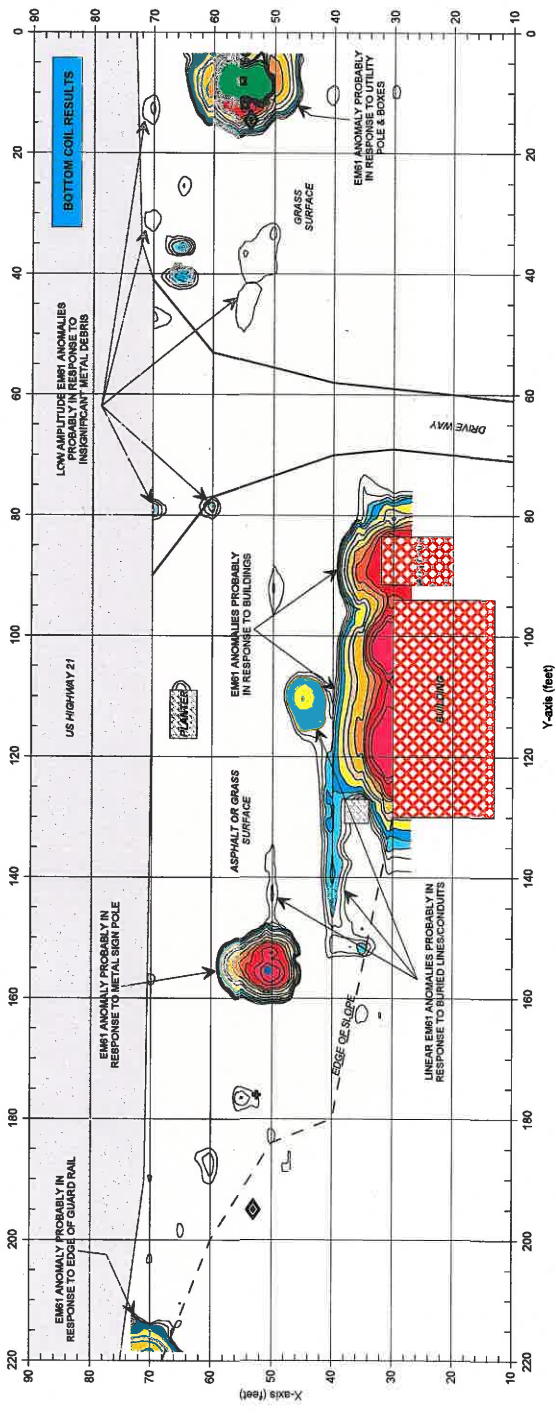


CLIENT	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	DATE	12/06/11	BY	MJD
PROJECT	SAGE MEADOW, INC. PROPERTY (PARCEL 145)	LOCATION		CONTROL	
LOCATION	GLADE VALLEY	COUNTY	NORTH CAROLINA	ENGINEER	
REPORT	GEOPHYSICAL RESULTS		NO. 2011-287	SCALE	

GEOPHYSICAL EQUIPMENT  
& SITE PHOTOGRAPHS

EM61 METAL DETECTION RESULTS

CLIENT	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PROJECT	SAGE MEADOW, INC. PROPERTY (PARCEL 145)
LOCATION	GLADE VALLEY NORTH CAROLINA
DATE	12/06/11
BY	MJD
SCALE	
PROJECT NO.	2011-287



**LEGEND**

SURVEY AREA: EM61 OR GPR DATA ACQUIRED ALONG X-AXIS TRENDS LINES SPACED 5 FEET APART

- BUILDING
- METAL SIGN POLE
- UTILITY LINE BOX
- ROAD SIGN
- LANDSCAPE PLANTER
- GUY WIRE
- METAL SIGN POLE
- UTILITY LINE BOX
- ROAD SIGN



The contour plot shows the bottom coil (most sensitive) and differential results of the EM61 instrument in metallic (mV). The bottom coil response shows buried metallic objects regardless of size. The differential response focuses on larger buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris.

The EM61 data were collected on November 9, 2011 using a Geonics EM61 instrument. Due to an absence of unexplained EM61 differential anomalies, ground penetrating radar (GPR) scans were not performed at this site.

