PRELIMINARY SITE ASSESSMENT

PARCEL #125, MCDONALD'S 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

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August 20, 2010 File No. 111989 | GSO10R160

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 #125, McDonald's 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 hydrocarbons 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.

M. Stewart

Annamarie Blauser Staff Professional I

John M. Stewart, P.G. Seniør Professional

AB/JMS:cas Enclosure

PRELIMINARY SITE ASSESSMENT

Site Name and Location:

Parcel #125, McDonald's Property

5600 E. Independence Boulevard Charlotte, Mecklenburg County, North

Carolina

Latitude and Longitude:

35° 11' 0" N, 80° 45' 24" W

Facility ID Number:

0-017313

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

1046

NC License No.

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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 McDonald's property (Parcel 125) located at 5600 East Independence Boulevard (US 74) in Charlotte, Mecklenburg County, North Carolina. 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 will include the entire McDonald's property (Figure 2); therefore, NCDOT has determined that the entire property will be taken. 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 encompasses the entire property owned by Independence Shopping Center. At the time of our site reconnaissance, this parcel was occupied by a McDonald's restaurant (McDonald's, Facility ID No. 0-0017131). The restaurant is located in the center of the property with the majority of the site covered with asphalt. Site photographs are included in Appendix A.

1.2 Site Location

The property is located in the southwest quadrant of Idlewild Road and East Independence Boulevard intersection. The property is bound to the north by Idlewild Road and beyond by a BP gas station. The property is bound to the east by East Independence Boulevard and beyond by a Circle K gas station. A shopping center is located south of the property and a Wachovia Bank is located west of the property.

1.3 NCDENR File Review

Kleinfelder reviewed archived documented 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 past release at the site was issued Incident Number 3469. Documented information associated with Incident Number 3469 is summarized below.

- On March 18, 1986, a Certification Test for Gasoline Tanks and Lines was prepared for the tank onsite. The tank was reported as tight and leak free.
- In June 19, 1987 a Pollution Incident was reported. During the removal of one 10,000 gallon UST, contaminated soil was observed under the UST. Soil was removed down to a depth of 15 feet below ground surface (bgs). At the point where moisture was detected, the excavation was halted. Two of the four monitoring wells located around the UST were sampled. Gasoline was the last material contained by the UST. The product lines were not excavated.
- On August 10, 1987, Law Engineering Geotechnical Environmental and Construction Materials Consultants (Law Engineering) prepared a Report of Testing and Consulting Services. The report stated that the groundwater was contaminated with petroleum constituents and that the plume was not extensive in either horizontal or vertical extent.
- On August 28, 1987, NCDENR required periodic groundwater monitoring.
- October 20, 1987, Law Engineering prepared a Report of Testing Services that stated MW-5 probably can be abandoned.
- On December 4, 1987, Law Engineering prepared a Report of Sampling and Testing Services, stating that all four wells were contaminated.
- On March 3, 1988, Law Engineering prepared a Report of Sampling and Testing Services, stating that three of four wells were contaminated.
- On July 26, 1988, Law Engineering prepared a Report of Quarterly Sampling, stating that one of four wells was contaminated.
- On October 8, 1998, S&ME prepared a Well Abandonment Form for three wells on the property.
- On October 20, 1988, Law Engineering prepared a Report of Quarterly Sampling, stating that one of four wells was contaminated.
- On November 21, 1989, Law Engineering prepared a Report of Semi-Annual Sampling, stating that one of four wells was contaminated.
- S&ME prepared a Proposed Groundwater Sampling and Analyses Schedule after Variance Approval report. One year after the site sampling was halted, S&ME sampled the wells and analytical laboratory results indicated that one well was contaminated.

- On October 26, 1992, ENSCI Corporation (ENSCI) prepared a Semi-annual Groundwater Sampling and Analysis Report. Three of the monitoring wells sampled had results above the State Standard.
- October 1, 1998, S&ME prepared a Notification of Approval of No Further Action.
- November 13, 1998, S&ME prepared a Notification Status for Site Closure.
- September 4, 1998, NCDENR sent out a No Further Action for the site.

2.0 SITE ASSESSMENT

2.1 Geophysical Investigation

Pyramid Environmental & Engineering, P.C (Pyramid) conducted a geophysical investigation of the area where the former UST was located (south side of restaurant) on June 28 and July 1, 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 at the location of the removed UST (south of the drive through) and along the north and east sides of the property along proposed drainages. Kleinfelder met Probe Technology at the McDonald's property on July 20, 2010; Probe Technology advanced six soil borings (B-1 to B-6) by direct push technology (DPT). The approximate location of the borings is shown on Figure 3.

Soil borings were advanced to a depth of 12 feet below the ground surface (bgs). Boring B-1 was located south of the drive through at the location of the previously removed UST. Borings B-2 through B-6 were located along the north and east sides of the property where drainage features and bridge construction are proposed. Soil samples were 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 C.

3.2 Soil Sample

Total petroleum hydrocarbons (TPH) were not detected at concentrations above the method detection limits in any of 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.
- TPH was not detected at concentrations above the method detection limits in the soil samples.

 An incident associated with the release of gasoline from a former UST located near the southeast corner of the property has received a No Further Action.

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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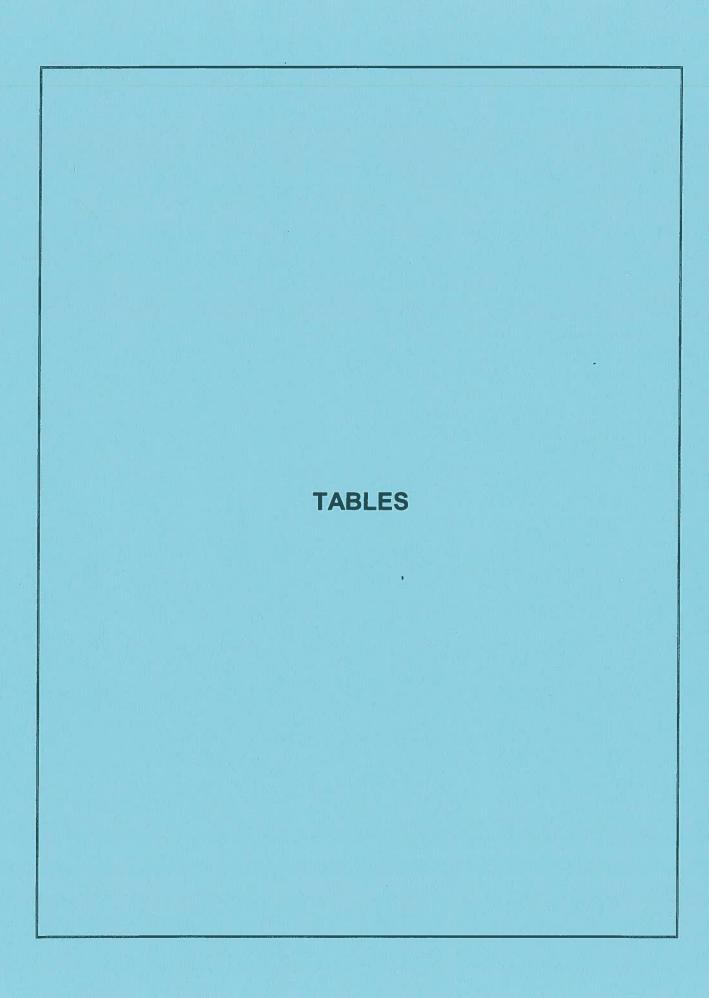


