

PRELIMINARY SITE ASSESSMENT

**PARCEL #154, JIFFY LUBE PROPERTY
CHARLOTTE – US 74 (INDEPENDENCE BOULEVARD) FROM NC 24 - 27
(ALBEMARLE ROAD) TO IDELWILD ROAD
MECKLENBURG COUNTY, NORTH CAROLINA**

**NCDOT WBS ELEMENT 3479.1.1
STATE PROJECT U-0209B**

August 20, 2010

Prepared for:

**Ethan J. Caldwell, 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.
313 Gallimore Dairy Road
Greensboro, North Carolina 27409**

Kleinfelder Project No. 111989

**Copyright 2010 Kleinfelder
All Rights Reserved**

ONLY THE CLIENT OR ITS DESIGNATED REPRESENTATIVES MAY USE THIS DOCUMENT AND ONLY FOR THE SPECIFIC PROJECT FOR WHICH THIS REPORT WAS PREPARED.



August 20, 2010
File No. 111989 | GSO10R163

Ethan J. Caldwell, L.G., P. E.
North Carolina Department of Transportation
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

Reference: **Preliminary Site Assessment**
WBS Element No. 34749.1.1, State Project U-0209B
Parcel #154, Jiffy Lube Property
Mecklenburg County, North Carolina

Dear Mr. Caldwell:

Please find enclosed a 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 petroleum hydrocarbon concentrations above the method detection limits of the laboratory method. 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.


Annamarie Blauser
Staff Professional I


John M. Stewart, P.G.
Senior Professional

AB/JMS:cas
Enclosure

PRELIMINARY SITE ASSESSMENT

Site Name and Location: Parcel #154, Jiffy Lube Property
6167 E. Independence Boulevard
Charlotte, Mecklenburg County, North
Carolina

Latitude and Longitude: 35° 10' 37" N, 80° 44' 59" W

Facility ID Number: 0-021018

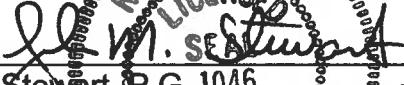
NCDOT Project No.: NCDOT WBS Element 34749.1.1
State Project U-0209B

Date of Report: August 20, 2010

Consultant: Kleinfelder
313 Gallimore Dairy Road
Greensboro, North Carolina 27409
Attn: Mr. John M. Stewart
Phone: 336.668.0093 X115

Seal and Signature of Certifying Licensed Geologist

I, John M. Stewart, 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.



John M. Stewart, P.G. 1046
NC License No. 1046



8/20/10

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	SITE DESCRIPTION.....	1
1.2	SITE LOCATION.....	1
1.3	NCDENR FILE REVIEW.....	2
2.0	SITE ASSESSMENT	2
2.1	GEOPHYSICAL INVESTIGATION.....	2
2.2	SOIL SAMPLING	2
3.0	RESULTS	3
3.1	GEOPHYSICAL INVESTIGATION.....	3
3.2	SOIL SAMPLES.....	3
4.0	CONCLUSIONS.....	3
5.0	LIMITATIONS	4

TABLES

1	Soil Sample PID Results
2	Soil Sample Analytical Summary

FIGURES

1	Site Location Map
2	Site Map
3	Boring Location Map

APPENDICES

A	Site Photographs
B	Pyramid Environmental & Engineering, P.C. Geophysical Survey Report
C	Boring Logs
D	Laboratory Report

1.0 INTRODUCTION

Kleinfelder Southeast, Inc. (Kleinfelder) has prepared this Preliminary Site Assessment (PSA) report documenting assessment activities performed at the Jiffy Lube property (Parcel 154) located at 6167 East Independence Boulevard (US 74) in Charlotte, Mecklenburg County, North Carolina (Figure 1). This assessment was conducted on behalf of the North Carolina Department of Transportation (NCDOT) in accordance with Kleinfelder's June 15, 2010 proposal.

NCDOT is proposing to widen US 74 (Independence Boulevard) from NC 24-27 (Albemarle Road) to Idlewild Road and construct a bridge with on and off ramps accessing Idlewild Road. The proposed right-of-way is located along the west side of the Jiffy Lube property (Figure 2). 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 74 (Independence Boulevard) from NC 24-27 (Albemarle Road) to Idlewild Road.

1.1 Site Description

The proposed right-of-way is located along the west side of the property owned by Hico Joan LLC. At the time of our site reconnaissance, this parcel was occupied by an active quick automobile oil change service station (Jiffy Lube, Facility ID No. 0-021018). A car wash was located on the north side of the property, and the Jiffy Lube building was located on the south side of the property. Site photographs are shown in Appendix A.

1.2 Site Location

The facility is located in the northwest quadrant of the intersection of East Independence Boulevard and Dion Avenue. The property was bound to the north by a Mattress Factory store and to the east and south by Dion Avenue and further south by a Paint and Body Shop. The property was bound to the west by Independence Boulevard and further west by a small strip mall and a used automotive dealership.

1.3 NCDENR File Review

Kleinfelder reviewed archived files at the North Carolina Department of Environment and Natural Resources (NCDENR) Mooresville Regional Office. Archived files are generally for those incidents that have been closed. A review of the files indicated that two 2,000-gallon motor oil USTs and one 550-gallon waste oil UST were removed from the southern corner of the property, but outside the proposed right-of-way. Analysis of samples collected after the USTs were removed detected hydrocarbons (Incident Number 12618). The NCDENR closed the site with a No Further Action letter dated July 19, 1996.

2.0 SITE ASSESSMENT

2.1 Geophysical Investigation

Pyramid Environmental & Engineering, P.C (Pyramid) conducted a geophysical investigation of the proposed right-of-way on the west side of the property on June 25, 2010. Pyramid utilized electromagnetic (EM) induction technology to identify potential geophysical anomalies and potential USTs at the site. A more detailed description of their scope of work is explained in their Geophysical Investigation Report included in Appendix B. Prior to drilling the soil borings, buried 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, soil samples were collected along the proposed drainage features (west side) on the Jiffy Lube property. Kleinfelder met Probe Technology at the Jiffy Lube property on July 19, 2010; Probe Technology advanced three soil borings (B-1 to B-3) by direct push technology (DPT). The approximate location of the soil borings is shown on Figure 3.