The geophysical investigation suggests the proposed Right-of-Way area does not contain metallic USTs.

## **APPENDIX C**

Client NCDOT  
 Project Name Sparta PSAs  
 Number 123173 Task 1  
 Location Parcel 145

Drill Contractor Geoprobe Technology  
 Drill Method Geoprobe  
 Drilling Started 12/20/11 Ended 12/20/11  
 Logged By A. Bauser

**LOG OF BORING SB-1/145**  
 SHEET 1 OF 1

Elevation --  
 Total Depth 10.0

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
5			0.0	GP		GRAVEL, Gray-Brown, Slightly Moist, Non Plastic, Fine Angular, Some Sand	5
						SAND with Fine Subangular Gravel, Tan-Brown-White	
				SP		Silty SAND, Tan, Fine to Medium Sand, Slightly Moist, Non Plastic	
				SM		Extremely Weathered Rock, Brown Gray and White, Break Down to Silt Sand and Gravel	
10	SS		0.0				10
Boring Terminated at 10 feet in RESIDUAL							

LOG A EWN05 SPARTA.GPJ LOG A EWN05.GDT 1/12/12

 **Kleinfelder**  
 313 Gallimore Dairy Road  
 Greensboro, NC 27409  
 Telephone: 336-668-0093  
 Fax: 336-668-3868

Remarks Sample collected from 7.5-10.0 ft. submitted for laboratory analysis

See key sheet for symbols and abbreviations used above.

Client NCDOT  
 Project Name Sparta PSAs  
 Number 123173 Task 1  
 Location Parcel 145

Drill Contractor Geoprobe Technology  
 Drill Method Geoprobe  
 Drilling Started 12/20/11 Ended 12/20/11  
 Logged By A. Bauser

**LOG OF BORING SB-2/145**  
 SHEET 1 OF 1

Elevation -  
 Total Depth 10.0

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
5 10 15 20 25 30			0.0	GP		GRAVEL, Dark Brown, Angular, Slightly Moist, Fine Sand	5 10 15 20 25 30
						SAND with Silt, Tan, Fine to Medium Sand, Non Plastic, Medium Dense to Loose, Slightly Moist	
				SP			
						Extremely Weathered and Weak Rock Decomposed to Silt Sand and Gravel	
				SP		SAND with Silt, Tan, Fine to Medium Sand, Non Plastic, Medium Dense to Loose, Slightly Moist	
			0.0			Extremely Weathered and Weak Rock Decomposed to Silt Sand and Gravel	
	SS					Boring Terminated at 10 feet in RESIDUAL	

LOG A EWINN05 SPARTA.GPJ LOG A EWINN05.GDT 1/12/12



**Kleinfelder**  
 313 Gallimore Dairy Road  
 Greensboro, NC 27409  
 Telephone: 336-668-0093  
 Fax: 336-668-3868

Remarks Sample collected from 7.5-10.0 ft. submitted for laboratory analysis

See key sheet for symbols and abbreviations used above.

Client NCDOT  
 Project Name Sparta PSAs  
 Number 123173 Task 1  
 Location Parcel 145

Drill Contractor Geoprobe Technology  
 Drill Method Geoprobe  
 Drilling Started 12/20/11 Ended 12/20/11  
 Logged By A. Bauser

**LOG OF BORING SB-3/145**  
 SHEET 1 OF 1

Elevation --  
 Total Depth 10.0

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
			0.0	GP	Topsoil - 1 inch		
			0.0		GRAVEL, Brown-Gray, Angular, Gine Gravel, Some Sand		
			0.0		SAND with Silt, Fine to Medium Sand, Tan, Slightly Moist to Moist, Medium Dense to Loose, with Broken-up Partially Weathered Rock		
5			0.0	SP			5
10	SS		0.0				10
Boring Terminated at 10 feet in RESIDUAL							
15							15
20							20
25							25
30							30

LOG A EWIN05 SPARTA.GPJ LOG A EWIN05.GDT 1/12/12



**Kleinfelder**  
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 Greensboro, NC 27409  
 Telephone: 336-668-0093  
 Fax: 336-668-3868

Remarks Sample collected from 7.5-10.0 ft. submitted for laboratory analysis

See key sheet for symbols and abbreviations used above.