TABLE 1: SOIL SAMPLE PID RESULTS

SAMPLE LOCATION	DEPTH	PID
SAMPLE LOCATION	(feet bgs)	READINGS
	0.0 - 2.0	1.5
	2.0 - 4.0	1.3
B-1	4.0 - 6.0	1.0
D-1	6.0 - 8.0	4.6
	8.0 - 10.0	5.0
	10.0 - 12.0	4.2
	0.0 - 2.0	0.0
	2.0 - 4.0	0.2
B-2	4.0 - 6.0	0.4
D-2	6.0 - 8.0	0.2
	8.0 - 10.0	0.0
	10.0 - 12.0	0.0
	0.0 - 2.0	0.0
	2.0 - 4.0	0.2
B-3	4.0 - 6.0	0.3
D-3	6.0 - 8.0	0.3
	8.0 - 10.0	0.1
	10.0 - 12.0	0.0
	0.0 - 2.0	0.1
	2.0 - 4.0	0.0
B-4	4.0 - 6.0	0.1
D-4	6.0 - 8.0	0.5
	8.0 - 10.0	0.0
	10.0 - 12.0	0.3
	0.0 - 2.0	0.0
	2.0 - 4.0	0.0
B-5	4.0 - 6.0	0.0
B-5	6.0 - 8.0	0.0
	8.0 - 10.0	0.0
	10.0 - 12.0	0.0
	0.0 - 2.0	0.0
	2.0 - 4.0	0.0
B-6	4.0 - 6.0	0.1
D-0	6.0 - 8.0	0.1
	8.0 - 10.0	0.1
	10.0 - 12.0	0.1

Notes:

Samples were collected on July 20, 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 (8-10ft)	7/20/2010	BRL	BRL
B-2 (4-6ft)	7/20/2010	BRL	BRL
B-3 (6-8ft)	7/20/2010	BRL	BRL
B-4 (6-8ft)	7/20/2010	BRL	BRL
B-5 (10-12ft)	7/20/2010	BRL	BRL
B-6 (10-12ft)	7/20/2010	BRL	BRL
State Action Level		10	10

Notes:

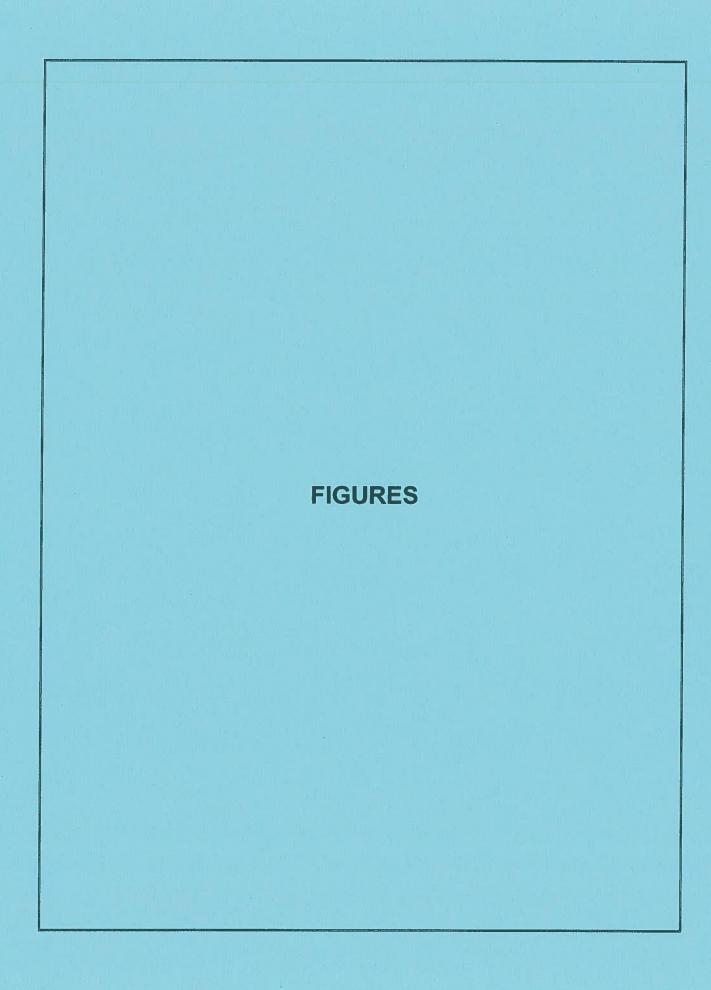
Sample collection depth is indicated in Sample ID, following sequential soil sample number Results presented in milligrams per kilogram, analogous to parts per million