Soil borings were advanced to a depth ten feet below the ground surface (bgs). Borings B-1 through B-3 were located along the proposed drainage features in the right-of-way. Soil was collected by driving a macrocore sampler in 5-foot intervals in each boring. Each 5-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 Prism laboratories a NCDOT contract laboratory for chemical analysis.

3.0 RESULTS

3.1 Geophysical Investigation

Pyramid's results indicate that the EM investigation did not detect unknown metallic USTs within the survey area. Pyramid's report is included in Appendix B.

3.2 Soil Samples

Petroleum hydrocarbons were not detected at concentrations above the method detection limits in the soil samples. 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.

4.0 CONCLUSIONS

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

- ◆ Groundwater was not encountered in the soil borings.
- ◆ Petroleum hydrocarbons were not detected at concentrations above the method detection limits in the soil samples.

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.

The information included on graphic representations in the report has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. These documents are not intended for use as a land survey product, nor are they designed or intended as a construction design document. The use or misuse of the information contained on these graphic representations is at the sole risk of the party using or misusing the information.

TABLES

TABLE 1: SOIL SAMPLE PID RESULTS

SAMPLE LOCATION	DEPTH (feet bgs)	PID READINGS
B-1	0.0 - 2.5	0.0
	2.5 - 5.0	0.0
	5.0 - 7.5	0.0
	7.5 - 10.0	0.3
B-2	0.0 - 2.5	0.0
	2.5 - 5.0	0.0
	5.0 - 7.5	0.0
	7.5 - 10.0	0.0
B-3	0.0 - 2.5	0.0
	2.5 - 5.0	0.0
	5.0 - 7.5	0.0
	7.5 - 10.0	0.0

Notes:

Samples were collected on July 19, 2010.

Readings reported in parts per million

feet bgs = feet below ground surface

Bold = Selected for laboratory analysis

TABLE 2: SOIL SAMPLE ANALYTICAL SUMMARY

SAMPLE ID	COLLECTION DATE	DRO	GRO
B-1 (7.5-10 ft)	7/19/2010	BRL	BRL
B-2 (7.5-10 ft)	7/19/2010	BRL	BRL
B-3 (7.5-10 ft)	7/19/2010	BRL	BRL
State Action Level		10	10

Notes:

Sample collection depth is indicated in Sample ID, following sequential soil sample number

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

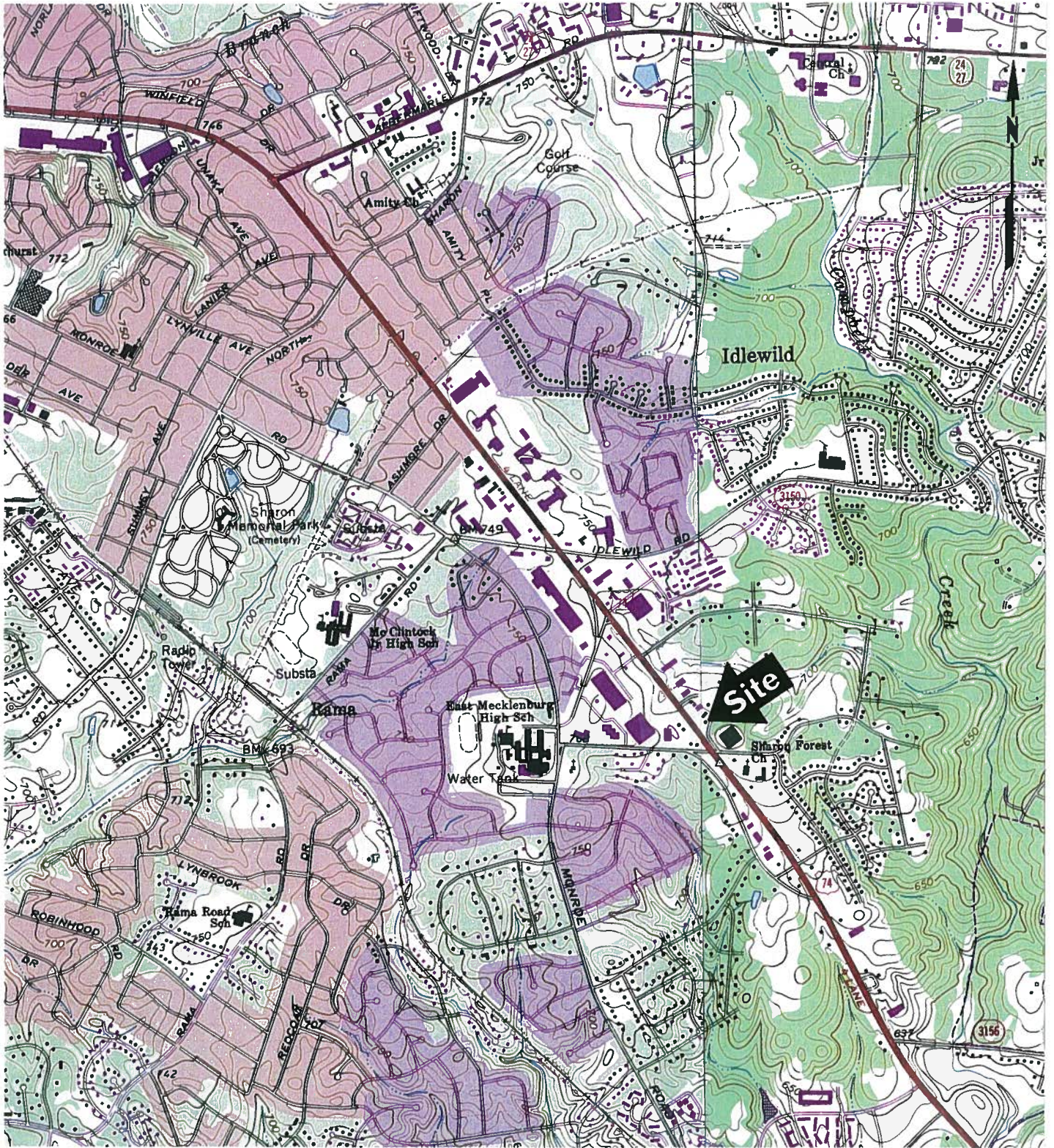
DRO = Diesel Range Organics

GRO = Gasoline Range Organics

BRL = Below reporting limit

Bold denotes concentration exceeds the State Action Level

FIGURES



**FIGURE 1
SITE LOCATION MAP**

**PARCEL # 154 – JIFFY LUBE PROPERTY
6167 EAST INDEPENDENCE BOULEVARD
MECKLENBURG COUNTY, NORTH CAROLINA**

DATE: July 26, 2010

APPROVED
BY:

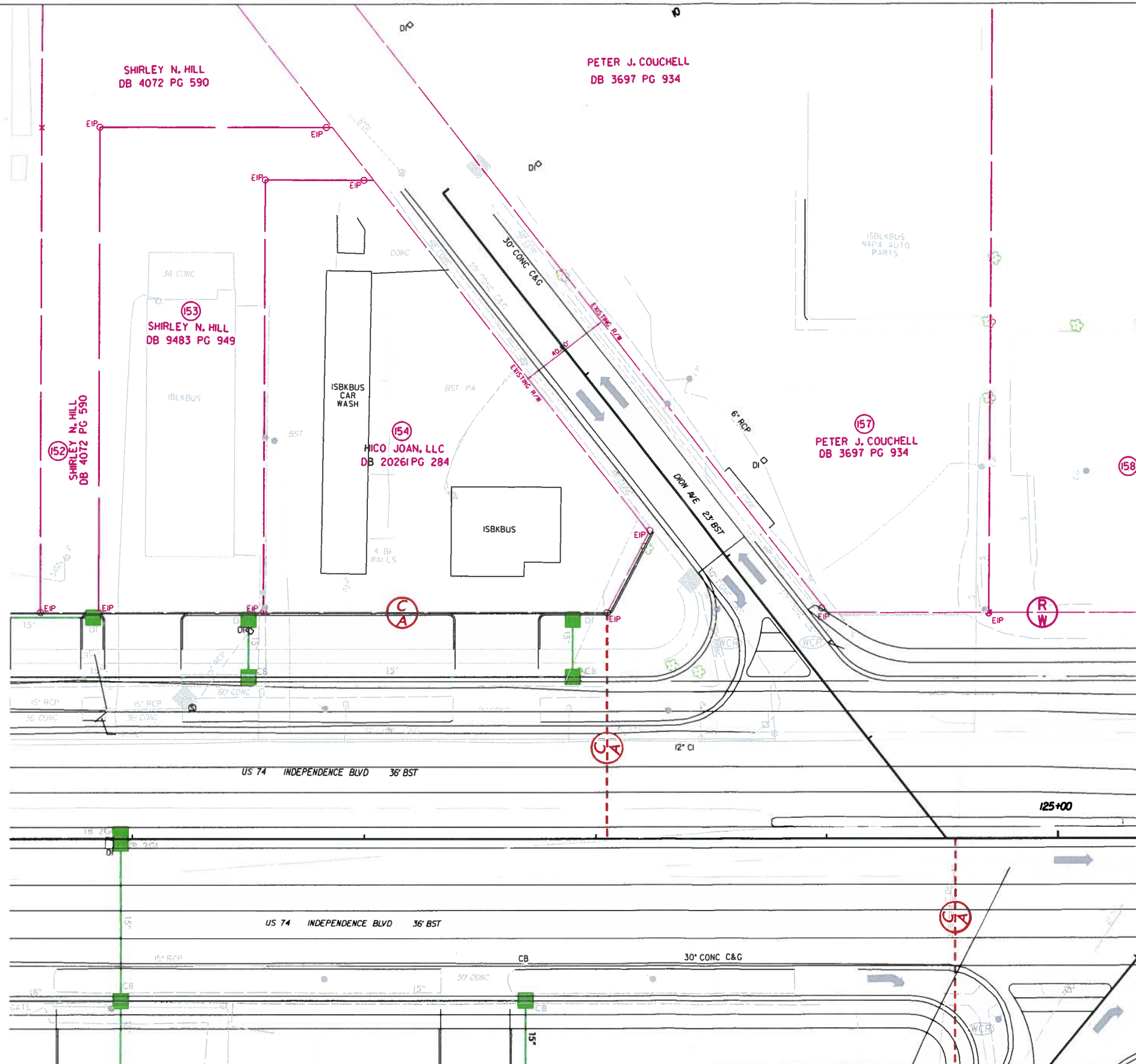
SCALE: 1" to 2,000'

SOURCE: USGS 7.5' Topographic Map,
Charlotte East Quadrangle

[Signature]

PROJECT NO. 111989





The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



PROJECT NO.	111989
DRAWN:	08/06/2010
DRAWN BY:	DJH
CHECKED BY:	JMS
SCALE:	1" = 50'

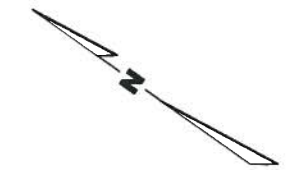
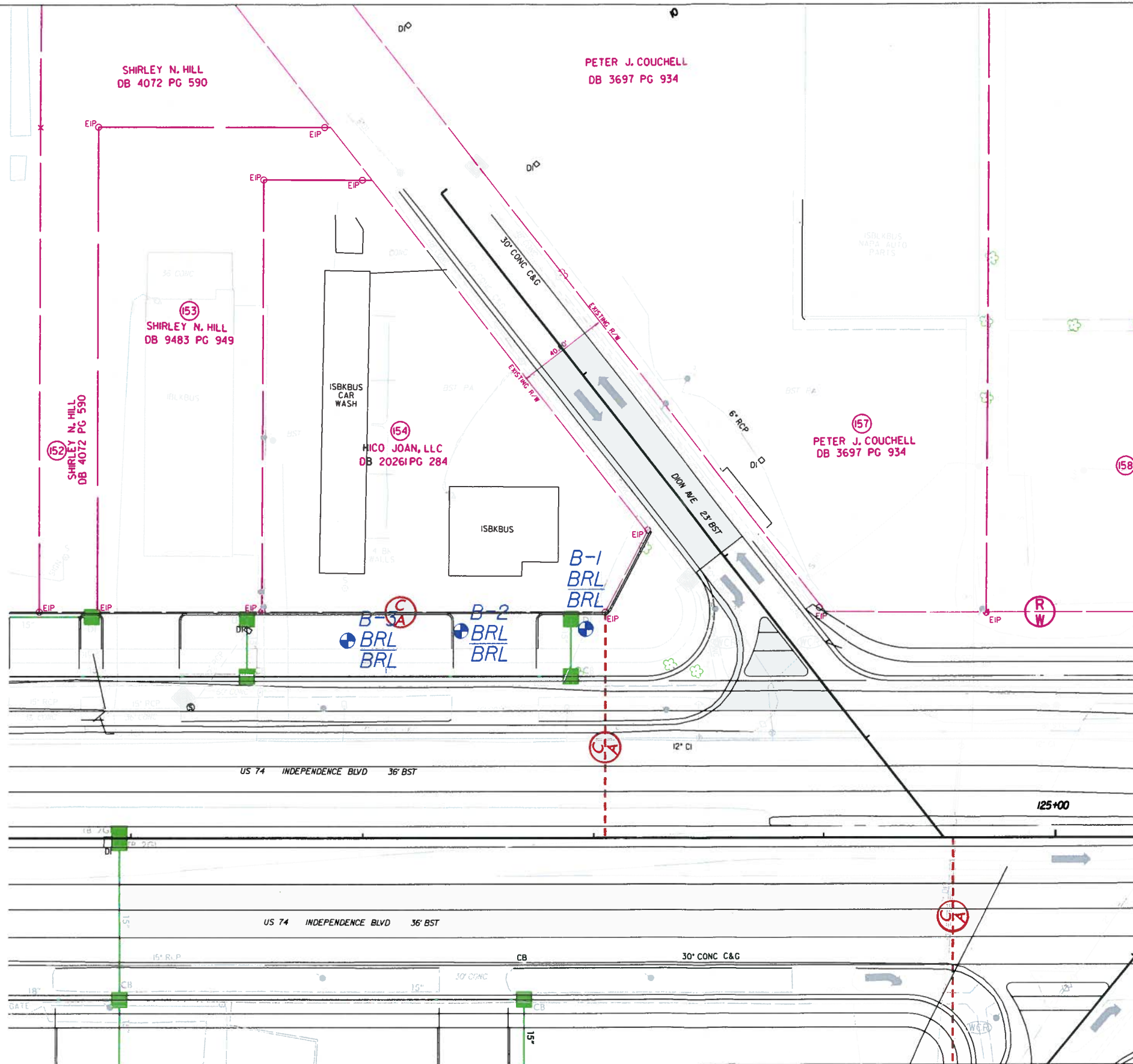
SITE MAP	
PARCEL #154	
HICO JOAN LLC (JIFFY LUBE)	
6167 E. INDEPENDENCE BOULEVARD	
TIP NO.	U-0209B
WBS ELEMENT NO.	34749.1.1
MECKLENBURG COUNTY NORTH CAROLINA	

FIGURE:
2

DRAWING NAME: 106210_FIG2.dgn

KLEINFELDER JOB NUMBER: 111989

OFFICE LOCATION: GREENSBORO



EXPLANATION

- SOIL BORING
- GRO IN PPM
- DRO

**NOTE: BRL - BELOW REPORTING LIMIT
GRO - GASOLINE RANGE ORGANICS
DRO - DIESEL RANGE ORGANICS**

The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a land survey product nor is it designed or intended as a construction design document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.



PROJECT NO.	111989	BORING LOCATION MAP		FIGURE: 3
DRAWN:	08/06/2010	PARCEL #154 HICO JOAN LLC (JIFFY LUBE) 6167 E. INDEPENDENCE BOULEVARD		
DRAWN BY:	DJH	TIP NO.	U-0209B	
CHECKED BY:	JMS	WBS ELEMENT NO.	34749.1.1	
SCALE:	1" = 50'	MECKLENBURG COUNTY NORTH CAROLINA		

APPENDIX A

**SITE PHOTOGRAPHS
KLEINFELDER PROJECT NO. 111989
PARCEL NO. 154**



Photograph 1 – View of the Jiffy Lube property from the northwest corner looking southeast.



Photograph 2 – View of the Jiffy Lube property along East Independence Boulevard looking southeast.

APPENDIX B

Pyramid Project # 2010153

GEOPHYSICAL INVESTIGATION REPORT

EM61 SURVEYS

HICO JOAN, LLC PROPERTY

PARCEL 154

Charlotte, North Carolina

August 10, 2010

**Report prepared for: John Stewart P.G.
Kleinfelder
6200 Harris Technology Boulevard
Charlotte, NC 28269**

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**

Kleinfelder
GEOPHYSICAL INVESTIGATION REPORT
HICO JOAN, LLC PROPERTY
PARCEL 154
Charlotte, North Carolina

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1.0 INTRODUCTION	1
2.0 FIELD METHODOLOGY	1
3.0 DISCUSSION OF RESULTS	2
4.0 SUMMARY & CONCLUSIONS	3
5.0 LIMITATIONS	3

FIGURES

- | | |
|----------|---|
| Figure 1 | Geophysical Equipment & Site Photographs |
| Figure 2 | EM61 Metal Detection – Bottom Coil Results |
| Figure 3 | EM61 Metal Detection – Differential Results |

1.0 INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Kleinfelder across a portion of the Hico Joan, LLC property (Parcel 154) located at the intersection of Independence Boulevard and Dion Avenue. Conducted on June 25, 2010 the geophysical investigation was performed as part of the North Carolina Department of Transportation (NCDOT) preliminary site assessment project to determine if unknown, metallic underground storage tanks (UST's) were present beneath the area of interest at Parcel 154.

Kleinfelder representative Mr. John Stewart, PE provided site maps during the week of June 1, 2010 that outlined the geophysical survey area of the Hico Joan, LLC property and Kleinfelder representative Mr. John Lindemann was on site the morning of June 23, 2010 and identified the perimeter of the geophysical survey area to Pyramid Environmental personnel. The site consists of an active Jiffy Lube service center and car wash facility. The geophysical survey area was limited to the southwestern portion of the property located along Independence Boulevard and extended approximately 45 feet on to the adjacent Shirley Hill property. Consisting primarily of asphalt pavement and grass, the geophysical survey area had a maximum length and width of 245 feet and 90 feet, respectively. Photographs of the geophysical equipment used in this investigation and a portion of the geophysical survey area at Parcel 154 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 (property) 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 June 25, 2010 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 northwesterly-southeasterly, 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.

Due to an absence of metal detection anomalies that may be in response to potential USTs, ground penetrating radar (GPR) surveys were not conducted at this site. Contour plots of the EM61 bottom coil and differential results are presented in **Figures 2 and 3**, respectively. 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.

Preliminary geophysical results obtained from Parcel 154 were reported to Mr. Stewart on July 14, 2010.

3.0 DISCUSSION OF RESULTS

The linear EM61 bottom coil anomalies intersecting grid coordinates X=30 Y=32, X=85 Y=24 and X=162 Y=57 are probably in response to buried utility lines or short segments of metal conduits. The high amplitude bottom coil anomaly centered near grid coordinates X=195 Y=66 is probably in response to the large diameter business sign pole. The EM61 anomaly centered near grid coordinates X=233 Y=16 is probably in response to the fire hydrant.

Due to the absence of additional EM61 differential anomalies that were not in response to known objects, ground penetrating radar surveys were not conducted at this site and the EM61 results suggest that the surveyed portion of Parcel 154 does not contain metallic USTs.

4.0 SUMMARY & CONCLUSIONS

Our evaluation of the EM61 data collected across the geophysical survey area at the Hico Joan, LLC property (Parcel 154) located in Charlotte, North Carolina, provides the following summary and conclusions:

- The EM61 surveys provided reliable results for the detection of metallic USTs within the surveyed portion of the site.
- The linear EM61 bottom coil anomalies intersecting grid coordinates X=30 Y=32, X=85 Y=24 and X=162 Y=57 are probably in response to buried utility lines or short segments of metal conduits.
- The remaining EM61 anomalies are probably in response to known surface objects or equipment.
- The EM61 results suggest that the surveyed portion of Parcel 154 does not contain metallic USTs.

5.0 LIMITATIONS

EM61 surveys have been performed and this report prepared for Kleinfelder in accordance with generally accepted guidelines for EM61 metal detection 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 unknown, buried metallic USTs, but that none were detected.



The photograph shows the Geonics EM61 metal detector that was used to conduct the metal detection survey across the geophysical survey area at the Hico Joan, LLC property (Parcel 154) on June 25, 2010.

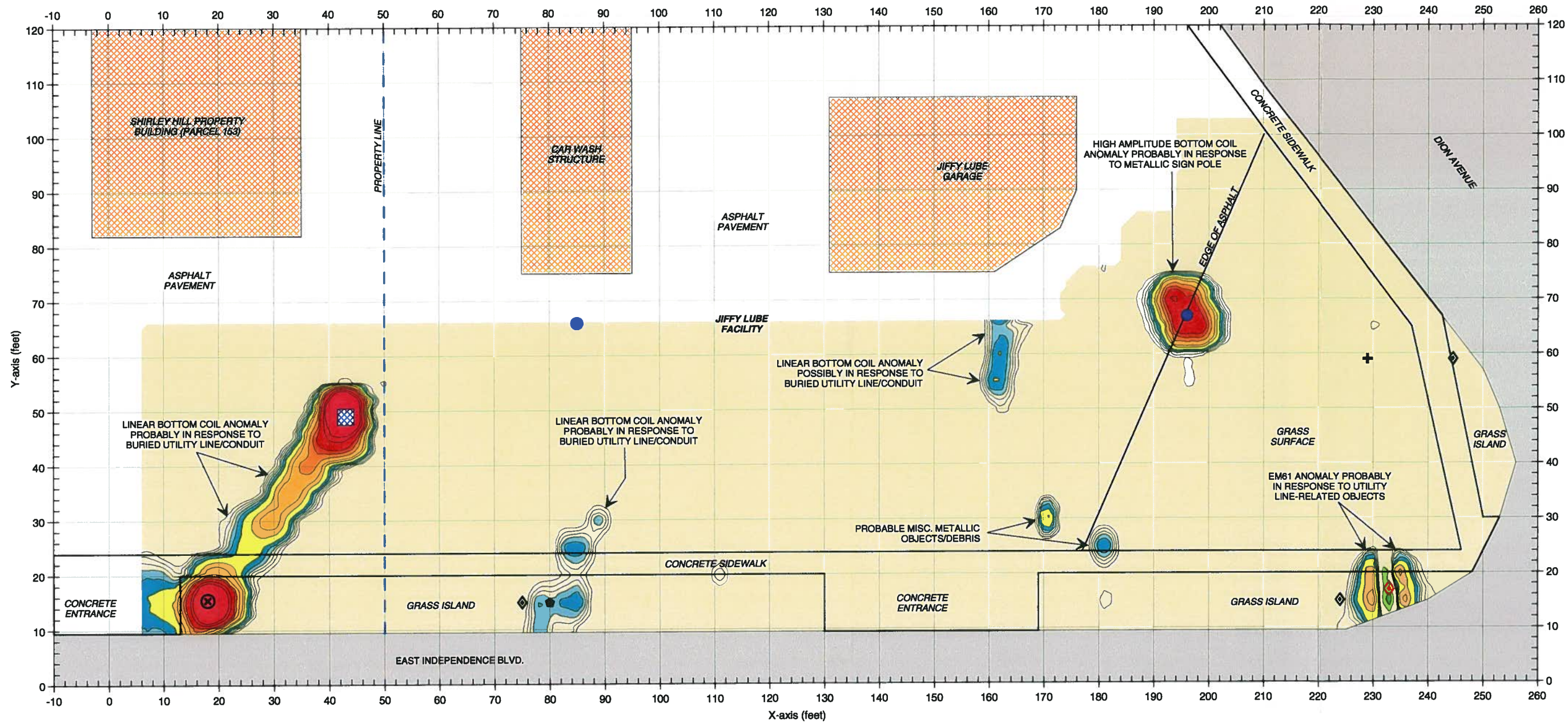


The photograph shows the southwestern (front) portion of the Hico Joan, LLC property located at the intersection of Independence Boulevard and Dion Avenue in Charlotte, North Carolina. The photograph is viewed in a northeasterly direction.



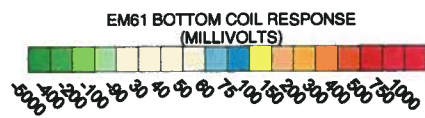
CLIENT	KLEINFELDER		DATE	08/06/10	BY	MJD
PROJECT	HICO JOAN, LLC PROPERTY (PARCEL 154)		SCALE		REVISED	
CITY	CHARLOTTE	STATE	NORTH CAROLINA	PROJECT NO.		
REPORT	GEOPHYSICAL RESULTS		NO.	2010-153	ISSUED	

GEOPHYSICAL EQUIPMENT
& SITE PHOTOGRAPHS



LEGEND

SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING LINES SPACED 5 FEET APART	STORM SEWER GRATE
BUILDING OR STRUCTURE	MANHOLE COVER
FIRE HYDRANT	ROAD SIGN
BUSINESS SIGN POLE	UTILITY OR LAMP POLE
PROPERTY LINE	

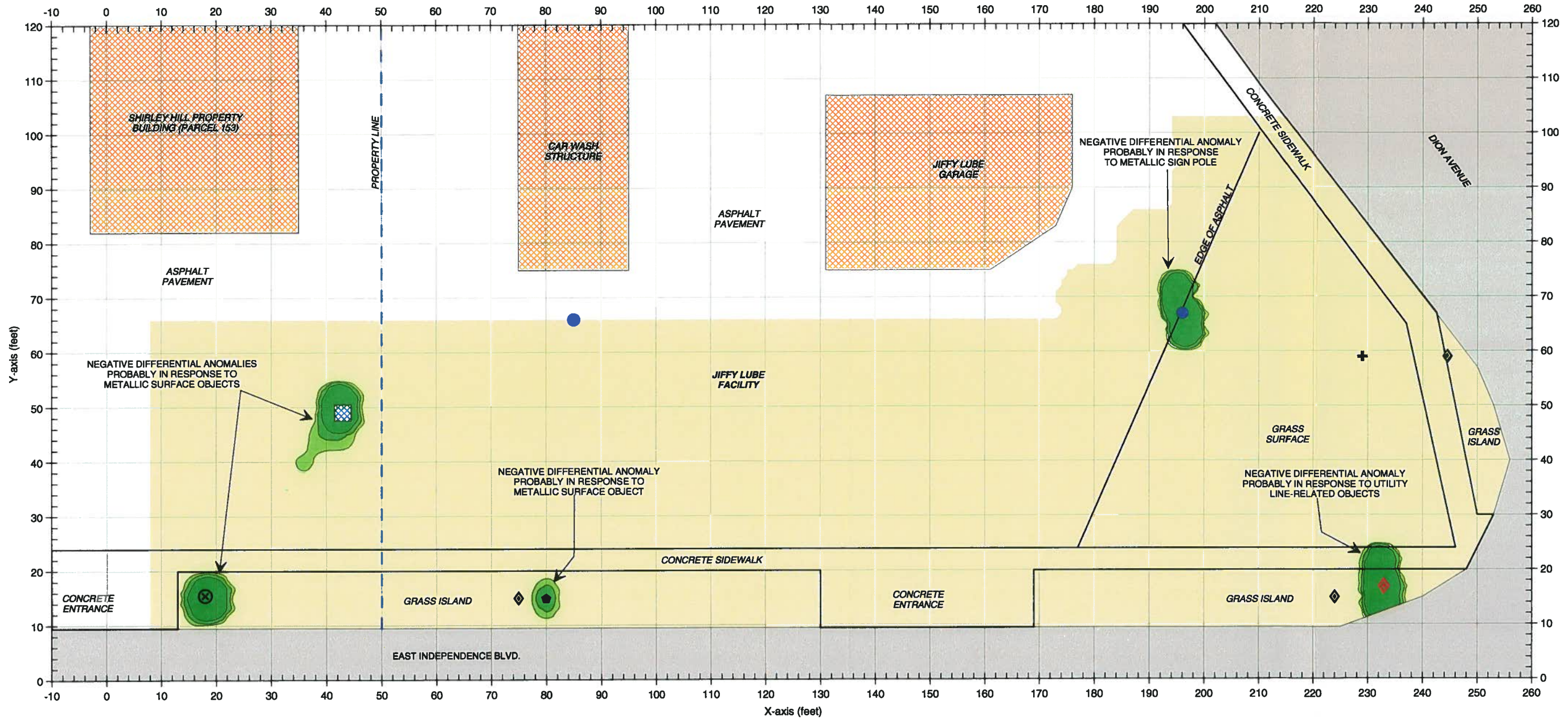


The contour plot shows the bottom coil (most sensitive) response of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The EM metal detection data were collected on June 25, 2010 using a Geonics EM61 instrument. Due to an absence of EM61 differential anomalies that could be in response to potential UST-size objects, ground penetrating radar (GPR) surveys were not conducted at this site.

The EM61 metal detection investigation suggest the survey area does not contain metallic USTs.

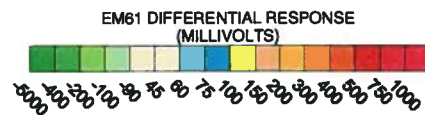
EM61 METAL DETECTION (BOTTOM COIL RESULTS)		FIGURE 2	
DATE	07/12/10	SCALE	GRAPHIC SCALE IN FEET
DRAWN	MJD	FIGURE	2010-153
CHECKED		CLIENT	HICO JOAN, LLC PROPERTY (PARCEL 154)
DATE		CITY	NORTH CAROLINA
CLIENT	KLEINFELDER	TITLE	GEOPHYSICAL RESULTS





LEGEND

SURVEY AREA: EM61 DATA ACQUIRED ALONG X-AXIS OR Y-AXIS TRENDING LINES SPACED 5 FEET APART	STORM SEWER GRATE
BUILDING OR STRUCTURE	MANHOLE COVER
FIRE HYDRANT	ROAD SIGN
BUSINESS SIGN POLE	UTILITY OR LAMP POLE
PROPERTY LINE	



Note: The contour plot shows the differential response between the bottom and top coils of the EM61 instrument in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller misc. buried, metal debris. The EM metal detection data were collected on June 25, 2010 using a Geonics EM61 instrument. Due to an absence of EM61 differential anomalies that could be in response to potential UST-size objects, ground penetrating radar (GPR) surveys were not conducted at this site

The EM61 metal detection investigation suggest the survey area does not contain metallic USTs.

EM61 METAL DETECTION (DIFFERENTIAL RESULTS)		FIGURE 3	
DATE	07/12/10	SCALE	GRAPHIC SCALE IN FEET
DRAWN	MJD	CLIENT	HICO JOAN, LLC PROPERTY (PARCEL 154)
CHECKED		CITY	CHARLOTTE
DATE	2010-153	TITLE	GEOPHYSICAL RESULTS
DATE		CITY	NORTH CAROLINA
DATE		CITY	
DATE		CITY	



APPENDIX C

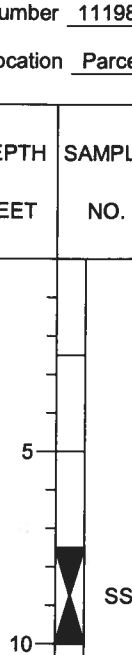
Client NCDOT
 Project Name U-0209B
 Number 111989
 Location Parcel 154-Jiffy Lube

Drill Contractor Probe Technology
 Drill Method 2 inch Direct Push
 Drilling Started 7/19/10 Ended 7/19/10
 Logged By T. Stewart

LOG OF BORING B-1
 SHEET 1 OF 1

Elevation --
 Total Depth 10.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
0.0			0.0	CL	[Hatched Pattern]	Light Yellowish Brown, Sandy Lean CLAY, Dry, No Odor	0.0
0.0			0.0	CL		Red Brown, Lean CLAY, Loose, Dry, No Odor	5
0.0			0.0	CL		Gray, Light Brown, Sandy Lean CLAY, Dry, No Odor	10
0.3			0.3	CL		Boring Terminated at 10 feet in RESIDUAL	10



LOG A EWMN05 111989F.GPJ LOG A EWMN05.GDT 8/6/10

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

Remarks Sample B-1 collected from 7.5-10 ft. submitted for laboratory analysis.
 See key sheet for symbols and abbreviations used above.

Client NCDOT

Drill Contractor Probe Techology

LOG OF BORING B-2

SHEET 1 OF 1

Project Name U-0209B

Drill Method 2 inch Direct Push

Elevation --

Number 111989

Drilling Started 7/19/10 Ended 7/19/10

Total Depth 10.0

Location Parcel 154-Jiffy Lube

Logged By T. Stewart

Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
0.0			0.0			Light Yellowish Brown, Red Brown, Sandy Lean CLAY, Dry, No Odor	0.0
5.0			0.0	CL			5.0
10.0	SS		0.0				10.0
Boring Terminated at 10 feet in RESIDUAL							

LOG A EWN05 111989F.GPJ LOG A EWN05.GDT 8/6/10



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

Remarks Sample B-2 collected from 7.5-10 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

Client NCDOT
 Project Name U-0209B
 Number 111989
 Location Parcel 154-Jiffy Lube

Drill Contractor Probe Technology
 Drill Method 2 inch Direct Push
 Drilling Started 7/19/10 Ended 7/19/10
 Logged By T. Stewart

LOG OF BORING B-3

SHEET 1 OF 1

Elevation --
 Total Depth 10.0
 Depth To Water

DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID ppm	USCS	LITHOLOGY	DESCRIPTION	DEPTH FEET
0.0			0.0			Red Brown, Yellowish Brown, Lean CLAY, Hard, Dry, No Odor	0.0
5.0			0.0	CL			5.0
7.5			0.0				
10.0	SS		0.0	CL		Red Brown, White, Sandy Lean CLAY, Dry, No Odor	10.0
Boring Terminated at 10 feet in RESIDUAL							

LOG A EWIN05 111989F.GPJ LOG A EWIN05.GDT 8/6/10



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

Remarks Sample B-3 collected from 7.5-10 ft. submitted for laboratory analysis.

See key sheet for symbols and abbreviations used above.

APPENDIX D



Full-Service Analytical &
Environmental Solutions

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

Case Narrative

07/29/2010

Kleinfelder SE, Inc. (NCDOT Project)
John Stewart
313 Gallimore Dairy Rd.
Greensboro, NC 27409

Project: NCDOT Parcel #154
Project No.: WBS# 34749.1.1
Lab Submittal Date: 07/19/2010
Prism Work Order: 0070512

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

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

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

Respectfully,

PRISM LABORATORIES, INC.

VP Laboratory Services

Reviewed By

Data Qualifiers Key Reference:

BRL Below Reporting Limit

MDL Method Detection Limit

RPD Relative Percent Difference

* Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J.

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

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



Sample Receipt Summary

07/29/2010

Prism Work Order: 0070512

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
B-1(7.5-10)	0070512-01	Soil	07/19/10	07/19/10
B-2(7.5-10)	0070512-02	Soil	07/19/10	07/19/10
B-3(7.5-10)	0070512-03	Soil	07/19/10	07/19/10

Samples received in good condition at 3.2 degrees C unless otherwise noted.



Kleinfelder SE, Inc. (NCDOT Project)
Attn: John Stewart
313 Gallimore Dairy Rd.
Greensboro, NC 27409

Project: NCDOT Parcel #154
Project No.: WBS# 34749.1.1
Sample Matrix: Soil

Client Sample ID: B-1(7.5-10)
Prism Sample ID: 0070512-01
Prism Work Order: 0070512
Time Collected: 07/19/10 09:50
Time Submitted: 07/19/10 14:57

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID									
Diesel Range Organics	BRL	mg/kg dry	8.3	1.3	1	*8015C	7/28/10 1:33	GRR	P0G0529
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			86 %		49-124	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	7.5	0.98	50	*8015C	7/23/10 17:27	HPE	P0G0492
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			111 %		55-129	
General Chemistry Parameters									
% Solids	84.2	% by Weight	0.100	0.100	1	*SM2540 G	7/26/10 12:18	JAB	P0G0506

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.



Kleinfelder SE, Inc. (NCDOT Project)
Attn: John Stewart
313 Gallimore Dairy Rd.
Greensboro, NC 27409

Project: NCDOT Parcel #154
Project No.: WBS# 34749.1.1
Sample Matrix: Soil

Client Sample ID: B-2(7.5-10)
Prism Sample ID: 0070512-02
Prism Work Order: 0070512
Time Collected: 07/19/10 10:08
Time Submitted: 07/19/10 14:57

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID									
Diesel Range Organics	BRL	mg/kg dry	9.8	1.6	1	*8015C	7/28/10 2:09	GRR	P0G0529
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			70 %		49-124	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	6.9	0.89	50	*8015C	7/23/10 19:33	HPE	P0G0492
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			100 %		55-129	
General Chemistry Parameters									
% Solids	71.1	% by Weight	0.100	0.100	1	*SM2540 G	7/26/10 12:18	JAB	P0G0505

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.



Kleinfelder SE, Inc. (NCDOT Project)
Attn: John Stewart
313 Gallimore Dairy Rd.
Greensboro, NC 27409

Project: NCDOT Parcel #154
Project No.: WBS# 34749.1.1
Sample Matrix: Soil

Client Sample ID: B-3(7.5-10)
Prism Sample ID: 0070512-03
Prism Work Order: 0070512
Time Collected: 07/19/10 10:16
Time Submitted: 07/19/10 14:57

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID									
Diesel Range Organics	BRL	mg/kg dry	9.4	1.5	1	*8015C	7/28/10 2:44	GRR	P0G0529
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			96 %		49-124	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	6.0	0.77	50	*8015C	7/23/10 20:05	HPE	P0G0492
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			96 %		55-129	
General Chemistry Parameters									
% Solids	74.1	% by Weight	0.100	0.100	1	*SM2540 G	7/26/10 12:18	JAB	P0G0505

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Kleinfelder SE, Inc. (NCDOT Project)
Attn: John Stewart
313 Gallimore Dairy Rd.
Greensboro, NC 27409

Project: NCDOT Parcel #154
Project No: WBS# 34749.1.1

Prism Work Order: 0070512
Time Submitted: 7/19/10 2:57:00PM

Gasoline Range Organics by GC/FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0G0492 - 5035										
Blank (P0G0492-BLK1)										
Prepared & Analyzed: 07/23/10										
Gasoline Range Organics	BRL	5.0	mg/kg wet							
Surrogate: a,a,a-Trifluorotoluene	4.50		mg/kg wet	5.00		90	55-129			
LCS (P0G0492-BS1)										
Prepared & Analyzed: 07/23/10										
Gasoline Range Organics	41.5	5.0	mg/kg wet	50.0		83	67-116			
Surrogate: a,a,a-Trifluorotoluene	5.15		mg/kg wet	5.00		103	55-129			
LCS Dup (P0G0492-BSD1)										
Prepared & Analyzed: 07/23/10										
Gasoline Range Organics	44.4	5.0	mg/kg wet	50.0		89	67-116	7	200	
Surrogate: a,a,a-Trifluorotoluene	5.25		mg/kg wet	5.00		105	55-129			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Kleinfelder SE, Inc. (NCDOT Project)
Attn: John Stewart
313 Gallimore Dairy Rd.
Greensboro, NC 27409

Project: NCDOT Parcel #154

Project No: WBS# 34749.1.1

Prism Work Order: 0070512

Time Submitted: 7/19/10 2:57:00PM

Diesel Range Organics by GC/FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0G0529 - 3545A										
Blank (P0G0529-BLK1)										
Prepared: 07/26/10 Analyzed: 07/27/10										
Diesel Range Organics	BRL	7.0	mg/kg wet							
Surrogate: <i>o</i> -Terphenyl	1.37		mg/kg wet	1.60		86	49-124			
LCS (P0G0529-BS1)										
Prepared: 07/26/10 Analyzed: 07/27/10										
Diesel Range Organics	60.0	7.0	mg/kg wet	80.0		75	55-109			
Surrogate: <i>o</i> -Terphenyl	1.69		mg/kg wet	1.60		106	49-124			
LCS Dup (P0G0529-BSD1)										
Prepared: 07/26/10 Analyzed: 07/27/10										
Diesel Range Organics	60.5	7.0	mg/kg wet	79.9		76	55-109	0.9	200	
Surrogate: <i>o</i> -Terphenyl	1.68		mg/kg wet	1.60		105	49-124			

Sample Extraction Data

Prep Method: 3545A

Lab Number	Batch	Initial	Final	Date
0070512-01	P0G0529	25.15 g	1 mL	07/26/10
0070512-02	P0G0529	25.08 g	1 mL	07/26/10
0070512-03	P0G0529	25.16 g	1 mL	07/26/10

Prep Method: 5035

Lab Number	Batch	Initial	Final	Date
0070512-01	P0G0492	3.95 g	5 mL	07/23/10
0070512-02	P0G0492	5.13 g	5 mL	07/23/10
0070512-03	P0G0492	5.66 g	5 mL	07/23/10

NO PREP

Lab Number	Batch	Initial	Final	Date
0070512-01	P0G0505	30 g	30 mL	07/23/10
0070512-02	P0G0505	30 g	30 mL	07/23/10
0070512-03	P0G0505	30 g	30 mL	07/23/10

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