Client NCDOT  
 Project Name Sparta PSAs  
 Number 123173 Task 1  
 Location Parcel 145


Drill Contractor Geoprobe Technology  
 Drill Method Geoprobe  
 Drilling Started 12/20/11 Ended 12/20/11  
 Logged By A. Bauser

**LOG OF BORING SB-4/145**  
 SHEET 1 OF 1

Elevation —  
 Total Depth 10.0

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
			0.0	GP		GRAVEL with Sand, Brown-Gray, Angular Fine Gravel	
				SP		SAND with Silt, Dark Brown, Fine to Medium Sand, Non Plastic, Slightly Moist	
5			0.0			Extremely Weak and Weathered Rock, Tan-White-Red, Broken Down to Silt Sand and Gravel	
			0.0	SP		SAND, Tan, Fine to Medium With Silt and Coarse Sand, Non Plastic, Slightly Moist	5
	SS		0.0			Extremely Weak and Weathered Rock, Tan-White-Red, Broken Down to Silt Sand and Gravel	
10						Boring Terminated at 10 feet in RESIDUAL	10
15							15
20							20
25							25
30							30

LOG A EWNN05 SPARTA.GPJ LOG A EWNN05.GDT 1/12/12



**Kleinfelder**  
 313 Gallimore Dairy Road  
 Greensboro, NC 27409  
 Telephone: 336-668-0093  
 Fax: 336-668-3868

Remarks Sample collected from 7.5-10.0 ft. submitted for laboratory analysis

See key sheet for symbols and abbreviations used above.

## **APPENDIX D**





**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

January 03, 2012

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

RE: Project: Parcel 145 WSB 37044.1.1  
Pace Project No.: 92109110

Dear Chemical Engineer:

Enclosed are the analytical results for sample(s) received by the laboratory on December 22, 2011. 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,

Charles Hardin

charles.hardin@pacelabs.com  
Project Manager

Enclosures

cc: Mr. Peter Pozzo, Kleinfelder, Inc.



## REPORT OF LABORATORY ANALYSIS

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**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

## CERTIFICATIONS

Project: Parcel 145 WSB 37044.1.1  
Pace Project No.: 92109110

### 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  
South Carolina Drinking Water Cert. #: 99006003  
Virginia Drinking Water Certification #: 00213

Connecticut Certification #: PH-0104  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Louisiana DHH Drinking Water # LA 100031  
West Virginia Certification #: 357  
Virginia/VELAP Certification #: 460144

## REPORT OF LABORATORY ANALYSIS

Page 2 of 13

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2225 Riverside Dr.  
Asheville, NC 28804  
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### SAMPLE SUMMARY

Project: Parcel 145 WSB 37044.1.1  
Pace Project No.: 92109110

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92109110001	SB-1 (145)	Solid	12/20/11 14:05	12/22/11 16:35
92109110002	SB-2 (145)	Solid	12/20/11 14:10	12/22/11 16:35
92109110003	SB-3 (145)	Solid	12/20/11 14:15	12/22/11 16:35
92109110004	SB-4 (145)	Solid	12/20/11 14:20	12/22/11 16:35

### REPORT OF LABORATORY ANALYSIS

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

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

**SAMPLE ANALYTE COUNT**

Project: Parcel 145 WSB 37044.1.1  
 Pace Project No.: 92109110

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92109110001	SB-1 (145)	EPA 8015 Modified	RES	2	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92109110002	SB-2 (145)	EPA 8015 Modified	RES	2	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92109110003	SB-3 (145)	EPA 8015 Modified	RES	2	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C
92109110004	SB-4 (145)	EPA 8015 Modified	RES	2	PASI-C
		EPA 8015 Modified	AW	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C

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 2225 Riverside Dr.  
 Asheville, NC 28804  
 (828)254-7176