DRO = Diesel Range Organics

GRO = Gasoline Range Organics

BRL = Below reporting limit

Bold denotes concentration exceeds the State Action Level



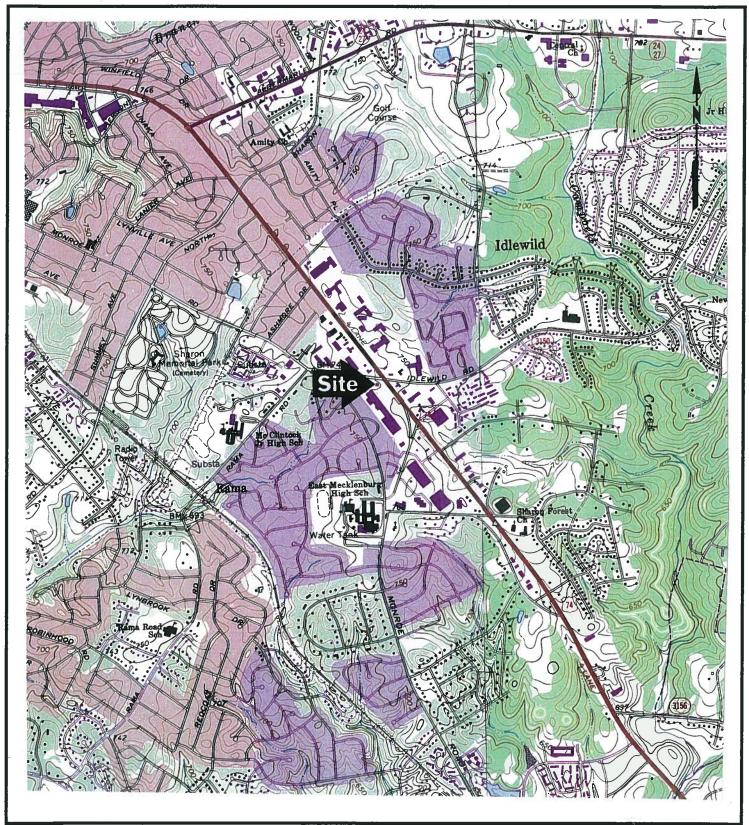




FIGURE 1 SITE LOCATION MAP

PARCEL # 125 - MCDONALD'S PROPERTY 5600 EAST INDEPENDENCE BOULEVARD MECKLENBURG COUNTY, NORTH CAROLINA

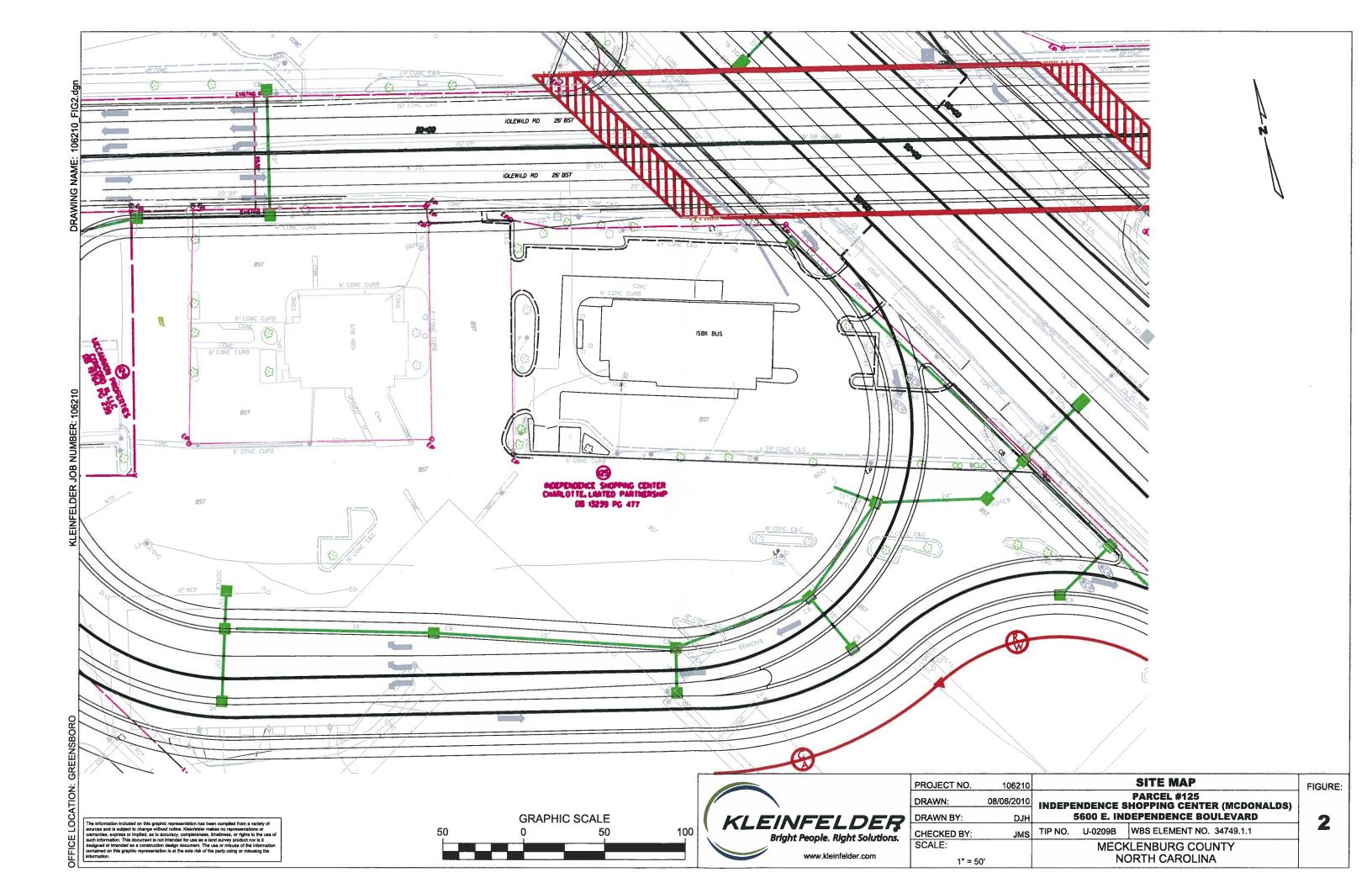
DATE: July 26, 2010

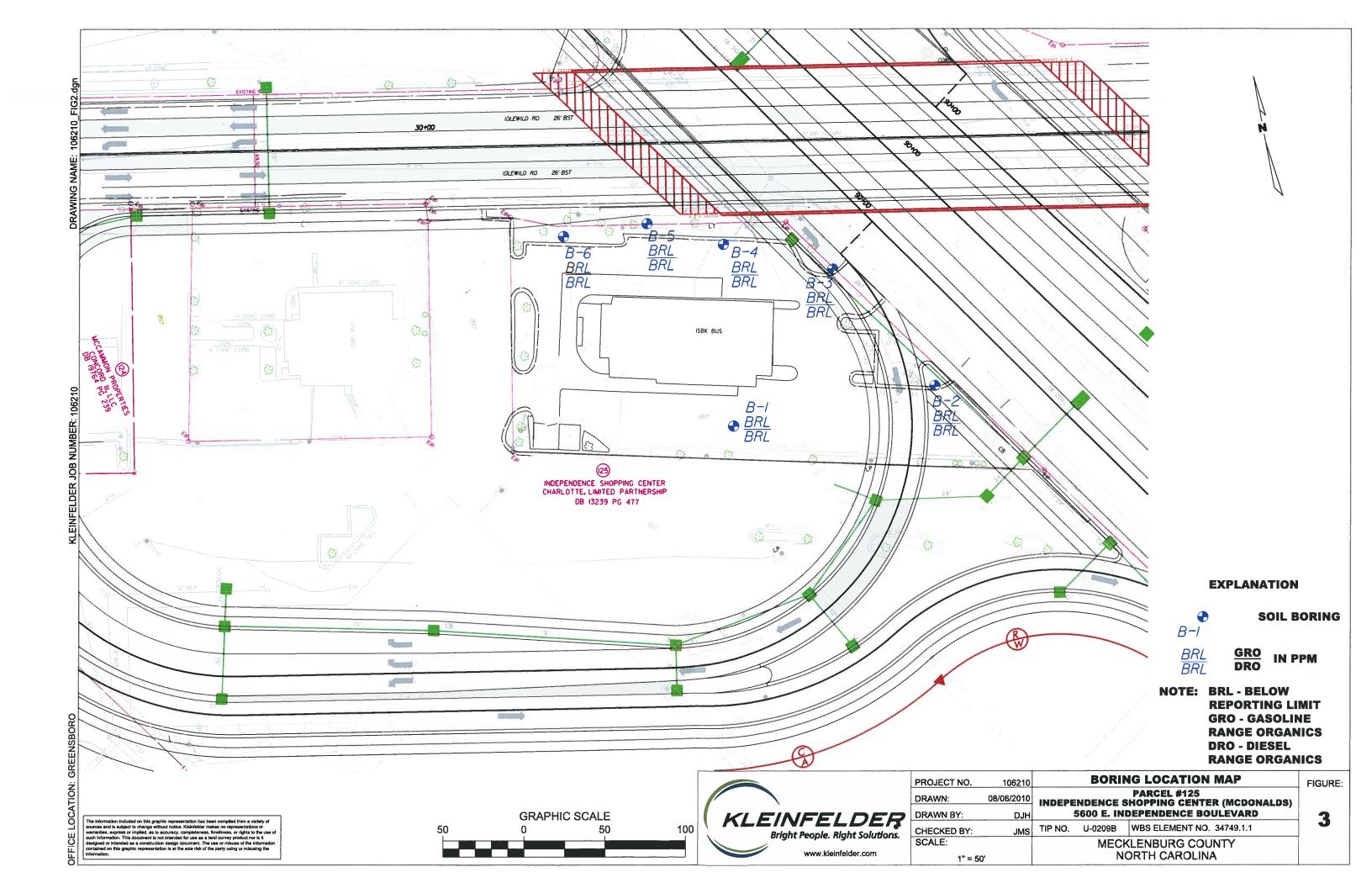
SOURCE: USGS 7.5' Topographic Map, Charlotte East Quadrangle

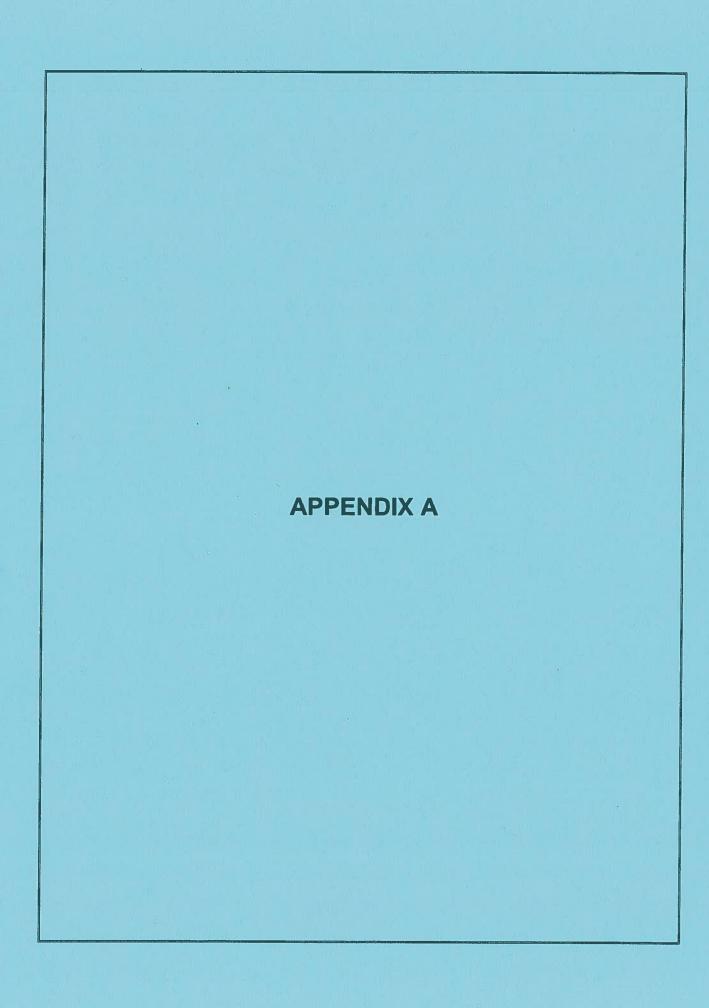


SCALE: 1" to 2,000'

PROJECT NO. 111989







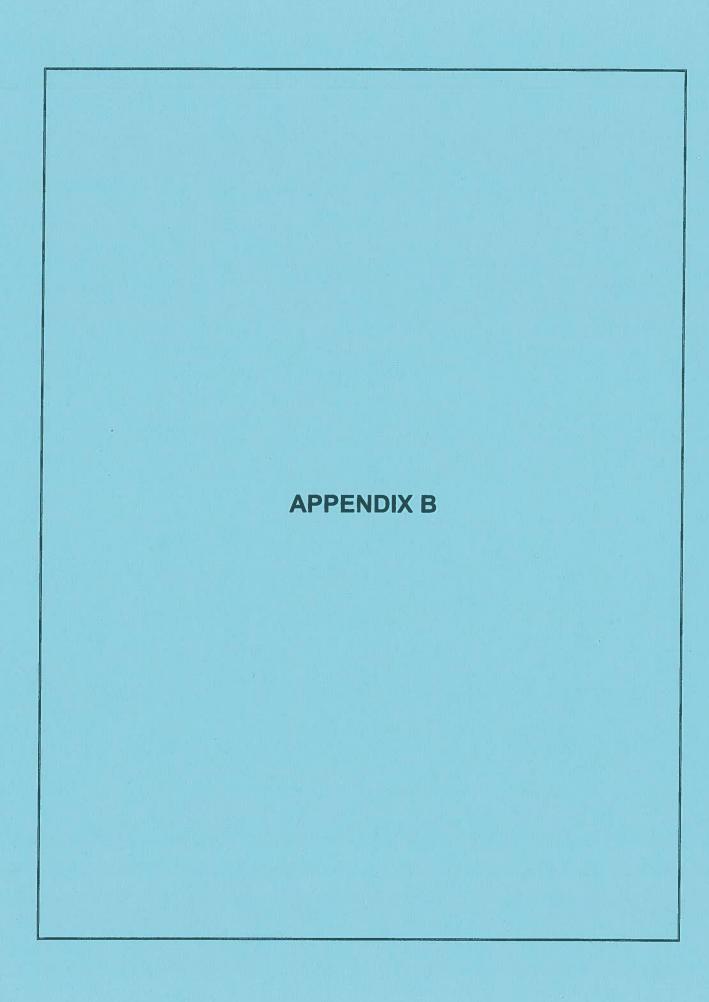
SITE PHOTOGRAPHS KLEINFELDER PROJECT NO. 111989 PARCEL NO. 125



Photograph 1 – View of the McDonald's property looking northwest from the southeastern portion of the property.



Photograph 2 – View of the McDonald's property along Idlewild Road looking east.



GEOPHYSICAL INVESTIGATION REPORT

EM61 & GPR SURVEYS

CHARLOTTE LIMITED PARTNERSHIP PROPERTY PARCEL 125

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 CHARLOTTE LIMITED PARTNERSHIP PROPERTY PARCEL 125

Charlotte, North Carolina

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Figu Figu		

1.0 INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Kleinfelder across a portion of the Charlotte Limited Partnership property (Parcel 125) located along the southwest corner of the Independence Boulevard and Idlewild Road intersection in Charlotte, North Carolina. Conducted on June 28 and July 1, 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.

Parcel 125 consists of a McDonalds Restaurant and the geophysical survey area was limited to a portion of the drive through and parking lot areas located adjacent to the southeast corner of the restaurant building. The geophysical survey area had a maximum length and width of 90 feet and 35 feet, respectively and consisted of asphalt and concrete pavement.

Kleinfelder representative Mr. John Stewart, PE provided site maps during the week of June 1, 2010 that outlined the geophysical survey area of the Charlotte Limited Partnership 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. Photographs of the geophysical equipment used in this investigation and a portion of the Charlotte Limited Partnership property are shown in **Figure 1**. Preliminary geophysical results obtained from Parcel 125 were reported to Mr. Stewart on July 14, 2010.

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 and ground penetrating radar (GPR) surveys. The EM survey was performed on June 28, 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 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.

GPR surveys were conducted on July 1, 2010 across selected EM61 differential anomalies and across areas containing steel reinforced concrete using a GSSI SIR-2000 unit equipped with a 400 MHz antenna. Data were digitally collected in a continuous mode along X-axis and/or Y-axis survey lines, spaced 2.5 to 5.0 feet apart using a vertical scan of 512 samples, at a rate of 48 scans per second. A 70 MHz high pass filter and an 800 MHz low pass filter were used during data acquisition with the 400 MHz antenna. GPR data were collected down to a maximum depth of approximately 5 feet, based on an estimated two-way travel time of 8 nanoseconds per foot. All of the GPR data were downloaded to a field computer and reviewed in the field and office using Radprint software.

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.

3.0 <u>DISCUSSION OF RESULTS</u>

The EM61 bottom coil anomalies centered near gird coordinates X=55 Y=20, X=55 Y=50, X=55 Y=66, and X=55 Y=84 are probably in response to the parked vehicles that were present during data

acquisition. GPR data suggest the EM61 differential anomalies intersecting grid coordinates X=26 Y=45 and X=35 Y=25 are in response to steel reinforced concrete and the restaurant building. The EM61 metal detection results and the GPR data did not detect the presence of a metallic UST within the surveyed portion of Parcel 125.

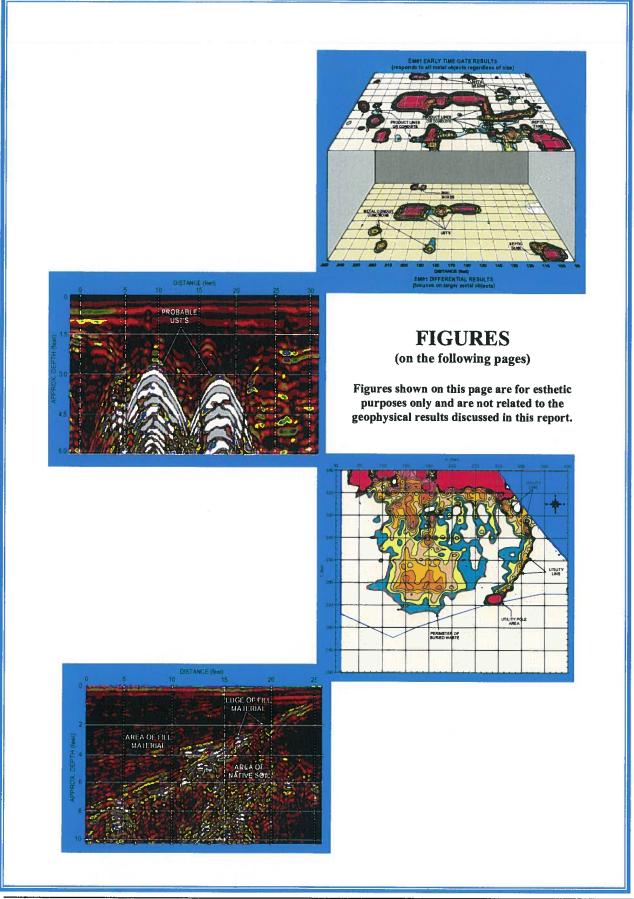
4.0 <u>SUMMARY & CONCLUSIONS</u>

Our evaluation of the EM61 and GPR data collected across the area of interest at the Charlotte Limited Partnership property (Parcel 125) located in Charlotte, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the surveyed portions of the site.
- GPR data suggest the EM61 differential anomalies intersecting grid coordinates X=26 Y=45
 and X=35 Y=25 are in response to steel reinforced concrete and the restaurant building.
- The EM61 metal detection results and the GPR data did not detect the presence of a metallic
 UST within the surveyed portion of Parcel 125.