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

**ANALYTICAL RESULTS**

Project: Parcel 145 WSB 37044.1.1  
 Pace Project No.: 92109110

Sample: SB-1 (145) Lab ID: 92109110001 Collected: 12/20/11 14:05 Received: 12/22/11 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546								
Diesel Components <b>Surrogates</b>	ND	mg/kg	6.8	6.1	1	12/27/11 15:10	12/29/11 00:58	68334-30-5	
n-Pentacosane (S)	64	%	41-119		1	12/27/11 15:10	12/29/11 00:58	629-99-2	
<b>Gasoline Range Organics</b>	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B								
Gasoline Range Organics <b>Surrogates</b>	ND	mg/kg	7.1	7.1	1	12/29/11 12:11	12/30/11 20:55	8006-61-9	
4-Bromofluorobenzene (S)	93	%	70-167		1	12/29/11 12:11	12/30/11 20:55	460-00-4	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	26.8	%	0.10	0.10	1		12/23/11 14:35		



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 205 East Meadow Road - Suite A  
 Eden, NC 27288  
 (336)623-8921

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Pace Analytical Services, Inc.  
 9800 Kinsey Ave. Suite 100  
 Huntersville, NC 28078  
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**ANALYTICAL RESULTS**

Project: Parcel 145 WSB 37044.1.1  
 Pace Project No.: 92109110

Sample: SB-2 (145) Lab ID: 92109110002 Collected: 12/20/11 14:10 Received: 12/22/11 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546								
Diesel Components	ND	mg/kg	5.9	5.3	1	12/27/11 15:10	12/29/11 00:58	68334-30-5	
<b>Surrogates</b>									
n-Pentacosane (S)	56	%	41-119		1	12/27/11 15:10	12/29/11 00:58	629-99-2	
<b>Gasoline Range Organics</b>	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B								
Gasoline Range Organics	ND	mg/kg	5.6	5.6	1	12/29/11 12:11	12/30/11 21:19	8006-61-9	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-167		1	12/29/11 12:11	12/30/11 21:19	460-00-4	
<b>Percent Moisture</b>	Analytical Method: ASTM D2974-87								
Percent Moisture	15.7	%	0.10	0.10	1		12/23/11 14:35		



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 205 East Meadow Road - Suite A  
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 (336)623-8921

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 (828)254-7176

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

**ANALYTICAL RESULTS**

Project: Parcel 145 WSB 37044.1.1  
 Pace Project No.: 92109110

Sample: SB-3 (145) Lab ID: 92109110003 Collected: 12/20/11 14:15 Received: 12/22/11 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>									
Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546									
Diesel Components	ND	mg/kg	6.1	5.5	1	12/27/11 15:10	12/29/11 01:58	68334-30-5	
<b>Surrogates</b>									
n-Pentacosane (S)	59	%	41-119		1	12/27/11 15:10	12/29/11 01:58	629-99-2	
<b>Gasoline Range Organics</b>									
Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B									
Gasoline Range Organics	ND	mg/kg	6.5	6.5	1	12/29/11 12:11	12/30/11 21:44	8006-61-9	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	96	%	70-167		1	12/29/11 12:11	12/30/11 21:44	460-00-4	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	18.9	%	0.10	0.10	1		12/23/11 14:35		



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 (336)623-8921

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 (828)254-7176

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 9800 Kinsey Ave. Suite 100  
 Huntersville, NC 28078  
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**ANALYTICAL RESULTS**

Project: Parcel 145 WSB 37044.1.1  
 Pace Project No.: 92109110

Sample: SB-4 (145) Lab ID: 92109110004 Collected: 12/20/11 14:20 Received: 12/22/11 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8015 GCS THC-Diesel</b>									
Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546									
Diesel Components	ND	mg/kg	0.056	0.051	1	12/27/11 15:10	12/29/11 01:58	68334-30-5	
<b>Surrogates</b>									
n-Pentacosane (S)	64 %		41-119		1	12/27/11 15:10	12/29/11 01:58	629-99-2	
<b>Gasoline Range Organics</b>									
Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B									
Gasoline Range Organics	ND	mg/kg	5.6	5.6	1	12/29/11 12:11	12/30/11 22:08	8006-61-9	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	98 %		70-167		1	12/29/11 12:11	12/30/11 22:08	460-00-4	
<b>Percent Moisture</b>									
Analytical Method: ASTM D2974-87									
Percent Moisture	12.4 %		0.10	0.10	1		12/23/11 14:36		