5.0 <u>LIMITATIONS</u>

EM61 and GPR surveys have been performed and this report prepared for Kleinfelder in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained for this project have not conclusively determined that the area of interest 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 area of interest at Parcel 125 on June 28, 2010.





The photographs show the SIR-2000 GPR system equipped with a 400 MHz antenna that were used to conduct the ground penetrating radar investigation at Parcel 125 on July 1, 2010.



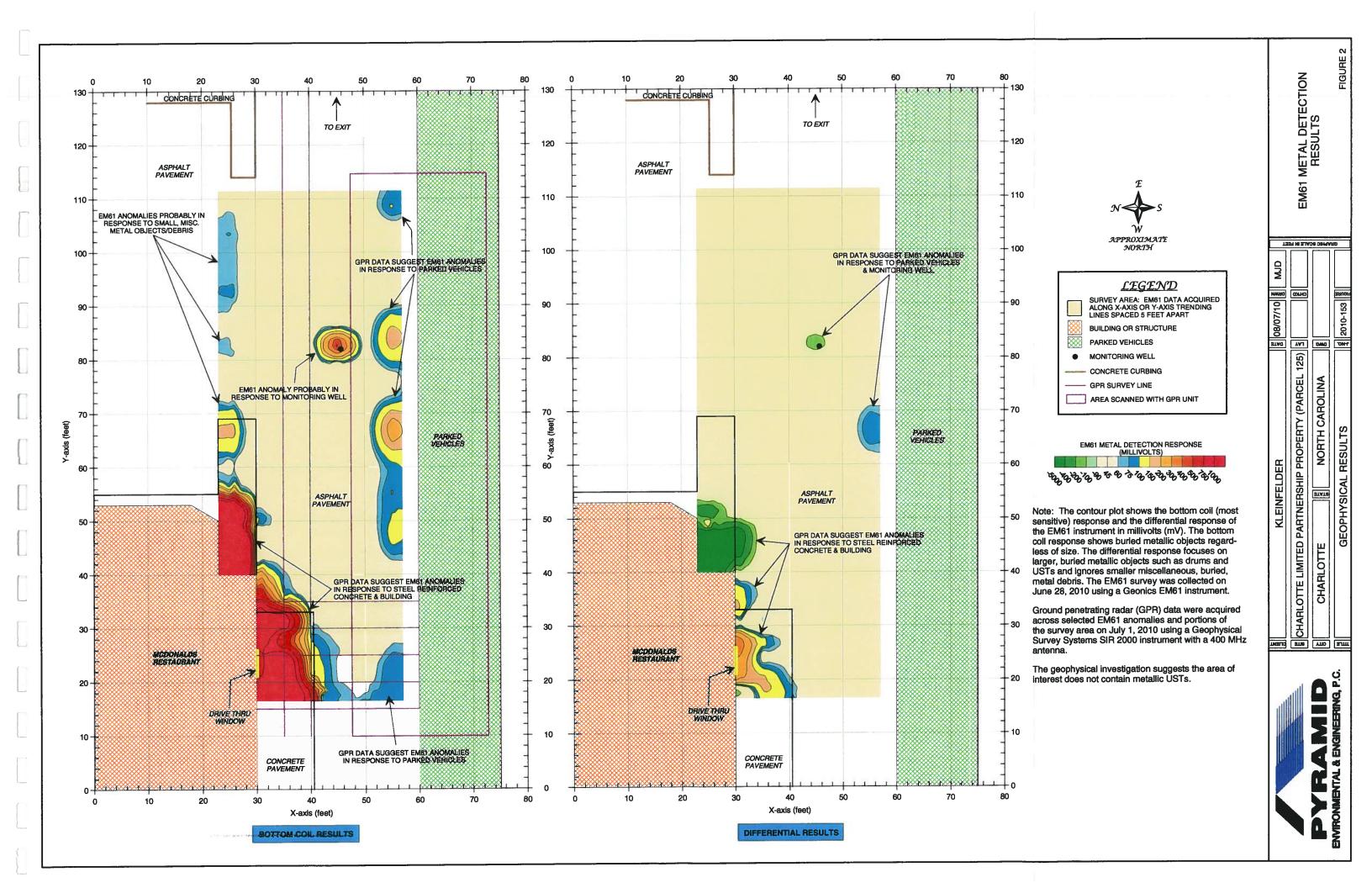
The photograph shows the geophysical survey of the Charlotte Limited Partnership property (Parcel 125) located at the intersection of Independence Boulevard and Idlewild Road in Charlotte, North Carolina. The photograph is viewed in a westerly direction.

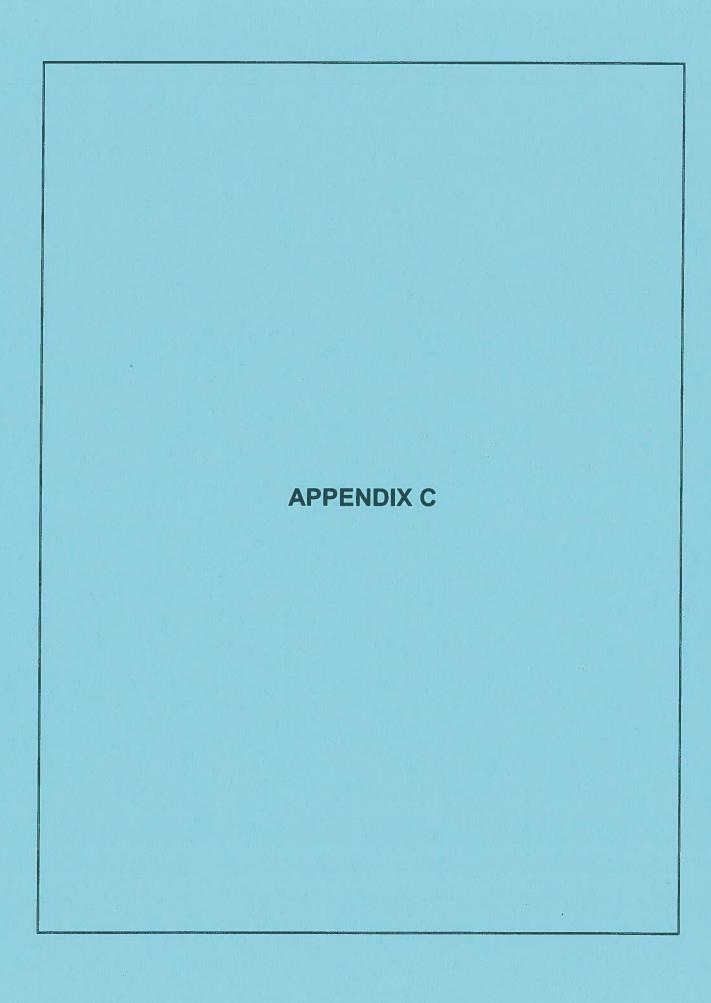


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Ę	CHARLOTTE LTD PARTNERSHIP SITE (PARCEL 125)	COPPED
È	CHARLOTTE NORTH CAROLINA	Daws
Ĭ	GEOPHYSICAL RESULTS	2010-153

GEOPHYSICAL EQUIPMENT & SITE PHOTOGRAPHS

FIGURE 1





Project Number	NCDOT Name U- r 111989		•	3		Drill Contractor Probe Techology Drill Method 2 inch Direct Push Drilling Started 7/20/10 Ended 7/20/10 Total Depth 12.0 Logged By T. Stewart Depth To Water	IG B-1
DEPTH	SAMPLE NO.	BLOWS/FT	PID	nscs	LITHOLOGY	DESCRIPTION	DEPTH
5—			1.5	CL		Red Yellow, Lean CLAY, Hard, Dry, No Odor	- 5
10	ss		4.6 5.0 4.2	CL		Red Brown, Yellowish Brown, White, Silty Lean CLAY, Hard, Dry, Petroleum Odor	- - - 10
15-						Boring Terminated at 12 feet in RESIDUAL	- - - 15
20 — -							- 20 -
25—							- - 25 -
30-							- 30
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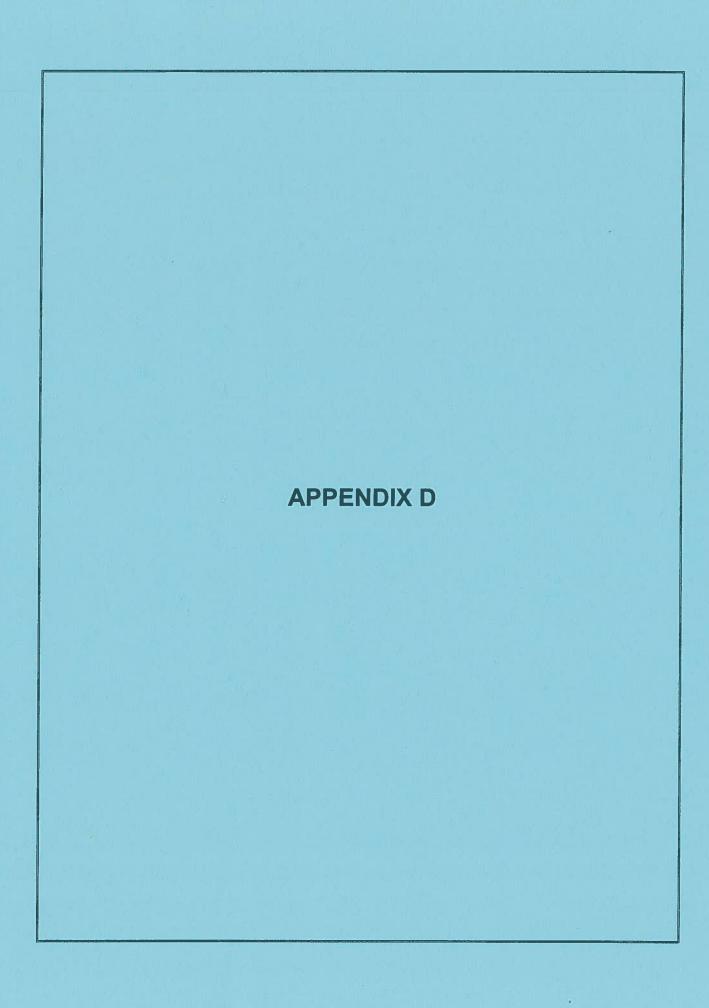
Number	lame <u>U-</u> 111989		-			Drill Method 2 inch Direct Push Elevation Drilling Started 7/20/10 Ended 7/20/10 Total Depth 12.0	NG B-2 ET 1 OF 1
Location	Parcel 1	25-Mc	Donalds	•		Logged By T. Stewart Depth To Water	
DEPTH	SAMPLE NO.	BLOWS/FT	PID	nscs	LITHOLOGY	DESCRIPTION	DEPTH
			0.0			Red Brown, Light Gray, Silty Lean CLAY, Hard, Dry, No Odor	_
+			0.2	CL			-
5—	ss		0.4				+_
ı ı			0.4			Yellowish Brown, Light Gray, Silty Lean CLAY, Hard, Dry, Slightly Tacky, No Odor	- 5
+	-		0.0	CL			
10			0.0				- 10
+	_		0.0			Boring Terminated at 12 feet in RESIDUAL	\perp
1							
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KLEINFEL Salat Page 2	OER Gr	eensl	llimore boro, N	IC 27	7409		is.
	Te	lepho	ne: 33 86-668-	36-66	38-00	93 See key sheet for symbols and abbreviations used above.	

Client _					_	Drill Contractor Probe Techology LOG OF BORIN	IG B-: T 1 OF
	Name <u>U</u> -	0209B				Drill Method 2 inch Direct Push Elevation	
	111989					Drilling Started 7/20/10 Ended 7/20/10 Total Depth 12.0	
Location	Parcel 1	25-Mc	Donalds			Logged By T. Stewart Depth To Water	
DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID	nscs	LITHOLOGY	DESCRIPTION	DEPTH
_			0.0			Red Brown, Yellowish Brown, Silty Lean CLAY, Hard, Dry, No Odor	
_							-
1			0.2				-
5— -			0.3	CL		,	- 5
4	ss		0.3				
10—			0.1				-
10-			0.0				- 10
+						Boring Terminated at 12 feet in RESIDUAL	+
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DEPTH S	NO.	BLOWS/FT	PID	nscs	LITHOLOGY	DESCRIPTION	DEPTH
5-	ss		0.1 0.0 0.1 0.5	CL		Red Brown, Yellowish Brown, Silty Lean CLAY, Hard, Dry, No Odor	-5
15-			0.3			Boring Terminated at 12 feet in RESIDUAL	- 15 20
25—							- 25
KLEINFELL	31: Gre Tel	eensb lephoi	der imore ooro, N ne: 33 6-668-	IC 27 36-66	7409 58-00		3.

Client NCDC Project Name Number 1111 Location Par	U-0209B 989				Drill Contractor Probe Techology Drill Method 2 inch Direct Push Drilling Started 7/20/10 Ended 7/20/10 Logged By T. Stewart LOG OF BORIN SHEE Elevation — Total Depth 12.0 Depth To Water	IG B-
DEPTH SAMF	N S	PID	nscs	LITHOLOGY	DESCRIPTION	DEPTH
10————————————————————————————————————	S	0.0 0.0 0.0 0.0 0.0	CL		Boring Terminated at 12 feet in RESIDUAL	- 5 10 15 20
KLEINFELDER	Kleinfel 313 Ga Greens Telepho Fax: 33	llimore boro, N one: 33	IC 27 36-66	7409 88-00		ysis.

Client _	NCDOT Name U-	.0200R					OF BORING B- SHEET 1 OF
	111989						
	Parcel		Donalds	;		Drilling Started 7/20/10 Ended 7/20/10 Total Depth 12 Logged By T. Stewart Depth To Water	
DEPTH FEET	SAMPLE NO.	BLOWS/FT	PID	nscs	LITHOLOGY	DESCRIPTION	ОЕРТН
			0.0			Red Brown, Yellowish Brown, Silty Lean CLAY, Hard, Dry, No Odor	
]			0.0				-
=			0.0				-
5—			0.1				-5
-			0.1	CL			<u> </u>
+			0.1	İ			_
10							- 10
	SS		0.1			Boring Terminated at 12 feet in RESIDUAL	
						······································	
15-							15
							-
-							-
20							- 20
-							-
1							-
25							- 25
_		i					-
1				i			-
30							- 30
-		i					-
1							-
KLEINFE.	31 Gr Te	eenst lepho	der limore poro, N ene: 33	IC 27 36-66	7409 88-00	 	laboratory analysis.





NC Certification No. 402 SC Certification No. 99012 NC Drinking Water Cert No. 37735 **Case Narrative**

08/04/2010

Kleinfelder SE, Inc. (NCDOT Project) John Stewart 313 Gallimore Dairy Rd. Greensboro, NC 27409 Project: NCDOT Parcel #125 Project No.: WBS# 34749.1.1 Lab Submittal Date: 07/20/2010 Prism Work Order: 0070541

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

Rossi a. Jones

Data Qualifiers Key Reference:

A Surrogates recovered outside established QC range.

BRL Below Reporting Limit
MDL Method Detection Limit
RPD Relative Percent Difference

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



Sample Receipt Summary

08/04/2010

Prism Work Order: 0070541

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received	
B-1 (8-10)	0070541-01	Solid	7/20/10	7/20/10	
B-2 (4-6)	0070541-02	Solid	7/20/10	7/20/10	
B-3 (6-8)	0070541-03	Solid	7/20/10	7/20/10	
B-4 (6-8)	0070541-04	Solid	7/20/10	7/20/10	
B-5 (10-12)	0070541-05	Solid	7/20/10	7/20/10	
B-6 (10-12)	0070541-06	Solid	7/20/10	7/20/10	

Samples received in good condition at 4.1 degrees C unless otherwise noted.