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 (336)623-8921

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 (828)254-7176

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

**QUALITY CONTROL DATA**

Project: Parcel 145 WSB 37044.1.1  
 Pace Project No.: 92109110

QC Batch: GCV/5645 Analysis Method: EPA 8015 Modified  
 QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics  
 Associated Lab Samples: 92109110001, 92109110002, 92109110003, 92109110004

METHOD BLANK: 704846 Matrix: Solid  
 Associated Lab Samples: 92109110001, 92109110002, 92109110003, 92109110004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	5.9	12/30/11 12:01	
4-Bromofluorobenzene (S)	%	91	70-167	12/30/11 12:01	

LABORATORY CONTROL SAMPLE: 704847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	24.5	24.3	99	70-165	
4-Bromofluorobenzene (S)	%			89	70-167	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 704848 704849

Parameter	Units	92108995001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		Qual
										RPD	RPD	
Gasoline Range Organics	mg/kg	ND	27.4	27.4	29.2	29.3	103	103	47-187	0	30	
4-Bromofluorobenzene (S)	%						93	88	70-167			



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 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

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 9800 Kinsey Ave. Suite 100  
 Huntersville, NC 28078  
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**QUALITY CONTROL DATA**

Project: Parcel 145 WSB 37044.1.1  
 Pace Project No.: 92109110

QC Batch: OEXT/16015 Analysis Method: EPA 8015 Modified  
 QC Batch Method: EPA 3546 Analysis Description: 8015 Solid GCSV  
 Associated Lab Samples: 92109110001, 92109110002, 92109110003, 92109110004

METHOD BLANK: 704605 Matrix: Solid  
 Associated Lab Samples: 92109110001, 92109110002, 92109110003, 92109110004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Components	mg/kg	ND	4.9	12/28/11 23:58	
n-Pentacosane (S)	%	64	41-119	12/28/11 23:58	

LABORATORY CONTROL SAMPLE: 704606

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Components	mg/kg	65.8	42.6	65	49-113	
n-Pentacosane (S)	%			71	41-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 704607 704608

Parameter	Units	92109110002		704608		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result					
Diesel Components	mg/kg	ND	79.1	79.1	50.8	64	61	10-146	5	30
n-Pentacosane (S)	%					65	58	41-119		



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 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: Parcel 145 WSB 37044.1.1  
 Pace Project No.: 92109110

QC Batch: PMST/4411 Analysis Method: ASTM D2974-87  
 QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture  
 Associated Lab Samples: 92109110001, 92109110002, 92109110003, 92109110004

SAMPLE DUPLICATE: 703868

Parameter	Units	92109101002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	14.1	11.9	17	25	

SAMPLE DUPLICATE: 703869

Parameter	Units	92109110004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.4	12.0	3	25	



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Eden, NC 27288  
(336)623-8921

**Pace Analytical Services, Inc.**  
2225 Riverside Dr.  
Asheville, NC 28804  
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## QUALIFIERS

Project: Parcel 145 WSB 37044.1.1  
Pace Project No.: 92109110

### 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.

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.

### LABORATORIES

PASI-C Pace Analytical Services - Charlotte



Pace Analytical Services, Inc.  
205 East Meadow Road - Suite A  
Eden, NC 27288  
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Huntersville, NC 28078  
(704)875-9092

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel 145 WSB 37044.1.1  
Pace Project No.: 92109110

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92109110001	SB-1 (145)	EPA 3546	OEXT/16015	EPA 8015 Modified	GCSV/11125
92109110002	SB-2 (145)	EPA 3546	OEXT/16015	EPA 8015 Modified	GCSV/11125
92109110003	SB-3 (145)	EPA 3546	OEXT/16015	EPA 8015 Modified	GCSV/11125
92109110004	SB-4 (145)	EPA 3546	OEXT/16015	EPA 8015 Modified	GCSV/11125
92109110001	SB-1 (145)	EPA 5035A/5030B	GCV/5645	EPA 8015 Modified	GCV/5650
92109110002	SB-2 (145)	EPA 5035A/5030B	GCV/5645	EPA 8015 Modified	GCV/5650
92109110003	SB-3 (145)	EPA 5035A/5030B	GCV/5645	EPA 8015 Modified	GCV/5650
92109110004	SB-4 (145)	EPA 5035A/5030B	GCV/5645	EPA 8015 Modified	GCV/5650
92109110001	SB-1 (145)	ASTM D2974-87	PMST/4411		
92109110002	SB-2 (145)	ASTM D2974-87	PMST/4411		
92109110003	SB-3 (145)	ASTM D2974-87	PMST/4411		
92109110004	SB-4 (145)	ASTM D2974-87	PMST/4411		