Attn: John Stewart 313 Gallimore Dairy Rd. Greensboro, NC 27409 Project: NCDOT Parcel #125

Project No.: WBS# 34749.1.1 Sample Matrix: Solid

Client Sample ID: B-1 (8-10)
Prism Sample ID: 0070541-01
Prism Work Order: 0070541
Time Collected: 07/20/10 12:22
Time Submitted: 07/20/10 14:47

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 18:30	GRR	P0G0567
			Surrogate			Recov	/ery	Control	Limits
			o-Terphenyi			77	7 %	49-124	
Gasoline Range Organics by GC/FII	D								
Gasoline Range Organics	BRL	mg/kg dry	6.5	0.84	50	*8015C	7/28/10 17:17	7 HPE	P0G0574
			Surrogate			Recov	/ery	Control	Limits
			a,a,a-Trifluor	otoluene	•	12-	4 %	55-129	
General Chemistry Parameters									
% Solids	71.3	% by Welght	0.100	0.100	1	*SM2540 G	7/27/10 14:45	JAB	P0G0564



Laboratory Report

08/04/2010

Kleinfelder SE, Inc. (NCDOT Project)

Attn: John Stewart 313 Gallimore Dairy Rd. Greensboro, NC 27409 Project: NCDOT Parcel #125

Project No.: WBS# 34749.1.1

Sample Matrix: Solid

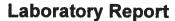
Client Sample ID: B-2 (4-6)

Prism Sample ID: 0070541-02

Prism Work Order: 0070541 Time Collected: 07/20/10 12:50

Time Submitted: 07/20/10 14:47

Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
BRL	mg/kg dry	9.8	1.6	1	*8015C	7/29/10 10:50	GRR	P0G0567
		Surrogate			Recov	very	Control	Limits
		o-Terphenyl			81	1 %	49-124	
BRL	mg/kg dry	7.2	0.93	50	*8015C	7/28/10 17:48	HPE	P0G0574
	41	Surrogate			Recov	very	Control	_imits
		a,a,a-Trifluo	rotoluene		97	7 %	55-129	
71.3	% by Weight	0.100	0.100	1	*SM2540 G	7/27/10 14:45	JAB	P0G0564
	BRL BRL	BRL mg/kg dry BRL mg/kg dry 71.3 % by	BRL mg/kg dry 9,8 Surrogate o-Terphenyl BRL mg/kg dry 7.2 Surrogate a,a,a-Trifluo 71.3 % by 0,100	BRL mg/kg dry 9.8 1.6 Surrogate	BRL mg/kg dry 9.8 1.6 1	BRL mg/kg dry 9.8 1.6 1 *8015C Surrogate Record o-Terphenyl 81 BRL mg/kg dry 7.2 0.93 50 *8015C Surrogate Record a,a,a-Trifluorotoluene 97 71.3 % by 0.100 0.100 1 *\$M2540 G	BRL mg/kg dry 9.8 1.6 1 *8015C 7/29/10 10:50	BRL mg/kg dry 9.8 1.6 1 *8015C 7/29/10 10:50 GRR







Attn: John Stewart 313 Gallimore Dairy Rd. Greensboro, NC 27409 Project: NCDOT Parcel #125

Project No.: WBS# 34749.1.1 Sample Matrix: Solid

Client Sample ID: B-3 (6-8) Prism Sample ID: 0070541-03 Prism Work Order: 0070541

Time Collected: 07/20/10 13:09 Time Submitted: 07/20/10 14:47

				20					
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	9.6	1.6	1	*8015C	7/29/10 2:11	GRR	P0G0567
			Surrogate			Reco	very	Control	Limits
			o-Terphenyl			83	3 %	49-124	
Gasoline Range Organics by GC/FII	D								
Gasoline Range Organics	BRL	mg/kg dry	6.8	0.89	50	*8015C	7/28/10 18:19	HPE	P0G0574
**************************************			Surrogate			Reco	very	Control	Limits
			a,a,a-Trifluo	otoluene		10	9 %	55-129	
General Chemistry Parameters									
% Solids	72.6	% by Weight	0.100	0.100	1	*SM2540 G	7/27/10 14:45	JAB	P0G0564







Attn: John Stewart 313 Gallimore Dairy Rd. Greensboro, NC 27409 Project: NCDOT Parcel #125

Project No.: WBS# 34749.1.1

Sample Matrix: Solid

Client Sample ID: B-4 (6-8)

Prism Sample ID: 0070541-04

Prism Work Order: 0070541 Time Collected: 07/20/10 13:22

Time Submitted: 07/20/10 14:47

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID			11		•				
Diesel Range Organics	BRL	mg/kg dry	9.0	1.5	1	*8015C	7/29/10 2:47	GRR	P0G0567
			Surrogate			Recov	/егу	Control	Limits
			o-Terphenyl			77	' %	49-124	
Gasoline Range Organics by GC/FIE									
Gasoline Range Organics	BRL	mg/kg dry	6.8	0.89	50	*8015C	7/28/10 18:51	HPE	P0G0574
		Sec.	Surrogate			Recov	ery	Control	Limits
			a,a,a-Trifluor	otoluene		118	8 %	55-129	
General Chemistry Parameters									
% Solids	77.4	% by Weight	0.100	0.100	1	*SM2540 G	7/27/10 14:45	JAB	P0G0564







Attn: John Stewart 313 Gallimore Dairy Rd. Greensboro, NC 27409 Project: NCDOT Parcel #125

Project No.: WBS# 34749.1.1

Sample Matrix: Solid

Client Sample ID: B-5 (10-12) Prism Sample ID: 0070541-05 Prism Work Order: 0070541

Time Collected: 07/20/10 13:49 Time Submitted: 07/20/10 14:47

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	10	1.8	1	*8015C	7/29/10 3:22	2 GRR	P0G0567
			Surrogate			Reco	very	Control	Limits
			o-Terphenyl			77	7 %	49-124	
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	5.6	0.73	50	*8015C	7/28/10 19:2	2 HPE	P0G0574
			Surrogate			Reco	very	Control	Limits
			a,a,a-Trifluoi	rotoluene		10	6 %	55-129	
General Chemistry Parameters									
% Solids	63.0	% by Weight	0.100	0.100	1	*SM2540 G	7/27/10 14:4	5 JAB	P0G0564



Laboratory Report

08/04/2010

Kleinfelder SE, Inc. (NCDOT Project)

Attn: John Stewart 313 Gallimore Dairy Rd. Greensboro, NC 27409 Project: NCDOT Parcel #125

Project No.: WBS# 34749.1.1

Sample Matrix: Solid

Client Sample ID: B-6 (10-12)

Prism Sample ID: 0070541-06

Prism Work Order: 0070541 Time Collected: 07/20/10 14:20

Time Collected: 07/20/10 14:20 Time Submitted: 07/20/10 14:47

Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
BRL	mg/kg dry	9.8	1.6	1	*8015C	7/29/10 3:57	GRR	P0G056
		Surrogate			Reco	ery	Control i	Limits
		o-Terphenyl	7,-		78	3 %	49-124	
BRL	mg/kg dry	7.3	0.95	50	*8015C	7/28/10 19:53	HPE	P0G0574
		Surrogate			Recov	ery	Control I	_imits
		a,a,a-Trifluoro	toluene		11	7 %	55-129	
71.0	% by Weight	0.100	0.100	1	*SM2540 G	7/27/10 14:45	JAB	P0G0564
	BRL BRL	BRL mg/kg dry BRL mg/kg dry 71.0 % by	BRL mg/kg dry 9.8 Surrogate o-Terphenyl BRL mg/kg dry 7.3 Surrogate a,a,a-Triffuoro 71.0 % by 0.100	BRL mg/kg dry 9.8 1.6	Limit Factor	Limit Factor	BRL mg/kg dry 9.8 1.6 1 *8015C 7/29/10 3:57	BRL mg/kg dry 9.8 1.6 1 *8015C 7/29/10 3:57 GRR



Attn: John Stewart 313 Gallimore Dairy Rd. Greensboro, NC 27409 Project: NCDOT Parcel #125