Document Name: <b>Sample Condition Upon Receipt (SCUR)</b>	Document Revised: July 29, 2011 Page 1 of 2
Document Number: <b>F-CHR-CS-03-rev.05</b>	Issuing Authority: Pace Huntersville Quality Office

Client Name: Kleinfelder Project # 92109110

Where Received:  Huntersville  Asheville  Eden

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 T1102 Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Temp Correction Factor Add / Subtract 0 °C

Corrected Cooler Temp.: 4.5 °C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C

Optional:
Proj. Due Date:
Proj. Name:

Date and Initials of person examining contents: <u>JMM 12-22-11</u>
---

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 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 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-DRD (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: CAH Date: 12/24/11 SRF Review: JL Date: 12/23/11

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.

<b>Section A</b> Required Client Information: Company: <u>Kleinfelder</u> Address: <u>Charlotte, NC</u>		<b>Section B</b> Required Project Information: Report To: <u>Travis O'Quinn</u> Copy To: <u>Craig NCU</u>		<b>Section C</b> Invoice Information: Attention: <u>NCDDT</u> Company Name: <u>NCDDT</u> Address: <u>WSB 37044, L1</u>	
Email To: <u>rogion@kleinfelder.com</u> Phone: <u>[blank]</u> Requested Due Date/TAT: <u>STD</u>		Purchase Order No.: <u>[blank]</u> Project Name: <u>NCDDT Parcel 145</u> Project Number: <u>123173</u>		Pace Quote Reference: <u>[blank]</u> Pace Project Manager: <u>[blank]</u> Pace Profile #: <u>[blank]</u>	
Regulatory Agency: <u>[blank]</u> <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER		Site Location STATE: <u>NC</u>		Page: <u>1448142</u> of <u>[blank]</u>	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	Matrix Codes DW WT WW P SL OL WP AR TS OT	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB							
	Sample ID (A-Z, 0-9 / -)			DATE	TIME	DATE	TIME					
1	SB-1 (145)			12/22/11	1405		SL G					92109110
2	SB-2 (145)				1410							001
3	SB-3 (145)				1415							002
4	SB-4 (145)				1420							003
5												004
6												
7												
8												
9												
10												
11												
12												

<b>Section E</b> ADDITIONAL COMMENTS <u>[blank]</u>		RELINQUISHED BY / AFFILIATION <u>[Signature]</u>		DATE <u>12-22-11 15:40</u>		ACCEPTED BY / AFFILIATION <u>[Signature]</u>		DATE <u>12-22-11 15:40</u>		SAMPLE CONDITIONS Received on Ice (Y/N) <u>Y</u> Sealed Cooler (Y/N) <u>N</u> Custody (Y/N) <u>N</u> Samples Intact (Y/N) <u>Y</u>	
Temperature in °C <u>4.5</u>		DATE <u>12-22-11 16:35</u>		ACCEPTED BY / AFFILIATION <u>[Signature]</u>		DATE <u>12-22-11 16:35</u>		SAMPLE CONDITIONS Received on Ice (Y/N) <u>Y</u> Sealed Cooler (Y/N) <u>N</u> Custody (Y/N) <u>N</u> Samples Intact (Y/N) <u>Y</u>		Temp in °C <u>4.5</u>	

ORIGINAL

SAMPLER NAME AND SIGNATURE <u>Travis O'Quinn</u>		DATE Signed (MM/DD/YYYY) <u>12/20/11</u>	
PRINT Name of SAMPLER: <u>Travis O'Quinn</u>		SIGNATURE of SAMPLER: <u>[Signature]</u>	

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007