Prism Work Order: 0070541

Time Submitted: 7/20/10 2:47:00PM

Project No: WBS# 34749.1.1

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 P0G0574 - 5035										
Blank (P0G0574-BLK1)			ı	Prepared	& Analyze	d: 0 7 /28/1	0			
Gasoline Range Organics	BRL	5.0	mg/kg wet							
Surrogate: a,a,a-Trifluorotoluene	4.65		mg/kg wet	5.00		93	55-129			
LCS (P0G0574-BS1)			F	repared	& Analyze	d: 07/28/1	0			
Gasoline Range Organics	42.3	5.0	mg/kg wet	50.0	-	85	67-116			
Surrogate: a,a,a-Trifluorotoluene	5.30		mg/kg wet	5.00		106	55-129			
LCS Dup (P0G0574-BSD1)			F	repared	& Analyze	d: 07/28/1	0			
Gasoline Range Organics	42.2	5.0	mg/kg wet	50.0	=	84	67-116	0.1	200	
Surrogate: a,a,a-Trifluorotoluene	5.35		mg/kg wet	5.00		107	55-129			



Kleinfelder SE, Inc. (NCDOT Project) Attn: John Stewart Project: NCDOT Parcel #125

Prism Work Order: 0070541

Time Submitted: 7/20/10 2:47:00PM

313 Gallimore Dairy Rd. Greensboro, NC 27409

Project No: WBS# 34749.1.1

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 P0G0567 - 3545A										
Blank (P0G0567-BLK1)				Prepared:	07/27/10	Analyzed	: 07/28/10			
Diesel Range Organics	BRL	7.0	mg/kg wet							
Surrogate: o-Terphenyl	1.25		mg/kg wet	1.60		78	49-124			
LCS (P0G0567-BS1)				Prepared:	07/27/10	Analyzed	: 07/28/10			
Diesel Range Organics	59.0	7.0	mg/kg wet	79.7		74	55-109			
Surrogate: o-Terphenyl	1.77		mg/kg wet	1.59		111	49-124			
LCS Dup (P0G0567-BSD1)				Prepared:	07/27/10	Analyzed	: 07/28/10			
Diesel Range Organics	65.1	7.0	mg/kg wet	79.7		82	55-109	10	200	_
Surrogate: o-Terphenyl	1.88		mg/kg wet	1.59		118	49-124			
Matrix Spike (P0G0567-MS1)	Sour	ce: 007054	1-01	Prepared:	07/27/10	Analyzed	: 07/28/10			
Diesel Range Organics	84.8	9.8	mg/kg dry	112	BRL	76	50-117			
Surrogate: o-Terphenyl	2.58		mg/kg dry	2.24		115	49-124			
Matrix Spike Dup (P0G0567-MSD1)	Sour	ce: 007054°	1-01	Prepared:	07/27/10	Analyzed:	07/28/10			
Diesel Range Organics	97.7	9.8	mg/kg dry	112	BRL	87	50-117	14	24	
Surrogate: o-Terphenyl	2.82		mg/kg dry	2.24		126	49-124			А



Attn: John Stewart 313 Gallimore Dairy Rd. Greensboro, NC 27409 Project: NCDOT Parcel #125

Prism Work Order: 0070541

Time Submitted: 7/20/10 2:47:00PM

Project No: WBS# 34749.1.1

General Chemistry Parameters - Quality Control

Analyte	Result	Limit	Units	Level	Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0G0564 - NO PREP										
Duplicate (P0G0564-DUP1)	So	urce: 0070541	I-02	Prepared	& Analyze	d: 0 7 /27/1	0			
% Solids	72.5	0.100	% by Weight		71.3			2	20	

Sample Extraction Data

Prep Method: 3545A

Lab Number	Batch	Initial	Final	Date	
0070541-01	P0G0567	25.02 g	1 mL	07/27/10	
0070541-02	P0G0567	25,09 g	1 mL	07/27/10	
0070541-03	P0G0567	25.05 g	1 mL	07/27/10	
0070541-04	P0G0567	25.14 g	1 mL	07/27/10	
0070541-05	P0G0567	25.07 g	1 mL	07/27/10	
0070541-06	P0G0567	25.06 g	1 mL	07/27/10	

Prep Method: 5035

Lab Number	Batch	Initial	Final	Date
0070541-01	P0G0574	5.41 g	5 mL	07/28/10
0070541-02	P0G0574	4.88 g	5 mL	07/28/10
0070541-03	P0G0574	5.03 g	5 mL	07/28/10
0070541-04	P0G0574	4.74 g	5 mL	07/28/10
0070541-05	P0G0574	7.06 g	5 mL	07/28/10
0070541-06	P0G0574	4.81 g	5 mL	07/28/10

NO PREP

Lab Number	Batch	Initial	Final	Date
0070541-01	P0G0564	30 g	30 mL	07/27/10
0070541-02	P0G0564	30 g	30 mL	07/27/10
0070541-03	P0G0564	30 g	30 mL	07/27/10
0070541-04	P0G0564	30 g	30 mL	07/27/10
0070541-05	P0G0564	30 g	30 mL	07/27/10
0070541-06	P0G0564	30 g	30 mL	07/27/10

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	Full-Service Analytical & Environmental Solutions
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449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543 Phone: 704/528-6384 • Fax: 704/525-0409 A Phone: 376-468-2012 Fax (Yes) (Ng): Email (Yes) (No) Email Address JM Steux; 44 @ menspore, A Reporting Address: 313 Report To/Contact Name: Client Company Name: _

CHAIN OF CUSTODY RECORD

Ge eq of eq quote # to ensure proper billing

UST Project: (Yes) (No) *Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements Involce To: Pacel 125 Short Hold Analysis: (Yes) (No) Project Name: NOOCI Same Address:

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LAB USE ONLY

G-6-9 Days Standard 10 days Dre-Approved Turnaround time is based on business days, excluding weekends and holidays. Requested Due Date 🗆 1 Day 🗅 2 Days 👝 3 Days 👝 4 Days 👝 5 Days Samples received after 15:00 will be processed next business day. Purchase Order No./Billing Reference "Working Days"

Other Kleinfelder.com

Site Location Physical Address: Checlette, NC

Site Location Name: Kaccel

EDD Type: PDRY Excel

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL ᅼ Sample Iced Upon Collection: YES 🗡 USACE SC___OTHER Water Chlorinated: YES___NQX Certification: NELAC_

_		71	_	-	-	_			 _	_	-		
PRISM	LAB ID NO.	10	60	6 6	*		200	90			· 3 COPIES	PRISM LISE ONLY	
, ,	REMARKS										PRESS DOWN FIRMLY - 3 COPIES	Wylad	Additional Comments:
ANALYSES REQUESTED	7000		XX	7	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7					Affiliation Klentelder	Upon relinquishing, this estain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prigm Project Mapager. There will be charges for any changes after analyses have been initialized.	N/Hours
AVGRAGA		Mother D					2				1	as requested aboves have been initial	
TAINER	SIZE										FUA M StewAR	the analyses s after analys	
LE CONTAINER	Š	7	7	2	3	4	3	<u> </u>				eed with	
SAMPI	SEE BELOW										Sampled By (Print Name)	rism to proc arges for any	Received By: (Signature
MATRIX (SOIL,	WATER OR SLUDGE)	50	S	Š	20	50	So				Sampled By	rization for I	Receiv
COLLECTED	MILITARY	المتد	0521	1309	(32	1349	1470					y is your author Manager. The	1
DATE	COLLECTED	7-10-10	-				>		•	4	4/1	Onain of Custody the Priam Project	11/11/
CLIENT	SAMPLE DESCRIPTION	B-1(8-10)	B-2(4-6)	8-3(6-8)	Ruce (CO)	B-54022	8-600-12				Sampler's Signature	Upon relinguishing, this submitted in writing to t	Relinquished By: (Signature)

SEE REVERSE FOR TERMS & CONDITIONS

Fleid Tech Fee

7-20-10 14:47

NSPORTATION TO THE LABORATORY

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECE

OTHER:

LANDFILL

CERCLA

1450500

WBS#

Received By: (Signature)

Relinquished By: (Signature)

Relinquished By: (Signature)

Page 12 of 12 ORIGINAL

SOLID WASTE:

DRINKING WATER:

Other

C Prism Field Service GROUNDWATER:

Hand-delivered

Dredex Dups NPDES: