October 8, 2019
Kleinfelder File No. RAL19R102248

Mr. John L. Pilipchuk, LG., PE
North Carolina Department of Transportation
State Geotechnical Engineer
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

SUBJECT: Preliminary Site Assessment Report
Parcel 13, DSF of NC, Inc.
WBS Element No. 54035.1.1, TIP No. U-5757
NC 8 (Winston Road) from 9th Street to SR 1408 (Biesecker Rd) in Lexington. Widen to multi lanes
Kleinfelder Project No. 20201105.001A

Dear Mr. Pilipchuk,

Kleinfelder is pleased to provide its report detailing the activities conducted as part of the preliminary site assessment for the subject project.

Kleinfelder appreciates the opportunity to be of service to you. Should you have questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,
KLEINFELDER, INC.

Abigail R. Shurtleff
Environmental Staff Professional

Michael J Burns, PG
Environmental Program Manager

ARS/MJB:asp

KLEINFELDER 3200 Gateway Centre Blvd. Suite 100, Morrisville, NC 27560 **p |** 919.755.5011 **f |** 919.755.1414

PRELIMINARY SITE ASSESSMENT REPORT
PARCEL 13 DSF OF NC, INC.
PARCEL 1101200000036
1009 OLD US HIGHWAY 52
LEXINGTON, DAVIDSON COUNTY, NORTH CAROLINA

NCDOT WBS ELEMENT 54035.1.1
STATE PROJECT U-5757
NC 8 (WINSTON RD) FROM 9TH STREET TO SR 1408 (BIESECKER RD) IN LEXINGTON. WIDEN TO MULTI LANES

KLEINFELDER PROJECT NO. 20201105.001A

OCTOBER 8, 2019

A Report Prepared for:

Mr. John L. Pilipchuk, LG., PE
North Carolina Department of Transportation
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Reviewed by:

Michael J. Burns, PG
Environmental Program Manager

KLEINFELDER
3200 Gateway Centre Blvd. | Suite 100
Raleigh, North Carolina 27560
P | 919.755.5011

October 8, 2019

Kleinfelder Project No. 20201105.001A

PRELIMINARY SITE ASSESSMENT REPORT

Site Name and Location:	Parcel 13 1009 Old US Highway 52 Lexington, Davidson County, North Carolina
Latitude and Longitude:	35.839510°N, - -80.253365°W
County Parcel Number	1101200000036
Facility ID Number:	00-0-0000024863
Leaking UST Incident:	44108/WS-8861
State Project No.:	U-5757
NCDOT Project No.:	NCDOT WBS Element 54035.1.1
Description:	NC 8 (Winston Rd) from 9th Street to SR 1408 (Biesecker Rd) in Lexington. Widen to multi lanes
Date of Report:	October 8, 2019
Consultant:	Kleinfelder, Inc. 3200 Gateway Center Boulevard | Suite 100 Morrisville, North Carolina 27560 Corporate Geology License No. C-521 Corporate Licensure for Engineering F-1312

SEAL AND SIGNATURE OF CERTIFYING LICENSED GEOLOGIST

I, Michael J Burns, a Licensed Geologist for Kleinfelder, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

DocuSigned by:
7E53DC44AC794CA...

10/28/2019

Michael J Burns, LG
NC License No. 1645

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PARCEL 13 DSF OF NC, INC.
PARCEL 1101200000036
1009 OLD US HIGHWAY 52
LEXINGTON, DAVIDSON COUNTY, NORTH CAROLINA

NCDOT WBS ELEMENT 54035.1.1
STATE PROJECT U-5757
NC 8 (WINSTON RD) FROM 9TH STREET TO SR 1408 (BIESECKER RD) IN LEXINGTON.
WIDEN TO MULTI LANES

1 INTRODUCTION

Kleinfelder, Inc. (Kleinfelder) has prepared this Preliminary Site Assessment (PSA) report to document assessment activities performed on Parcel 13 (the assessment area is hereafter referred to as the "Project Study Area"). The Project Study Area consists of the western and northern portions of a parcel known as Parcel Number 1101200000036 by the Davidson County, NC Tax Assessor's Office. Parcel 13 is currently occupied by a Citgo retail gasoline station and SN Food Mart convenience store located southeast of the intersection of Winston Road and Spring Drive in the Town of Lexington, Davidson County, North Carolina (Figure 1).

Based on information provided in the Hazardous Materials Survey Report, dated February 28, 2019, prepared by Kleinfelder for SEPI Engineering & Construction, the parcel is currently a gasoline service station with leaking underground storage tank (LUST) groundwater incident 44108/WS-8861. There are five (5) active underground storage tanks (USTs) located on the site. As such, the purpose of the PSA was to evaluate whether unknown USTs or contaminated soil are present in the Project Study Area that may result in increased project costs and future liability if acquired by the NCDOT.

1.1 SITE DESCRIPTION

Parcel 13 has a listed owner of DSF of NC, Inc. The parcel has a street address of 1009 Old US Highway 52 (Winston Road). The parcel consists of an active retail gasoline station/convenience store, associated paved parking areas, and a maintained grass lawn. The parcel is bounded by Spring Drive to the north, beyond which is a vacant commercial property formerly occupied by Family Dollar; by Winston Road to the west, beyond which are residential properties; by a vacant grass lot to the south; and by a residential property and a maintained vacant grass lot to the east. Photographs of the Project Study Area are provided in Appendix A.

1.2 SCOPE OF WORK

Kleinfelder conducted this PSA in accordance with the NCDOT's May 24, 2019, Request for Technical and Cost Proposal (RFP) and Kleinfelder's June 18, 2019 Technical and Cost Proposal. The NCDOT granted a formal Notice to Proceed on June 27, 2019.

2 HISTORY

2.1 PARCEL USAGE

The parcel consists of a retail gasoline station/convenience store, associated paved parking areas, and a maintained grass lawn. Winston Road bounds the parcel to the west and Spring Drive bounds the parcel to the north.

The February 2018 Hazardous Materials Survey Report included information about a LUST incident for Parcel 13, which suggests the presence of contaminated soil and/or groundwater.

Kleinfelder conducted historical research to determine whether additional environmental listings were identified for Parcel 13 and to review report documents associated with groundwater incident 44108/WS-8861. The following are the results of the additional research:

- Based on a review of aerial photographs and historical documents, the property was formerly developed in the 1940s as a restaurant, then as a funeral home from approximately 1964 to 1986. Prior to the 1940s, the property was undeveloped land.
- Kleinfelder searched the registered UST database, maintained by the North Carolina Department of Environmental Quality (NCDEQ). The site was listed as Grab & Go 12 with three (3) active 6,000-gallon gasoline USTs, one (1) active 2,000-gallon kerosene UST, and one (1) active 2,000-gallon diesel UST. All of the USTs were reportedly installed in 1986.
- The current LUST database lists the facility as Grab & Go – Winston Road with groundwater incident #44108/WS-8861. The database information indicates that a release was reported for the site in early 2013 and that groundwater was impacted. A Notice of Residual Petroleum (NRP) was filed in 2016 for the property. No additional documentation was available from NCDEQ's online public database (Laserfiche WebLink).
- No other listings for Parcel 13 were identified on any of the available NCDEQ pollution incident databases.

2.2 FACILITY ID NUMBERS

Kleinfelder reviewed the NCDEQ UST database for Parcel 13. The parcel was identified as having five (5) active USTs and the Facility ID is listed as 00-0-0000024863. Kleinfelder also reviewed a February 2018 routine compliance inspection report (UST-10B) which indicated that the facility

had failed inspection for not conducting tightness testing for 3 or more months and/or not having records available. However, the report did not find a suspected release. A copy of the report can be found in Appendix E.

2.3 GROUNDWATER INCIDENT NUMBERS

As mentioned in Section 2.1, the site is listed with LUST groundwater incident 44108/WS-8861 Kleinfelder visited the NCDEQ Winston-Salem Regional Office to review reports related to the LUST incident. Information from select reports is discussed below:

- Kleinfelder reviewed a 24-Hour Release and UST Leak Reporting Form (UST-61), dated February 19, 2013, which found soil and groundwater contamination stemming from a Phase II Environmental Site Assessment conducted in January 2013. One soil boring returned Gasoline Range Organics (GRO) at 430 milligrams per kilogram (mg/kg), above the state action limit of 50 mg/kg. Groundwater samples returned VOC's indicative of petroleum contamination, including Methyl-tert-Butyl Ether (MTBE) at 4,300 micrograms per liter (µg/L), above the NC 2L Groundwater Standard of 20 µg/L.
- A Limited Site Assessment (LSA) was conducted in February 2016 by Paragon Environmental Consultants, Inc. A composite soil sample was collected from 1 to 15 feet below ground surface (bgs) during the installation of a monitoring well north of the UST basin, which did not reveal petroleum contamination. Groundwater was also analyzed from the monitoring well installed for the LSA, which revealed petroleum compounds at concentrations which exceeded the NC 2L Groundwater Standards; however, none of the compounds exceeded the Gross Contaminant Levels (GCLs).
- A March 22, 2016 Notice of No Further Action (NFA) letter was issued by NCDEQ for the site, Grab & Go (Incident Number 44108).

Select pages from the reports described above are provided in Appendix E.

3 OBSERVATIONS

3.1 GROUNDWATER MONITORING WELLS

Based on previous reports reviewed for the site and site visits conducted as part of the PSA, there is one (1) monitoring well located on the property that is most probably associated with LUST groundwater incident 44108.

3.2 ACTIVE USTS

Based on review of the NCDEQ UST database, site visits and previous reports, there are five (5) active USTs located on Parcel 13, three (3) of which are located within the Project Study Area. There are reportedly three (3) 6,000-gallon gasoline USTs, one (1) 2,000-gallon kerosene UST, and one (1) 2,000-gallon diesel UST, all of which were reportedly installed in 1986.

3.3 OTHER FEATURES APPARENT BEYOND PROJECT STUDY AREA

The Project Study Area consisted of the western and northern portions of the parcel. The gasoline filling pumps and fuel islands are located entirely within the Project Study Area. There were no features of concern observed in the eastern portion of the parcel, in the vicinity of the convenience store on the parcel, or beyond the Project Study Area.

4 METHODS

4.1 PROPERTY OWNER CONTACTS

As part of Kleinfelder's scope of work, the listed property owner was contacted about the work schedule for the field work and the type of work being performed. The owner did not express any concern or special conditions associated with the work being performed.

4.2 HEALTH AND SAFETY

Prior to commencing the field work, Kleinfelder personnel developed a Site-Specific Health and Safety Plan (HASP) covering activities to be performed. The site specific HASP was discussed with all Kleinfelder personnel involved with the project and at a daily onsite "tail gate" safety meetings with subcontractors and sub consultants. In addition to the HASP, Kleinfelder utilized its comprehensive Corporate Health and Safety Program, targeted to address those specific and critical tasks that involve Kleinfelder personnel and subcontractors. The Loss Prevention System (LPS™), a behavior-based program, is Kleinfelder's company-wide safety system implemented and embraced by all levels of the company.

4.3 GEOPHYSICAL INVESTIGATION

Pyramid Environmental & Engineering, P.C (Pyramid) conducted a geophysical investigation in the Project Study Area between July 15 and 16, 2019. Pyramid utilized electromagnetic (EM) induction technology and ground penetrating radar (GPR) to locate potential geophysical anomalies and potential USTs within the Project Study Area.

EM responses were recorded over the five (5) known USTs on the parcel, partially located within the Project Study Area. There were no other EM responses that were not associated with known USTs, ASTs, utilities, vehicles, or other previously known conditions.

A copy of the Pyramid Geophysical Investigation Report, detailing the field methodology, is included in Appendix B.

4.4 SOIL ASSESSMENT

The scope of work for the soil assessment was to evaluate the presence of soil contamination along the existing right of way and/or easement to evaluate whether known impact is present in this area and maybe migrating offsite. The soil borings were planned to be advanced to maximum depths of 15 feet bgs unless groundwater was encountered. Field screening using a photo ionization detector (PID) was to be conducted at 1-foot intervals beginning at 0 foot to 1 foot. The

soil sample with the highest PID reading above background or the sample from the maximum drilled depth would be selected for on-site laboratory analyses.

Prior to the drilling activities, public utilities were marked by NC One Call and private utilities were marked by Pyramid. However, a ¾" PVC private water line for the convenience store on the parcel was struck in an area of unmarked pavement north of the fuel island, and was subsequently repaired on August 5, 2019.

Kleinfelder subcontracted Quantex, Inc. (Quantex) to perform the drilling onsite on August 5, 2019 and South Atlantic Environmental Drilling and Construction Company (SAEDACCO) on September 3, 2019. Quantex advanced four (4) soil borings (P13-B1 through P13-B4) by direct-push technology from the ground surface to boring termination (15 feet bgs) at locations specified by Kleinfelder. SAEDACCO advanced three (3) soil borings (P13-B5 through P13-B7) at locations specified by Kleinfelder. The soil boring locations were identified in the field using a GPS. The soil boring locations are shown on Figure 2. The borings were located within the public utility easement and existing right-of-way along Winston Road and Spring Drive and the western and northern property boundaries, respectively. Soil borings P13-B1, P13-B2, and P13-B5 were located south and east of the fuel island, around the portion of the UST basin partially located within the Project Study Area. Soil boring P13-B3 was located west of the fuel island along Winston Road and the western parcel boundary. Soil boring P13-B4 was located along Spring Drive and the northern parcel boundary. Soil boring P13-B7 was located north of the fuel island, and soil boring P13-B6 was located east of the fuel island. Soil samples were collected by driving Macro Core™ samplers in 5-foot intervals. Each soil core was cut open, the soil samples were classified, and the soil divided into 1-foot sections. Each 1-foot section was screened in the field using a PID. The PID readings are summarized in Table 1.

Soils were determined to be primarily a silty clay within the top seven feet, underlain primarily by silt. Groundwater was not encountered in any of the borings at the termination depth of 15 feet bgs. Copies of the boring logs are included in Appendix C.

4.5 SOIL ANALYSIS

The PID readings from soil borings advanced were noted to be low. Based on the PID data and visual observations, two (2) of the samples from each boring were selected for on-site laboratory analysis during the August 5, 2019 event, and one (1) sample from P13-B5 was selected for off-site laboratory analysis from the September 3, 2019 event.

The on-site samples were analyzed by RED Lab, LLC utilizing ultraviolet fluorescence (UVF) methodology to provide real-time analytical results of TPH, GRO, Diesel Range Organics (DRO), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). The UVF method was selected because of the known use of petroleum products on Parcel 13. The UVF analysis also provided data regarding Environmental Protection Agency 16 total Polycyclic Aromatic Hydrocarbons (PAHs), and Benzo(a)pyrene (BaP).

The off-site sample (P13-B5-6) was analyzed by Prism Laboratories of Charlotte, NC for TPH GRO and DRO. Samples were collected directly from the soil core utilizing disposable nitrile gloves and a disposable plastic corer. Samples were iced upon collection. The Chain of Custody can be found in Appendix D.

5 RESULTS

5.1 GEOPHYSICAL INVESTIGATION

The EM and GPR surveys did not identified unknown geophysical anomalies within the Project Study Area.

5.2 SOIL SAMPLING DATA

The on-site UVF analysis of soil samples did not indicate the presence of petroleum impact in any of the samples analyzed. The off-site analysis also did not indicate the presence of petroleum impact in soil boring P13-B5, advanced in the vicinity of the UST basin and monitoring well observed on Parcel 13, above laboratory detection limits. As such, shallow soil impact does not appear to be present within the existing right of way or along the northern parcel boundary above NCDEQ Action Limits. A summary of on-site and off-site soil sample analytical results is presented in Table 2. The laboratory results associated with each boring are presented on Figure 3. The onsite and offsite laboratory report and graphs are included in Appendix D.

5.3 SAMPLE OBSERVATIONS

Soils were observed for any obvious evidence of contamination. No visual or olfactory evidence of contamination was noted in any of the soil samples from the borings.

5.4 QUANTITY CALCULATIONS

Kleinfelder did not identify soil impact in the current Project Study Area of Parcel 13. The 2016 LSA conducted for the groundwater incident associated with the site did not quantify soil contamination as petroleum compounds were found only in groundwater.

6 CONCLUSIONS

Based on results of the EM/GPR survey, soil assessment and field observations, Kleinfelder has reached the following conclusions:

- The GPR and EM investigation did not identify unknown features.
- The site has a listing for Grab & Go – Winston Road for a LUST groundwater incident #44108/WS-8861. Database information along with records available from NCDEQ indicate that petroleum impacted soil and groundwater was noted during a Phase II ESA conducted in January 2013. After an LSA was conducted in 2016, a Notice of Residual Petroleum (NRP) was filed in 2016 for the property which indicated that soil impacts were below the residential MSCC's and groundwater impacts were below the NC 2L Standards. An NFA letter was issued on March 22, 2016.
- No soil impact above the NCDEQ Action Limits for TPH GRO and DRO was detected in borings advanced along Winston Road and Spring Drive and the western and northern parcel boundaries, or around the fuel island and UST basin.
- Groundwater was not encountered in the soil borings at a depth of 15 feet bgs.

7 RECOMMENDATIONS

Based on results of this Preliminary Site Assessment, Kleinfelder recommends no additional sampling or special handling of soils be performed within the Project Study Area on Parcel 13 in Lexington, Davidson County, North Carolina.

8 LIMITATIONS

Kleinfelder's work will be performed in a manner consistent with that level of care and skill ordinarily exercised by other members of its profession practicing in the same locality, under similar conditions and at the date the services are provided. Kleinfelder's conclusions, opinions and recommendations will be 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.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more-detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, Kleinfelder's clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that NCDOT has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or generator, or person who arranges for disposal, transport, storage or treatment of hazardous materials within the meaning of any governmental statute, regulation or order. NCDOT is solely responsible for directing notification of all governmental agencies, and the public at large, of the existence, release, treatment or disposal of any hazardous materials observed at the project site, either before or during performance of

Kleinfelder's services. NCDOT is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

TABLES

Table 1: Soil Sample Screening Results

Date	Sample ID	Depth (ft)	PID Reading	Notes
8/5/2019	U5757-P13-B1	1	1.0	
		2	1.6	
		3	2.8	
		4	1.8	
		5	1.4	
		6	3.3	
		7	4.7	UVF Analysis
		8	3.6	
		9	2.0	
		10	4.5	
		11	NR	
		12	NR	
		13	15.2	
		14	9.4	UVF Analysis
		15	5.2	
8/5/2019	U5757-P13-B2	1	1.1	
		2	0.9	
		3	1.4	
		4	1.8	UVF Analysis
		5	1.6	
		6	1.4	
		7	1.5	
		8	1.1	
		9	1.2	
		10	0.6	
		11	2.4	
		12	2.5	UVF Analysis
		13	2.5	
		14	2.4	
		15	1.7	
8/5/2019	U5757-P13-B3	1	1.9	
		2	2.0	
		3	2.3	UVF Analysis
		4	2.4	
		5	2.5	
		6	2.5	
		7	2.5	
		8	3.1	UVF Analysis
		9	0.0	
		10	0.4	
		11	0.3	
		12	0.6	
		13	0.7	
		14	0.5	
		15	0.2	

8/5/2019	U5757-P13-B4	1	1.3	
		2	1.4	
		3	1.6	
		4	1.6	
		5	1.8	
		6	2.1	UVF Analysis
		7	2.0	
		8	2.3	
		9	1.7	
		10	2.2	UVF Analysis
		11	NR	
		12	1.9	
		13	2.1	
		14	1.4	
		15	1.0	
9/3/2019	U5757-P13-B5	1	0.8	
		2	0.4	
		3	1.3	
		4	1.8	
		5	2.1	
		6	3.4	Offsite Analysis
		7	2.4	
		8	2.2	
		9	1.9	
		10	0.9	
		11	0.8	
		12	0.8	
		13	0.5	
		14	1.1	
		15	0.8	
9/3/2019	U5757-P13-B6	1	0.7	
		2	2.0	
		3	2.1	
		4	2.4	
		5	2.2	
		6	2.4	
		7	1.1	
		8	2.0	
		9	1.5	
		10	1.1	
		11	0.3	
		12	0.6	
		13	1.1	
		14	1.7	
		15	0.6	

9/3/2019	U5757-P13-B7	1	0.0	
		2	0.6	
		3	1.6	
		4	1.6	
		5	1.1	
		6	0.8	
		7	0.8	
		8	2.7	
		9	1.1	
		10	0.3	
		11	0.2	
		12	0.2	
		13	0.8	
		14	0.2	
		15	0.4	

Notes:
1) PID = Photoionization Detector
2) PID readings in parts per million (ppm)
3) NR = no recovery

TABLE 2: Soil Sample Analytical Summary

Parameter	Analytical Results									Comparison Criteria		
	Soil Sample Results											
Sample ID	P13-B1-7	P13-B1-14	P13-B2-4	P13-B2-12	P13-B3-3	P13-B3-8	P13-B4-6	P13-B4-10	P13-B5-6	State Action Limit	Protection of Groundwater	Residential Health
PID Reading (ppm)	4.7	9.4	1.8	2.5	2.3	3.1	2.1	2.2	3.4			
Collection Depth (ft bgs)	7	14	4	12	3	8	6	10	6			
Collection Date	8/5/19	8/5/19	8/5/19	8/5/19	8/5/19	8/5/19	8/5/19	8/5/19	9/3/19			
UVF Method												
Diesel Range Organics	**1.7**	**10.5**	<0.35	**0.91**	<0.33	**1.4**	**1.3**	**10.9**	**--**	100	--	--
Gasoline Range Organics	**4.1**	**1.0**	<0.35	<0.33	**3.6**	<0.42	<0.29	<0.27	**--**	50	--	--
EPA Method 8015c												
Diesel Range Organics	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	<2.9	100	--	--
Gasoline Range Organics	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	<1.7	50	--	--

Notes:
Results displayed in milligram per kilogram (mg/kg)
ft bgs = Feet below ground surface
Bold = Above Laboratory Detection Limit
UVF = Ultraviolet Flouresence

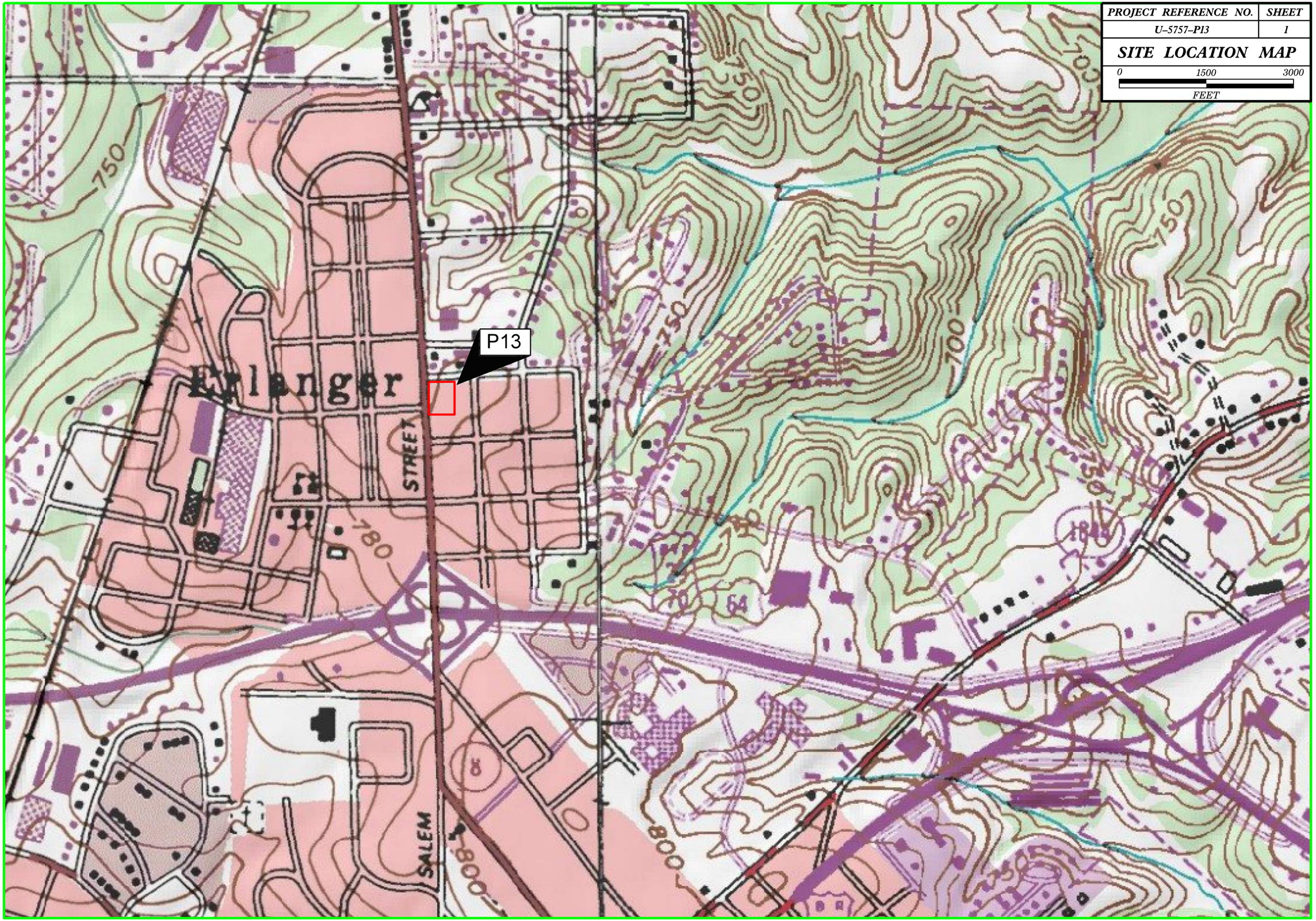
FIGURES

PROJECT REFERENCE NO.	SHEET
U–5757–P13	1

SITE LOCATION MAP

0 1500 3000

FEET



PROJECT REFERENCE NO.	SHEET
U–5757–PI3	2

SITE PLAN

0 20 40

FEET

LEGEND

P13B1

SOIL SAMPLE LOCATIONS

PI3B1
PI3B2
PI3B3
PI3B4
PI3B5
PI3B6
PI3B7

+10.00
+60.00
+10.00
+75.00

6" CURB
24" C&G
CR
MW
48" CONC
UST
UST
UST
UST
UST
20'
48" CHL
48" CHL
13
DSF OF NCDOT
DB 2099 PG 2358
PB 5 PG 21

NC GRID
NAD 83 NA 2011

PROJECT REFERENCE NO.	SHEET
U-5757-PI3	3

SOIL SAMPLE ANALYTICAL RESULTS

0 20 40

FEET

PI3B4

PI3B7

PI3B6

PI3B3

PI3B5

PI3B2

PI3B1

MW

EXISTING R/W

NC GRID
NAD 83 NA 2011

+10.00

+60.00

+10.00

+75.00

6" CURB

24" C&G

EXISTING R/W VARIES

48" CONC

UST

UST

UST

UST

UST

20'

13

DSF OF NC DOT ING
DB 2099 PG 2358
PB 5 PG 21

48" CHL

48" CHL

LEGEND

P13B1

SOIL SAMPLE LOCATIONS

SOIL SAMPLE RESULTS

	DRO	GRO
P13-B1-7	1.7	4.1
P13-B1-14	10.5	1.0
P13-B2-4	<0.35	<0.35
P13-B2-12	0.91	<0.33
P13-B3-3	<0.33	3.6
P13-B3-8	1.4	<0.42
P13-B4-6	1.3	<0.29
P13-B4-10	10.9	<0.27
P13-B5-6	<2.9	<1.7
P13-B6	NA	NA
P13-B7	NA	NA

NOTES:
1) All results reported in mg/kg
2) DRO = Diesel Range Organics
3) GRO = Gasoline Range Organics
4) Bold concentrations exceed the NCDEQ TPH Action Level
5) NA = not analyzed

APPENDIX A
SITE PHOTOGRAPHS

View facing northwest from the central portion of Parcel 13 featuring the one monitoring well observed at the time of site exploration (foreground).

Original in Color

View facing westerly toward NC Highway 8 (Winston Road) from the southern portion of Parcel 13.

KLEINFELDER *Bright People. Right Solutions.* www.kleinfelder.com	PROJECT NO:20201105.001A DRAWN: September 2019 DRAWN BY: ARS CHECKED BY: MB FILE NAME: Photo Pages	**SITE PHOTOGRAPHS** Preliminary Site Assessment Report U-5757-P13 Lexington, Davidson County, North Carolina	FIGURE **A-1**

View facing northeasterly toward the convenience store located on the eastern portion of Parcel 13, featuring the UST vent pipes (center-right).

Original in Color

View facing northerly of Parcel 13.

KLEINFELDER *Bright People. Right Solutions.* www.kleinfelder.com	PROJECT NO:20201105.001A DRAWN: September 2019 DRAWN BY: ARS CHECKED BY: MB FILE NAME: Photo Pages	**SITE PHOTOGRAPHS** Preliminary Site Assessment Report U-5757-P13 Lexington, Davidson County, North Carolina	FIGURE **A-2**

View facing north-northwesterly of the fuel canopy on Parcel 13.

Original in Color

KLEINFELDER *Bright People. Right Solutions.* www.kleinfelder.com	PROJECT NO:20201105.001A DRAWN: September 2019 DRAWN BY: ARS CHECKED BY: MB FILE NAME: Photo Pages	**SITE PHOTOGRAPHS** Preliminary Site Assessment Report U-5757-P13 Lexington, Davidson County, North Carolina	FIGURE **A-3**

APPENDIX B

GEOPHYSICAL SURVEY REPORT

PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2019-211)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCEL 13
NCDOT PROJECT U-5757 (54035.1.1)

1009 WINSTON ROAD, LEXINGTON, NC

August 15, 2019

Report prepared for: **Michael Burns, P.G.**
Kleinfelder, Inc.
3500 Gateway Center Boulevard, Suite 200
Morrisville, NC 27560

Prepared by: _____
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NC License #2181

Reviewed by: _____
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C257: GEOLOGY C1251: ENGINEERING

GEOPHYSICAL INVESTIGATION REPORT
Parcel 13 - 1009 Winston Road
Lexington, Davidson County, North Carolina

Table of Contents

Figures

Appendices

LIST OF ACRONYMS

CADD .....Computer Assisted Drafting and Design
DF .....Dual Frequency
EM.....Electromagnetic
GPR.....Ground Penetrating Radar
GPS .....Global Positioning System
NCDOT.....North Carolina Department of Transportation
ROW .....Right-of-Way
UST .....Underground Storage Tank

EXECUTIVE SUMMARY

Project Description: Pyramid Environmental conducted a geophysical investigation for Kleinfelder, Inc. at Parcel 13 located at 1009 Winston Road in Lexington, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5757). The survey was designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. Conducted from July 15-16, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

Geophysical Results: The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. A total of eleven EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. Several EM anomalies were associated with a suspected utility and interference from vehicles and the pump island; these anomalies were investigated further with GPR and showed no indications of unknown metallic USTs. Five known USTs were present at the property; these known tanks were also investigated by GPR.

The sizes and orientations of the five known USTs at the site were verified using GPR and are, from west to east, as follows: the westernmost UST (UST #1) was approximately 17.5 feet long by 7 feet wide, UST #2 was approximately 19.5 feet long by 8.5 feet wide, UST #3 was approximately 23 feet long by 10.5 feet wide, UST #4 was approximately 23 feet long by 9 feet wide, and the easternmost UST (UST #5) was approximately 19 feet long by 9 feet wide. Collectively, the geophysical data recorded evidence of five known USTs within the survey area at Parcel 13. No evidence of unknown USTs was recorded.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Kleinfelder, Inc. at Parcel 13 located at 1009 Winston Road in Lexington, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5757). The survey was designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. Conducted from July 15-16, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

The site included an active gas station surrounded by asphalt, concrete, and grass surfaces. Five known USTs were observed to be within the geophysical survey area. An aerial photograph showing the survey area boundaries and ground-level photographs are shown in **Figure 1**.

FIELD METHODOLOGY

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. Pyramid collected the EM data using a Geonics EM61-MK2 (EM61) metal detector integrated with a Geode External GPS/GLONASS receiver. The integrated GPS system allows the location of the instrument to be recorded in real-time during data collection, resulting in an EM data set that is geo-referenced and can be overlain on aerial photographs and CADD drawings. A boundary grid was established around the perimeter of the site with marks every 10 feet to maintain orientation of the instrument throughout the survey and assure complete coverage of the area.

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. The EM61 data were digitally collected at approximately 0.8-foot intervals along north-south trending or east-west trending,

generally parallel survey lines, spaced five feet apart. The data were downloaded to a computer and reviewed in the field and office using the Geonics NAV61 and Surfer for Windows Version 15.0 software programs.

GPR data were acquired across select EM anomalies on July 16, 2019, using a Geophysical Survey Systems, Inc. (GSSI) UtilityScan DF unit equipped with a dual frequency 300/800 MHz antenna. Data were collected both in reconnaissance fashion as well as along formal transect lines across EM features. The GPR data were viewed in real-time using a vertical scan of 512 samples, at a rate of 48 scans per second. GPR data were viewed down to a maximum depth of approximately 6 feet, based on dielectric constants calculated by the DF unit in the field during the reconnaissance scans. GPR transects across specific anomalies were saved to the hard drive of the DF unit for post-processing and figure generation.

Pyramid's classifications of USTs for the purposes of this report are based directly on the geophysical UST ratings provided by the NCDOT. These ratings are as follows:

Geophysical Surveys for Underground Storage Tanks
on NCDOT Projects

High Confidence	Intermediate Confidence	Low Confidence	No Confidence
Known UST Active tank - spatial location, orientation, and approximate depth determined by geophysics.	**Probable UST** Sufficient geophysical data from both magnetic and radar surveys that is characteristic of a tank. Interpretation may be supported by physical evidence such as fill/vent pipe, metal cover plate, asphalt/concrete patch, etc.	**Possible UST** Sufficient geophysical data from either magnetic or radar surveys that is characteristic of a tank. Additional data is not sufficient enough to confirm or deny the presence of a UST.	Anomaly noted but not characteristic of a UST. Should be noted in the text and may be called out in the figures at the geophysicist's discretion.

DISCUSSION OF RESULTS

Discussion of EM Results

A contour plot of the EM61 results obtained across the survey area at the property is presented in **Figure 2**. Each EM anomaly is numbered for reference in the figure. The

following table presents the list of EM anomalies and the cause of the metallic response, if known:

LIST OF METALLIC ANOMALIES IDENTIFIED BY EM SURVEY

Metallic Anomaly #	Cause of Anomaly	Investigated with GPR
1	Fence	
2	Sign	
3	Utility	✓
4	Pump Island/Vehicles	✓
5	Sign/Drop Inlet	
6	Drop Inlet	
7	Utility	
8	Dumpster	
9	Vehicles	✓
10	**Five Known USTs**	✓
11	Donation Box/Fence	

The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface including fences, signs, a pump island, vehicles, drop inlets, utilities, a dumpster, and a donation box. EM Anomaly 3 was suspected to be the result of a buried utility and was investigated further with GPR. GPR scans were also performed around the areas of interference caused by the pump island and vehicles (Anomalies 4 and 9) to verify that no buried structures were obscured by the interference.

One large high-amplitude EM anomaly (Anomaly 10), was associated with the five known USTs within the survey area. GPR was performed across the known USTs to verify their sizes and orientations.

Discussion of GPR Results

Figure 3 presents the locations of the formal GPR transects performed at the property as well as select transect images. All of the transect images are included in **Appendix A**. A total of fourteen formal GPR transects were performed at the site.

GPR Transect 1 was performed across the widths of the known USTs at the location of EM Anomaly 10. This transect recorded five large, hyperbolic reflectors consistent with the widths of five USTs. The sizes and orientations of the USTs were confirmed with GPR and are, from west to east, as follows: The westernmost UST (UST #1) was approximately 17.5 feet long by 7 feet wide, UST #2 was approximately 19.5 feet long by 8.5 feet wide, UST #3 was approximately 23 feet long by 10.5 feet wide, UST #4 was approximately 23 feet long by 9 feet wide, and the easternmost UST (UST #5) was approximately 19 feet long by 9 feet wide. **Figure 4** provides the locations and sizes of the five known USTs overlain on an aerial, along with ground-level photographs.

GPR Transects 2-5, 6-11, and 14 were performed across areas of interference caused by the pump island and vehicles (EM Anomalies 4 and 9). No evidence of buried structures such as USTs was observed.

GPR Transects 12 and 13 were performed across an area associated with a suspected utility (EM Anomaly 3). These transects recorded evidence of discrete hyperbolic reflectors that were characteristic of a buried utility. No evidence of any buried structures such as USTs was observed.

Collectively, the geophysical data recorded evidence of five known USTs within the survey area at Parcel 13. No evidence of unknown USTs was recorded. **Figure 5** provides an overlay of the metal detection results and the locations of the five known USTs on the NCDOT MicroStation engineering plans for reference.

SUMMARY & CONCLUSIONS

Pyramid's evaluation of the EM61 and GPR data collected at Parcel 13 in Lexington, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the accessible portions of the geophysical survey area.
- The majority of the EM anomalies were directly attributed to visible cultural

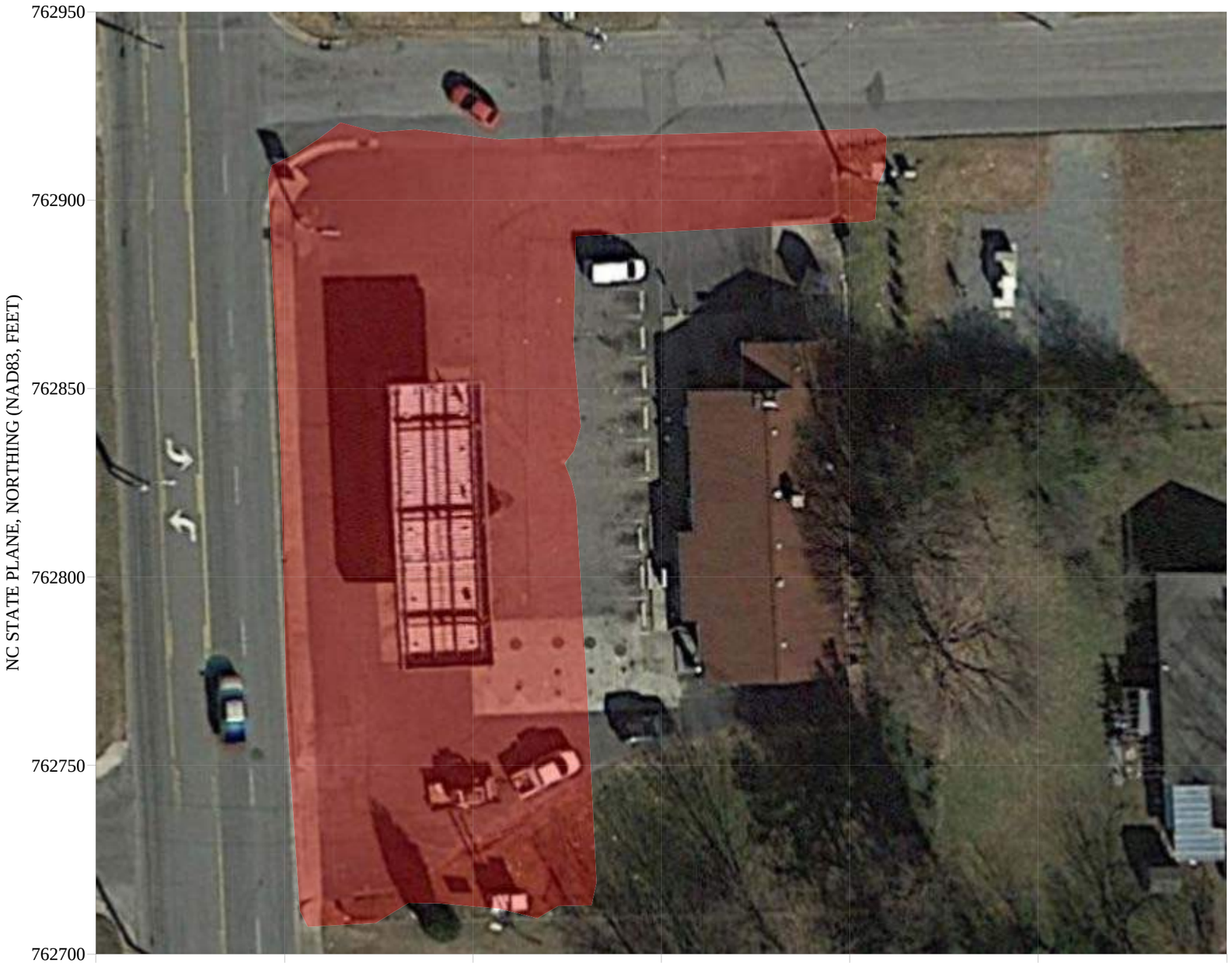
features at the ground surface.

- Several EM anomalies were associated with a suspected utility and interference from vehicles and the pump island; these anomalies were investigated further with GPR and showed no indications of unknown metallic USTs.
- Five known USTs were present at the property; these known tanks were also investigated by GPR.
- The sizes and orientations of five known USTs at the site were verified using GPR and are, from west to east, as follows: the westernmost UST (UST #1) was approximately 17.5 feet long by 7 feet wide, UST #2 was approximately 19.5 feet long by 8.5 feet wide, UST #3 was approximately 23 feet long by 10.5 feet wide, UST #4 was approximately 23 feet long by 9 feet wide, and the easternmost UST (UST #5) was approximately 19 feet long by 9 feet wide.
- Collectively, the geophysical data recorded evidence of five known USTs within the survey area at Parcel 13. No evidence of unknown USTs was recorded.

LIMITATIONS

Geophysical surveys have been performed and this report was 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 surveys are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained for this project have not conclusively determined the definitive presence or absence of metallic USTs, but the evidence collected is sufficient to result in the conclusions made in this report. Additionally, it should be understood that areas containing extensive vegetation, reinforced concrete, or other restrictions to the accessibility of the geophysical instruments could not be fully investigated.

APPROXIMATE BOUNDARIES OF GEOPHYSICAL SURVEY AREA



View of Survey Area
(Facing Approximately North)

View of Survey Area
(Facing Approximately East)

N

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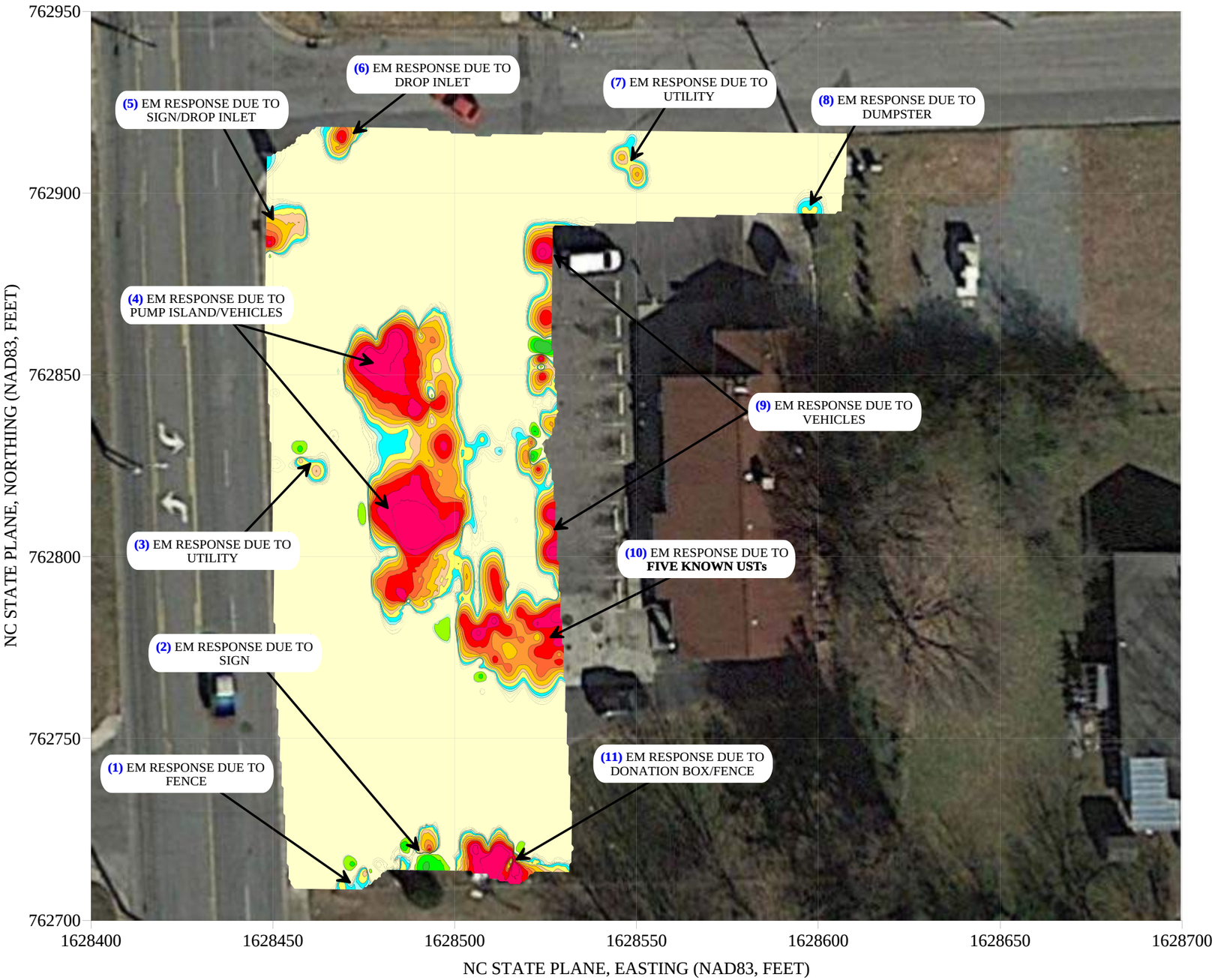
PROJECT	PARCEL 13 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757	TITLE	PARCEL 13 - GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS	DATE 7/19/2019 CLIENT KLEINFELDER PYRAMID PROJECT #: 2019-211 **FIGURE 1**

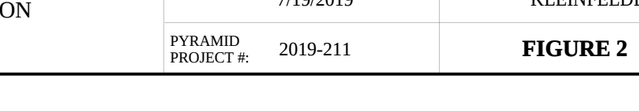
EM61 METAL DETECTION RESULTS



EVIDENCE OF FIVE KNOWN USTs WAS OBSERVED. NO EVIDENCE OF UNKNOWN METALLIC USTs WAS OBSERVED.

The contour plot shows the differential results of the EM61 instrument in millivolts (mV). The differential results focus on larger metallic objects such as USTs and drums. The EM data were collected on July 15, 2019, using a Geonics EM61-MK2 instrument. Verification GPR data were collected using a GSSI UtilityScan DF instrument with a dual frequency 300/800 MHz antenna on July 16, 2019.

EM61 Metal Detection Response (millivolts)



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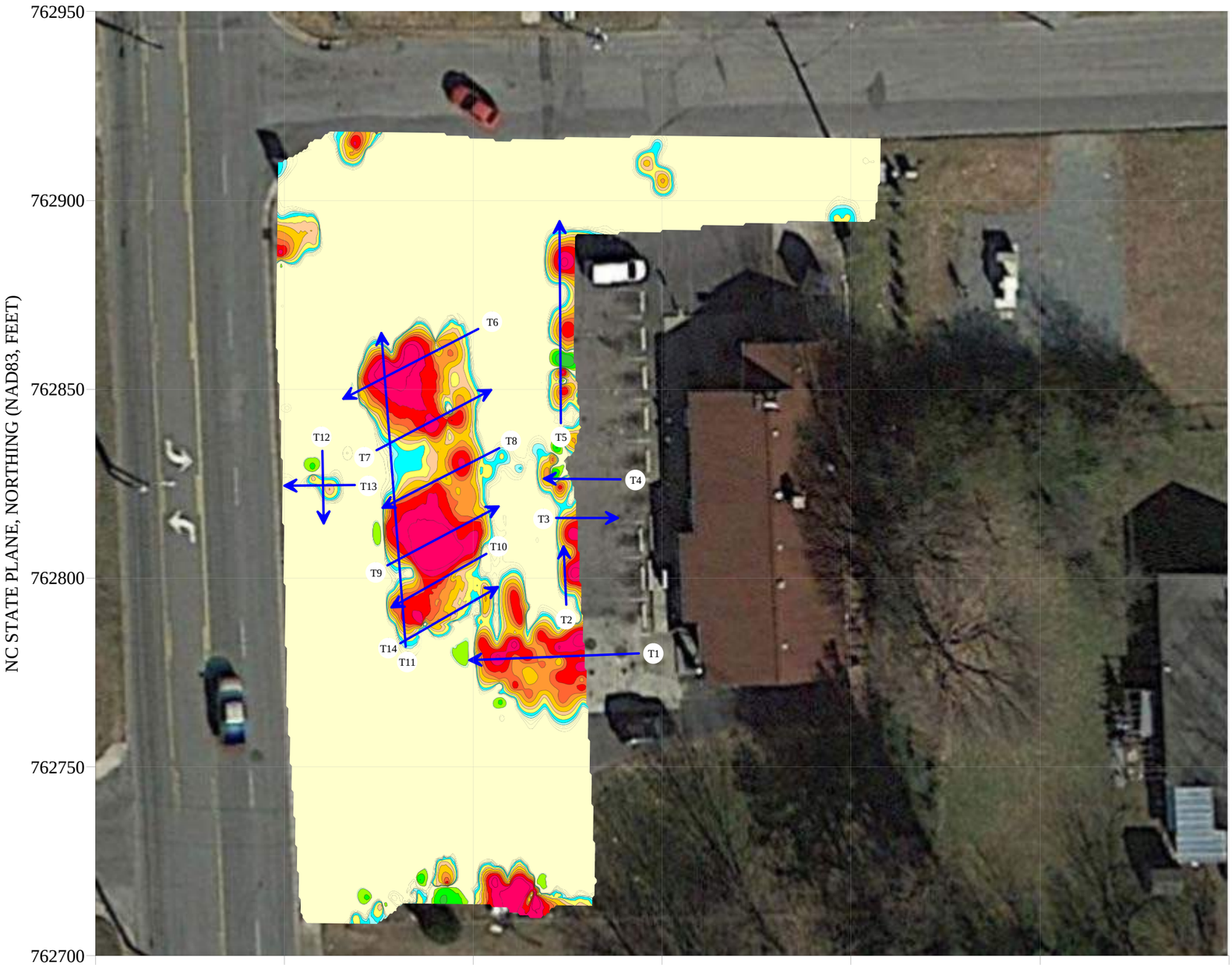
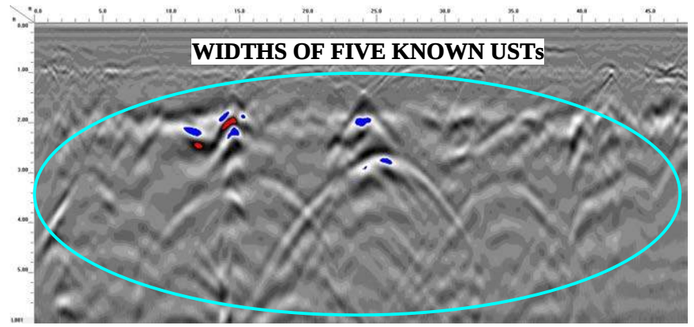
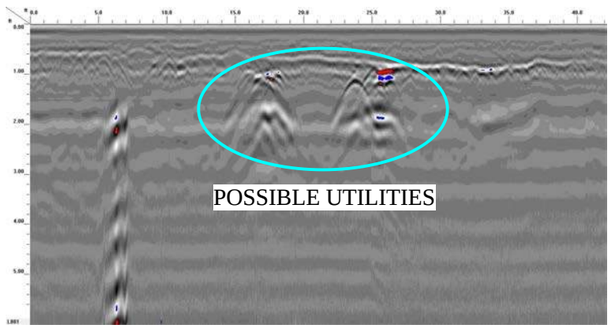
PROJECT	PARCEL 13 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757	TITLE	PARCEL 13 - EM61 METAL DETECTION CONTOUR MAP	DATE 7/19/2019 CLIENT KLEINFELDER
				PYRAMID PROJECT #: 2019-211 **FIGURE 2**

LOCATIONS OF GPR TRANSECTS





GPR TRANSECT 1 (T1)



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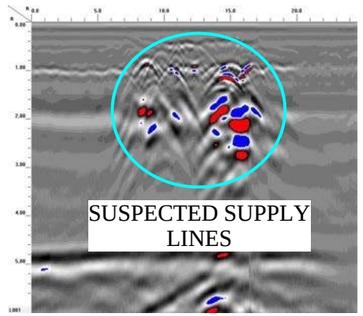
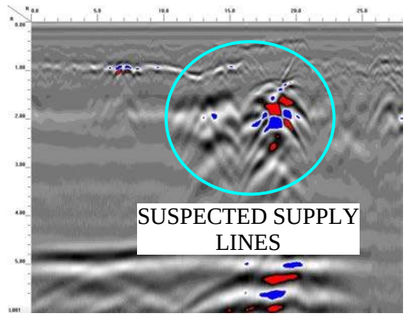


GPR TRANSECT 7 (T7)



GPR TRANSECT 9 (T9)

N

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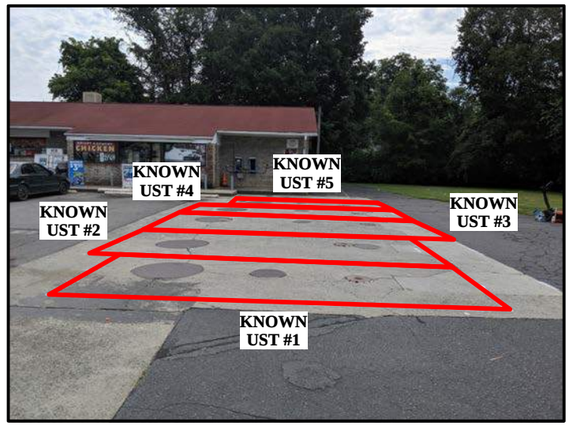
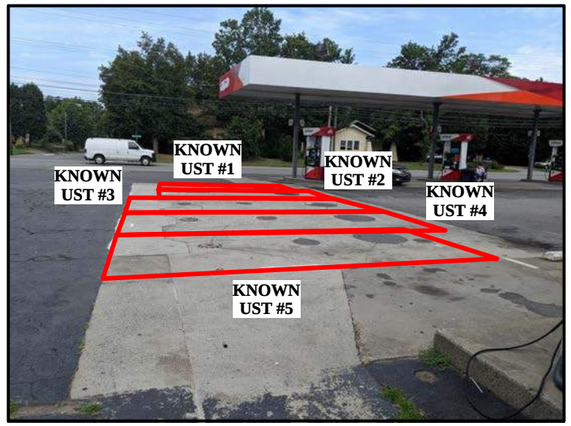
PROJECT	PARCEL 13 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757	TITLE	PARCEL 13 - GPR TRANSECT LOCATIONS AND SELECT IMAGES	DATE	7/19/2019
				PYRAMID PROJECT #:	2019-211
CLIENT	KLEINFELDER				
FIGURE 3					

LOCATIONS OF FIVE KNOWN USTs



View of Five Known USTs Facing Approximately East



View of Five Known USTs Facing Approximately West

N

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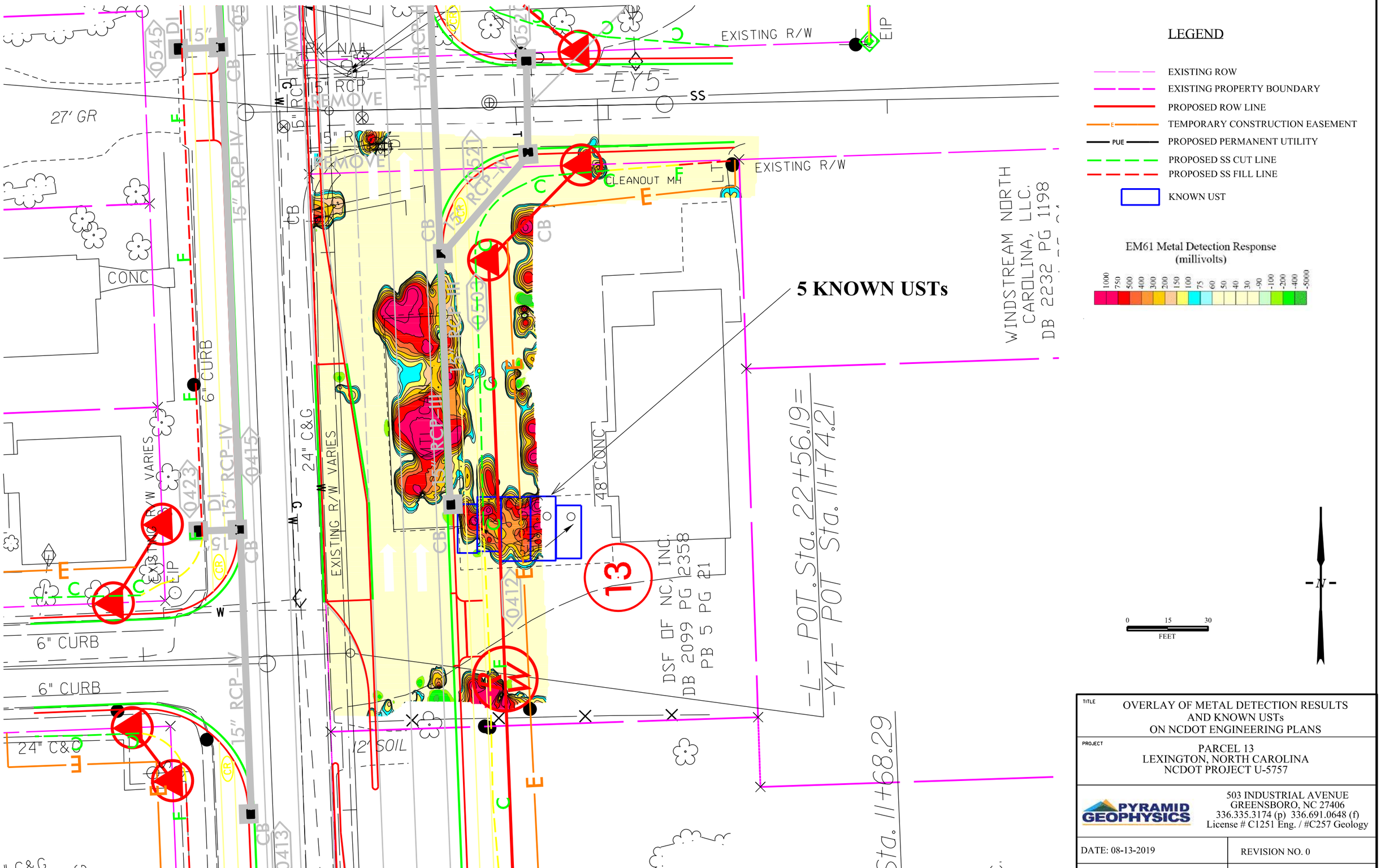
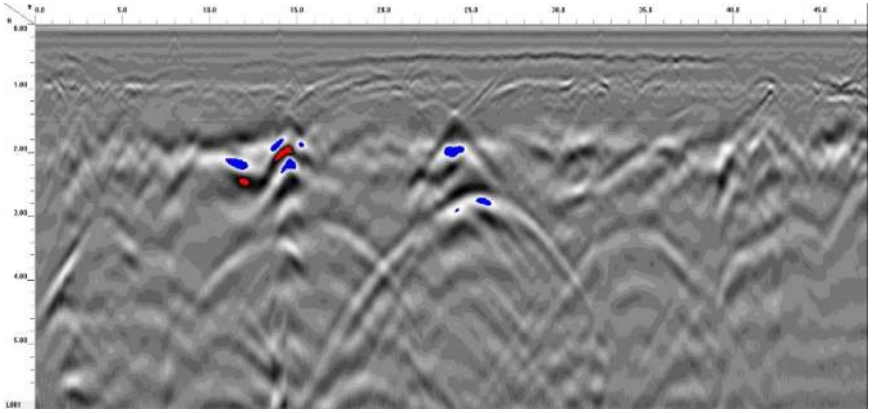
PROJECT	PARCEL 13 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757	TITLE	PARCEL 13 - LOCATIONS AND SIZES OF FIVE KNOWN USTs	DATE	7/19/2019
				CLIENT	KLEINFELDER
				PYRAMID PROJECT #:	2019-211
					FIGURE 4



TITLE	OVERLAY OF METAL DETECTION RESULTS AND KNOWN USTs ON NCDOT ENGINEERING PLANS
PROJECT	PARCEL 13 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757
PYRAMID GEOPHYSICS	503 INDUSTRIAL AVENUE GREENSBORO, NC 27406 336.335.3174 (p) 336.691.0648 (f) License # C1251 Eng. / #C257 Geology
DATE: 08-13-2019	REVISION NO. 0
PYRAMID PROJECT NO. 2019-211	FIGURE NO. 5

Appendix A – GPR Transect Images



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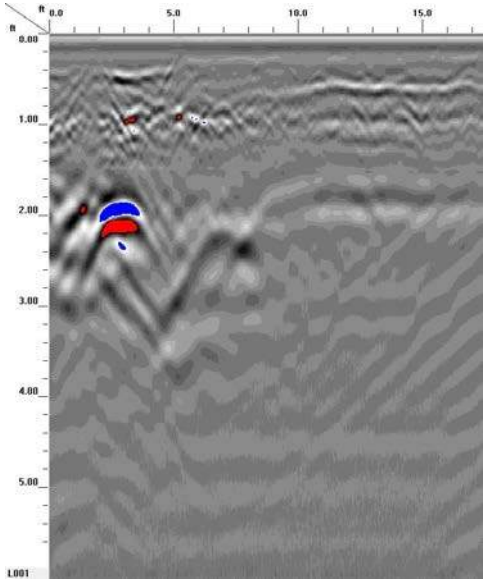

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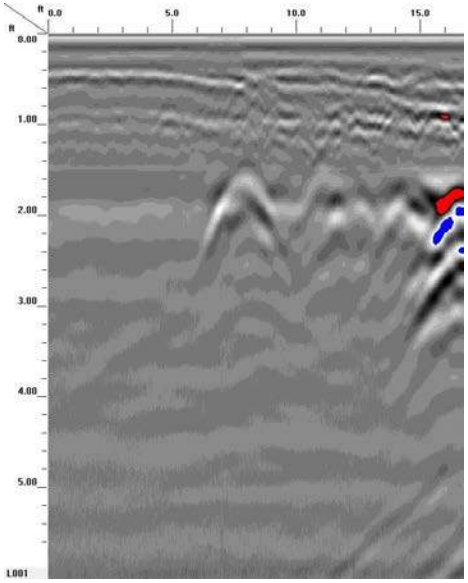

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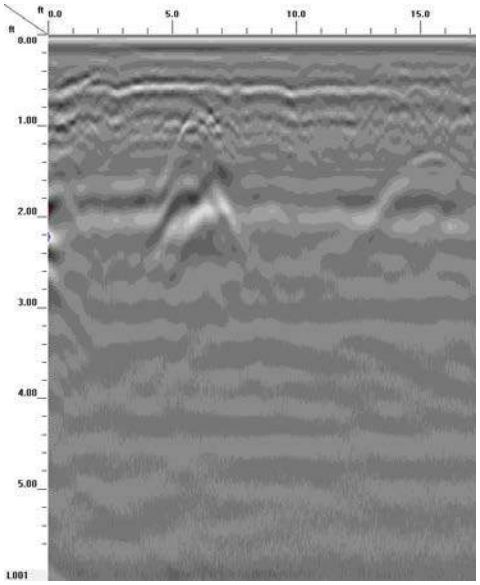

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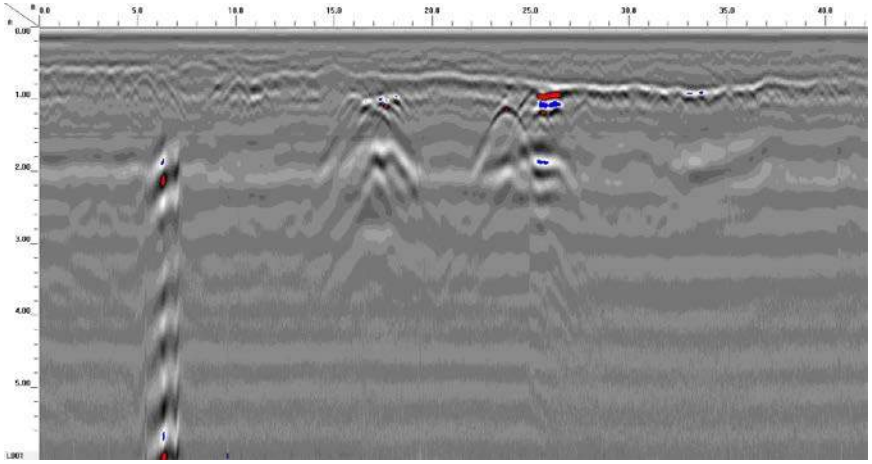

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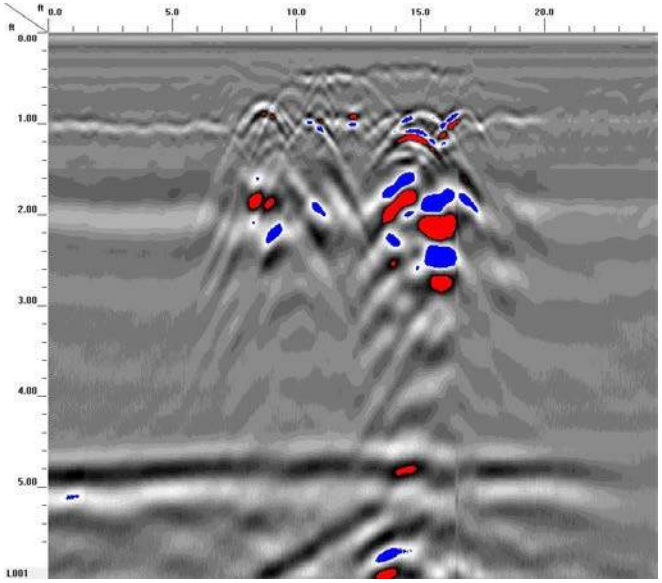

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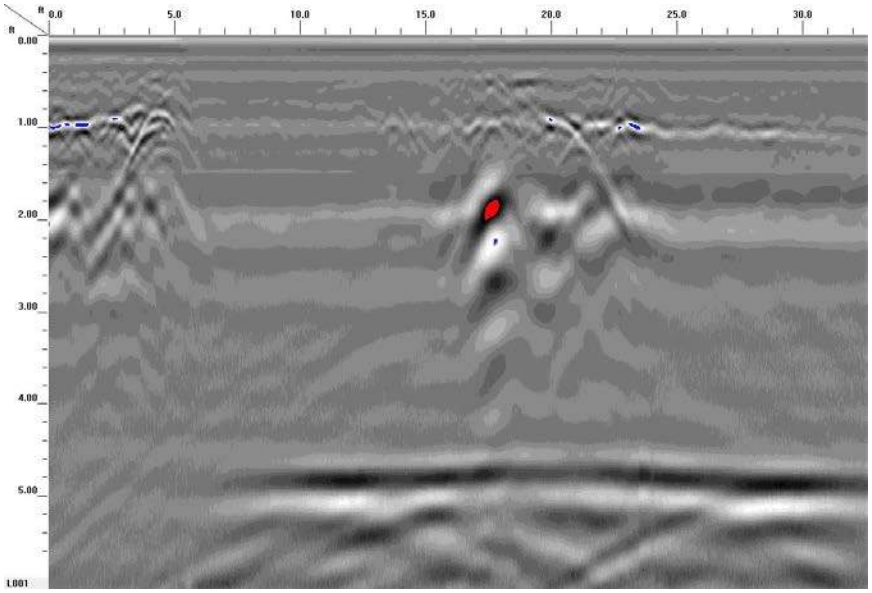

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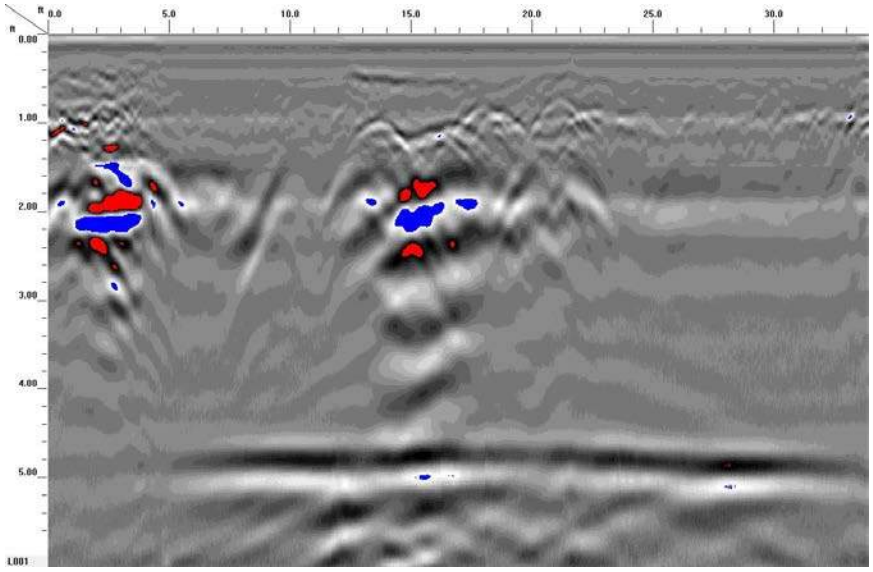

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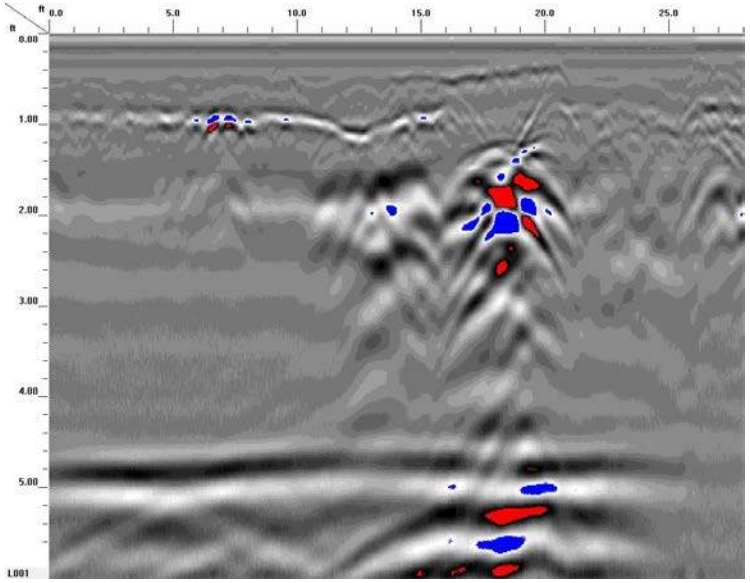

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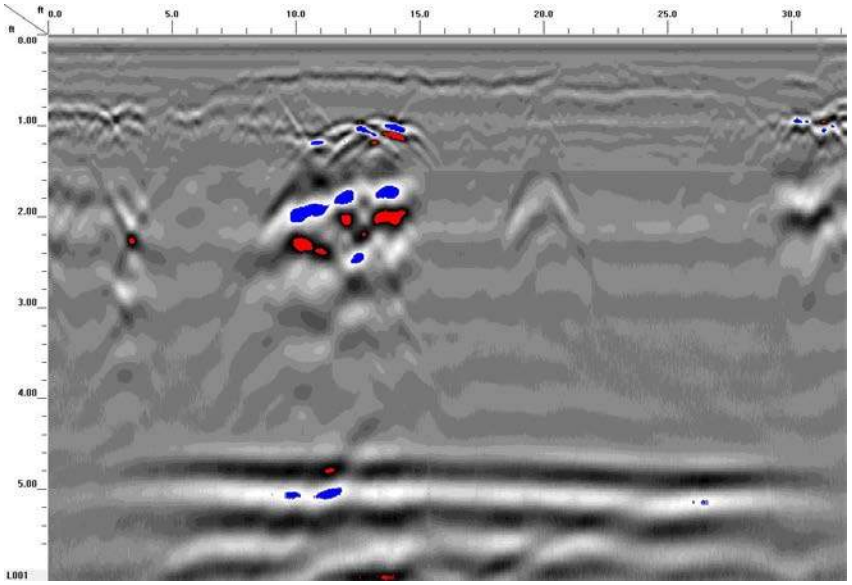

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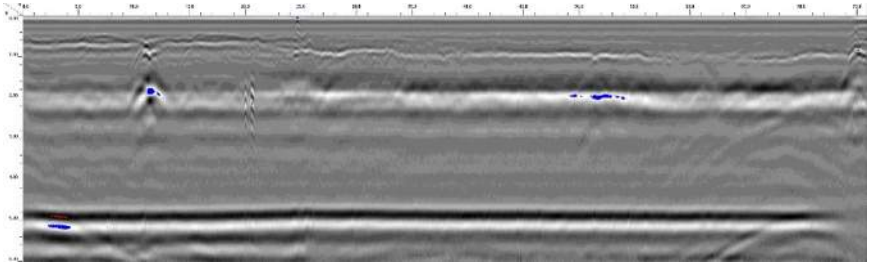

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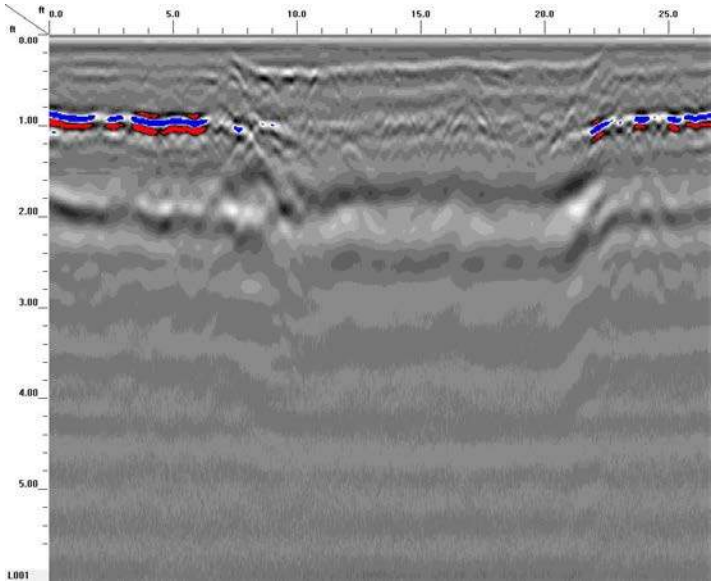
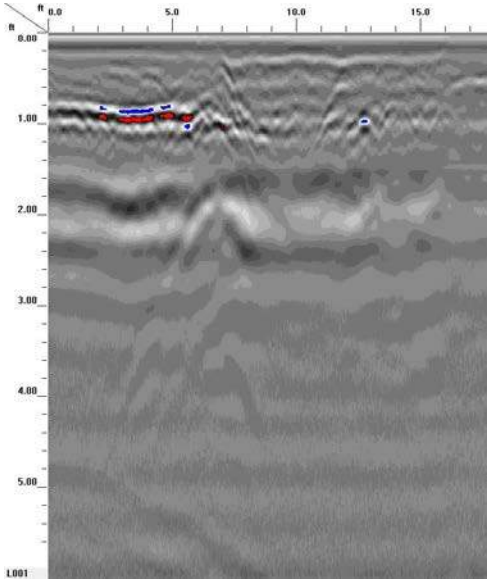
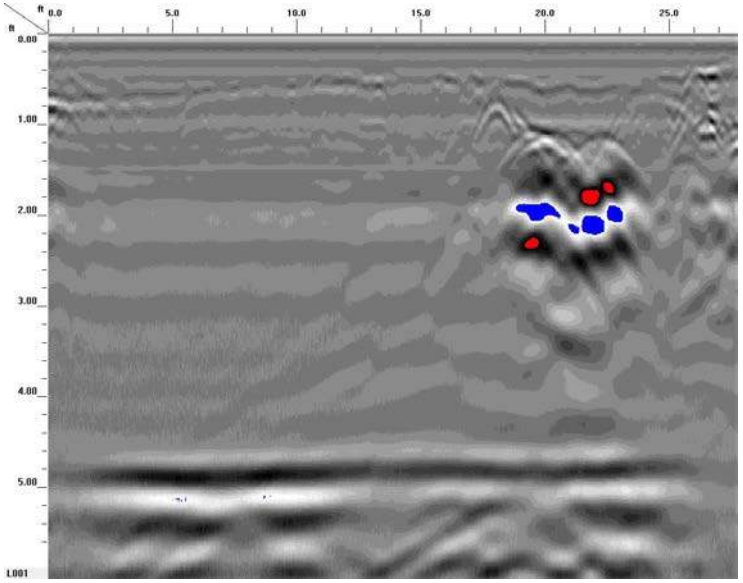


GPR TRANSECT 12



GPR TRANSECT 13



GPR TRANSECT 14

APPENDIX C
BORING LOGS

Date Begin - End:	8/05/2019	**Drilling Company:**	Quantex	**BORING LOG P13-B1**	
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	80°F Partly Cloudy	**Borehole Diameter:**			

FIELD EXPLORATION

Latitude: 35.83936° N
Longitude: -80.25338° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							ASPHALT
					1.0		**CLAY**: red, dry
					1.6		
					2.8		
					1.8		
					1.4		
5	Direct Push Sleeves						**SILT with Clay**: pale red and light brown, dry to moist
					3.3		
			P13-B1-7		4.7		
					3.6		
					2.0		
					4.5		
10							No Recovery; Loose Material
					15.2		
			P13-B1-14		9.4		**SILT**: pale red and white, moist, trace sand
					5.2		
15							

The borehole was terminated at approximately 15 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P13-B1

NCDOT: U-5757
Biesecker Road
Lexington, NC

1

PAGE: 1 of 1

Date Begin - End:	8/05/2019	**Drilling Company:**	Quantex	**BORING LOG P13-B2**	
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	80°F Partly Cloudy	**Borehole Diameter:**			

FIELD EXPLORATION

Latitude: 35.83936° N
Longitude: -80.25338° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							ASPHALT
	Direct Push Sleeves		P13-B2-4		1.1		**CLAY with Silt**: red streaked reddish yellow, dry to moist
					0.9		
					1.4		
					1.8		
					1.6		
5							**SILT with Clay**: reddish yellow mottled pink, dry to moist
					1.4		
					1.5		
					1.1		
					1.2		
					0.6		**SILT**: pale red and white, dry to moist
10					2.4		
			P13-B2-12		2.5		
					2.5		
					2.4		
▽ 15					1.7		

The borehole was terminated at approximately 15 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
▽ Groundwater was observed at approximately 15 ft. below ground surface during drilling.

GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with bentonite

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P13-B2

NCDOT: U-5757
Biesecker Road
Lexington, NC

2

PAGE: 1 of 1

Date Begin - End:	8/05/2019	**Drilling Company:**	Quantex	**BORING LOG P13-B3**	
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	80°F Partly Cloudy	**Borehole Diameter:**			

FIELD EXPLORATION

Latitude: 35.83936° N
Longitude: -80.25338° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
0							**ASPHALT**
	Direct Push Sleeves		P13-B3-3		1.9		**CLAY with Silt**: brown, dry to moist
					2.0		
					2.3		
					2.4		
5					2.5		
					2.5		
					2.5		
			P13-B3-8		3.1		**SILT**: red nodules pink, dry to moist, trace sand
					0.0		
10					0.4		
					0.3		
					0.6		
					0.7		
					0.5		
15					0.2		

The borehole was terminated at approximately 15 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P13-B3

NCDOT: U-5757
Biesecker Road
Lexington, NC

3

PAGE: 1 of 1

Date Begin - End:	8/05/2019	**Drilling Company:**	Quantex	**BORING LOG P13-B4**	
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	80°F Partly Cloudy	**Borehole Diameter:**			

FIELD EXPLORATION

Latitude: 35.83936° N
Longitude: -80.25338° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							ASPHALT
	Direct Push Sleeves				1.3		**CLAY with Silt**: brown and reddish yellow, dry to moist
					1.4		
					1.6		
					1.6		
					1.8		
5			P13-B4-6		2.1		
					2.0		
					2.3		**SILT**: red nodules pink, dry to moist, trace clay
					1.7		
			P13-B4-10		2.2		
10							Limited Recovery; Loose Material
					1.9		
					2.1		
					1.4		
15					1.0		**SILT**: reddish brown and yellow, moist

The borehole was terminated at approximately 15 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P13-B4

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

Date Begin - End:	9/03/2019	**Drilling Company:**	SAEDACCO	**BORING LOG P13-B5**	
Logged By:	A Shurtleff	**Drill Crew:**	Brian E		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	85°F Clear	**Borehole Diameter:**			

FIELD EXPLORATION

Latitude: 35.83934° N
Longitude: -80.25341° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
0							**ASPHALT**
	Hand Auger				0.8		**CLAY with Silt**: reddish brown and black, dry to moist
					0.4		
					1.3		**SILT**: red and reddish yellow, dry to moist, trace clay
					1.8		
					2.1		
5			P13-B5-6		3.4		
					2.4		
					2.2		
	Direct Push Sleeves				1.9		**SILT**: pink and white, dry to moist, trace sand
					0.9		
10					0.8		
					0.8		
					0.5		
					1.1		
15					0.8		

The borehole was terminated at approximately 15 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P13-B5

NCDOT: U-5757
Biesecker Road
Lexington, NC

5

PAGE: 1 of 1

Date Begin - End:	9/03/2019	**Drilling Company:**	SAEDACCO
Logged By:	A Shurtleff	**Drill Crew:**	Brian E
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	85°F Clear	**Borehole Diameter:**	

BORING LOG P13-B6

FIELD EXPLORATION

Latitude: 35.83934° N
Longitude: -80.25341° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
0	Hand Auger				0.7		**ASPHALT**
					2.0		**SILT with Clay**: red and reddish yellow, dry
					2.1		
					2.4		
					2.2		
5					2.4		
	Direct Push Sleeves				1.1		**SILT**: red, dry to moist, Increasingly micaceous
					2.0		
					1.5		
					1.1		**SILT**: reddish brown and reddish yellow, moist
10					0.3		
					0.6		
					1.1		**SILT**: pink and white, moist to wet, trace sand and gravel
					1.7		
▽ 15					0.6		

The borehole was terminated at approximately 15 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
▽ Groundwater was observed at approximately 15 ft. below ground surface during drilling.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with bentonite

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A	BORING LOG P13-B6	
DRAWN BY: A SHURTLEFF	NCDOT: U-5757 Biesecker Road Lexington, NC	6
CHECKED BY: M BURNS		
DATE: 9/18/2019		PAGE: 1 of 1

Date Begin - End:	9/03/2019	**Drilling Company:**	SAEDACCO	**BORING LOG P13-B7**	
Logged By:	A Shurtleff	**Drill Crew:**	Brian E		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	85°F Clear	**Borehole Diameter:**			

FIELD EXPLORATION

Latitude: 35.83934° N
Longitude: -80.25341° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
0	Hand Auger				0.0		**ASPHALT**
					0.6		**CLAY with Silt**: reddish brown and brown, dry, trace gravel
					1.6		**SILT with Clay**: red and reddish yellow, dry
					1.6		
					1.1		
5	Direct Push Sleeves				0.8		**SILT**: reddish yellow and red, dry to moist
					0.8		
					2.7		
					1.1		
10					0.3		
					0.2		
					0.2		
					0.8		
					0.2		
15					0.4		

The borehole was terminated at approximately 15 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P13-B7

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

APPENDIX D

ANALYTICAL REPORT AND GRAPHS

QED

AQROS

Hydrocarbon Analysis Results

Client: KLEINFELDER
Address:

Samples taken Monday, August 5, 2019
Samples extracted Monday, August 5, 2019
Samples analysed Monday, August 5, 2019

Contact: ABIGAIL SHURTLEFF

Operator CAROLINE STEVENS

Project: NCDOT U-5757

U00904

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	% Ratios			HC Fingerprint Match
										C5 - C10	C10 - C18	C18	
s	P13-B1-7	14.9	<0.37	4.1	1.7	5.8	1.1	<0.12	<0.015	90.9	6.1	3	Deg Fuel 74.3%,(FCM),(BO)
s	P13-B2-4	13.9	<0.35	<0.35	<0.35	0.2	0.2	<0.11	<0.014	0	55.4	44.6	Residual HC
s	P13-B1-14	16.3	<0.41	1	10.5	11.5	8.3	0.31	<0.016	26.2	54.7	19.1	Deg Fuel 77.4%,(FCM)
s	P13-B2-12	13.2	<0.33	<0.33	0.91	0.91	0.47	<0.11	<0.013	0	68.4	31.6	Deg.PHC 75.9%,(FCM)

Initial Calibrator QC check OK

Final FCM QC Check OK 96 %

Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values uncorrected for moisture or stone content. Fingerprints provide a tentative hydrocarbon identification.

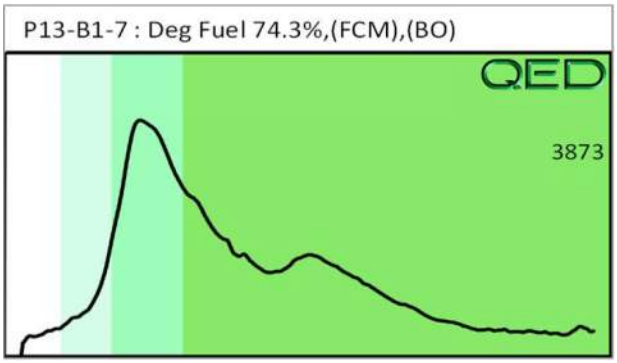
Abbreviations :- FCM = Results calculated using Fundamental Calibration Mode : % = confidence of hydrocarbon identification : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate detected

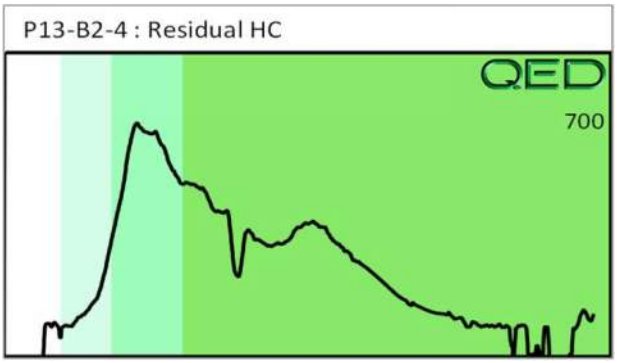
B = Blank Drift : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : (OCR) = Outside cal range : (M) = Modifed Result.

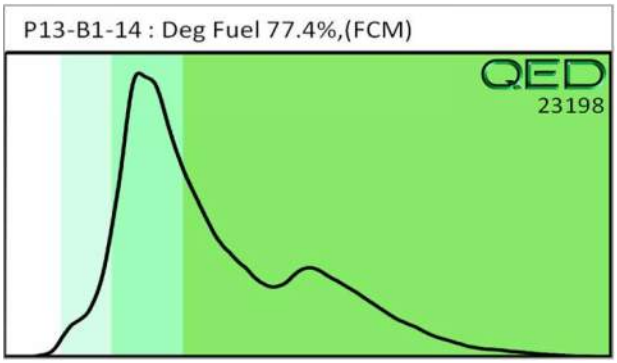
% Ratios estimated aromatic carbon number proportions : HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only. **Data generated by HC-1 Analyser**

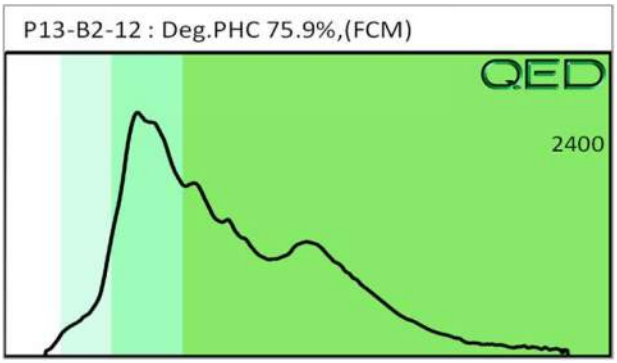
QED Hydrocarbon Fingerprints

Project: NCDOT U-5757 Monday, August 5, 2019









QED

QROS

Hydrocarbon Analysis Results

Client: KLEINFELDER
Address:

Samples taken Monday, August 5, 2019
Samples extracted Monday, August 5, 2019
Samples analysed Monday, August 5, 2019

Contact: ABIGAIL SHURTLEFF

Operator CAROLINE STEVENS

Project: NCDOT U-5757

U00904

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	% Ratios			HC Fingerprint Match
										C5 - C10	C10 - C18	C18	
s	P13-B3-3	13.2	<0.33	3.6	<0.33	3.6	0.17	<0.11	<0.013	99	0.6	0.4	Deg.PHC 88.8%,(FCM)
s	P13-B3-8	16.9	<0.42	<0.42	1.4	1.4	0.77	<0.13	<0.017	0	71.4	28.6	Deg Fuel 76.8%,(FCM)
s	P13-B4-6	11.7	<0.29	<0.29	1.3	1.3	0.65	<0.09	<0.012	0	75.8	24.2	Deg Fuel 75%,(FCM)
s	P13-B4-10	10.8	<0.27	<0.27	10.9	10.9	8.8	0.31	<0.011	0	76	24	Deg Fuel 76.5%,(FCM),(BO)

Initial Calibrator QC check OK

Final FCM QC Check OK 104.3 %

Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values uncorrected for moisture or stone content. Fingerprints provide a tentative hydrocarbon identification.

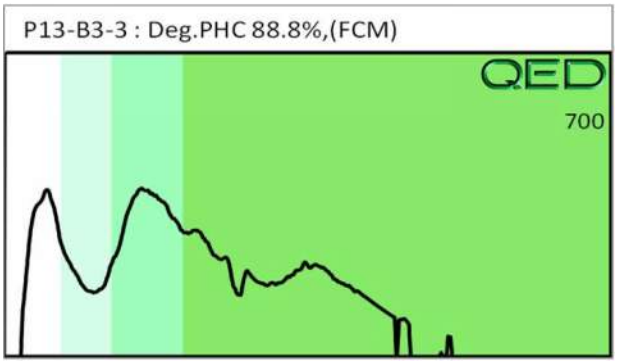
Abbreviations :- FCM = Results calculated using Fundamental Calibration Mode : % = confidence of hydrocarbon identification : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate detected

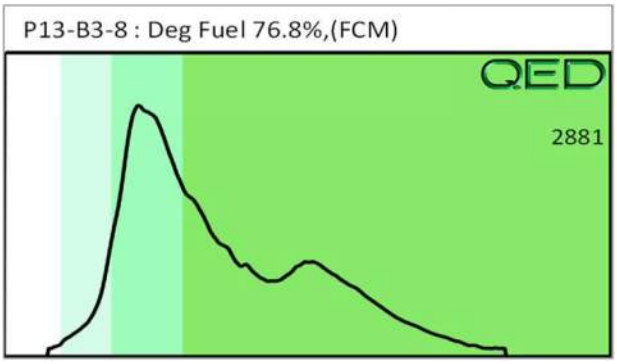
B = Blank Drift : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : (OCR) = Outside cal range : (M) = Modifed Result.

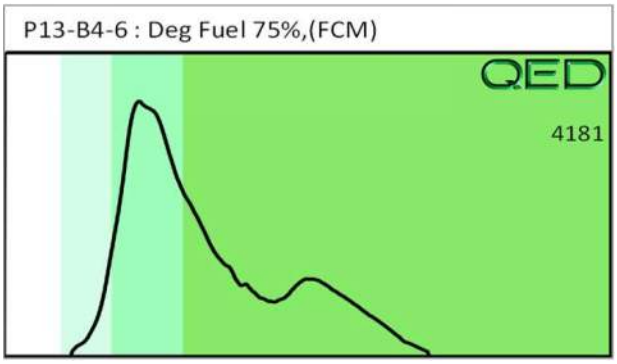
% Ratios estimated aromatic carbon number proportions : HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only. **Data generated by HC-1 Analyser**

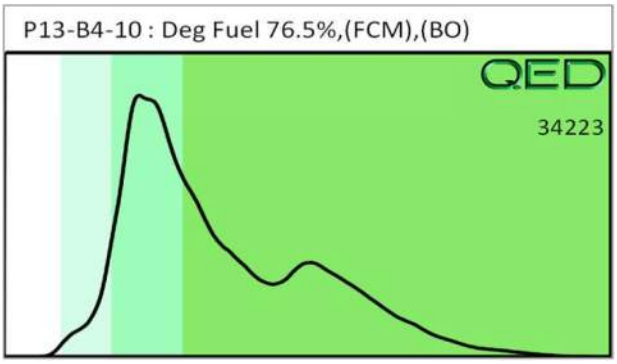
QED Hydrocarbon Fingerprints

Project: NCDOT U-5757 Monday, August 5, 2019









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

Case Narrative

9/11/19 13:49

Kleinfelder SE, Inc. (Morrisville)
Mike Burns
3200 Gateway Centre Blvd. Suite 100
Morrisville, NC 27560

Project: U5757

Lab Submittal Date: 09/05/2019
Prism Work Order: 9090051

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.

Angela D. Overcash

VP Laboratory Services

Reviewed By Terri W. Cole For Angela D. Overcash

Project Manager

Data Qualifiers Key Reference:

RLM	Sample container suspected to have low methanol content. Results possibly biased high.
SR	Surrogate recovery outside the QC limits.
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.

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Sample Receipt Summary

09/11/2019

Prism Work Order: 9090051

Client Sample ID	Lab Sample ID	Matrix	Date/Time Sampled	Date/Time Received
P62-B8-1	9090051-01	Solid	09/03/19 17:15	09/05/19 17:00
P13-B5-6	9090051-02	Solid	09/03/19 11:25	09/05/19 17:00
P50-B4-5	9090051-03	Solid	09/03/19 16:00	09/05/19 17:00

Samples were received in good condition at 2.4 degrees C unless otherwise noted.

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

Summary of Detections

09/11/2019

Prism Work Order: 9090051

Prism ID	Client ID	Parameter	Method	Result	Units
9090051-01	P62-B8-1	Diesel Range Organics	*8015C	32	mg/kg dry

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

Kleinfelder SE, Inc. (Morrisville)
Attn: Mike Burns
3200 Gateway Centre Blvd. Suite 100
Morrisville, NC 27560

Project: U5757

Sample Matrix: Solid

Client Sample ID: P62-B8-1
Prism Sample ID: 9090051-01
Prism Work Order: 9090051
Time Collected: 09/03/19 17:15
Time Submitted: 09/05/19 17:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID									
Diesel Range Organics	**32**	**mg/kg dry**	**8.2**	**2.8**	**1**	***8015C**	**9/9/19 13:01**	**ZRC**	**P9I0080**
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			*78 %*		*31-123*	
Gasoline Range Organics by GC/FID									RLM
Gasoline Range Organics	BRL	mg/kg dry	6.0	1.6	50	*8015C	9/9/19 13:46	TBL	P9I0087
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*141 %*		*50-137*	*SR*
General Chemistry Parameters									
% Solids	**85.0**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**9/9/19 7:50**	**EDV**	**P9I0085**

Kleinfelder SE, Inc. (Morrisville)
Attn: Mike Burns
3200 Gateway Centre Blvd. Suite 100
Morrisville, NC 27560

Project: U5757

Sample Matrix: Solid

Client Sample ID: P13-B5-6
Prism Sample ID: 9090051-02
Prism Work Order: 9090051
Time Collected: 09/03/19 11:25
Time Submitted: 09/05/19 17:00

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	8.6	2.9	1	*8015C	9/6/19 19:50	ZRC	P9I0080
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			*83 %*		*31-123*	
Gasoline Range Organics by GC/FID									RLM
Gasoline Range Organics	BRL	mg/kg dry	6.2	1.7	50	*8015C	9/9/19 14:14	TBL	P9I0087
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*163 %*		*50-137*	*SR*
General Chemistry Parameters									
% Solids	**81.5**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**9/9/19 7:50**	**EDV**	**P9I0085**

Kleinfelder SE, Inc. (Morrisville)
Attn: Mike Burns
3200 Gateway Centre Blvd. Suite 100
Morrisville, NC 27560

Project: U5757

Sample Matrix: Solid

Client Sample ID: P50-B4-5
Prism Sample ID: 9090051-03
Prism Work Order: 9090051
Time Collected: 09/03/19 16:00
Time Submitted: 09/05/19 17:00

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	8.5	2.8	1	*8015C	9/6/19 20:28	ZRC	P9I0080
			Surrogate			Recovery		Control Limits	
			o-Terphenyl			*75 %*		*31-123*	
Gasoline Range Organics by GC/FID									RLM
Gasoline Range Organics	BRL	mg/kg dry	6.8	1.9	50	*8015C	9/9/19 14:42	TBL	P9I0087
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*153 %*		*50-137*	*SR*
General Chemistry Parameters									
% Solids	**82.6**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**9/9/19 7:50**	**EDV**	**P9I0085**

Kleinfelder SE, Inc. (Morrisville)
Attn: Mike Burns
3200 Gateway Centre Blvd. Suite 100
Morrisville, NC 27560

Project: U5757

Prism Work Order: 9090051
Time Submitted: 9/5/2019 5:00:00PM

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 P9I0087 - 5030B										
Blank (P9I0087-BLK1)				Prepared & Analyzed: 09/09/19						
Gasoline Range Organics	BRL	5.0	mg/kg wet							
Surrogate: a,a,a-Trifluorotoluene	*5.75*		*mg/kg wet*	*5.000*		*115*	*50-137*			
LCS (P9I0087-BS1)				Prepared & Analyzed: 09/09/19						
Gasoline Range Organics	49.2	5.0	mg/kg wet	50.00		98	41-138			
Surrogate: a,a,a-Trifluorotoluene	*5.55*		*mg/kg wet*	*5.000*		*111*	*50-137*			
LCS Dup (P9I0087-BSD1)				Prepared & Analyzed: 09/09/19						
Gasoline Range Organics	49.5	5.0	mg/kg wet	50.00		99	41-138	0.6	20	
Surrogate: a,a,a-Trifluorotoluene	*5.35*		*mg/kg wet*	*5.000*		*107*	*50-137*			

Kleinfelder SE, Inc. (Morrisville)
Attn: Mike Burns
3200 Gateway Centre Blvd. Suite 100
Morrisville, NC 27560

Project: U5757

Prism Work Order: 9090051
Time Submitted: 9/5/2019 5:00:00PM

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 P9I0080 - 3546										
Blank (P9I0080-BLK1)				Prepared & Analyzed: 09/06/19						
Diesel Range Organics	BRL	7.0	mg/kg wet							
Surrogate: o-Terphenyl	*1.09*		*mg/kg wet*	*1.333*		*82*	*31-123*			
LCS (P9I0080-BS1)				Prepared & Analyzed: 09/06/19						
Diesel Range Organics	67.9	7.0	mg/kg wet	66.67		102	46-126			
Surrogate: o-Terphenyl	*1.16*		*mg/kg wet*	*1.333*		*87*	*31-123*			
LCS Dup (P9I0080-BSD1)				Prepared & Analyzed: 09/06/19						
Diesel Range Organics	68.6	7.0	mg/kg wet	66.67		103	46-126	1	20	
Surrogate: o-Terphenyl	*1.17*		*mg/kg wet*	*1.333*		*88*	*31-123*			
Matrix Spike (P9I0080-MS1)	**Source: 9090051-03**			Prepared & Analyzed: 09/06/19						
Diesel Range Organics	69.1	8.4	mg/kg dry	80.46	BRL	86	50-117			
Surrogate: o-Terphenyl	*1.18*		*mg/kg dry*	*1.609*		*74*	*31-123*			
Matrix Spike Dup (P9I0080-MSD1)	**Source: 9090051-03**			Prepared & Analyzed: 09/06/19						
Diesel Range Organics	65.9	8.5	mg/kg dry	80.73	BRL	82	50-117	5	24	
Surrogate: o-Terphenyl	*1.17*		*mg/kg dry*	*1.615*		*73*	*31-123*			

Sample Extraction Data

Prep Method: 3546

Lab Number	Batch	Initial	Final	Date/Time
9090051-01	P9I0080	30.1 g	1 mL	09/06/19 9:35
9090051-02	P9I0080	30.11 g	1 mL	09/06/19 9:35
9090051-03	P9I0080	30.03 g	1 mL	09/06/19 9:35

Prep Method: 5030B

Lab Number	Batch	Initial	Final	Date/Time
9090051-01	P9I0087	4.92 mL	5 mL	09/09/19 7:39
9090051-02	P9I0087	4.94 mL	5 mL	09/09/19 7:39
9090051-03	P9I0087	4.44 mL	5 mL	09/09/19 7:39

Prep Method: Solids, Dry Weight

Lab Number	Batch	Initial	Final	Date/Time
9090051-01	P9I0085	30 g	30 g	09/06/19 13:40
9090051-02	P9I0085	30 g	30 g	09/06/19 13:40
9090051-03	P9I0085	30 g	30 g	09/06/19 13:40

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions
449 Springbrook Road • Charlotte, NC 28217
Phone 704/529-6364 • Fax: 704/525-0409

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING:

Project Name: U5757 NCDOT
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (NO)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
Invoice To: SAME
Address:

Client Company Name: Kleinfelder
Report To/Contact Name: Mike Burns
Reporting Address: 3200 Gateway Centre Blvd Suite 100, Morrisville, NC
Phone: 9197555011 Fax (Yes) (No):
Email Address: mburns@kleinfelder.com
EDD Type: PDF X Excel Other
Site Location Name: U5757
Site Location Physical Address: Winston Road Lexington, NC

Purchase Order No./Billing Reference 20201105.001A
Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☒ 4 Days ☐ 5 Days
"Working Days" ☐ 6-9 Days ☐ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 14:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	✓		
Received ON WET ICE?	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?			
CUSTODY SEALS INTACT?			✓
VOLATILES rec'd W/OUT HEADSPACE?			✓
PROPER CONTAINERS used?	✓		

TEMP: Therm ID: DAT-14 Observed: 2.3 °C / Corr: 2.4°C

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
Certification: NELAC___ DoD___ FL___ NC X
SC___ OTHER___ N/A___
Water Chlorinated: YES___ NO X
Sample Iced Upon Collection: YES X NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	NO.	SIZE	PRESERVATIVES	ANALYSIS REQUESTED DRO	GRO	REMARKS	PRISM LAB ID NO.
P62-B8-1	9/3/19	1715	SOIL	CG	1	4oz	None	X			01
↓	↓	1715	↓	VOA	2	✓	Methanol		X		1
P13-B5-6		1125		CG	1	4oz	None	X			02
↓		1125		VOA	2	✓	Methanol		X		1
P50-B4-5		1600		CG	1	4oz	None	X			03
↓	↓	1600	↓	VOA	2	✓	Methanol		X		1

Sampler's Signature [signature] Sampled By (Print Name) Abigail Shurtleff Affiliation KLF

PRESS DOWN FIRMLY - 3 COPIES

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

		Date	Military/Hours
Relinquished By: (Signature) Colleen Killinger	Received By: (Signature)	09/04/19	15:25
Relinquished By: (Signature)	Received By: (Signature) COC	9-05-19	1635
Relinquished By: (Signature)	Received For Prism Laboratories By:	9-05-19	17:00

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☒ Prism Field Service ☐ Other

COC Group No. 9090051

Additional Comments:

PRISM USE ONLY
Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC	☒ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC
☐ ___	☐ ___	☐ ___	☐ ___	☐ ___	☐ ___	☐ ___	☐ ___	☐ ___

*CONTAINER TYPE CODES: A = Amber C = Clear G= Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

APPENDIX E

PAGES FROM PREVIOUS REPORTS

Printed: 2/23/2018 7:18 AM
Inspection Result: Failed
Partial Inspection: No
Inspection Date: 2/20/2018
Arrive and Depart Times: 11:15 AM-11:45 AM

Facility ID:	00-0-0000024863	**Inspector**	Jason Chapple
Facility Name	GRAB & GO 12	**Insp. Type**	Compliance
Facility Address	1009 WINSTON ROAD LEXINGTON, NC 27292 Davidson County **Located facility, USTs onsite**	**Reason(s)**	Routine Compliance
		Location	35.839352, -80.253364
		Permit Exp.	3/31/2018
Facility Phone	(336) 841-4165		

CONTACTS

Contact Type	Contact Information
Regulatory Operator since 2/28/2013	DSF OF NC, INC. , 4401 UNITED STREET GREENSBORO, NC 27407-1313, Phone: (336) 285-7474
Regulatory Owner since 2/28/2013	DSF OF NC, INC. , 4401 UNITED STREET GREENSBORO, NC 27407-1313, Phone: (336) 285-7474
Owner since 2/28/2013	DSF OF NC, INC. , 4401 UNITED STREET GREENSBORO, NC 27407-1313, Phone: (336) 285-7474
Manager since 9/13/2014	LOVLEEN KAUR, 1009 WINSTON RD. LEXINGTON, NC 27295, Phone: (336) 558-7828
Regulatory Operator since 9/13/2014	S N FOOD MART 2, INC. , 1009 WINSTON RD. LEXINGTON, NC 27295, Phone: (336) 558-7828
Owner Auth Rep since 2/28/2013	SHEHZAD QUAMAR, 2105 NEEDLE LEAF LANE GREENSBORO, NC 27410, Phone: (336) 215-6655
Manager since 2/28/2013	SHEHZAD QUAMAR, 2105 NEEDLE LEAF LANE GREENSBORO, NC 27410, Phone: (336) 215-6655

OWNERSHIP CHANGE

New Owner	Change Date	Basis	Transfer of Ownership Form (UST-15) Submitted

EMERGENCY RESPONSE

Emergency response placard with emergency response operator contact information is posted in the dispensing areas if the dispensers are left on without an attendant present?	N/A

OTHER PARTICIPANTS

Name	Organization
Ed Lyles	

INSPECTOR COMMENTS

Type	Date	Comment

ADDITIONAL INSPECTOR COMMENTS

10-29-2010, Letter from Tim Stanley verifies tanks. He excavated to visually verify.
Siphon bars are FRP.

TANKS AND PIPING INFORMATION

Tanks	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
Tank ID	1-Reg	2-Reg	3-Pre	4-Dsl	5-Dsl
TIMS Tank ID	1	2	3	4	5
Is tank registered?	Yes	Yes	Yes	Yes	Yes
Date tank installed	11/11/1986	11/11/1986	11/11/1986	11/11/1986	11/11/1986
Capacity of Tank in Gallons	6000	6000	6000	2000	2000
Tank / Product use	Motor Fuel	Motor Fuel	Motor Fuel	Motor Fuel	Motor Fuel
Product stored in Tank	Gasoline, Gas Mix	Gasoline, Gas Mix	Gasoline, Gas Mix	Diesel	Diesel
Product Detail	Regular	Regular	Premium		
If hazardous substance, CAS# or description					
If other, description					
Tank Status	Current	Current	Current	Current	Current
Tank closure report submitted					
Date tank last operated					
Inches of product in Tank					
Manifolded Tank	Yes	Yes	No	Yes	Yes
Manifolded with tanks	#2(2-Reg)	#1(1-Reg)		#5(5-Dsl)	#4(4-Dsl)
New Tank System installed in accordance with NC or MI					
Tank Construction Material (DW required after 11/1/07)	Single Wall Steel/FRP	Single Wall Steel/FRP	Single Wall Steel/FRP	Single Wall Steel/FRP	Single Wall Steel/FRP
If other, description					
Tank Manufacturer/Model	Unknown	Unknown	Unknown	Unknown	Unknown

Tanks	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
If other, describe					
Tank material verified by	Petroleum Equip Contractor	Petroleum Equip Contractor	Petroleum Equip Contractor	Petroleum Equip Contractor	Petroleum Equip Contractor
Date Pipe Installed	3/31/1993	3/31/1993	3/31/1993	3/31/1993	3/31/1993
Was UST Piping Installed on or after 11/1/2007?	No	No	No	No	No
Piping Construction Material (DW required after 11/1/07)	Double Wall Flex	None	Double Wall Flex	Double Wall Flex	None
If other, description					
Pipe Manufacturer/Model	Unknown	Unknown	Unknown	Unknown	Unknown
If other, describe					
Pipe material verified by	Visual	Visual	Visual	Visual	Visual
If E-blend > 10% or Biodiesel Blend > 20%; Was UST-20 completed and approved?	N/A	N/A	N/A	N/A	N/A

CORROSION PROTECTION

Tank Corrosion Protection	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
DWM notified of current CP method	Yes	Yes	Yes	Yes	Yes
Integrity assessment performed after 3/1/06	No	No	No	No	No
CP Method 1	Steel/FRP Composite	Steel/FRP Composite	Steel/FRP Composite	Steel/FRP Composite	Steel/FRP Composite
if other, Description					
CP Installation Date	3/31/1993	3/31/1993	3/31/1993	3/31/1993	3/31/1993
CP Method 2					
if other, Description					
CP Installation Date					
Flex Connector , Piping Extensions, and/or other metal fittings Present	Other Metal, Flex Connector, Elbow, Ball Valve	N/A (for Manifold <11/1/07 Only)	Other Metal, Flex Connector, Elbow, Ball Valve	Other Metal, Flex Connector, Elbow, Ball Valve	N/A (for Manifold <11/1/07 Only)
Flex connector isolated from ground	Yes	N/A	Yes	Yes	N/A
Source of verification of CP for Flex Connectors, piping extensions and/or other metal fittings	Visual	Visual	Visual	Visual	Visual

Tank Corrosion Protection	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
if other, Description					
Submersible pump (STP) is isolated from ground	Yes	N/A	Yes	Yes	N/A
Piping extensions and/or other metal fittings are isolated from ground	Yes	N/A	Yes	Yes	N/A
Flex connector, STP and/or other metal fittings protected from corrosion	N/A	N/A	N/A	N/A	N/A
Corrosion protection method	Isolated	Isolated	Isolated	Isolated	Isolated
Flex connector , Piping extensions, and/or other metal fittings CP Installation Date					
Dielectric Coating Installed (If tank installed after 12/22/88	N/A	N/A	N/A	N/A	N/A

Pipe Corrosion Protection	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
DWM notified of current CP method	Yes	Yes	Yes	Yes	Yes
CP method	Flexible	Flexible	Flexible	Flexible	Flexible
if other, Description					
CP Installation Date	3/31/1993	3/31/1993	3/31/1993	3/31/1993	3/31/1993
Dielectric Coating Installed (If piping installed after 12/22/88	N/A	N/A	N/A	N/A	N/A

Dispenser Corrosion Protection	Dispenser #1(1/2)	Dispenser #2(3/4)	Dispenser #3(5/6)
Flex Connector , Piping Extensions, and/or other metal fittings Present	Flex Connector	Flex Connector	Flex Connector
Flex connector isolated from ground	Yes	Yes	Yes
Source of verification of CP for Flex Connectors, piping extensions and/or other metal fittings	Visual	Visual	Visual
if other, Description			
Piping extensions and/or other metal fittings are isolated from ground	Yes	Yes	Yes
Flex Connectors, Piping extensions and/or other metal fittings protected from corrosion	N/A	N/A	N/A
Corrosion protection method	Isolated	Isolated	Isolated
Flex connector, Piping extensions, and/or other metal fittings CP Installation Date			
Source of Information for verification of corrosion protection for Riser pipe and other metal piping	Visual	Visual	Visual
if other, Description			

CP Conclusions	
CP Requirements Met?	Yes
Issues	

SPILL PREVENTION

Has DWM been notified of spill methods?	Yes

Spill/Overfill Details	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
Is a drop tube present?	Yes	Yes	Yes	Yes	Yes
Type of Stage I vapor recovery?	Dual Point	Dual Point	Dual Point	Not Required	Not Required

Local Fill	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
Does Tank have a Remote Fill?	No	No	No	No	No
Spill Protection	Catchment Basin	Catchment Basin	Catchment Basin	Catchment Basin	Catchment Basin
Is spill prevention equipment provided and verified?	Yes	Yes	Yes	Yes	Yes
Manufacturer/Model	Pemco: 112XXX Series	Pemco: 112XXX Series	Pemco: 112XXX Series	Pemco: 112XXX Series	Pemco: 112XXX Series
If other, describe					
Spill bucket is double-walled? (If installed after 11/1/07)	N/A	N/A	N/A	N/A	N/A
Spill bucket is isolated or made of non-corroding materials? (If installed after 11/1/07)	N/A	N/A	N/A	N/A	N/A
Date spill prevention provided	3/31/1993	3/31/1993	3/31/1993	3/31/1993	3/31/1993
Is spill prevention operating properly?	Yes	Yes	Yes	Yes	Yes
If No, select all that apply					
If other, describe					

OVERFILL PREVENTION

Has DWM been notified of overfill methods?	Yes

Overfill Control	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
Is overfill prevention equipment provided and verified?	Yes	Yes	Yes	Yes	Yes
Date overfill control provided	3/31/1993	3/31/1993	3/31/1993	3/31/1993	3/31/1993

Overfill Control	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
Type of overfill equipment	Auto Shutoff Device	Auto Shutoff Device	Auto Shutoff Device	Auto Shutoff Device	Auto Shutoff Device
Source of information for overfill control verification	Visual observation	Visual observation	Visual observation	Visual observation	Visual observation
If other, describe					
Is overfill control operating properly?	Yes	Yes	Yes	Yes	Yes
If No, select all that apply					
If other, describe					
Annual overfill check date(If installed after 11/1/07) (UST-22A)					
Annual overfill check results(UST-22A)					

Dispenser Sumps	Dispenser #1(1/2)	Dispenser #2(3/4)	Dispenser #3(5/6)
Are containment sumps present?	Yes	Yes	Yes
Installation Date	3/31/1993	3/31/1993	3/31/1993
Sump Manufacturer	Frank Fuel: APT Disp Sump	Frank Fuel: APT Disp Sump	Frank Fuel: APT Disp Sump
If Other (Specify)			
Sump Construction Type	Single Walled	Single Walled	Single Walled
Sump Construction Material	Plastic	Plastic	Plastic
If Other (Specify)			
Are containment sumps monitored?	No	No	No
Is monitoring required per 2N .0900?	No	No	No
Piping components and/or STP were installed/replaced on or after 11/1/07?	No	No	No
Are spills or small weeps evident in sumps?	No	No	No
Are single wall piping components located in containment sump? (If installed after 11/1/07)			

Other Sumps	Sump#1(Reg STP)	Sump#2(Reg TT)	Sump#3(Pre STP)	Sump#4(Dsl STP)	Sump#5(Dsl TT)
Are containment sumps present?	Yes	Yes	Yes	Yes	Yes
Installation Date	3/31/1993	3/31/1993	3/31/1993	3/31/1993	3/31/1993
Sump Manufacturer	Frank Fuel: APT Tank Sump	Frank Fuel: APT Tank Sump	Frank Fuel: APT Tank Sump	Frank Fuel: APT Tank Sump	Frank Fuel: APT Tank Sump
If Other (Specify)					
Sump Construction Type	Single Walled	Single Walled	Single Walled	Single Walled	Single Walled
Sump Construction Material	Plastic	Plastic	Plastic	Plastic	Plastic
If Other (Specify)					
Are containment sumps monitored?	No	No	No	No	No
Is monitoring required	No	No	No	No	No

Other Sumps	Sump#1(Reg STP)	Sump#2(Reg TT)	Sump#3(Pre STP)	Sump#4(Dsl STP)	Sump#5(Dsl TT)
per 2N .0900?					
Piping components and/or STP were installed/replaced on or after 11/1/07?	No	No	No	No	No
Are spills or small weeps evident in sumps?	No	No	No	No	No
Are single wall piping components located in containment sump? (If installed after 11/1/07)					

SITING AND SECONDARY CONTAINMENT

Siting And Sec.Containment-General	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
UST system upgraded with corrosion protection, spill and overfill before 1/1/91?	No	No	No	No	No
UST system and/or piping are located within siting and secondary containment areas?	No	No	No	No	No

LEAK DETECTION

General	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
DWM notified of leak detection method?	Yes	Yes	Yes	Yes	Yes
Piping type	Pressurized System	Manifold Bar	Pressurized System	Pressurized System	Manifold Bar
Suction Check Type					
Type LLD present.	ELLD		MLLD	ELLD	
Tank – Primary leak detection method	Automatic Tank Gauging	Automatic Tank Gauging	Automatic Tank Gauging	Automatic Tank Gauging	Automatic Tank Gauging
Tank - if other, specify					
Tank - Primary LD install date	3/31/1993	3/31/1993	3/31/1993	3/31/1993	3/31/1993
Tank – Secondary leak detection method					
Tank - if other, specify					
Piping - Primary leak detection method	Line Tightness Testing (LTT)	Not Required	Line Tightness Testing (LTT)	Line Tightness Testing (LTT)	Not Required
Piping - if other, specify					
Piping - Primary LD install date	3/31/1993	3/31/1993	3/31/1993	3/31/1993	3/31/1993

General	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
Piping - Secondary leak detection method					
Piping - if other, specify					

PIPING LEAK DETECTION

Pressurized Piping	Tank #1(1-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)
Last MLLD/ELLD Test Date			
MLLD/ELLD Test Result			
Last LTT Test Date			
LTT Test Result			
Does test result indicatesuspected release?			
Number of MLLD/ELLD Types	1	1	1

MLLD/ELLD Equipment	Tank #1(1-Reg) LLD #1	Tank #3(3-Pre) LLD #1	Tank #4(4-Dsl) LLD #1
MLLD/ELLD Manufacturer/Model	V-R: PLLD Series 8484	V-R: FX1V	V-R: PLLD Series 8484
If other, describe			
MLLD/ELLD Third Party Certified?	Yes	Yes	Yes

AUTOMATIC TANK GAUGE

ATG Systems	ATG #1
ATG Manufacturer/Model	V-R: TLS-350 CSLD
If other, describe	
ATG Third Party Certified?	Yes
Is ATG console operational?	Yes
Tanks	#1(1-Reg), #2(2-Reg), #3(3-Pre), #4(4-Dsl), #5(5-Dsl)

ATG Monthly LD	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
2018 Feb	None	None	None	None	None
2018 Jan	None	None	None	None	None
2017 Dec	None	None	None	None	None
2017 Nov	None	None	None	None	None
2017 Oct	None	None	None	None	None
2017 Sep	None	None	None	None	None
2017 Aug	None	None	None	None	None
2017 Jul	None	None	None	None	None

ATG Monthly LD	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
2017 Jun	None	None	None	None	None
2017 May	None	None	None	None	None
2017 Apr	None	None	None	None	None
2017 Mar	None	None	None	None	None

ATG Conclusions	
Leak Detection Requirements Met?	No
Do the results indicate a suspected release?	No
Issues	0.2 Test not conducted for 3 or more months (LD1*), Records not available (RCD5)

TRANSPORTER/FUEL DELIVERY INFORMATION

Delivery Information	Tank #1(1-Reg)	Tank #2(2-Reg)	Tank #3(3-Pre)	Tank #4(4-Dsl)	Tank #5(5-Dsl)
All deliveries made to permitted tanks	Yes	Yes	Yes	Yes	Yes

SITE DIAGRAM 1

WS-8861 #44108 (4)

UST-61 24-Hour Release and UST Leak Reporting Form.

For Releases in NC

This form should be completed and submitted to the UST Section's regional office following a known or suspected release from an underground storage tank (UST) system. This form is required to be submitted within 24 hours of discovery of a known or suspected release

(DWM USE ONLY)
Incident # _____ Risk (H,I,L,U) _____
Received On _____ Received By _____
Reported by (*circle one*): Phone, Fax or Report
Region _____

Suspected Contamination? (Y/N) _____
Confirmed GW Contamination? (Y/N) _____
Confirmed Soil Contamination ? (Y/N) _____
Free Product? (Y/N) _____ If Yes, State Greatest Thickness _____

Facility ID Number 0-0002463
Date Leak Discovered 1-30-13
(Comm)/Non-Commercial? _____
(Reg)/Non-regulated? _____

INCIDENT DESCRIPTION

Incident Name: Grab & Go - Winston Rd

Address: 1009 Winston Road County: Davidson

City/Town: Lexington Zip Code: 27292 Regional Office (*circle one*): Asheville, Mooresville, Fayetteville, Raleigh, Washington, Wilmington, (Winston-Salem)

Latitude (decimal degrees): N 35.8394604 Longitude (decimal degrees): W 80.2533683

Obtained by:
- [x] GPS
- [ ] Topographic map
- [ ] GIS Address matching
- [ ] Other
- [ ] Unknown

Describe location:

Briefly describe suspected or confirmed release: *(including but not limited to: nature of release, date of release, amount of release, amount of free product present and recovery efforts, initial responses conducted, impacts to receptors)*

Soil & groundwater contamination discovered during a Phase II Site Assessment conducted in January of 2013

HOW RELEASE WAS DISCOVERED (ReleaseCode)

(Check one)

- [ ] Release Detection Equipment or Methods
- [ ] During UST Closure/Removal
- [ ] Property Transfer
- [ ] Visual/Odor
- [ ] Water In Tank
- [ ] Water Supply Well Contamination
- [ ] Groundwater Contamination
- [ ] Surface Water Contamination
- [x] Other (specify) Phase II ESA

SOURCE OF CONTAMINATION

Source of Release (Source of Release) *(Check one to indicate primary source)*
- [x] Tank
- [ ] Piping
- [ ] Dispenser
- [ ] Submersible Turbine Pump
- [ ] Delivery Problem
- [ ] Other
- [ ] Unknown

Definitions presented on reverse

Cause of Release (Cause) *(Check one to indicate primary cause)*
- [ ] Spill
- [ ] Overfill
- [ ] Corrosion
- [ ] Physical or Mechanical Damage
- [ ] Install Problem
- [ ] Other
- [x] Unknown

Definitions presented on reverse

Type of Release (Type) *(Check one)*
- [x] Petroleum
- [ ] Non-Petroleum
- [ ] Both

Product Type Released (Ptype) *(Check one to indicate primary product type released)*
- [x] Gasoline/Diesel/Kerosene
- [ ] Heating Oil
- [ ] Other Petroleum Products
- [ ] Metals
- [ ] Other Inorganics
- [ ] Other Organics

Location *(Check one)*
- [x] Facility
- [ ] Residence
- [ ] Other

Ownership
1. Municipal 2. Military 3. Unknown (4. Private) 5. Federal 6. County 7. State

Operation Type
1. Public Service 2. Agricultural 3. Residential 4. Education/Relig. 5. Industrial (6. Commercial) 7. Mining

IMPACT ON DRINKING WATER SUPPLIES

Water Supply Wells Affected? 1. Yes 2. No (3. Unknown)

Number of Water Supply Wells Affected _____

Water Supply Wells Contaminated: (*Include Users Names, Addresses and Phone Numbers. Attach additional sheet if necessary*)

1.
2.
3.

UST SYSTEM OWNER

UST Owner/Company			
CSL Investments, Inc.			
Point of Contact		Address	
Joseph Sells		869 S. Main St.	
City	State	Zip Code	Telephone Number
Burlington	NC	27215	

UST SYSTEM OPERATOR

UST Operator/Company			
Same as UST Owner			
City	State	Zip Code	Telephone Number

LANDOWNER AT LOCATION OF UST INCIDENT

Landowner			
Grab & Go		1309 S. Main St.	
City	State	Zip Code	Telephone Number
Lexington	NC	27292	336-215-6655

Draw Sketch of Area (showing two major road intersections) or Attach Map

See Attached Map

Person Reporting Incident	Company		Telephone Number
Brad Barner	PARAGON Environmental Consultants, Inc.		336-669-6037
Title	Address		Date
Project Mgr.	P.O. Box 157 Thomasville, NC 27361		2-19-13

Definitions of Sources

Tank: means the tank that stores the product and is part of the underground storage tank system

Piping: means the piping and connectors running from the tank or submersible turbine pump to the dispenser or other end-use equipment (Vent, vapor recovery, or fill lines are excluded.)

Dispenser: includes the dispenser and the equipment used to connect the dispenser to the piping (e.g., a release from a suction pump or from components located above the shear valve)

Submersible Turbine Pump (STP) Area includes the submersible turbine pump head (typically located in the tank sump), the line leak detector, and the piping that connects the submersible turbine pump to the tank

Delivery Problem: identifies releases that occurred during product delivery to the tank. (Typical causes associated with this source are spills and overfills.)

Other: serves as the option to use when the release source is known but does not fit into one of the preceding categories (e.g., for releases from vent lines, vapor recovery lines, and fill lines)

Unknown: identifies releases for which the source has not been determined

Definitions of Causes

Spill: use this cause when a spill occurs (e.g., when the delivery hose is disconnected from the tank fill pipe or when the nozzle is removed from the dispenser)

Overfill: use when an overfill occurs (e.g., overfills may occur from the fill pipe at the tank or when the nozzle fails to shut off at the dispenser)

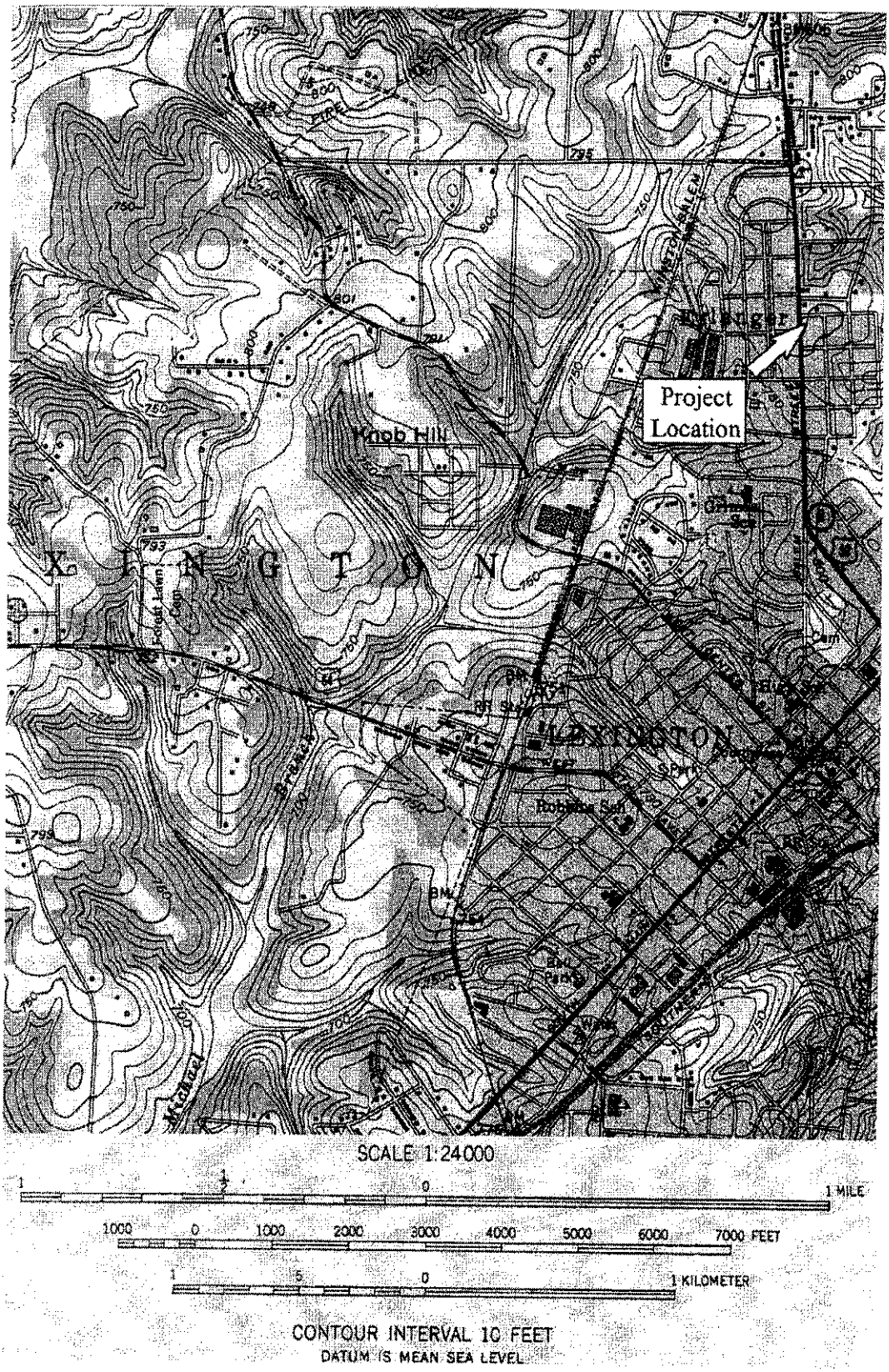
Physical or Mechanical Damage: use for all types of physical or mechanical damage, except corrosion (e.g., puncture of tank or piping, loose fittings, broken components, and components that have changed dimension)

Corrosion: use when a metal tank, piping, or other component has a release due to corrosion (e.g., for steel, corrosion takes the form of rust)

Installation Problem: use when the problem is determined to have occurred specifically because the UST system was not installed properly

Other: use this option when the cause is known but does not fit into one of the preceding categories (e.g., putting regulated substances into monitoring wells)

Unknown: use when the cause has not been determined



PARAGON ENVIRONMENTAL CONSULTANTS, INC.
THOMASVILLE, NORTH CAROLINA

CLIENT: CRAB & GO GREENSBORO, NC

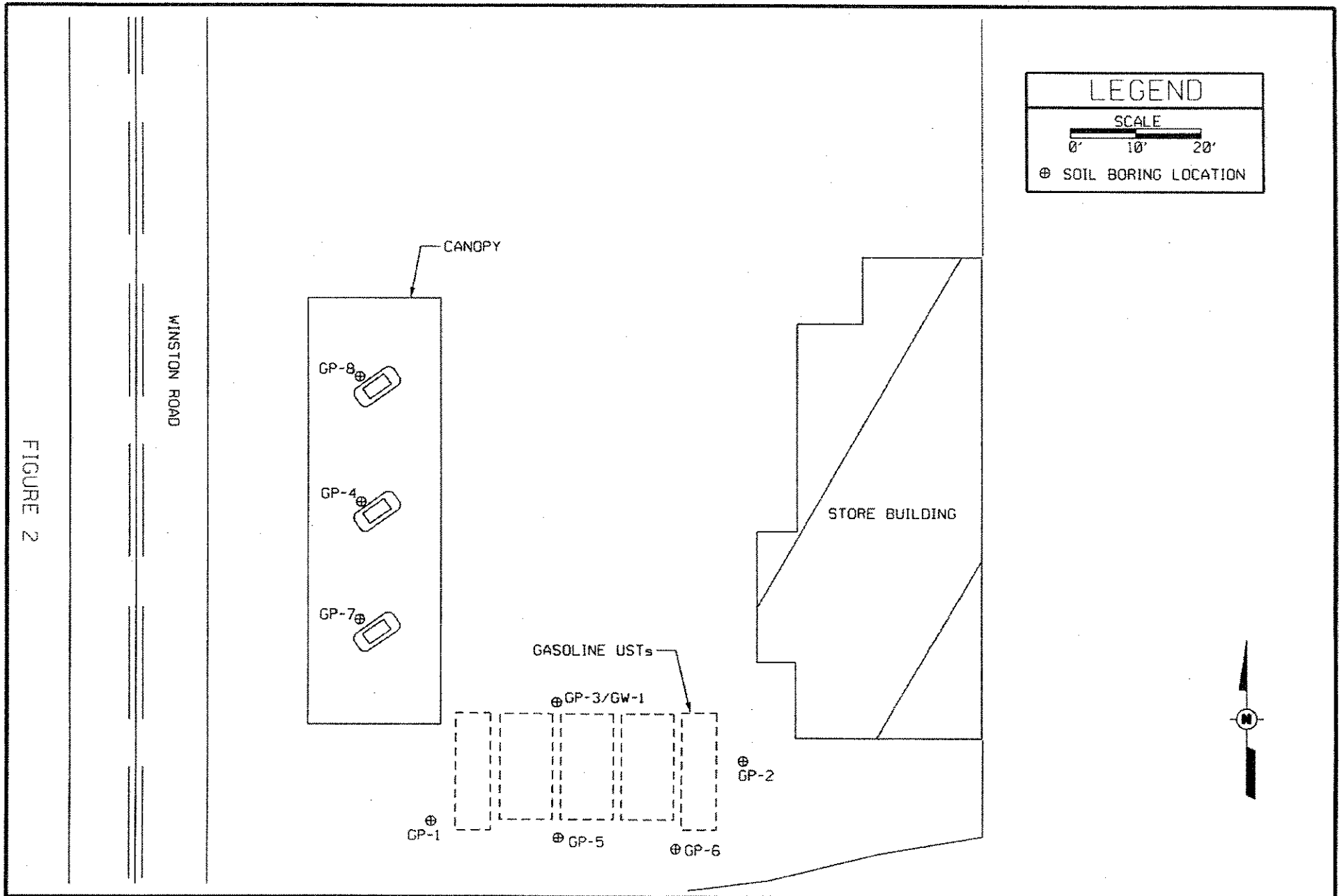
PROJECT: PHASE II ESA 1009 WINSTON ROAD LEXINGTON, NC

TITLE: PROJECT LOCATION

SCALE: 1"=2000'
DATE: 1/31/13
DWN. BY: KBM
DWG. NO. L13-13052

FIGURE 1

FIGURE 2



SCALE: 1"=20'	TITLE: SITE LAYOUT AND SAMPLE LOCATIONS	PROJECT: PHASE II ESA 1009 WINSTON ROAD LEXINGTON, NC	CLIENT: CRAB & GO GREENSBORO, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA
DATE: 1/31/13				
DWN. BY: KBM				
DWG. NO. L13-1305				

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions

NC Certification No. 402
SC Certification No. 99012
NC Drinking Water Cert No. 37735
VA Certification No. 1287
DoD ELAP Certification No. L2307

Case Narrative

01/22/2013

Paragon Environmental Consultants, Inc.
Brandon Moore
PO Box 157
Thomasville, NC 27361

Project: 1009 Winston Rd.

Lab Submittal Date: 01/14/2013
Prism Work Order: 3010313

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

Steven H. Bryttill

Reviewed By

Data Qualifiers Key Reference:

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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

01/22/2013

Prism Work Order: 3010313

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
GP-1	3010313-01	Solid	01/14/13	01/14/13
GP-2	3010313-02	Solid	01/14/13	01/14/13
GP-3	3010313-03	Solid	01/14/13	01/14/13
GP-4	3010313-04	Solid	01/14/13	01/14/13
GW-1	3010313-05	Water	01/14/13	01/14/13

Samples received in good condition at 3.7 degrees C unless otherwise noted.

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

Summary of Detections

01/22/2013

Prism Work Order: 3010313

Prism ID	Client ID	Parameter	Method	Result		Units
3010313-03	GP-3	Gasoline Range Organics	*8015C	430		mg/kg dry
3010313-05	GW-1	Benzene	SM6200 B	62		ug/L
3010313-05	GW-1	Ethylbenzene	SM6200 B	64		ug/L
3010313-05	GW-1	Isopropyl Ether	SM6200 B	38	J	ug/L
3010313-05	GW-1	m,p-Xylenes	SM6200 B	190		ug/L
3010313-05	GW-1	Methyl-tert-Butyl Ether	SM6200 B	4300		ug/L
3010313-05	GW-1	Naphthalene	SM6200 B	17	J	ug/L
3010313-05	GW-1	o-Xylene	SM6200 B	110		ug/L
3010313-05	GW-1	Toluene	SM6200 B	55		ug/L
3010313-05	GW-1	Xylenes, total	SM6200 B	300		ug/L

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

Paragon Environmental Consultants, Inc.
Attn: Brandon Moore
PO Box 157
Thomasville, NC 27361

Project: 1009 Winston Rd.

Sample Matrix: Solid

Client Sample ID: GP-1
Prism Sample ID: 3010313-01
Prism Work Order: 3010313
Time Collected: 01/14/13 14:55
Time Submitted: 01/14/13 17:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	5.1	1.1	50	*8015C	1/17/13 23:28	ANG	P3A0317
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*119 %*		*50-137*	
General Chemistry Parameters									
% Solids	**80.4**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**1/15/13 15:45**	**JAB**	**P3A0270**

Paragon Environmental Consultants, Inc.
Attn: Brandon Moore
PO Box 157
Thomasville, NC 27361

Project: 1009 Winston Rd.

Sample Matrix: Solid

Client Sample ID: GP-2
Prism Sample ID: 3010313-02
Prism Work Order: 3010313
Time Collected: 01/14/13 15:20
Time Submitted: 01/14/13 17:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	6.0	1.3	50	*8015C	1/17/13 23:55	ANG	P3A0317
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*132 %*		*50-137*	
General Chemistry Parameters									
% Solids	**71.4**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**1/15/13 15:45**	**JAB**	**P3A0270**

Paragon Environmental Consultants, Inc.
Attn: Brandon Moore
PO Box 157
Thomasville, NC 27361

Project: 1009 Winston Rd.

Sample Matrix: Solid

Client Sample ID: GP-3
Prism Sample ID: 3010313-03
Prism Work Order: 3010313
Time Collected: 01/14/13 15:45
Time Submitted: 01/14/13 17:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	**430**	**mg/kg dry**	**62**	**14**	**500**	***8015C**	**1/18/13 2:10**	**ANG**	**P3A0317**
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*130 %*		*50-137*	
General Chemistry Parameters									
% Solids	**74.2**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**1/15/13 15:45**	**JAB**	**P3A0270**

Paragon Environmental Consultants, Inc.
Attn: Brandon Moore
PO Box 157
Thomasville, NC 27361

Project: 1009 Winston Rd.

Sample Matrix: Solid

Client Sample ID: GP-4
Prism Sample ID: 3010313-04
Prism Work Order: 3010313
Time Collected: 01/14/13 14:30
Time Submitted: 01/14/13 17:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	4.8	1.1	50	*8015C	1/18/13 1:16	ANG	P3A0317
			Surrogate			Recovery		Control Limits	
			a,a,a-Trifluorotoluene			*109 %*		*50-137*	
General Chemistry Parameters									
% Solids	**74.0**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**1/15/13 15:45**	**JAB**	**P3A0270**

Paragon Environmental Consultants, Inc.
Attn: Brandon Moore
PO Box 157
Thomasville, NC 27361

Project: 1009 Winston Rd.

Sample Matrix: Water

Client Sample ID: GW-1
Prism Sample ID: 3010313-05
Prism Work Order: 3010313
Time Collected: 01/14/13 16:10
Time Submitted: 01/14/13 17:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic 602 Compounds by GC/MS									
Benzene	**62**	**ug/L**	**5.0**	**0.54**	**10**	**SM6200 B**	**1/22/13 1:48**	**VHL**	**P3A0385**
Ethylbenzene	**64**	**ug/L**	**10**	**0.54**	**10**	**SM6200 B**	**1/22/13 1:48**	**VHL**	**P3A0385**
Isopropyl Ether	**38 J**	**ug/L**	**50**	**0.42**	**10**	**SM6200 B**	**1/22/13 1:48**	**VHL**	**P3A0385**
m,p-Xylenes	**190**	**ug/L**	**20**	**1.1**	**10**	**SM6200 B**	**1/22/13 1:48**	**VHL**	**P3A0385**
Methyl-tert-Butyl Ether	**4300**	**ug/L**	**250**	**2.8**	**50**	**SM6200 B**	**1/22/13 12:27**	**VHL**	**P3A0385**
Naphthalene	**17 J**	**ug/L**	**50**	**0.94**	**10**	**SM6200 B**	**1/22/13 1:48**	**VHL**	**P3A0385**
o-Xylene	**110**	**ug/L**	**10**	**0.64**	**10**	**SM6200 B**	**1/22/13 1:48**	**VHL**	**P3A0385**
Toluene	**55**	**ug/L**	**10**	**0.57**	**10**	**SM6200 B**	**1/22/13 1:48**	**VHL**	**P3A0385**
Xylenes, total	**300**	**ug/L**	**30**	**1.7**	**10**	**SM6200 B**	**1/22/13 1:48**	**VHL**	**P3A0385**

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*70-130*
Dibromofluoromethane	*102 %*	*70-130*
Toluene-d8	*101 %*	*70-130*

Paragon Environmental Consultants, Inc.
Attn: Brandon Moore
PO Box 157
Thomasville, NC 27361

Project: 1009 Winston Rd.

Prism Work Order: 3010313
Time Submitted: 1/14/2013 5:30:00PM

Volatile Organic 602 Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3A0385 - SM6200 B										
Blank (P3A0385-BLK1)				Prepared & Analyzed: 01/21/13						
Benzene	BRL	0.50	ug/L							
Ethylbenzene	BRL	1.0	ug/L							
Isopropyl Ether	BRL	5.0	ug/L							
m,p-Xylenes	BRL	2.0	ug/L							
Methyl-tert-Butyl Ether	BRL	5.0	ug/L							
Naphthalene	BRL	5.0	ug/L							
o-Xylene	BRL	1.0	ug/L							
Toluene	BRL	1.0	ug/L							
Xylenes, total	BRL	3.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*51.6*		*ug/L*	*50.00*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*51.8*		*ug/L*	*50.00*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.8*		*ug/L*	*50.00*		*102*	*70-130*			
LCS (P3A0385-BS1)				Prepared & Analyzed: 01/21/13						
Benzene	19.4	0.50	ug/L	20.00		97	70-130			
Ethylbenzene	20.2	1.0	ug/L	20.00		101	70-130			
Isopropyl Ether	19.2	5.0	ug/L	20.00		96	70-130			
m,p-Xylenes	41.1	2.0	ug/L	40.00		103	70-130			
Methyl-tert-Butyl Ether	19.6	5.0	ug/L	20.00		98	70-130			
Naphthalene	20.7	5.0	ug/L	20.00		104	70-130			
o-Xylene	20.2	1.0	ug/L	20.00		101	70-130			
Toluene	19.4	1.0	ug/L	20.00		97	70-130			
Xylenes, total	61.3	3.0	ug/L	60.00		102	70-130			
Surrogate: 4-Bromofluorobenzene	*49.8*		*ug/L*	*50.00*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*51.6*		*ug/L*	*50.00*		*103*	*70-130*			
Surrogate: Toluene-d8	*51.3*		*ug/L*	*50.00*		*103*	*70-130*			
LCS Dup (P3A0385-BSD1)				Prepared & Analyzed: 01/21/13						
Benzene	20.3	0.50	ug/L	20.00		101	70-130	4	200	
Ethylbenzene	21.1	1.0	ug/L	20.00		106	70-130	5	200	
Isopropyl Ether	19.9	5.0	ug/L	20.00		100	70-130	4	200	
m,p-Xylenes	43.2	2.0	ug/L	40.00		108	70-130	5	200	
Methyl-tert-Butyl Ether	20.0	5.0	ug/L	20.00		100	70-130	2	200	
Naphthalene	20.5	5.0	ug/L	20.00		102	70-130	1	200	
o-Xylene	21.2	1.0	ug/L	20.00		106	70-130	5	200	
Toluene	20.5	1.0	ug/L	20.00		102	70-130	5	200	
Xylenes, total	64.4	3.0	ug/L	60.00		107	70-130	5	200	
Surrogate: 4-Bromofluorobenzene	*50.8*		*ug/L*	*50.00*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*50.3*		*ug/L*	*50.00*		*101*	*70-130*			
Surrogate: Toluene-d8	*50.7*		*ug/L*	*50.00*		*101*	*70-130*			

Paragon Environmental Consultants, Inc.
Attn: Brandon Moore
PO Box 157
Thomasville, NC 27361

Project: 1009 Winston Rd.

Prism Work Order: 3010313
Time Submitted: 1/14/2013 5:30:00PM

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 P3A0317 - 5035										
Blank (P3A0317-BLK1)				Prepared & Analyzed: 01/17/13						
Gasoline Range Organics	BRL	5.0	mg/kg wet							
Surrogate: a,a,a-Trifluorotoluene	*4.70*		*mg/kg wet*	*5.000*		*94*	*50-137*			
LCS (P3A0317-BS1)				Prepared & Analyzed: 01/17/13						
Gasoline Range Organics	58.3	5.0	mg/kg wet	50.00		117	41-138			
Surrogate: a,a,a-Trifluorotoluene	*5.15*		*mg/kg wet*	*5.000*		*103*	*50-137*			
LCS Dup (P3A0317-BSD1)				Prepared & Analyzed: 01/17/13						
Gasoline Range Organics	52.8	5.0	mg/kg wet	50.00		106	41-138	10	200	
Surrogate: a,a,a-Trifluorotoluene	*5.30*		*mg/kg wet*	*5.000*		*106*	*50-137*			

Paragon Environmental Consultants, Inc.
Attn: Brandon Moore
PO Box 157
Thomasville, NC 27361

Project: 1009 Winston Rd.

Prism Work Order: 3010313
Time Submitted: 1/14/2013 5:30:00PM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3A0270 - NO PREP										
Blank (P3A0270-BLK1)				Prepared & Analyzed: 01/15/13						
% Solids	100	0.100	% by Weight							
Duplicate (P3A0270-DUP1)		**Source: 3010313-03**		Prepared & Analyzed: 01/15/13						
% Solids	74.5	0.100	% by Weight		74.2			0.4	20	

Sample Extraction Data

Prep Method: 5035

Lab Number	Batch	Initial	Final	Date/Time
3010313-01	P3A0317	6.15 g	5 mL	01/17/13 15:33
3010313-02	P3A0317	5.86 g	5 mL	01/17/13 15:33
3010313-03	P3A0317	5.46 g	5 mL	01/17/13 15:33
3010313-04	P3A0317	7.01 g	5 mL	01/17/13 15:33

Prep Method: SM6200 B

Lab Number	Batch	Initial	Final	Date/Time
3010313-05	P3A0385	10 mL	10 mL	01/21/13 10:26
3010313-05	P3A0385	10 mL	10 mL	01/21/13 10:26

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions
449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
Phone: 704/529-6364 • Fax: 704/525-0409

PAGE ___ OF ___ QUOTE # TO ENSURE PROPER BILLING: _____

Project Name: P. 1305

Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)

*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements

Client Company Name: PARAGON Environmental Consulting P.O. Box 157 Thomasville, NC 27 (336) 669-6837

Report To/Contact Name: _____ Invoice To: Same

Reporting Address: _____ Address: Same

Phone: _____ Fax (Yes) (No): _____

Email (Yes) (No) Email Address paragonenv@northstate.net

EDD Type: PDF___ Excel___ Other _____

Site Location Name: 1009 Winston Rd

Site Location Physical Address: 1009 Winston Rd Lexington, NC

Purchase Order No./Billing Reference _____

Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days

"Working Days" ☑ 6-9 Days ☐ Standard 10 days ☐ Rush Work Must Be Pre-Approved

Samples received after 15:00 will be processed next business day.

Turnaround time is based on business days, excluding weekends and holidays.

(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?			
Received ON WET ICE? Temp 3.7°	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?			✓
VOLATILES rec'd W/OUT HEADSPACE?	✓		
PROPER CONTAINERS used?	✓		

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC___ USACE___ FL___ NC ✓

SC___ OTHER___ N/A___

Water Chlorinated: YES___ NO ✓

Sample Iced Upon Collection: YES ✓ NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	SAMPLE CONTAINER NO.	SAMPLE CONTAINER SIZE	PRESERVATIVES	ANALYSES REQUESTED GRO	ETPH modified 8021 BTEX + MTBE + TMB's Xylenes					REMARKS	PRISM LAB ID NO.
Geoprobe #1 (GP-1)	1/14/13	14:55	Soil		3			X							#1
Geoprobe #2 (GP-2)		15:20	Soil		3			X							#2
Geoprobe #3 (GP-3)		15:45	Soil		3			X							#3
Geoprobe #4 (GP-4)		14:30	Soil		3			X							#4
Groundwater #1 (GW-1)		16:10	Water		3				X						#5

Sampler's Signature _____ Sampled By (Print Name) Ben Robinson Affiliation _____

PRESS DOWN FIRMLY - 3 COPIES

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

Relinquished By: (Signature)	Received By: (Signature)	Date	Military/Hours
Relinquished By: (Signature)	Received By: (Signature)	Date	
Relinquished By: (Signature)	Received For Prism Laboratories By:	Date	
		1/14/13	17:30

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☒ Prism Field Service ☐ Other _____

COC Group No. 3414313

Additional Comments:

PRISM USE ONLY

Site Arrival Time:

Site Departure Time:

Field Tech Fee:

Mileage:

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC	☒ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC
☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____

*CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

LIMITED SITE ASSESSMENT

GRAB & GO
1009 WINSTON ROAD
LEXINGTON, NC
GROUNDWATER INCIDENT: 44108
FACILITY ID: 00-0-0000024863

FEBRUARY 4, 2016

UST OWNER/OPERATOR:
DSF of NC, Inc.
4401 United Street
Greensboro, NC 27407
Phone Number: (336) 285-7474

PROPERTY OWNER:
Same as UST owner

CONSULTANT:
Paragon Environmental Consultants, Inc.
P. O. Box 157
Thomasville, NC 27361-0157
Phone Number: (336) 669-6037

RELEASE INFORMATION:
Date Discovered: 1/30/13
Estimated Quantity of Release: Unknown Cause of Release: Unknown
Source of Release: Gasoline USTs
Size and Contents: Three (3) 6,000 Gallon Gasoline USTs
and Two (2) 2,000 Gallon Gasoline USTs
Latitude: N 35.8394604° Longitude: W 80.2533683°

The Limited Site Assessment for this site has been prepared by Paragon Environmental Consultants, Inc. under the direct supervision of a licensed geologist. All activities performed on this project were conducted under my direct supervision:

Brandon Moore, L.G.
North Carolina License #1666

PARAGON
Environmental Consultants, Inc.

February 4, 2016

Shehzad Quamar
DSF of NC, Inc.
4401 United Street
Greensboro, NC 27407

Reference: Limited Site Assessment
Grab & Go-Winston Road
1009 Winston Road
Lexington, North Carolina
Groundwater Incident # 44108
Facility ID 00-0-0000024863

Dear Mr. Quamar:

In accordance with the requirements of a correspondence from the North Carolina Department of Environmental Quality (NCDEQ) dated December 16, 2015, contained herein is a Limited Site Assessment for the release which occurred at the above referenced facility. These activities have been conducted following the release of petroleum which occurred in the vicinity of the underground storage tank (UST) system formerly located at this site. All activities were conducted in accordance with NCDENR guidelines and the requirements of 15A NCAC 2L .0115.

Mr. Quamar, if you have questions regarding this report please contact our office.

Sincerely,

Brandon Moore, L.G.
Paragon Environmental Consultants, Inc.

R16-1305A

P.O. Box 157 • Thomasville, NC 27361-0157
Business Ph: (336) 669-6037 • Fax: (336) 476-7708

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LIMITED SITE ASSESSMENT REPORT

Grab & Go
1009 Winston Road
Lexington, North Carolina

1.0. - SITE HISTORY AND SOURCE CHARACTERIZATION

DSF of NC, Inc. owns and operates a facility at 1009 Winston Road in Lexington, NC which is referred to as the Grab & Go. This property contains one permanent structure which is used as a convenience store. Figure 1 illustrates the location of this facility on the Lexington West Quadrangle U.S.G.S. Topographic Map. The site contains three (3) 6,000 gallon gasoline USTs and two (2) 2,000 gallon gasoline USTs which are used for the retail sale of petroleum. Figure 2 illustrates the site layout and the locations of the USTs. A release of petroleum was detected during a Phase II Environmental Site Assessment (ESA) which was conducted for property transfer. Information regarding the ownership of the regulated USTs which are located at this facility is contained in Table 1. The Phase II ESA Report dated January 30, 2013 for this facility was submitted to the NCDENR in February of 2013.

2.0 - RISK CHARACTERIZATION AND LAND USE FORM

Part I Groundwater/Surface water/Vapor impact
High Risk

1. Has discharge or release contaminated any water supply wells including any used for non-drinking purposes?

   NO

2. Is a water supply well used for drinking water located within 1,000 feet of the source area the discharge or release?

   NO

3. Is a water supply well used for any purpose (e.g., irrigation, washing cars, industrial cooling water, filling swimming pools) located within 250 feet of the source area of the discharge or release?

   NO

4. Does groundwater within 500 feet of the source area of the discharge or release have the potential for future use in that there is no other source of water supply other than the groundwater?

   NO

5. Do vapors from the discharge or release pose a threat of explosion because of accumulation of the vapors in a confined space or pose any other serious threat to public health, public safety or the environment?

   NO

6. Are there any factors that would cause the discharge or release to pose an imminent danger to public health, public safety or the environment?

   NONE KNOWN

Intermediate Risk

7. Is a surface body located within 500 feet of the source area of the discharge or release?

   NO

   If yes, does the maximum groundwater contaminant concentration exceed the surface water quality standards and criteria found in 15A NCAC 2B .0200 by a factor of 10?

   N/A

8. Is the source area of the discharge or release located within a designated wellhead protection area as defined in 42 USC 300h-7(e)?

   NO

9. Is the discharge or release located in the Coastal Plain physiographic region as designated on a map entitled "Geology of North Carolina" published by the Department in 1985?

   NO

   If yes, is the source area of the discharge or release located in an area in which there is recharge to an unconfined or semi-confined deeper aquifer that is being used or may be used as a source of drinking water?

   N/A

10. Do the levels of groundwater contamination for any contaminant exceed the gross contamination levels established (see Table 7 in guidelines) by the department?

    NO

Part II-Land Use

Property containing Source Area of Discharge or Release

The questions below pertain to the property containing the source area of the release.

1. Does the property contain one or more primary or secondary residences (permanent or temporary)?

   NO

2. Does the property contain a school, daycare center, hospital, playground, park, recreation area, church, nursing home, or other place of public assembly?

   NO

3. Does the property contain a commercial (e.g., retail, warehouse, office/business space, etc.) or industrial (e.g., manufacturing, utilities, industrial research and development, chemical/petroleum bulk storage, etc.) enterprise, an inactive commercial or industrial enterprise, or is the land undeveloped?

   YES, THE BUILDING CONTAINS A CONVENIENCE STORE

4. Do children visit the property?

   YES

   Explain.

   CHILDREN VISIT THE STORE

5. Is access to the property reliably restricted consistent with its use?

   YES

6. Do pavement, buildings, or other structures cap the contaminated soil?

   YES

   If yes, what mechanisms are in place or can be put into place to insure that the contaminated soil will remain capped in the foreseeable future?

   THE PAVED PARKING SURFACE WILL REMAIN IN PLACE

7. What is the zoning status of the property?

   COMMERCIAL

8. Is the use of the property likely to change in the next 20 years?

   NO

Property Surrounding Source Area of Discharge or Release.

9. What is the distance from the source area of the release to the nearest primary or secondary residence (permanent or temporary)

   APPROXIMATELY 165 FEET TO THE WEST OF THE SOURCE AREA

10. What is the distance from the source area of the release to the nearest school, daycare center, hospital, playground, park, recreation area, church, nursing home, or other place of public assembly?

    ABIDING FAITH TABERNACLE CHURCH IS LOCATED APPROXIMATELY 570 FEET TO THE NORTHEAST OF THE SITE

11. What is the zoning status of properties in the surrounding areas?

    COMMERCIAL / RESIDENTIAL

12. Briefly characterize the use and activities of the land in the surrounding area.

    COMMERCIAL / RESIDENTIAL

3.0 - RECEPTOR INFORMATION

3.1 Water Supply Wells

A supply well survey has been conducted within a radius of 1,500 feet from the release area. During this reconnaissance no water supply wells in use for any purpose were found to be located within this radius.

3.2 Public Water Supplies

Public water supplies are available from City of Lexington to all of the surrounding properties within a radius of 1,500 feet from 1009 Winston Road.

3.3 Surface Water

The partial U.S.G.S. map included as Figure 1 indicates that surface waters in the vicinity of the release area generally drain towards an unnamed stream which is located approximately 1,250 feet to the east of the release area. This unnamed stream flows into Leonard Creek situated approximately 10,000 feet to the east. Leonard Creek is a tributary of Abbotts Creek which is within the Yadkin / Pee Dee River Drainage Basin.

3.4 Wellhead Protection Areas

No wellhead protection areas are known to exist within the area of this release.

3.5 Deep Aquifers in the Coastal Plain Physiographic Region

This release is not located in the coastal plain.

3.6 Subsurface Structures

Subsurface utility lines associated with the UST system are located in the vicinity of the petroleum affected area at this facility. The building located on the impacted property does not have a basement; however, other subsurface utilities are present in the form of water and sewer lines. Figure 3 illustrates the locations of all known subsurface utilities.

3.7 Land Use

The possibility of human exposure to soil contamination at the Grab & Go is minimal. The marginally impacted soil which remains in place is situated more than 12 feet below the land surface and is covered with the tank system and capped by asphalt and concrete pavement. The facility lies within a primarily commercial area.

3.8 Property Owners and Occupants

Figure 4 illustrates the surrounding properties, and Table 2 contains information regarding the adjacent property owners. This information was obtained from the Davidson County Tax Department's records.

4.0 - SITE GEOLOGY AND HYDROGEOLOGY

4.1 Site Geology

The site is situated in the Piedmont Region of the North Carolina Slate Belt. According to the Geological Map of North Carolina local bedrock geology of the region consists of Late Proterozoic to Cambrian aged metamorphosed granitic bedrock. Competent bedrock was not encountered to a depth of 30 feet below land surface which was the maximum depth explored during the subsurface investigation.

4.2 Soils Investigation

The soils at the project site consist of clay with varying amounts of silt. A soil boring log for the boring advanced for monitor well installation at the site is contained as Appendix A. No contaminated soils have been removed from this subject site since the USTs remain in place above the impacted soil.

One "Risk-Based" sample was collected at the Grab & Go for laboratory analyses from the monitor well boring at a depth of 15 feet below land surface. This sample was submitted to Meritech, Inc. for analyses by EPA Method 8260 and by MADEP methods for Volatile Petroleum Hydrocarbons (VPH). The soil sample, labeled as MW1-15, was below the Residential Standards for all Method 8260 compounds and all VPH carbon fractions. Table 3 summarizes the analytical results of the "Risk-Based" soil sample, and Figure 5 illustrates the location of the soil sample collected at 1009 Winston Road. Appendix B contains a copy of the laboratory analytical report and the chain-of-custody record for the soil sample.

5.0 - SAMPLING RESULTS

5.1 Monitor Well Installation

One North Carolina Type II groundwater monitoring well has been installed at the site. Figure 6 illustrates the site layout and the location of the monitor well which was labeled as MW-1. The monitoring well was constructed of 2-inch Schedule 40 PVC pipe with 20 feet of 0.010 inch slotted screen. Based on the assumption that the contaminants being addressed were primarily hydrocarbon constituents with specific gravities of less than 1.0, the groundwater monitoring well was installed so that the screened interval intersected the shallow groundwater table at the time of installation. Table 4 summarizes the monitoring well information and groundwater elevations as measured on January 20, 2016. A copy of the well construction record for the monitor well installed at this facility is included as Appendix C.

5.2 Groundwater Analyses

Following installation the monitoring well was developed and sampled in accordance with Paragon's Standard Operating Procedures which are contained as Appendix D. The groundwater samples were submitted to Meritech, Inc. for laboratory analysis according to EPA Method 6200B plus MTBE and IPE. The groundwater sample was also analyzed for Lead and by MADEP methods for VPH.

According to the analytical results for monitor well MW-1, three Method 6200B compounds were reported at concentrations which exceed the 2L Standards. Benzene was indicated at 90.3 micrograms per liter (ug/L) as compared to the 2L Standard of 1 ug/L. Naphthalene, which has a 2L Standard of 6 ug/L, was detected at 36.2 ug/L. MTBE was listed at 4,570 ug/L which is above the 2L Standard of 20 ug/L. Two carbon fraction classes were shown at levels above the 2L Standards in MW-1. C5-C8 Aliphatics was reported at 3,840 ug/L, and C9-C19 Aliphatics was detected at 2,680 ug/L. These two fraction classes have 2L Standards of 400 ug/L and 700 ug/L, respectively.

None of the Method 6200B compounds detected at the Grab & Go were at concentrations that exceeded the Gross Contaminant Levels (GCLs), and no GCLs have been established for the carbon fraction classes. Table 5 summarizes the groundwater analytical results, and Appendix E contains a copy of the laboratory analytical report and the chain-of-custody record for the groundwater sample.

6.0 - CONCLUSIONS AND RECOMMENDATIONS

6.1 General Summary

Limited Site Assessment activities at the Grab & Go have been completed. From a review of all information gathered during this project, Paragon Environmental Consultants, Inc. makes the following conclusions:

- A petroleum release of unknown quantity has occurred at this site. Soil concentrations in the source area are below the Residential Standards.
- One groundwater monitoring well was constructed at the site during this investigation. Free product was not observed in monitor well MW-1.
- The analytical results for the groundwater sample from the monitor well indicated Benzene, Naphthalene, MTBE, and two VPH carbon fraction classes above the 2L Standards. No Method 6200B compounds exceed the GCLs at this subject site.

6.2 Recommendations

Based upon a review of all information gathered during this project, Paragon makes the following recommendations:

- Since all soil concentrations are below the applicable standards and the groundwater levels are below the GCLs, a notice of No Further Action should be issued for the subject site. Public notifications and deed recordation will be required due to groundwater contamination above the 2L Standards.
- A copy of this report should be forwarded to the following address:

  Winston-Salem Regional Office – UST Section
  450 W. Hanes Mill Road – Suite 300
  Winston-Salem, NC 27105

6.3 Limitations

This report has been prepared for the exclusive use of DSF of NC, Inc. for the specific application to the referenced site located in Davidson County, North Carolina. The evaluation was conducted based on the scope of work and level of effort desired by the client and with resources adequate only for the scope of work. Our findings have been developed in accordance with generally accepted standards for Limited Site Assessments in the State of North Carolina, available information and our professional judgment. No other warranty is expressed or implied.

The data presented in this report are indicative of conditions at the precise locations sampled and the time the sample was collected. Additionally, the data obtained from the samples would be interpreted as meaningful with respect to the parameters in the laboratory reports. No additional information can be logically inferred from this data.

FIGURES

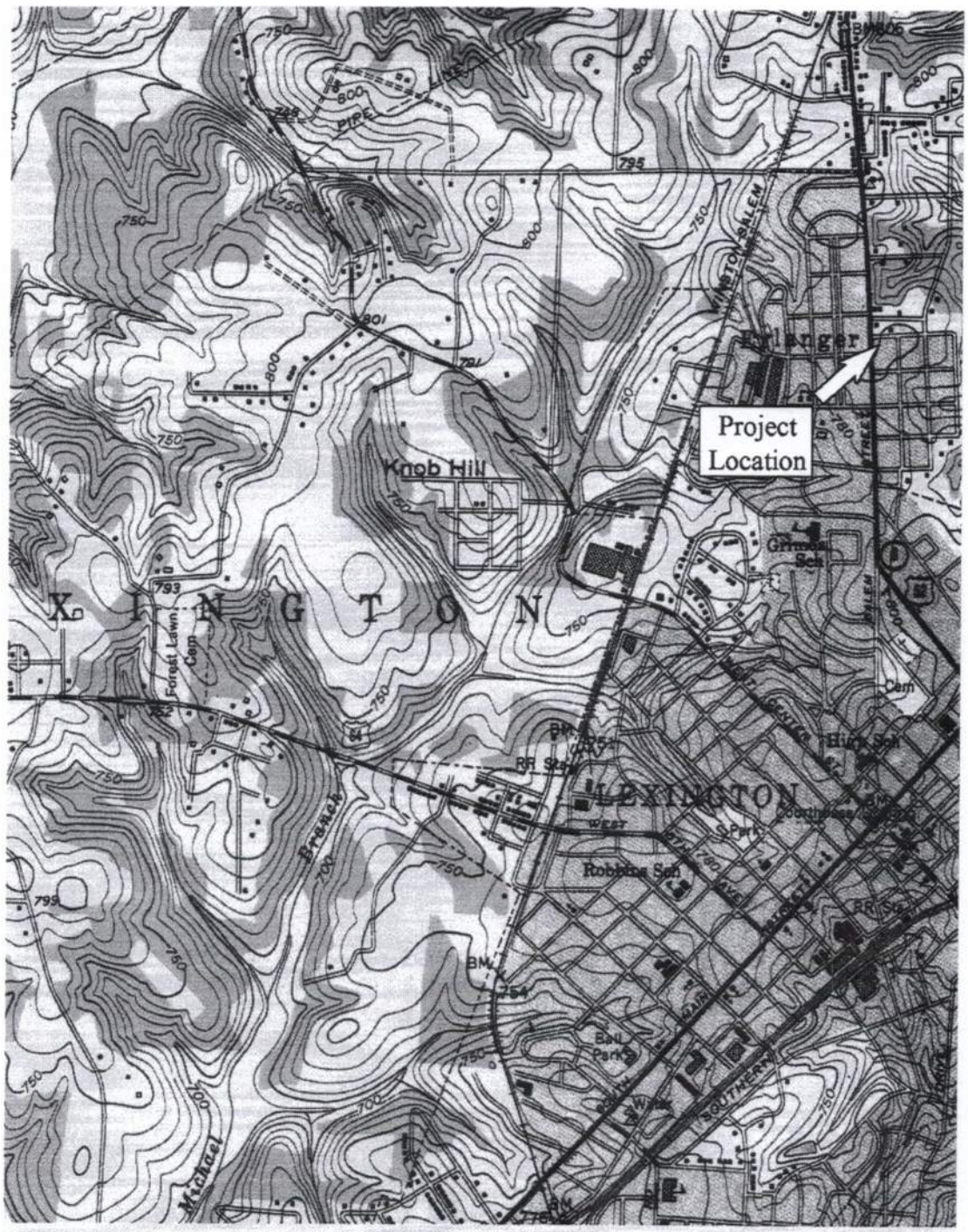


FIGURE 1

PARAGON ENVIRONMENTAL CONSULTANTS, INC.
THOMASVILLE, NORTH CAROLINA

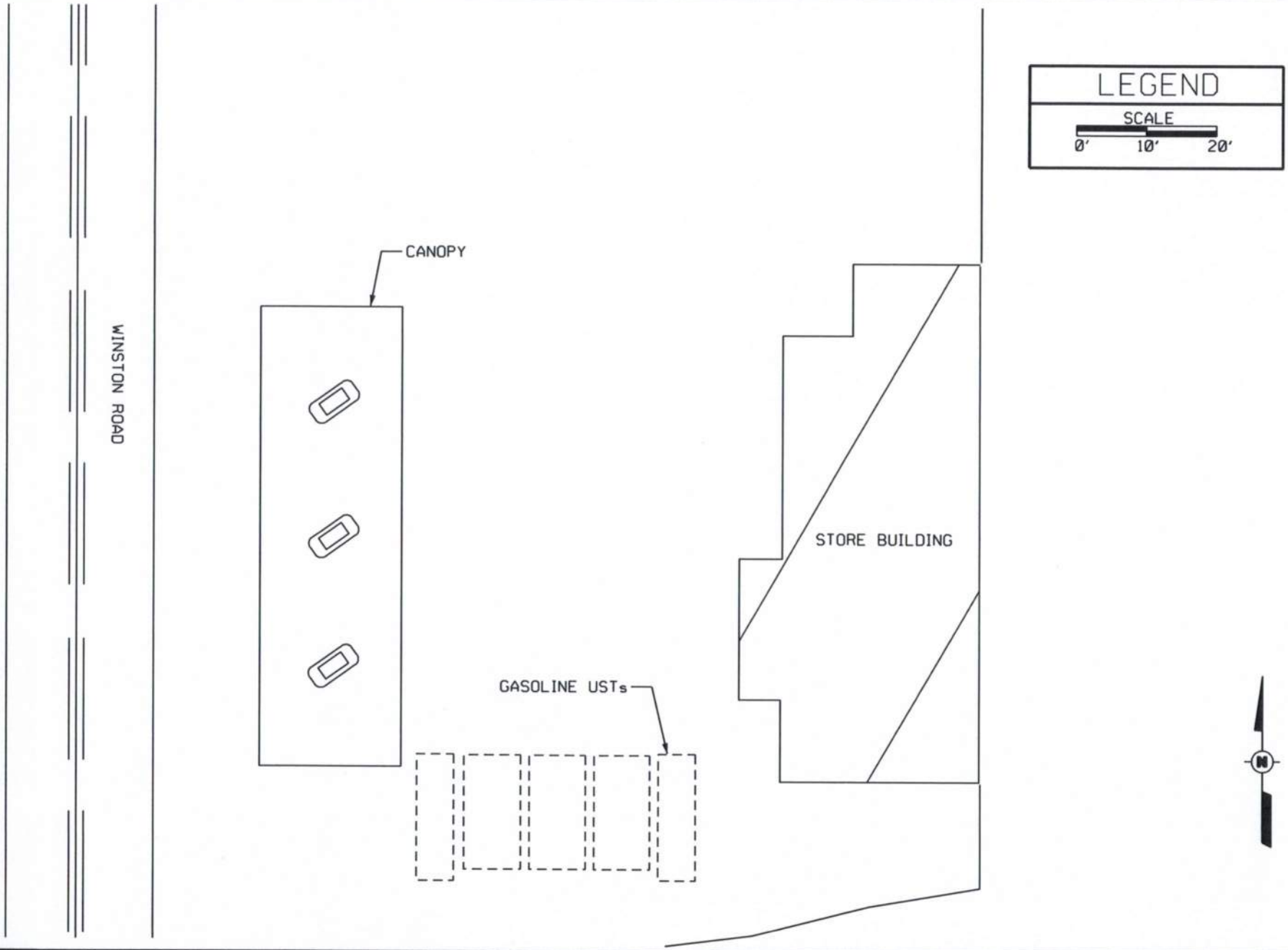
CLIENT: GRAB & GO GREENSBORO, NC

PROJECT: LSA 1009 WINSTON ROAD LEXINGTON, NC

TITLE: PROJECT LOCATION

SCALE: 1"=2000'
DATE: 2/4/16
DWN. BY: KBM
DWG. NO. L13-13052

FIGURE 2



SCALE:	1"=20'
DATE:	2/2/16
DWN. BY:	KBM
DWG. NO.	L13-1305

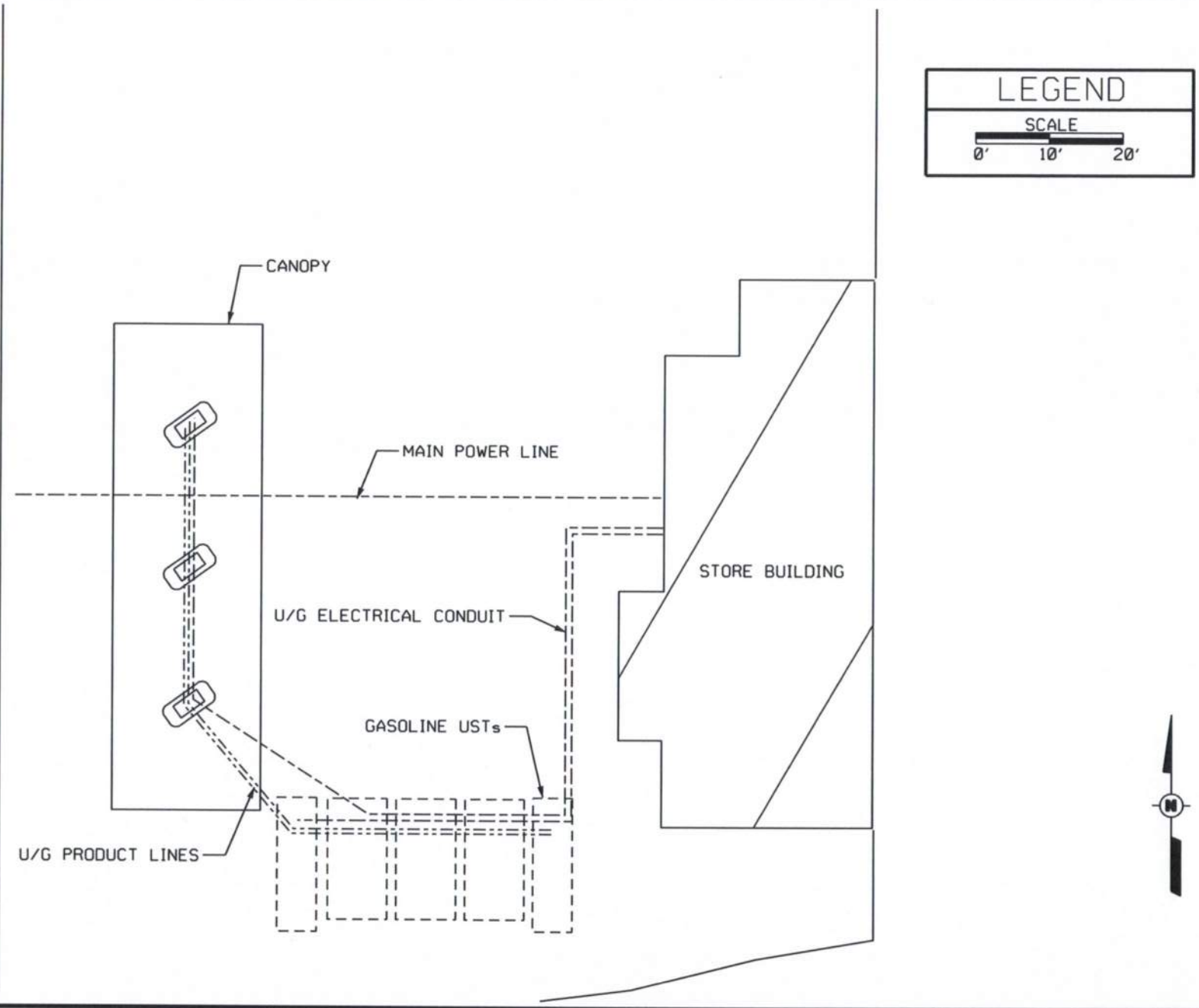
TITLE:
SITE LAYOUT AND
UST LOCATIONS

PROJECT:
LSA
1009 WINSTON ROAD
LEXINGTON, NC

CLIENT:
GRAB & GO
GREENSBORO, NC

PARAGON
ENVIRONMENTAL
CONSULTANTS, INC.
THOMASVILLE, NORTH CAROLINA

FIGURE 3

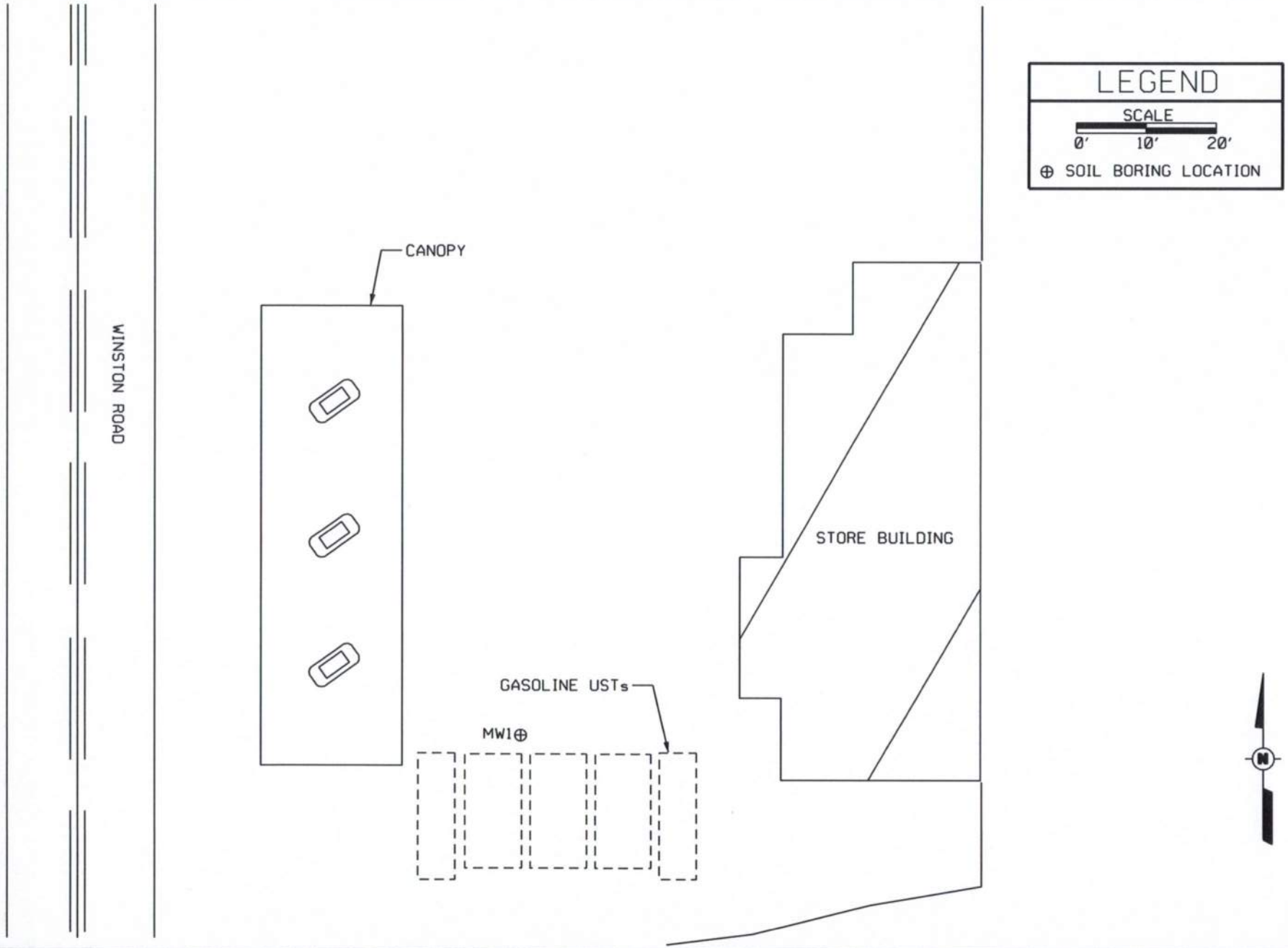


SCALE: 1"=20'	TITLE:	PROJECT:	CLIENT:	PARAGON ENVIRONMENTAL CONSULTANTS, INC.
DATE: 2/2/16	SUBSURFACE UTILITIES MAP	LSA 1009 WINSTON ROAD LEXINGTON, NC	GRAB & GO GREENSBORO, NC	THOMASVILLE, NORTH CAROLINA
DWN. BY: KBM				
DWG. NO. L13-1305C				

FIGURE 4

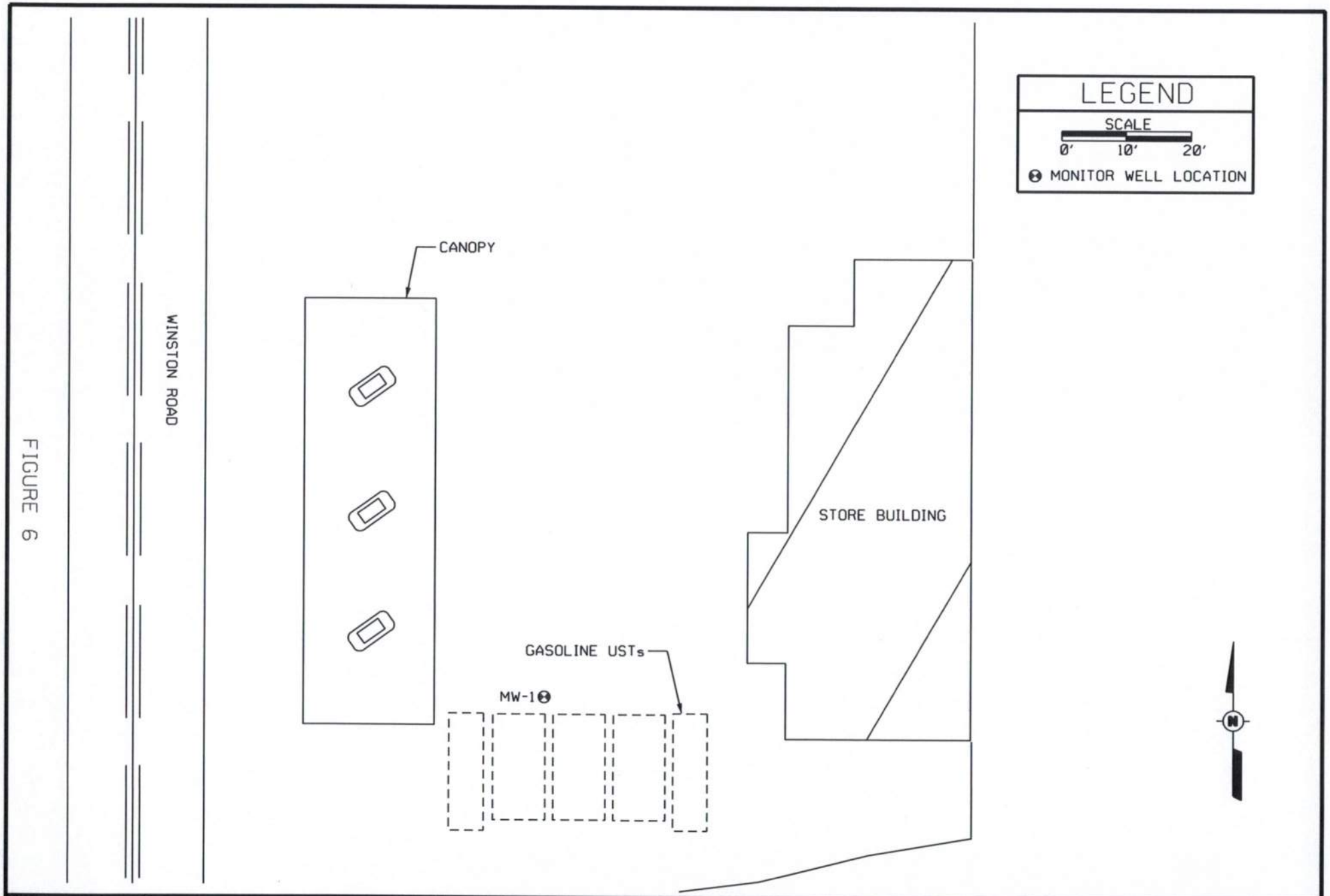
SCALE: 1"=200'	TITLE:	PROJECT:	CLIENT:	PARAGON ENVIRONMENTAL CONSULTANTS, INC.
DATE: 2/4/16	ADJACENT PROPERTIES MAP	LSA 1009 WINSTON ROAD LEXINGTON, NC	GRAB & GO GREENSBORO, NC	THOMASVILLE, NORTH CAROLINA
DWN. BY: KBM				
DWG. NO. L13-1305Y				

FIGURE 5



SCALE: 1"=20'	TITLE: SITE LAYOUT AND SOIL SAMPLE LOCATION	PROJECT: LSA 1009 WINSTON ROAD LEXINGTON, NC	CLIENT: GRAB & GO GREENSBORO, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE. NORTH CAROLINA
DATE: 2/3/16				
DWN. BY: KBM				
DWG. NO. L13-1305A				

FIGURE 6



SCALE: 1"=20'	TITLE: SITE LAYOUT AND MONITOR WELL LOCATION	PROJECT: LSA 1009 WINSTON ROAD LEXINGTON, NC	CLIENT: GRAB & GO GREENSBORO, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE. NORTH CAROLINA
DATE: 2/3/16				
DWN. BY: KBM				
DWG. NO. L13-1305B				

TABLES

TABLE 1: SITE HISTORY

GRAB & GO – WINSTON ROAD
1009 WINSTON ROAD
LEXINGTON, NORTH CAROLINA

Property Ownership:

DSF of NC, Inc.
4401 United Street
Greensboro, NC 27407

UST Ownership:

Same as property owner

UST Information:

Tank No	Installation Date	Size (Gal)	Closure Date	UST Status	Tank Contents
T1	Unknown	6,000	N/A	Active	Gasoline
T2	Unknown	6,000	N/A	Active	Gasoline
T3	Unknown	6,000	N/A	Active	Gasoline
T4	Unknown	2,000	N/A	Active	Gasoline
T5	Unknown	2,000	N/A	Active	Gasoline

TABLE 2: ADJACENT PROPERTY OWNERS

GRAB & GO (WINSTON ROAD)
1009 WINSTON ROAD
LEXINGTON, NORTH CAROLINA

SITE ID	OWNER INFO
1	DSF of NC, Inc. 4401 United Street Greensboro, NC 27407 (Project Location)
2	Cook Out-Lexington, Inc. 150 Laura Lane, Suite 300 Thomasville, NC 27360 (1001 Old US Highway 52)
3	Kenneth and Nesha Bacchus 1004 Virginia Drive Lexington, NC 27292-1732
4	David Hunt 801 Winston Road Lexington, NC 27292
5	Red FDS, LLC 711 Central Avenue Charlotte, NC 28204 (1109 Winston Road)
6	David and Ronda Wilson 216 Stratford Road Lexington, 27292-9726
7	Bobby Callicutt 700 W. Fifth Avenue Lexington, NC 27292-4923 (292 Winston Road)
8	William Q. Haynes 293 Winston Road Lexington, NC 27292
9	BV 156, LLC 1414 Yanceyville St. Suite-300 Greensboro, NC 27405 (918 Winston Road)

TABLE 3

Summary of Soil Laboratory Analytical Results

Grab & Go - Winston Road
Lexington, North Carolina

Constituent	MW1-15'	Residential Standards
Date	*1/19/2016*	
Method 8260 (mg/kg)		
n-Butylbenzene	BDL	626
sec-Butylbenzene	BDL	626
Bromodichloromethane	0.005	NSE
Chloroform	0.05	20
Ethylbenzene	BDL	1,560
Naphthalene	BDL	313
1,2,4-Trimethylbenzene	BDL	782
1,3,5-Trimethylbenzene	BDL	782
Toluene	BDL	1,200
Xylenes (total)	BDL	3,129
MTBE	0.02	350
IPE	BDL	156
Aliphatic Fraction Classes (mg/kg)		
C5-C8 Volatile Aliphatics	BDL	939
C9-C12 Volatile Aliphatics	BDL	NSE
C9-C18 Extractable Aliphatics	N/A	NSE
C9-C18 Aliphatics (total)	BDL	1,500
C19-C36 Extractable Aliphatics	N/A	31,000
Aromatic Fraction Classes (mg/kg)		
C9-C10 Volatile Aromatics	BDL	NSE
C11-C22 Extractable Aromatics	N/A	NSE
C9-C22 Aromatics (total)	BDL	469

BDL= Below Detection Limits
NSE = No Standard Established

X16-1305R

TABLE 4

Monitoring Well Information and Groundwater Elevations

Grab-N-Go
Lexington, North Carolina

Well Number	Top of Casing Elevation	Top of Screen Elevation	Bottom of Screen Elevation	Depth to Water	Groundwater Elevation
MW-1	100.00	90.00	70.00	18.02	81.98

Note: All measurements taken in feet and based on an arbitrary benchmark of 100.00 feet; groundwater levels measured on January 20, 2016.

X16-1305B

TABLE 5

Summary of Groundwater Analytical Results

Grab-N-Go (Winston Road)
Lexington, North Carolina

Constituent	MW-1	2L Standard	GCL
Date	*1/20/2016*		
Methods 6200B / 602 (ug/L)			
Benzene	**90.3**	1	5,000
Toluene	BDL	600	260,000
Ethylbenzene	14.3	600	84,500
Xylenes (total)	130.7	500	85,500
BTEX (total)	235.3	NSE	NSE
Acetone	BDL	6,000	6,000,000
1,2-Dichloroethane	BDL	0.40	400
n-Butylbenzene	5.75	70	6,900
sec-Butylbenzene	BDL	70	8,500
2-Hexanone	BDL	40	40,000
Isopropylbenzene	11.2	70	25,000
p-Isopropyltoluene	BDL	25	11,700
Methyl Isobutyl Ketone (MIBK)	BDL	100	100,000
Naphthalene	**36.2**	6	6,000
n-Propylbenzene	21	70	30,000
1,2,4-Trimethylbenzene	135	400	28,500
1,3,5 Trimethylbenzene	123	400	25,000
MTBE	**4,570**	20	20,000
IPE	25	70	70,000
Method 3030C (ug/L)			
Lead	BDL	15	15,000
Aliphatic Fraction Classes (ug/L)			
C5-C8 Volatile Aliphatics	**3,840**	400	NSE
C9-C12 Volatile Aliphatics	2,680	NSE	NSE
C9-C18 Extractable Aliphatics	N/A	NSE	NSE
C9-C18 Aliphatics (total)	**2,680**	700	NSE
C19-C36 Extractable Aliphatics	N/A	10,000	NSE
Aromatic Fraction Classes (ug/L)			
C9-C10 Volatile Aromatics	BDL	NSE	NSE
C11-C22 Extractable Aromatics	N/A	NSE	NSE
C9-C22 Aromatics (total)	BDL	200	NSE

N/A = Not Analyzed
BDL = Below Detection Limits
NSE = No Standard Established

X16-1305A

APPENDIX A

SOIL BORING LOG

SOIL BORING LOG

Paragon Environmental Consultants, Inc.

Job Name: Grab-N-Go
Address: 1009 Winston Road Lexington, NC
Job No: P-1305
Start Date: 1/19/2016
Driller: Innovative Environmental Technologies, Inc.
Boring No.: MW-1
Comments:

Sample Number	Depth (ft.)	Soil Decription (color, soil type, moisture)	Blow Counts	OVA (ppm)
MW-1	5	Light tan, CLAY with silt, damp		N/A
	10	Tan, CLAY with silt, damp		N/A
	20	Light orange, CLAY with silt, damp		N/A
	25	same as 20'		N/A
	30	Orange, CLAY with silt ,damp		N/A
		Soil Boring Terminated at 30'		
P-1305				

APPENDIX B

SOIL ANALYTICAL RESULTS

MERITECH, INC.

Environmental Laboratories

Laboratory Certification #165

Client:	Paragon Environmental Consultants, Inc.	**Meritech ID#:**	01211606
Project:	P-1305 Grab -N- Go (Winston Rd.)	**Analysis:**	01/28/16
Client Sample ID:	Monitor Well # 1 @ 15'	**Analyst:**	VWV
Sample Collection:	01/19/16	**Dilution Factor:**	1

SW846-8260B/5035 VOLATILE ORGANICS - *Soil*

Acetone	< 0.050 mg/kg	cis-1,3-Dichloropropene	< 0.005 mg/kg
Benzene	< 0.005 mg/kg	trans-1,3-Dichloropropene	< 0.005 mg/kg
Bromobenzene	< 0.005 mg/kg	Ethanol	< 0.250 mg/kg
Bromodichloromethane	**0.005 mg/kg**	Ethyl benzene	< 0.005 mg/kg
Bromochloromethane	< 0.005 mg/kg	2-Hexanone	< 0.010 mg/kg
Bromoform	< 0.005 mg/kg	Isopropylbenzene	< 0.005 mg/kg
Bromomethane	< 0.005 mg/kg	Isopropyl ether	< 0.005 mg/kg
2-Butanone (MEK)	< 0.050 mg/kg	p-Isopropyltoluene	< 0.005 mg/kg
n-Butylbenzene	< 0.005 mg/kg	Methylene chloride	< 0.005 mg/kg
sec-Butylbenzene	< 0.005 mg/kg	Methyl Isobutyl Ketone (MIBK)	< 0.050 mg/kg
tert-Butylbenzene	< 0.005 mg/kg	Naphthalene	< 0.005 mg/kg
Carbon Tetrachloride	< 0.005 mg/kg	n-Propylbenzene	< 0.005 mg/kg
Chlorobenzene	< 0.005 mg/kg	Styrene	< 0.005 mg/kg
Chloroethane	< 0.005 mg/kg	1,1,1,2-Tetrachloroethane	< 0.005 mg/kg
Chloroform	**0.050 mg/kg**	1,1,2,2-Tetrachloroethane	< 0.005 mg/kg
Chloromethane	< 0.005 mg/kg	Tetrachloroethene (PCE)	< 0.005 mg/kg
2-Chlorotoluene	< 0.005 mg/kg	Toluene	< 0.005 mg/kg
4-Chlorotoluene	< 0.005 mg/kg	1,1,1-Trichloroethane	< 0.005 mg/kg
Dibromochloromethane	< 0.005 mg/kg	1,1,2-Trichloroethane	< 0.005 mg/kg
1,2-Dibromo-3-chloropropane	< 0.005 mg/kg	Trichloroethene (TCE)	< 0.005 mg/kg
1,2-Dibromoethane (EDB)	< 0.005 mg/kg	1,2,3-Trichlorobenzene	< 0.005 mg/kg
Dibromomethane	< 0.005 mg/kg	1,2,4-Trichlorobenzene	< 0.005 mg/kg
Dichlorodifluoromethane	< 0.005 mg/kg	1,2,3-Trichloropropane	< 0.005 mg/kg
1,1-Dichloroethane	< 0.005 mg/kg	Trichlorofluoromethane	< 0.005 mg/kg
1,2-Dichloroethane	< 0.005 mg/kg	1,2,4-Trimethylbenzene	< 0.005 mg/kg
1,4-Dichlorobenzene	< 0.005 mg/kg	1,3,5-Trimethylbenzene	< 0.005 mg/kg
1,2-Dichlorobenzene	< 0.005 mg/kg	Vinyl acetate	< 0.010 mg/kg
1,3-Dichlorobenzene	< 0.005 mg/kg	Vinyl chloride	< 0.005 mg/kg
1,1-Dichloroethene	< 0.005 mg/kg	m/p-Xylenes	< 0.010 mg/kg
cis-1,2-Dichloroethene	< 0.005 mg/kg	o-Xylene	< 0.005 mg/kg
trans-1,2-Dichloroethene	< 0.005 mg/kg		
1,2-Dichloropropane	< 0.005 mg/kg	**Additional Compounds**	
1,3-Dichloropropane	< 0.005 mg/kg	**Methyl-tert-butyl ether (MTBE)**	**0.020 mg/kg**
2,2-Dichloropropane	< 0.005 mg/kg	Isopropyl ether (IPE)	< 0.005 mg/kg
1,1-Dichloropropene	< 0.005 mg/kg		
1,2-Dichloropropene	< 0.005 mg/kg		

I hereby certify that I have reviewed and approve these data.

Laboratory Representative

642 Tamco Road * Reidsville, NC 27320
(336) 342-4748 Ph * (336) 342-1522 Fax

MERITECH, INC.

Environmental Laboratories

Laboratory Certification #165

Client:	Paragon Environmental Consultants, Inc.	**Meritech ID#:**	01211606
Project:	P-1305 Grab -N- Go (Winston Rd.)	**Analysis:**	01/28/16
Client Sample ID:	Monitor Well # 1 @ 15'	**Analyst:**	VWV
Sample Collection:	01/19/16	**Dilution Factor:**	1
Sample Weight:	4.30g	**Report Date:**	01/29/16
% solid:	81%		
Preparation Date:	01/28/16		

Batch Blank = Below Reporting Limit (Yes) / No **

Internal Standards method criteria acceptable (Yes) / No **

Surrogate Recoveries	Spike Conc	Spike Recovery	Limits
Dibromofluoromethane	30 ug/L	116%	40-147%
Toluene-d8	30 ug/L	102%	44-128%
Bromofluorobenzene	30 ug/L	96%	40-145%

Laboratory QC Check

Matrix / Spike Recoveries acceptable (Yes) / No **

Spike Compound	Spike Conc	Spike %Rec.	Duplicate % Rec.	RPD	RPD Limits	QC Limits
1,1-Dichloroethene	25 ug/L	54%	50%	8	20	49-138
Benzene	25 ug/L	101%	93%	9	20	58-124
Trichloroethene	25 ug/L	108%	98%	9	20	45-132
Toluene	25 ug/L	120%	101%	17	20	64-123
Chlorobenzene	25 ug/L	124%#	111%#	11	20	61-109

- Fails Limit Check

** - If "no" is selected, see third page for details.

I hereby certify that I have reviewed and approve these data.

Laboratory Representative

642 Tamco Road * Reidsville, NC 27320
(336) 342-4748 Ph * (336) 342-1522 Fax

Meritech Inc.

Environmental Laboratories

Laboratory Certification #165

Client Name	Paragon Environmental Consultants, Inc.	Laboratory Name	MERITECH, INC.
Project Name	P-1305	NC Certification # (Lab)	#165
Site Location	Grab-N-Go (Winston Rd.)	Sample Matrix	Soil

VPH (Aliphatics/Aromatics) Sample Information and Analytical Results

Method for Ranges: MADEP VPH		Sample Identification			Trip Blank	MW1-15'
		Lab Identification			Trip Blank	01211606
		Collection Option (for soil)*			1	1
		Date Collected			01/19/16	01/19/16
VPH Surrogate Standards		Date Received			01/21/16	01/21/16
Aliphatic: 2,5-Dibromtoluene		Date Extracted			N/A	01/27/16
Aromatic: 2,5-Dibromtoluene		Date Analyzed			01/27/16	01/27/16
		% Dry Solids			N/A	81%
		Dilution Factor			N/A	N/A
Hydrocarbon Ranges	Units of Measure	MDL	RL	Blank		
C5 - C8 Aliphatics*	mg/kg	2.05	5.00	< 5.00	< 5.00	< 5.00
C9 - C12 Aliphatics*	mg/kg	2.08	5.00	< 5.00	< 5.00	< 5.00
C9- C10 Aromatics*	mg/kg	1.52	5.00	< 5.00	< 5.00	< 5.00
Sample Surrogate Acceptance Range				70 - 130%	70 - 130%	70 - 130%
Aromatic Surrogate % Recovery - PID				125%	105%	90%
Aliphatic Surrogate % Recovery - FID				130%	110%	96%

* Option 1 = Establish fill line on vial Option 2 = Sampling Device (indicate brand, e.g.EnCore TM)
Option 3 = Field weigh of soil

* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

** Surrogate recovery exceeds limits (70-130%).

MDL = Method Detection Limit RL = Reporting Limit Blank = Laboratory Method Blank

VPH rev. 03/25/10

Were all performance/acceptance standards for required QA/QC procedures achieved?
(YES) NO - Details Attached

Was blank correction applied as a significant modification of the method?
YES (NO)

Were any significant modifications to the VPH method made?
(NO) YES - Details Attached

Reviewed By _____

3-20-2013

Chain of Custody Record (COC)

MERITECH, INC.

ENVIRONMENTAL LABORATORIES

642 Tamco Rd. Phone: 336-342-4748

Reidsville NC 27320 Fax: 336-342-1522

Email: info@meritech-labs.com

www.meritech-labs.com

Client:

Address:

PARAGON Environmental Consultants, Inc.
P.O. Box 157
Thomasville, NC 27361
(336) 669-6037

NPDES#:

Phone:

Fax:

Email:

Project: Grab-N-Go (Winston Rd.)

P.O.#: P-1305

Attention: Brandon Moore

How would you like your report sent?

Circle all that apply: Email (preferred), Fax, Mail

Turn Around Time*
*RUSH work needs prior approval.

Std (10 days)	3 - 5 Days	24 - 48 Hrs
XXX		

Person Taking Sample (Sign/Print): Brad Berrier, Bill Brown

Sample Location and/or ID #	Sampling Dates & Times				Comp? Grab?	# of Cont.	Test(s) Required	Lab Use Only: On Ice? Yes / No	Lab Use Only: pH OK? Cl OK?
	Start Date	Start Time	End Date	End Time					
monitor well #1 (MW-1)	1-20-16	10:45			G	6	EPA Methods 6200B plus MTBE/IPE, VPH, Lead 05		
monitor well #1@15' (MW1-15')	1-19-16	10:30			G	5	EPA Methods 8260 plus MTBE/IPE, VPH 04		
Trip Blank (TB)						4	6200B, VPH, 8260, VPH		

Temperature Upon Receipt: 0.9 C

Compositor #

Jug #

*** Dechlorination (<0.5 ppm) of Ammonia, Cyanide, Phenol and TKN samples must be done in the field prior to preservation. ***

Method of Shipment:

- ☐ UPS
- ☐ Fed Ex
- ☒ Hand Delivery
- ☐ Other

Comments:

Are these results for regulatory purposes? Yes ☒ No ☐

Report results in: mg/L ☐ mg/kg ☒ ug/L ☒

Relinquished by:	Date: 1/21/16	Time: 920	Received by:	Date: 1/21/16	Time: 920
Relinquished by:	Date: 1/21/16	Time: 1050	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by Lab:	Date: 1/21/16	Time: 1050

APPENDIX C

WELL CONSTRUCTION RECORD

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

For Internal Use ONLY:

1. Well Contractor Information:

Bradley Dean Berrier
Well Contractor Name

4074-B
NC Well Contractor Certification Number

Innovative Environmental Technologies, Inc.
Company Name

2. Well Construction Permit #: _____
List all applicable well permits (i.e. County, State, Variance, Injection, etc.)

3. Well Use (check well use):

Water Supply Well:
☐Agricultural ☐Municipal/Public
☐Geothermal (Heating/Cooling Supply) ☐Residential Water Supply (single)
☐Industrial/Commercial ☐Residential Water Supply (shared)
☐Irrigation

Non-Water Supply Well:
☑Monitoring ☐Recovery

Injection Well:
☐Aquifer Recharge ☐Groundwater Remediation
☐Aquifer Storage and Recovery ☐Salinity Barrier
☐Aquifer Test ☐Stormwater Drainage
☐Experimental Technology ☐Subsidence Control
☐Geothermal (Closed Loop) ☐Tracer
☐Geothermal (Heating/Cooling Return) ☐Other (explain under #21 Remarks)

4. Date Well(s) Completed: 1/19/16 **Well ID#** MW-1

5a. Well Location:

Grab & Go-Winston Road — Facility/Owner Name
00-0-000024863 — Facility ID# (if applicable)
1009 Winston Road 27292 — Physical Address, City, and Zip
Davidson — County
6726-04-82-5831 — Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.8394604 N 80.2533683 W

6. Is (are) the well(s): ☑**Permanent** or ☐**Temporary**

7. Is this a repair to an existing well: ☐**Yes** or ☑**No**
If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 1
*For multiple injection or non-water supply wells **ONLY** with the **same construction**, you can submit one form.*

9. Total well depth below land surface: 30 **(ft.)**
For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: 18.02 **(ft.)**
If water level is above casing, use "+"

11. Borehole diameter: 6 **(in.)**

12. Well construction method: Auger
(i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ **Method of test:** _____

13b. Disinfection type: _____ **Amount:** _____

14. WATER ZONES

FROM	TO	DESCRIPTION
ft.	ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0 ft.	10 ft.	2 in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
10 ft.	30 ft.	2 in.			
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
6 ft.	8 ft.	Benonite	Pour
0 ft.	6 ft.	Cement	Pour
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
8 ft.	30 ft.	Sand	Pour
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0 ft.	10 ft.	Tan, CLAY
10 ft.	18 ft.	Orange/tan, CLAY
18 ft.	25 ft.	Light orange, CLAY
25 ft.	30 ft.	Orange/tan, CLAY
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

22. Certification

Bradley Dean Berrier — Signature of Certified Well Contractor
2-4-16 — Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

SUBMITTAL INSTUCTIONS

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells ONLY: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Injection Wells:
Also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

APPENDIX D

STANDARD OPERATING PROCEDURES

STANDARD OPERATING PROCEDURES
PARAGON ENVIRONMENTAL CONSULTANTS, INC.

I. SOIL SAMPLE PROCEDURES

1. Collect all samples using disposable Latex gloves. Gloves are not to be re-used.

2. Place samples into laboratory supplied glassware following requirements for specific analysis.

3. Label samples with sample ID, date, time, and job number. Immediately place samples on ice or in refrigerator to be cooled to approximately 4 degrees Celsius.

4. Store all samples on ice or refrigerate until samples are delivered to the laboratory.

5. Complete a chain of custody record for samples to be submitted to laboratory. Sign and date the chain of custody when samples are relinquished in accordance with EPA chain of custody protocol.

II. GROUNDWATER SAMPLING

1. Use new disposable bailer and new nylon string to develop well and collect sample. Handle bailer and string with Latex gloves.

2. Develop well by removing 3 well volumes of water. Dispose of water in accordance with NCDENR guidelines.

3. Following well development obtain samples in laboratory supplied glassware following requirements for specific analysis.

4. Handle, store, and transport samples in same manner as for soil samples. See items I.3, I.4, and I.5 above.

III. EQUIPMENT CONTAMINATION

1. Decontaminate augers, split spoons, and other sampling equipment by the following procedure:

   A. Soap and tap water wash
   B. Tap water rinse
   C. Distilled deionized water rinse
   D. Isopropyl alcohol rinse
   E. Distilled water rinse

2. Use new disposable sampling equipment whenever practical.

APPENDIX E

GROUNDWATER ANALYTICAL RESULTS

Meritech, Inc.

Environmental Laboratory

Laboratory Certification No. 165

Contact: Mr. Brandon Moore
Client: Paragon Environmental Consultants
PO Box 157
Thomasville NC 27361

Report Date: 2/1/2016
PO# P-1305
Project # Grab-N-Go (Winston Rd.)
Date Sample Rcvd: 1/21/2016

Meritech Work Order # 01211605 Sample: MW-1 Grab 1/20/16

Parameters	Results	Analysis Date	Reporting Limit	Method
Lead, total	<0.010 mg/L	2/1/16	0.010 mg/L	EPA 200.7
EPA 6200B +MTBE+IPE	Attached	1/21/16	- -	6200
VPH	Attached	1/27/16	- -	-

Meritech Work Order # 01211606 Sample: MW1-15 Grab 1/19/16

Parameters	Results	Analysis Date	Reporting Limit	Method
EPA 8260 +MTBE+IPE	Attached	1/28/16	- -	8260
VPH	Attached	1/27/16	- -	-

I hereby certify that I have reviewed and approve these data.

Laboratory Representative

642 Tamco Road, Reidsville, North Carolina 27320
tel.(336)342-4748 fax.(336)342-1522

MERITECH, INC.

Environmental Laboratories

Laboratory Certification #165

Client:	Paragon Environmental Consultants, Inc.	**Meritech ID#:**	01211605
Project:	P-1305 Grab-N-Go (Winston Rd.)	**Analysis:**	01/21/16
Client Sample ID:	Monitor Well # 1	**Analyst:**	VWV
Sample Collection:	01/20/16	**Dilution Factor:**	1 / **100**

SM-6200B VOLATILE ORGANICS - Water

Acetone	< 5.00 ug/L	cis-1,3-Dichloropropene	< 0.500 ug/L
Benzene	**90.3 ug/L**	trans-1,3-Dichloropropene	< 0.500 ug/L
Bromobenzene	< 0.500 ug/L	Ethanol	< 50.0 ug/L
Bromodichloromethane	< 0.500 ug/L	**Ethyl benzene**	**14.3 ug/L**
Bromochloromethane	< 0.500 ug/L	2-Hexanone	< 1.00 ug/L
Bromoform	< 0.500 ug/L	Hexachlorobutadiene	< 0.500 ug/L
Bromomethane	< 0.500 ug/L	**Isopropylbenzene**	**11.2 ug/L**
2-Butanone (MEK)	< 5.00 ug/L	p-Isopropyltoluene	< 0.500 ug/L
n-Butylbenzene	**5.75 ug/L**	Methylene chloride	< 0.500 ug/L
sec-Butylbenzene	< 0.500 ug/L	Methyl Isobutyl Ketone (MIBK)	< 0.500 ug/L
tert-Butylbenzene	< 0.500 ug/L	**Naphthalene**	**36.2 ug/L**
Carbon Tetrachloride	< 0.500 ug/L	**n-Propylbenzene**	**21.0 ug/L**
Chlorobenzene	< 0.500 ug/L	Styrene	< 0.500 ug/L
Chloroethane	< 0.500 ug/L	1,1,1,2-Tetrachloroethane	< 0.500 ug/L
Chloroform	< 0.500 ug/L	1,1,2,2-Tetrachloroethane	< 0.500 ug/L
Chloromethane	< 0.500 ug/L	Tetrachloroethene (PCE)	< 0.500 ug/L
2-Chlorotoluene	< 0.500 ug/L	Toluene	< 0.500 ug/L
4-Chlorotoluene	< 0.500 ug/L	1,1,1-Trichloroethane	< 0.500 ug/L
Dibromochloromethane	< 0.500 ug/L	1,1,2-Trichloroethane	< 0.500 ug/L
1,2-Dibromo-3-chloropropane	< 0.500 ug/L	Trichloroethene (TCE)	< 0.500 ug/L
1,2-Dibromoethane (EDB)	< 0.500 ug/L	1,2,3-Trichlorobenzene	< 0.500 ug/L
Dibromomethane	< 0.500 ug/L	1,2,4-Trichlorobenzene	< 0.500 ug/L
Dichlorodifluoromethane	< 0.500 ug/L	1,2,3-Trichloropropane	< 0.500 ug/L
1,1-Dichloroethane	< 0.500 ug/L	Trichlorofluoromethane	< 0.500 ug/L
1,2-Dichloroethane	< 0.500 ug/L	**1,2,4-Trimethylbenzene**	**135 ug/L**
1,4-Dichlorobenzene	< 0.500 ug/L	**1,3,5-Trimethylbenzene**	**123 ug/L**
1,2-Dichlorobenzene	< 0.500 ug/L	Vinyl acetate	< 1.00 ug/L
1,3-Dichlorobenzene	< 0.500 ug/L	Vinyl chloride	< 0.500 ug/L
1,1-Dichloroethene	< 0.500 ug/L	**m/p-Xylenes**	**86.4 ug/L**
cis-1,2-Dichloroethene	< 0.500 ug/L	**o-Xylene**	**44.3 ug/L**
trans-1,2-Dichloroethene	< 0.500 ug/L	**Additional Compounds**	
1,2-Dichloropropane	< 0.500 ug/L	**Methyl-tert-butyl ether (MTBE)**	**4,570 ug/L**
1,3-Dichloropropane	< 0.500 ug/L	**Isopropyl ether (IPE)**	**25.0 ug/L**
2,2-Dichloropropane	< 0.500 ug/L		
1,1-Dichloropropene	< 0.500 ug/L		
1,2-Dichloropropene	< 0.500 ug/L		

I hereby certify that I have reviewed and approve these data.

Laboratory Representative

642 Tamco Road * Reidsville, NC 27320
(336) 342-4748 Ph * (336) 342-1522 Fax

MERITECH, INC.

Environmental Laboratories

Laboratory Certification #165

Client:	Paragon Environmental Consultants, Inc.	**Meritech ID#:**	01211605
Project:	P-1305 Grab-N-Go (Winston Rd.)	**Analysis:**	01/21/16
Client Sample ID:	Monitor Well # 1	**Analyst:**	VWV
Sample Collection:	01/20/16	**Dilution Factor:**	1 / 100
Sample Volume:	5ml purge	**Report Date:**	01/28/16
% solid	N/A		

Batch Blank = Below Reporting Limit (Yes) / No *

Internal Standards method criteria acceptable (Yes) / No *

Surrogate Recoveries	Spike Conc	Spike Recovery	Limits
Dibromofluoromethane	30 ug/L	119%	51-141%
Toluene-d8	30 ug/L	108%	67-151%
Bromofluorobenzene	30 ug/L	91%	45-161%

Laboratory QC Check

Matrix / Spike Recoveries Acceptable (Yes) / No *

Spike Compound	Spike Conc	Spike %Rec.	Duplicate % Rec.	RPD	RPD Limits	QC Limits
1,1-Dichloroethene	25 ug/L	61%	57%	7	20	49-117
Benzene	25 ug/L	107%	99%	7	20	58-145
Trichloroethene	25 ug/L	95%	90%	5	20	48-107
Toluene	25 ug/L	101%	93%	8	20	52-110
Chlorobenzene	25 ug/L	98%	92%	7	20	40-137

- Fails Limit Check

* - If "no" is selected, see third page for details.

I hereby certify that I have reviewed and approve these data.

Laboratory Representative

642 Tamco Road * Reidsville, NC 27320
(336) 342-4748 Ph * (336) 342-1522 Fax

MERITECH, INC.

Environmental Laboratories

Laboratory Certification #165

Client:	Paragon Environmental Consultants, Inc.	**Meritech ID#:**	01211605tb
Project:	P-1305 Grab-N-Go (Winston Rd.)	**Analysis:**	01/21/16
Client Sample ID:	Trip Blank	**Analyst:**	VWV
Sample Collection:	01/20/16	**Dilution Factor:**	1

SM-6200B VOLATILE ORGANICS - Water

Acetone	< 5.00 ug/L	cis-1,3-Dichloropropene	< 0.500 ug/L
Benzene	< 0.500 ug/L	trans-1,3-Dichloropropene	< 0.500 ug/L
Bromobenzene	< 0.500 ug/L	Ethanol	< 50.0 ug/L
Bromodichloromethane	< 0.500 ug/L	Ethyl benzene	< 0.500 ug/L
Bromochloromethane	< 0.500 ug/L	2-Hexanone	< 1.00 ug/L
Bromoform	< 0.500 ug/L	Hexachlorobutadiene	< 0.500 ug/L
Bromomethane	< 0.500 ug/L	Isopropylbenzene	< 0.500 ug/L
2-Butanone (MEK)	< 5.00 ug/L	p-Isopropyltoluene	< 0.500 ug/L
n-Butylbenzene	< 0.500 ug/L	Methylene chloride	< 0.500 ug/L
sec-Butylbenzene	< 0.500 ug/L	Methyl Isobutyl Ketone (MIBK)	< 0.500 ug/L
tert-Butylbenzene	< 0.500 ug/L	Naphthalene	< 0.500 ug/L
Carbon Tetrachloride	< 0.500 ug/L	n-Propylbenzene	< 0.500 ug/L
Chlorobenzene	< 0.500 ug/L	Styrene	< 0.500 ug/L
Chloroethane	< 0.500 ug/L	1,1,1,2-Tetrachloroethane	< 0.500 ug/L
Chloroform	< 0.500 ug/L	1,1,2,2-Tetrachloroethane	< 0.500 ug/L
Chloromethane	< 0.500 ug/L	Tetrachloroethene (PCE)	< 0.500 ug/L
2-Chlorotoluene	< 0.500 ug/L	Toluene	< 0.500 ug/L
4-Chlorotoluene	< 0.500 ug/L	1,1,1-Trichloroethane	< 0.500 ug/L
Dibromochloromethane	< 0.500 ug/L	1,1,2-Trichloroethane	< 0.500 ug/L
1,2-Dibromo-3-chloropropane	< 0.500 ug/L	Trichloroethene (TCE)	< 0.500 ug/L
1,2-Dibromoethane (EDB)	< 0.500 ug/L	1,2,3-Trichlorobenzene	< 0.500 ug/L
Dibromomethane	< 0.500 ug/L	1,2,4-Trichlorobenzene	< 0.500 ug/L
Dichlorodifluoromethane	< 0.500 ug/L	1,2,3-Trichloropropane	< 0.500 ug/L
1,1-Dichloroethane	< 0.500 ug/L	Trichlorofluoromethane	< 0.500 ug/L
1,2-Dichloroethane	< 0.500 ug/L	1,2,4-Trimethylbenzene	< 0.500 ug/L
1,4-Dichlorobenzene	< 0.500 ug/L	1,3,5-Trimethylbenzene	< 0.500 ug/L
1,2-Dichlorobenzene	< 0.500 ug/L	Vinyl acetate	< 1.00 ug/L
1,3-Dichlorobenzene	< 0.500 ug/L	Vinyl chloride	< 0.500 ug/L
1,1-Dichloroethene	< 0.500 ug/L	m/p-Xylenes	< 1.00 ug/L
cis-1,2-Dichloroethene	< 0.500 ug/L	o-Xylene	< 0.500 ug/L
trans-1,2-Dichloroethene	< 0.500 ug/L	**Additional Compounds**	
1,2-Dichloropropane	< 0.500 ug/L	Methyl-tert-butyl ether (MTBE)	< 0.500 ug/L
1,3-Dichloropropane	< 0.500 ug/L	Isopropyl ether (IPE)	< 0.500 ug/L
2,2-Dichloropropane	< 0.500 ug/L		
1,1-Dichloropropene	< 0.500 ug/L		
1,2-Dichloropropene	< 0.500 ug/L		

I hereby certify that I have reviewed and approve these data.

Laboratory Representative

642 Tamco Road * Reidsville, NC 27320
(336) 342-4748 Ph * (336) 342-1522 Fax

MERITECH, INC.

Environmental Laboratories

Laboratory Certification #165

Client:	Paragon Environmental Consultants, Inc.	**Meritech ID#:**	01211605tb
Project:	P-1305 Grab-N-Go (Winston Rd.)	**Analysis:**	01/21/16
Client Sample ID:	Trip Blank	**Analyst:**	VWV
Sample Collection:	01/20/16	**Dilution Factor:**	1
Sample Volume:	5ml purge	**Report Date:**	01/28/16
% solid	N/A		

Batch Blank = Below Reporting Limit (Yes) / No *

Internal Standards method criteria acceptable (Yes) / No *

Surrogate Recoveries	Spike Conc	Spike Recovery	Limits
Dibromofluoromethane	30 ug/L	112%	51-141%
Toluene-d8	30 ug/L	100%	67-151%
Bromofluorobenzene	30 ug/L	90%	45-161%

Laboratory QC Check

Matrix / Spike Recoveries Acceptable (Yes) / No *

Spike Compound	Spike Conc	Spike %Rec.	Duplicate % Rec.	RPD	RPD Limits	QC Limits
1,1-Dichloroethene	25 ug/L	61%	57%	7	20	49-117
Benzene	25 ug/L	107%	99%	7	20	58-145
Trichloroethene	25 ug/L	95%	90%	5	20	48-107
Toluene	25 ug/L	101%	93%	8	20	52-110
Chlorobenzene	25 ug/L	98%	92%	7	20	40-137

- Fails Limit Check

* - If "no" is selected, see third page for details.

I hereby certify that I have reviewed and approve these data.

Laboratory Representative

642 Tamco Road * Reidsville, NC 27320
(336) 342-4748 Ph * (336) 342-1522 Fax

Meritech Inc.

Environmental Laboratories

Laboratory Certification #165

Client Name	Paragon Environmental Consultants, Inc.	Laboratory Name	MERITECH, INC.
Project Name	P-1305	NC Certification # (Lab)	#165
Site Location	Grab-N-Go (Winston Rd.)	Sample Matrix	Water

VPH (Aliphatics/Aromatics) Sample Information and Analytical Results

Method for Ranges: MADEP VPH		Sample Identification			Trip Blank	**MW-1**
		Lab Identification			Trip Blank	01211605
		Collection Option (for soil)*			N/A	N/A
		Date Collected			01/20/16	01/20/16
VPH Surrogate Standards		Date Received			01/21/16	01/21/16
Aliphatic: 2,5-Dibromtoluene		Date Extracted			N/A	N/A
Aromatic: 2,5-Dibromtoluene		Date Analyzed			01/27/16	01/27/16
		% Dry Solids			N/A	N/A
		Dilution Factor			N/A	**10**
Hydrocarbon Ranges	Units of Measure	MDL	RL	Blank		
C5 - C8 Aliphatics*	ug/L	4.58	100	< 100	< 100	**3,840**
C9 - C12 Aliphatics*	ug/L	2.84	100	< 100	< 100	**2,680**
C9- C10 Aromatics*	ug/L	1.24	100	< 100	< 100	**< 1,000**
Sample Surrogate Acceptance Range				70 - 130%	70 - 130%	70 - 130%
Aromatic Surrogate % Recovery - PID				120%	113%	129%
Aliphatic Surrogate % Recovery - FID				130%	124%	127%

* Option 1 = Establish fill line on vial Option 2 = Sampling Device (indicate brand, e.g.EnCore TM)
Option 3 = Field weigh of soil

* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

** Surrogate recovery exceeds limits (70-130%).

MDL = Method Detection Limit RL = Reporting Limit Blank = Laboratory Method Blank

VPH rev. 03/25/10

Were all performance/acceptance standards for required QA/QC procedures achieved?
(YES) NO - Details Attached

Was blank correction applied as a significant modification of the method?
YES (NO)

Were any significant modifications to the VPH method made?
(NO) YES - Details Attached

Reviewed By _____

3-20-2013

Chain of Custody Record (COC)

MERITECH, INC.

ENVIRONMENTAL LABORATORIES

642 Tamco Rd. Phone: 336-342-4748

Reidsville NC 27320 Fax: 336-342-1522

Email: info@meritech-labs.com

www.meritech-labs.com

Client:

Address: PARAGON Environmental Consultants, Inc. P.O. Box 157 Thomasville, NC 27361 (336) 669-6037

Attention: Brandon Moore

How would you like your report sent?

Circle all that apply: Email (preferred), Fax, Mail

NPDES#:

Phone:

Fax:

Email:

Project: Grab-N-Go (Winston Rd.)

P.O.#: P-1305

Turn Around Time*

*RUSH work needs prior approval.

Std (10 days)	3 - 5 Days	24 - 48 Hrs
XXX		

Person Taking Sample (Sign/Print): Brad Berrier, Brad Berrier

Sample Location and/or ID #	Sampling Dates & Times				Comp? Grab?	# of Cont.	Test(s) Required	Lab Use Only: On Ice? Yes / No	Lab Use Only: pH OK? Cl OK?
	Start Date	Start Time	End Date	End Time					
monitor well #1 (MW-1)	1-20-16	10:45			G	6	EPA Methods 6200B plus MTBE/IPE, VPH, Lead 05		
monitor well #1@15' (MW1-15')	1-19-16	10:30			G	5	EPA Methods 8260 plus MTBE/IPE, VPH 04		
Trip Blank (TB)						4	6200B, VPH, 8260, VPH		

Temperature Upon Receipt: 0.7 C

Compositor #

Jug #

Method of Shipment:

- ☐ UPS
- ☐ Fed Ex
- ☒ Hand Delivery
- ☐ Other

*** Dechlorination (<0.5 ppm) of Ammonia, Cyanide, Phenol and TKN samples must be done in the field prior to preservation. ***

Comments:

Are these results for regulatory purposes? Yes ☒ No ☐

Report results in: mg/L ☐ mg/kg ☒ ug/L ☒

Relinquished by: Brad Berrier	Date: 1/21/16	Time: 920	Received by:	Date: 1/21/16	Time: 920
Relinquished by:	Date: 1/21/16	Time: 1050	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by Lab:	Date: 1/21/16	Time: 1050

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

MICHAEL SCOTT
Acting Director

Waste Management
ENVIRONMENTAL QUALITY

March 22, 2016

DSF of NC, Inc.
Shehzad Quamar, Reg. Agent
2105 Needle Leaf Lane
Greensboro, NC 27410-2962

Re: Notice of No Further Action 15A NCAC 2L .0407(d) Risk-based Assessment and Corrective Action for Petroleum Underground Storage Tanks

Grab & Go
1009 Winston Road, Lexington, NC
Davidson County
Incident Number: 44108
Risk Classification: Low
Ranking: L40R

Dear Mr. Mr. Quamar:

The Limited Site Assessment Report received by the UST Section, Division of Waste Management, Winston-Salem Regional Office on February 5, 2016 has been reviewed. The review indicates that soil contamination does not exceed the residential maximum soil contaminant concentrations (MSCCs), established in Title 15A NCAC 2L .0411 and that groundwater contamination does not exceed the groundwater quality standards established in Title 15A NCAC 2L .0202.

The UST Section determines that no further action is warranted for this incident. All required actions have been completed. On March 22, 2016, the UST Section was provided with proof of receipt (Public Notice) of the conditional Notice of No further Action letter or of refusal by the addressee to accept delivery of the letter or with a description of the manner in which the letter was posted.

This determination shall apply unless the UST Section later finds that the discharge or release poses an unacceptable risk or a potentially unacceptable risk to human health or the environment. Pursuant to Title 15A NCAC 2L .0407(a) you have a continuing obligation to notify the Department of any changes that might affect the risk or land use classifications that have been assigned.

This No Further Action determination applies only to the subject incident; for any other incidents at the subject site, the responsible party must continue to address contamination as required.

If you have any questions regarding this notice, please contact me at the address or telephone number listed below.

September 19, 2019
Kleinfelder File No. RAL19R101353

Mr. John L. Pilipchuk, LG., PE
North Carolina Department of Transportation
State Geotechnical Engineer
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

SUBJECT: Preliminary Site Assessment Report
Parcel 21, Sam & Soas Lem
WBS Element No. 54035.1.1, TIP No. U-5757
NC 8 (Winston Road) from 9th Street to SR 1408 (Biesecker Rd) in Lexington. Widen to multi lanes
Kleinfelder Project No. 20201105.001A

Dear Mr. Pilipchuk,

Kleinfelder is pleased to provide its report detailing the activities conducted as part of the preliminary site assessment for the subject project.

Kleinfelder appreciates the opportunity to be of service to you. Should you have questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,
KLEINFELDER, INC.

Abigail R. Shurtleff
Environmental Staff Professional

Michael J Burns, PG
Environmental Program Manager

ARS/MJB:asp

KLEINFELDER 3200 Gateway Centre Blvd. Suite 100, Morrisville, NC 27560 **p |** 919.755.5011 **f |** 919.755.1414

PRELIMINARY SITE ASSESSMENT REPORT
PARCEL 21, SAM & SOAS LEM
PARCEL 1101000000059
1215 OLD US HIGHWAY 52
LEXINGTON, DAVIDSON COUNTY, NORTH CAROLINA

NCDOT WBS ELEMENT 54035.1.1
STATE PROJECT U-5757
NC 8 (WINSTON RD) FROM 9TH STREET TO SR 1408 (BIESECKER RD) IN LEXINGTON. WIDEN TO MULTI LANES

KLEINFELDER PROJECT NO. 20201105.001A

SEPTEMBER 19, 2019

A Report Prepared for:

Mr. John L. Pilipchuk, LG., PE
North Carolina Department of Transportation
State Geotechnical Engineer
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

PRELIMINARY SITE ASSESSMENT REPORT
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STATE PROJECT U-5757
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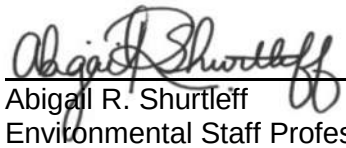
Prepared by:



Abigail R. Shurtleff
Environmental Staff Professional

Reviewed by:

Michael J. Burns, PG
Environmental Program Manager

KLEINFELDER
3200 Gateway Centre Blvd. | Suite 100
Raleigh, North Carolina 27560
P | 919.755.5011

September 19, 2019

Kleinfelder Project No. 20201105.001A

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

PRELIMINARY SITE ASSESSMENT REPORT

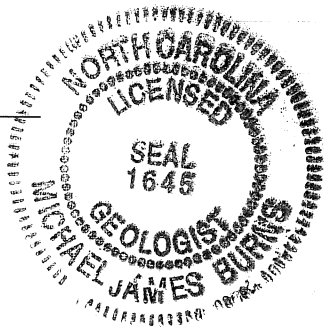
Site Name and Location:	Parcel 21 1215 Old US Highway 52 Lexington, Davidson County, North Carolina
Latitude and Longitude:	35.841961°N, -80.253736°W
County Parcel Number	1101000000059
Facility ID Number:	N/A
Leaking UST Incident:	N/A
State Project No.:	U-5757
NCDOT Project No.:	NCDOT WBS Element 54035.1.1
Description:	NC 8 (Winston Rd) from 9th Street to SR 1408 (Biesecker Rd) in Lexington. Widen to multi lanes
Date of Report:	September 19, 2019
Consultant:	Kleinfelder, Inc. 3200 Gateway Center Boulevard | Suite 100 Morrisville, North Carolina 27560 Corporate Geology License No. C-521 Corporate Licensure for Engineering F-1312

SEAL AND SIGNATURE OF CERTIFYING LICENSED GEOLOGIST

I, Michael J Burns, a Licensed Geologist for Kleinfelder, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

DocuSigned by:
7E53DC44AC794CA...

Michael J Burns, LG
NC License No. 1645 10/7/2019



PRELIMINARY SITE ASSESSMENT
PARCEL 21, SAM & SOAS LEM
PARCEL 1101000000059
1215 OLD US HIGHWAY 52
LEXINGTON, DAVIDSON COUNTY, NORTH CAROLINA

NCDOT WBS ELEMENT 54035.1.1
STATE PROJECT U-5757
NC 8 (WINSTON RD) FROM 9TH STREET TO SR 1408 (BIESECKER RD) IN LEXINGTON. WIDEN TO MULTI LANES

1 INTRODUCTION

Kleinfelder, Inc. (Kleinfelder) has prepared this Preliminary Site Assessment (PSA) report to document assessment activities performed on a parcel known by the Davidson County, NC Tax Assessor's Office as Parcel Number 1101000000059, and by NCDOT as Parcel 21 (the assessment area is hereafter referred to as the "Project Study Area"). The Project Study Area consists of the central and western portions of the parcel. Parcel 21 is currently occupied by a vacant former retail/restaurant building, and is located northeast of the intersection of 12th Street and NC Highway 8 (Winston Road), in the Town of Lexington, Davidson County, North Carolina (Figure 1).

Parcel 21 is not mentioned in the Hazardous Materials Survey Report, dated February 28, 2018, prepared by Kleinfelder for SEPI Engineering & Construction. However, Parcel 21 shares a property boundary and paved asphalt parking areas with Parcel 22 (to the north), which appears to have operated as a gasoline service station in at least 1966. As such, the purpose of the PSA was to evaluate whether unknown USTs or contaminated soil are present in the Project Study Area that may result in increased project costs and future liability if acquired by the NCDOT.

1.1 SITE DESCRIPTION

Parcel 21 has a listed owner of Sam & Soas Lem. The parcel has a street address of 1215 Old US Highway 52. The parcel consists of a vacant former retail/restaurant building, paved asphalt parking areas, and an overgrown vegetated area. The parcel is bounded by an abandoned former retail store/gasoline filling station to the north (Parcel 22), beyond which is Conrad Street; by forested land to the east, beyond which is residential land; by a maintained grass lawn to the south; and by NC Highway 8 (Winston Road) to the west, beyond which is retail automotive sales facility. Photographs of the Project Study Area are provided in Appendix A.

1.2 SCOPE OF WORK

Kleinfelder conducted this PSA in accordance with the NCDOT's May 24, 2019, Request for Technical and Cost Proposal (RFP) and Kleinfelder's June 18, 2019 Technical and Cost Proposal. The NCDOT granted a formal Notice to Proceed on June 27, 2019.

2 HISTORY

2.1 PARCEL USAGE

The parcel consists of a vacant former retail/restaurant building, paved asphalt parking areas, and an overgrown vegetated area.

Parcel 21 is not mentioned in the Hazardous Materials Survey Report, dated February 28, 2018, prepared by Kleinfelder for SEPI Engineering & Construction. However, Parcel 21 shares a property boundary and paved asphalt parking areas with Parcel 22 (to the north), which appears to have operated as a gasoline service station in at least 1966.

Kleinfelder conducted historical research to determine whether additional environmental listings were identified for Parcel 21. The following are the results of the additional research:

- Based on a review of aerial photographs, the site appears to have been primarily occupied by undeveloped forested land from at least 1936 to 1977, and by the retail/restaurant building and associated paved asphalt parking areas from at least 1983 to present day.
- Based on a review of historical City Directories, the site appears to have been occupied by a tattoo parlor in 2010 and 2014, and by a restaurant in 1995 and 2000.
- Kleinfelder searched the registered UST database, maintained by the North Carolina Department of Environmental Quality (NCDEQ). The site was not listed.
- Kleinfelder utilized the NCDEQ's Division of Waste Management Site Locator Tool online. The site was not listed.

2.2 FACILITY ID NUMBERS

Kleinfelder reviewed the NCDEQ UST database for Parcel 21. The site was not listed.

2.3 GROUNDWATER INCIDENT NUMBERS

Parcel 21 is not associated with any known groundwater incident numbers at this time.

3 OBSERVATIONS

3.1 GROUNDWATER MONITORING WELLS

No current or former groundwater monitoring wells were observed on Parcel 21 at the time of site exploration, August 6, 2019.

3.2 ACTIVE USTS

Based on review of the NCDEQ UST database, site visits and previous reports, there are no (0) active or inactive USTs located within the Project Study Area.

3.3 OTHER FEATURES APPARENT BEYOND PROJECT STUDY AREA

The Project Study Area consisted of the central and western portions of Parcel 21. There were no features of concern observed in the overgrown vegetated area of Parcel 21 which was beyond the Project Study Area.

4 METHODS

4.1 PROPERTY OWNER CONTACTS

As part of Kleinfelder's scope of work, the listed property owner was contacted about the work schedule for the field work and the type of work being performed. The owner did not express any concern or special conditions associated with the work being performed.

4.2 HEALTH AND SAFETY

Prior to commencing the field work, Kleinfelder personnel developed a Site-Specific Health and Safety Plan (HASP) covering activities to be performed. The site-specific HASP was discussed with all Kleinfelder personnel involved with the project and at a daily on-site "tail gate" safety meetings with subcontractors and sub consultants. In addition to the HASP, Kleinfelder utilized its comprehensive Corporate Health and Safety Program, targeted to address those specific and critical tasks that involve Kleinfelder personnel and subcontractors. The Loss Prevention System (LPS™), a behavior-based program, is Kleinfelder's company-wide safety system implemented and embraced by all levels of the company.

4.3 GEOPHYSICAL INVESTIGATION

Pyramid Environmental & Engineering, P.C (Pyramid) conducted a geophysical investigation in the Project Study Area between July 15 and 16, 2019. The overgrown vegetated portion of the site was not included as part of the geophysical study because the historical review and site observations did not suggest that sources of soil impact may be present. Pyramid utilized electromagnetic (EM) induction technology and ground penetrating radar (GPR) to locate potential geophysical anomalies and potential USTs within the Project Study Area.

There were no EM responses that were not associated with known utilities, vehicles, or other previously known conditions.

A copy of the Pyramid Geophysical Investigation Report, detailing the field methodology, is included in Appendix B.

4.4 SOIL ASSESSMENT

The scope of work for the soil assessment was to evaluate the presence of soil contamination along the existing right of way and/or easement to evaluate whether known impact is present in this area and maybe migrating off-site. The soil boring was planned to be advanced to a maximum depth of 10 feet below the ground surface (bgs) unless groundwater was encountered. Field

screening using a photo ionization detector (PID) was to be conducted at 1-foot intervals beginning at 0 foot to 1 foot. The soil sample with the highest PID reading above background or the sample from the maximum drilled depth would be selected for on-site laboratory analyses.

Prior to the drilling activities, public utilities were marked by NC One Call and private utilities were marked by Pyramid.

Kleinfelder subcontracted Quantex, Inc. (Quantex) to perform the drilling on-site on August 6, 2019. Quantex advanced one (1) soil boring (P21-B1) by direct-push technology from the ground surface to boring termination (10 feet bgs) at a location specified by Kleinfelder. The soil boring location was identified in the field using a GPS. The soil boring location is shown on Figure 2. The boring was located north of the vacant former retail/restaurant building on Parcel 21. Soil samples were collected by driving Macro Core™ samplers in 5-foot intervals. Each soil core was cut open, the soil samples were classified, and the soil divided into 1-foot sections. Each 1-foot section was screened in the field using a PID. The PID readings are summarized in Table 1.

Soils were determined to be primarily silt within the top 2 feet underlain primarily by a silty clay or clayey silt, then clay. Groundwater was not encountered in the boring at the termination depth of 10 feet bgs. A copy of the boring log is included in Appendix C.

4.5 SOIL ANALYSIS

The PID readings from soil boring advanced were noted to be low. Based on the PID data and visual observations, one sample from the boring was selected for on-site laboratory analysis.

The sample was analyzed by RED Lab, LLC utilizing ultraviolet fluorescence (UVF) methodology to provide real-time analytical results of Total Petroleum Hydrocarbons (TPH), Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). The UVF method was selected because of the known use of petroleum products on the northern adjoining property, Parcel 22. The UVF analysis also provided data regarding Environmental Protection Agency 16 total Polycyclic Aromatic Hydrocarbons (PAHs), and Benzo(a)pyrene (BaP).

5 RESULTS

5.1 GEOPHYSICAL INVESTIGATION

The EM and GPR surveys did not identified unknown geophysical anomalies within the Project Study Area.

5.2 SOIL SAMPLING DATA

The UVF analysis of the soil sample did not indicate the presence of petroleum impact in soil boring P21-B1. As such, shallow soil impact does not appear to be present within the existing right-of-way and the northern parcel boundary above NCDEQ Action Limits. A summary of soil sample analytical results is presented in Table 2. The laboratory results associated with the boring are presented on Figure 3. The laboratory report and graphs are included in Appendix D.

5.3 SAMPLE OBSERVATIONS

Soils were observed for any obvious evidence of contamination. No visual or olfactory evidence of contamination was noted in the soil sample from boring P21-B1.

6 CONCLUSIONS

Based on results of the EM/GPR survey, soil assessment and field observations, Kleinfelder has reached the following conclusions:

- The GPR and EM investigation did not identify unknown features.
- The site does not appear to be listed in any current or former regulatory databases.
- No soil impact was detected in the boring advanced along the northern property boundary above the NCDEQ Action Limits for TPH GRO and DRO.
- Groundwater was not encountered in the soil boring at a depth of 10 feet bgs.

7 RECOMMENDATIONS

Based on results of this Preliminary Site Assessment, Kleinfelder recommends no additional sampling or special handling of soils be performed within the Project Study Area on Parcel 21 in Lexington, Davidson County, North Carolina.

8 LIMITATIONS

Kleinfelder's work will be performed in a manner consistent with that level of care and skill ordinarily exercised by other members of its profession practicing in the same locality, under similar conditions and at the date the services are provided. Kleinfelder's conclusions, opinions and recommendations will be 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.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, Kleinfelder's clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that NCDOT has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or generator, or person who arranges for disposal, transport, storage or treatment of hazardous materials within the meaning of any governmental statute, regulation or order. NCDOT is solely responsible for directing notification of all governmental agencies, and the public at large, of the existence, release, treatment or disposal of any hazardous materials observed at the project site, either before or during performance of

Kleinfelder's services. NCDOT is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

TABLES

Table 1: Soil Sample Screening Results

Date	Sample ID	Depth (ft)	PID Reading	Notes
8/6/2019	U5757-P21-B1	1	0.3	
		2	0.6	
		3	0.6	
		4	0.6	
		5	0.8	
		6	1.1	
		7	1.3	UVF Analysis
		8	1.1	
		9	0.8	
		10	0.4	

Notes:
1) PID = Photoionization Detector
2) PID readings in parts per million (ppm)

TABLE 2: Soil Sample Analytical Summary

Parameter	Analytical Results	Comparison Criteria		
	Soil Sample Results			
Sample ID	P21-B1-7	State Action Limit	Protection of Groundwater	Residential Health
PID Reading (ppm)	1.3			
Collection Depth (ft bgs)	7			
Collection Date	8/6/19			
UVF Method				
Diesel Range Organics	<0.28	100	--	--
Gasoline Range Organics	<0.28	50	--	--

Notes:

Results displayed in milligram per kilogram (mg/kg)

ft bgs = Feet below ground surface

Bold = Above Laboratory Detection Limit

UVF = Ultraviolet Flouresence

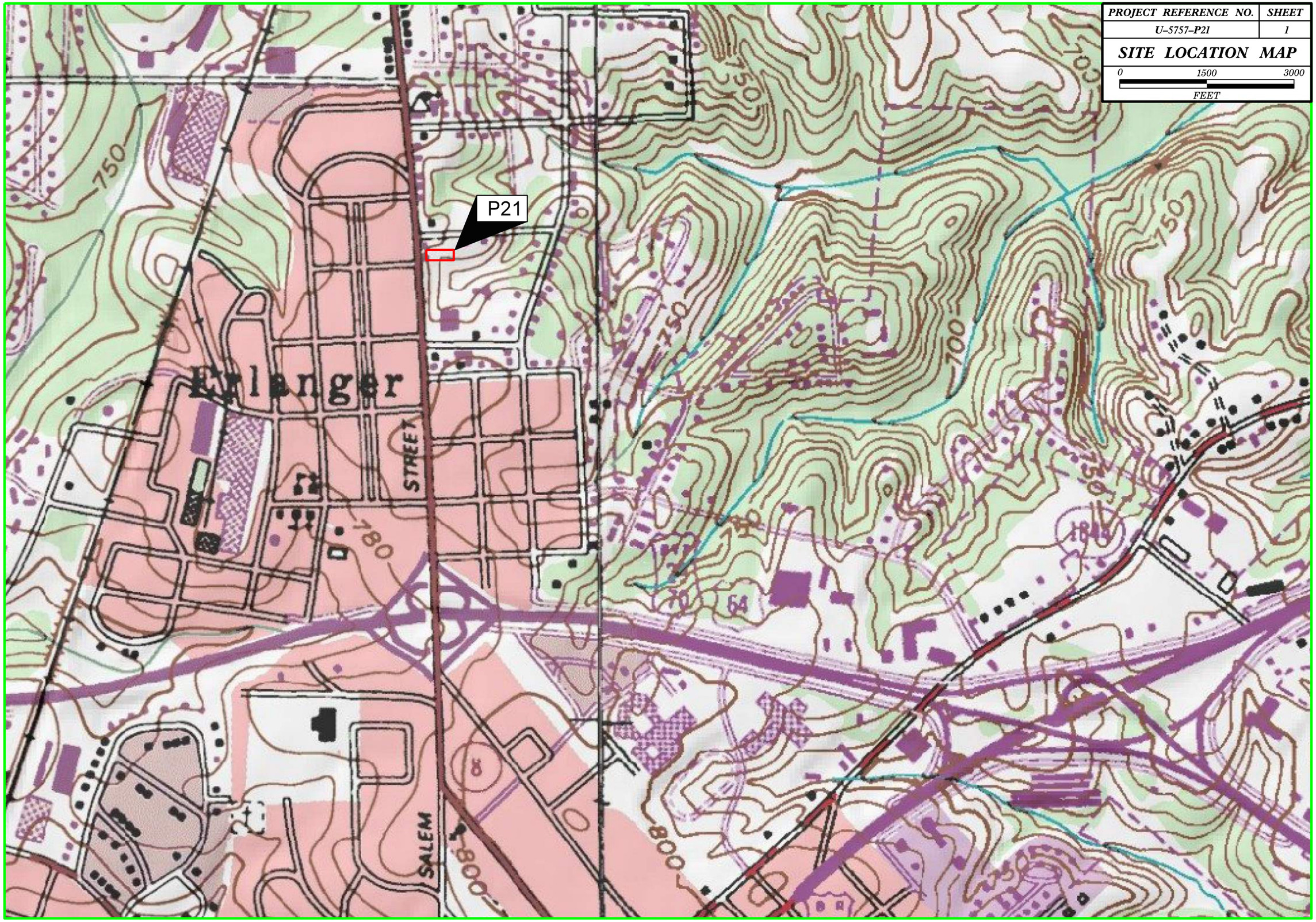
FIGURES

PROJECT REFERENCE NO.	SHEET
U–5757–P21	1

SITE LOCATION MAP

0 1500 3000

FEET



PROJECT REFERENCE NO.	SHEET
U-5757-P21	2

SITE PLAN

0 10 20

FEET

P21B1

LEGEND

SOIL SAMPLE LOCATIONS

P21BI

21

RW

+44.75

EXISTING R/

PU

E

E

E

N

NC GRID
NAD 83 NA 2011

52

53

SAM & SOAS LE
DB 2202 PG 194
PB 5 PG 68

EP

PROJECT REFERENCE NO.	SHEET
U-5757-P21	3

SOIL SAMPLE ANALYTICAL RESULTS

0 10 20

FEET

N

NC GRID
NAD 83 NA 2011

P21B1

LEGEND

SOIL SAMPLE LOCATIONS

SOIL SAMPLE RESULTS

	DRO	GRO
P21-B1-7	<0.28	<0.28

NOTES:
1) All results reported in mg/kg
2) DRO = Diesel Range Organics
3) GRO = Gasoline Range Organics
4) Bold concentrations exceed the NCDEQ TPH Action Level

APPENDIX A
SITE PHOTOGRAPHS

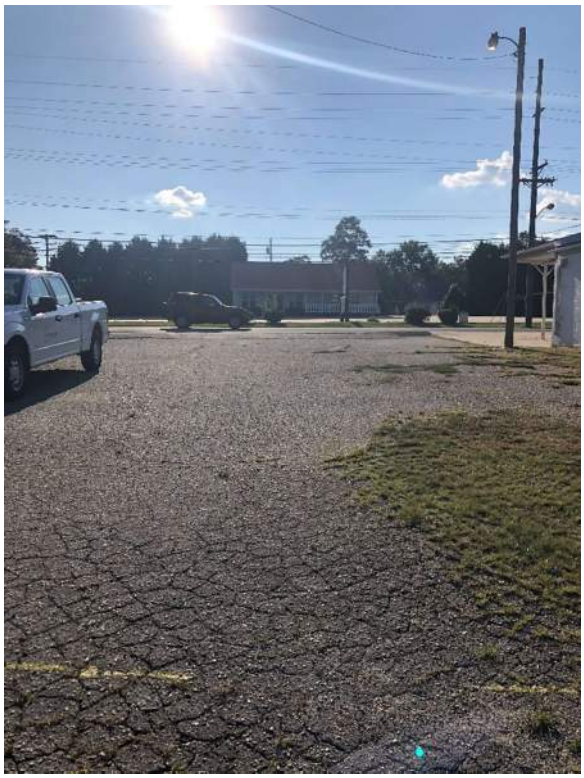
View facing south from Parcel 21 along NC Highway 8 (Winston Road).

View facing southeasterly toward the vacant building on Parcel 21.

Original in Color

KLEINFELDER *Bright People. Right Solutions.* www.kleinfelder.com	PROJECT NO:20201105.001A DRAWN: September 2019 DRAWN BY: ARS CHECKED BY: MB FILE NAME: Photo Pages	**SITE PHOTOGRAPHS** Preliminary Site Assessment Report U-5757-P21 Lexington, Davidson County, North Carolina	FIGURE **A-1**

View facing southwesterly toward the vacant building on Parcel 21.



View facing westerly toward NC Highway 8 (Winston Road).

Original in Color

KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com	PROJECT NO:20201105.001A DRAWN: September 2019 DRAWN BY: ARS CHECKED BY: MB FILE NAME: Photo Pages	**SITE PHOTOGRAPHS** Preliminary Site Assessment Report U-5757-P21 Lexington, Davidson County, North Carolina	FIGURE **A-2**

APPENDIX B

GEOPHYSICAL SURVEY REPORT

PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2019-211)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCEL 21
NCDOT PROJECT U-5757 (54035.1.1)

1215 WINSTON ROAD, LEXINGTON, NC

August 15, 2019

Report prepared for: **Michael Burns, P.G.**
Kleinfelder, Inc.
3500 Gateway Center Boulevard, Suite 200
Morrisville, NC 27560

Prepared by: _____
Eric C. Cross, P.G.
NC License #2181

Reviewed by: _____
Douglas A. Canavello, P.G.
NC License #1066

503 INDUSTRIAL AVENUE, GREENSBORO, NC 27406
P: 336.335.3174 F: 336.691.0648
C257: GEOLOGY C1251: ENGINEERING

GEOPHYSICAL INVESTIGATION REPORT
Parcel 21 - 1215 Winston Road
Lexington, Davidson County, North Carolina

Table of Contents

Figures

LIST OF ACRONYMS

CADD .....Computer Assisted Drafting and Design
DF .....Dual Frequency
EM.....Electromagnetic
GPR.....Ground Penetrating Radar
GPS .....Global Positioning System
NCDOT.....North Carolina Department of Transportation
ROW .....Right-of-Way
UST .....Underground Storage Tank

EXECUTIVE SUMMARY

Project Description: Pyramid Environmental conducted a geophysical investigation for Kleinfelder, Inc. at Parcel 21 located at 1215 Winston Road in Lexington, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5757). The survey was designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. Conducted from July 15-16, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

Geophysical Results: The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. A total of five EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. EM and GPR data showed evidence of a buried utility at the site. Collectively, the geophysical data did not record any evidence of unknown metallic USTs at Parcel 21.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Kleinfelder, Inc. at Parcel 21 located at 1215 Winston Road in Lexington, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5757). The survey was designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. Conducted from July 15-16, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

The site included a vacant commercial building surrounded by asphalt and grass surfaces. An aerial photograph showing the survey area boundaries and ground-level photographs are shown in **Figure 1**.

FIELD METHODOLOGY

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. Pyramid collected the EM data using a Geonics EM61-MK2 (EM61) metal detector integrated with a Geode External GPS/GLONASS receiver. The integrated GPS system allows the location of the instrument to be recorded in real-time during data collection, resulting in an EM data set that is geo-referenced and can be overlain on aerial photographs and CADD drawings. A boundary grid was established around the perimeter of the site with marks every 10 feet to maintain orientation of the instrument throughout the survey and assure complete coverage of the area.

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. The EM61 data were digitally collected at approximately 0.8-foot intervals along north-south trending or east-west trending, generally parallel survey lines, spaced five feet apart. The data were downloaded to a

computer and reviewed in the field and office using the Geonics NAV61 and Surfer for Windows Version 15.0 software programs.

GPR data were acquired across select EM anomalies on July 16, 2019, using a Geophysical Survey Systems, Inc. (GSSI) UtilityScan DF unit equipped with a dual frequency 300/800 MHz antenna. Data were collected both in reconnaissance fashion as well as along formal transect lines across EM features. The GPR data were viewed in real-time using a vertical scan of 512 samples, at a rate of 48 scans per second. GPR data were viewed down to a maximum depth of approximately 6 feet, based on dielectric constants calculated by the DF unit in the field during the reconnaissance scans. GPR transects across specific anomalies were saved to the hard drive of the DF unit for post-processing and figure generation.

Pyramid's classifications of USTs for the purposes of this report are based directly on the geophysical UST ratings provided by the NCDOT. These ratings are as follows:

Geophysical Surveys for Underground Storage Tanks
on NCDOT Projects

High Confidence	Intermediate Confidence	Low Confidence	No Confidence
Known UST Active tank - spatial location, orientation, and approximate depth determined by geophysics.	**Probable UST** Sufficient geophysical data from both magnetic and radar surveys that is characteristic of a tank. Interpretation may be supported by physical evidence such as fill/vent pipe, metal cover plate, asphalt/concrete patch, etc.	**Possible UST** Sufficient geophysical data from either magnetic or radar surveys that is characteristic of a tank. Additional data is not sufficient enough to confirm or deny the presence of a UST.	Anomaly noted but not characteristic of a UST. Should be noted in the text and may be called out in the figures at the geophysicist's discretion.

DISCUSSION OF RESULTS

Discussion of EM Results

A contour plot of the EM61 results obtained across the survey area at the property is presented in **Figure 2**. Each EM anomaly is numbered for reference in the figure. The following table presents the list of EM anomalies and the cause of the metallic response, if known:

LIST OF METALLIC ANOMALIES IDENTIFIED BY EM SURVEY

Metallic Anomaly #	Cause of Anomaly	Investigated with GPR
1	Water Meter	
2	Metal Door	
3	Utility	✓
4	Building/Debris	✓
5	Sign	

The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface including a water meter, a metal door, the building, and a sign. EM Anomaly 3 was suspected to be the result of a buried utility and was investigated further with GPR. EM Anomaly 4 was associated with interference from the building and debris and was investigated further with GPR to confirm that no larger structures were obscured by the interference.

Discussion of GPR Results

Figure 3 presents the locations of the formal GPR transects performed at the property as well as the transect images. A total of two formal GPR transects were performed at the site. GPR Transect 1 was performed across an area associated with a suspected utility (EM Anomaly 3). This transect recorded evidence of a discrete hyperbolic reflector consistent with a buried utility.

GPR Transect 2 was performed across an area associated with interference from the building and debris (EM Anomaly 4). No evidence of any significant structures was observed, verifying that the EM anomaly was the result of interference from the building.

Collectively, the geophysical data did not record any evidence of unknown metallic USTs at Parcel 21. **Figure 4** provides an overlay of the metal detection results on the NCDOT MicroStation engineering plans for reference.

SUMMARY & CONCLUSIONS

Pyramid's evaluation of the EM61 and GPR data collected at Parcel 21 in Lexington, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the accessible portions of the geophysical survey area.
- The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface.
- EM and GPR data showed evidence of a buried utility at the site.
- Collectively, the geophysical data did not record any evidence of unknown metallic USTs at Parcel 21.

LIMITATIONS

Geophysical surveys have been performed and this report was 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 surveys are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained for this project have not conclusively determined the definitive presence or absence of metallic USTs, but the evidence collected is sufficient to result in the conclusions made in this report. Additionally, it should be understood that areas containing extensive vegetation, reinforced concrete, or other restrictions to the accessibility of the geophysical instruments could not be fully investigated.

APPROXIMATE BOUNDARIES OF GEOPHYSICAL SURVEY AREA

View of Survey Area
(Facing Approximately South)

View of Survey Area
(Facing Approximately East)

N

PYRAMID GEOPHYSICS

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License # C1251 Eng. / License # C257 Geology

PROJECT
PARCEL 21
LEXINGTON, NORTH CAROLINA
NCDOT PROJECT U-5757

TITLE
PARCEL 21 - GEOPHYSICAL SURVEY
BOUNDARIES AND SITE PHOTOGRAPHS

DATE 7/19/2019

PYRAMID PROJECT #: 2019-211

CLIENT KLEINFELDER

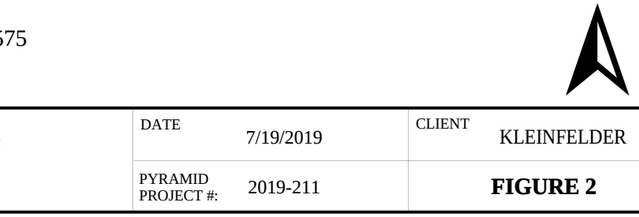
FIGURE 1

EM61 METAL DETECTION RESULTS

NO EVIDENCE OF METALLIC USTs WAS OBSERVED.

The contour plot shows the differential results of the EM61 instrument in millivolts (mV). The differential results focus on larger metallic objects such as USTs and drums. The EM data were collected on July 15, 2019, using a Geonics EM61-MK2 instrument. Verification GPR data were collected using a GSSI UtilityScan DF instrument with a dual frequency 300/800 MHz antenna on July 16, 2019.

EM61 Metal Detection Response (millivolts)



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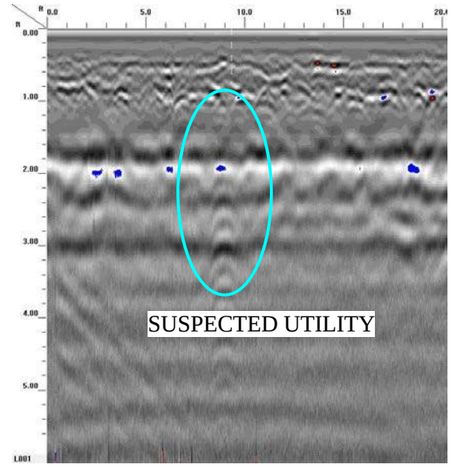
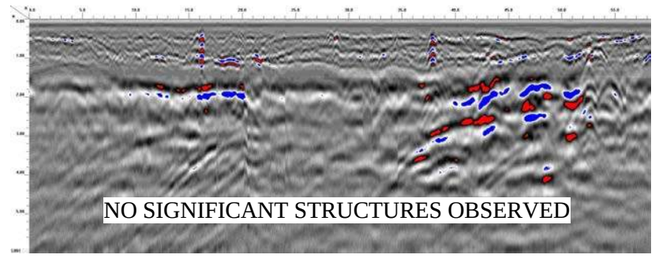
PROJECT	PARCEL 21 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757
TITLE	PARCEL 21 - EM61 METAL DETECTION CONTOUR MAP
DATE	7/19/2019
CLIENT	KLEINFELDER
PYRAMID PROJECT #:	2019-211
	FIGURE 2

LOCATIONS OF GPR TRANSECTS



GPR TRANSECT 1 (T1)



GPR TRANSECT 2 (T2)

N

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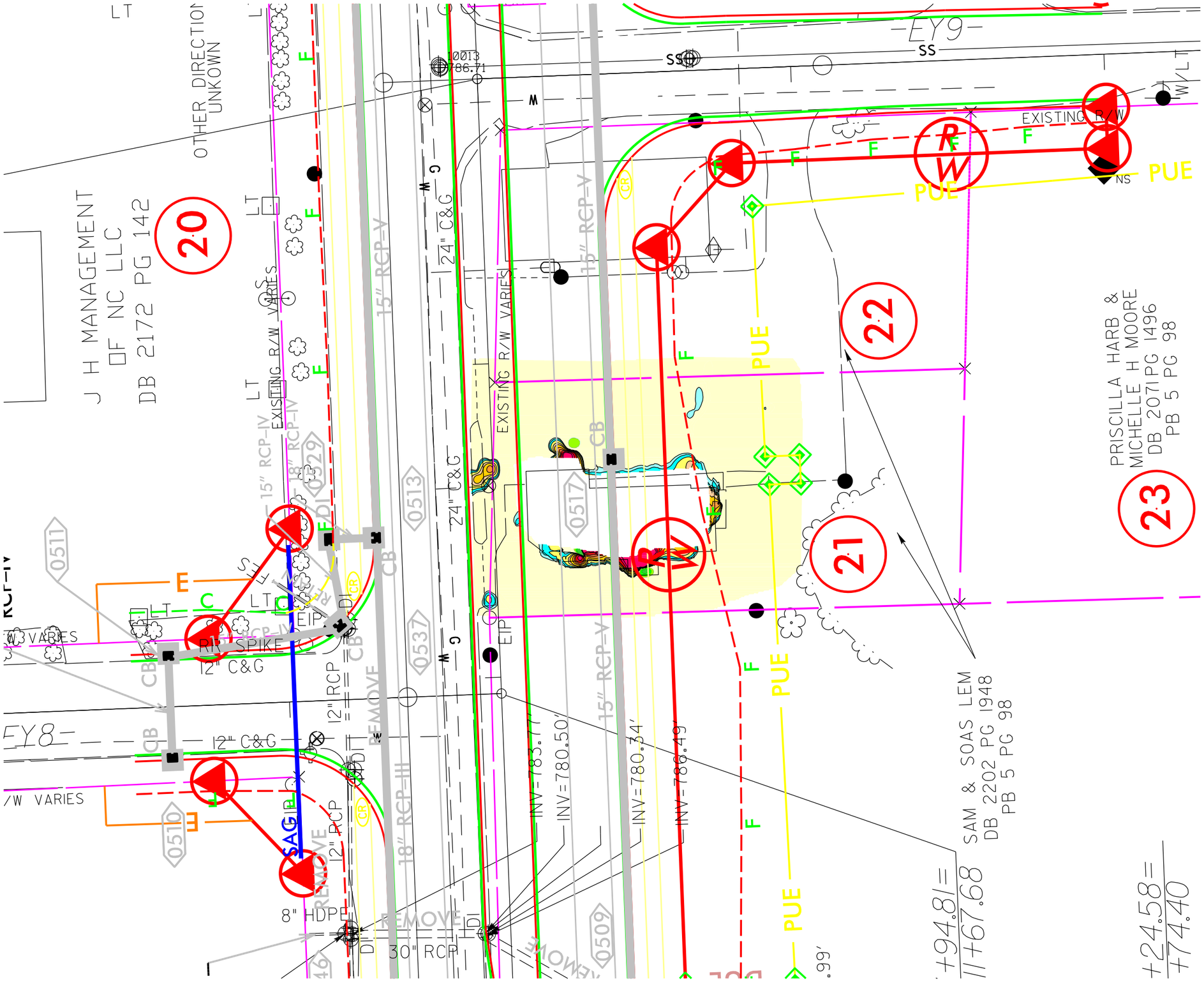
License # C1251 Eng. / License # C257 Geology

PROJECT	PARCEL 21 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757
TITLE	PARCEL 21 - GPR TRANSECT LOCATIONS AND IMAGES
DATE	7/19/2019
CLIENT	KLEINFELDER
PYRAMID PROJECT #:	2019-211
	FIGURE 3



TITLE

OVERLAY OF METAL DETECTION RESULTS ON NCDOT ENGINEERING PLANS

PROJECT

PARCEL 21
LEXINGTON, NORTH CAROLINA
NCDOT PROJECT U-5757

PYRAMID GEOPHYSICS
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27406
336.335.3174 (p) 336.691.0648 (f)
License # C1251 Eng. / #C257 Geology

DATE: 08-13-2019	REVISION NO. 0
PYRAMID PROJECT NO. 2019-211	FIGURE NO. 4

APPENDIX C
BORING LOGS

Date Begin - End:	8/06/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	70°F Clear	**Borehole Diameter:**	

BORING LOG P21-B1

FIELD EXPLORATION

Latitude: 35.84196° N
Longitude: -80.25374° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							ASPHALT
					0.3		**SILT**: reddish yellow multicolored brown, dry, trace sand
					0.6		
					0.6		**CLAY with Silt**: reddish brown, dry
					0.6		
					0.8		
5	Direct Push Sleeves				1.1		
			P21-B1-7		1.3		
					1.1		
					0.8		**SILT with Clay**: reddish brown and reddish yellow, dry to moist
					0.4		**CLAY**: reddish yellow and white, dry to moist, trace silt, Micaceous
10							

The borehole was terminated at approximately 10 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P21-B1

NCDOT: U-5757
Biesecker Road
Lexington, NC

1

APPENDIX D

ANALYTICAL REPORT AND GRAPHS

QED

AQROS

Hydrocarbon Analysis Results

Client: KLEINFELDER
Address:

Samples taken Tuesday, August 6, 2019
Samples extracted Tuesday, August 6, 2019
Samples analysed Tuesday, August 6, 2019

Contact: ABIGAIL SHURTLEFF

Operator CAROLINE STEVENS

Project: NCDOT U-5757

U00904

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	% Ratios			HC Fingerprint Match
										C5 - C10	C10 - C18	C18	
s	P22-B1-8	14.0	<0.35	<0.35	0.85	0.85	0.38	<0.11	<0.014	50	39.3	10.6	Deg.PHC 62.5%,(FCM)
s	P22-B2-4	11.0	<0.27	<0.27	<0.27	<0.27	<0.05	<0.09	<0.011	0	100	0	Residual HC
s	P22-B3-2	9.8	<0.24	<0.24	4.1	4.1	2.9	0.11	<0.01	0	79.3	20.7	Deg Fuel 74.6%,(FCM)
s	P22-B3-5	9.7	<0.24	<0.24	5	5	2.4	0.26	<0.01	0	71.2	28.8	Road Tar 76.9%,(FCM),(BO)
s	P22-B3-10	13.7	<0.34	<0.34	5.7	5.7	3.4	<0.11	<0.014	0	70.6	29.4	Deg Fuel 72.1%,(FCM)
s	P22-B4-6	10.3	<0.26	<0.26	<0.26	<0.26	<0.05	<0.08	<0.01	0	79.7	20.3	,(FCM)
s	P22-B5-7	14.4	<0.36	<0.36	<0.36	<0.36	<0.07	<0.12	<0.014	0	85.3	14.7	Residual HC,(BO)
s	P22-B6-4	10.5	<0.26	<0.26	<0.26	<0.26	<0.05	<0.08	<0.011	0	100	0	,(FCM),(BO)
s	P21-B1-7	11.2	<0.28	<0.28	<0.28	<0.28	<0.06	<0.09	<0.011	0	56.2	43.8	Residual HC

Initial Calibrator QC check OK

Final FCM QC Check OK 102.4 %

Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values uncorrected for moisture or stone content. Fingerprints provide a tentative hydrocarbon identification.

Abbreviations :- FCM = Results calculated using Fundamental Calibration Mode : % = confidence of hydrocarbon identification : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate detected

B = Blank Drift : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : (OCR) = Outside cal range : (M) = Modifed Result.

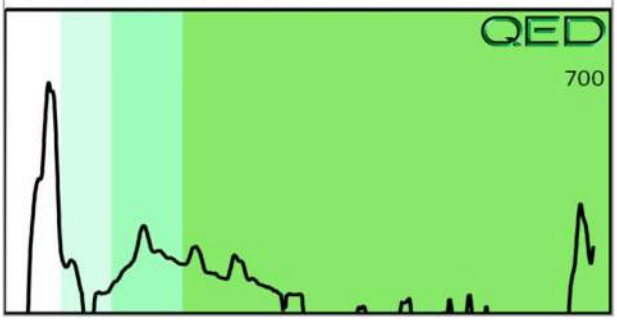
% Ratios estimated aromatic carbon number proportions : HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only. **Data generated by HC-1 Analyser**

QED Hydrocarbon Fingerprints

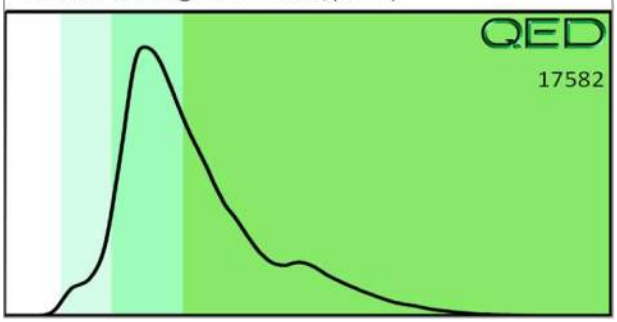
Project: NCDOT U-5757 Tuesday, August 6, 2019

P22-B1-8 : Deg.PHC 62.5%,(FCM)

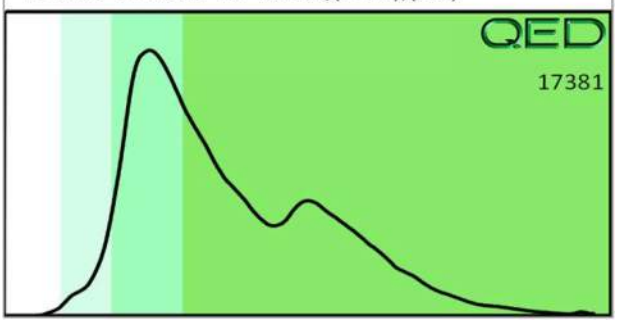
P22-B2-4 : Residual HC



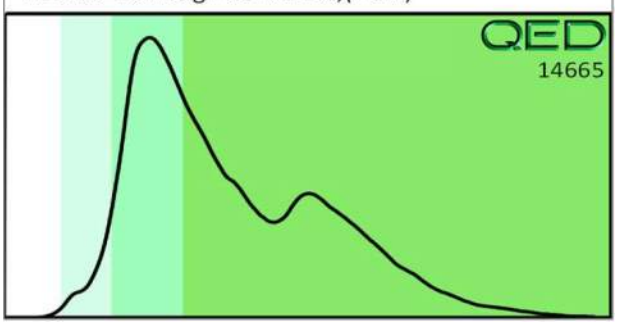
P22-B3-2 : Deg Fuel 74.6%,(FCM)



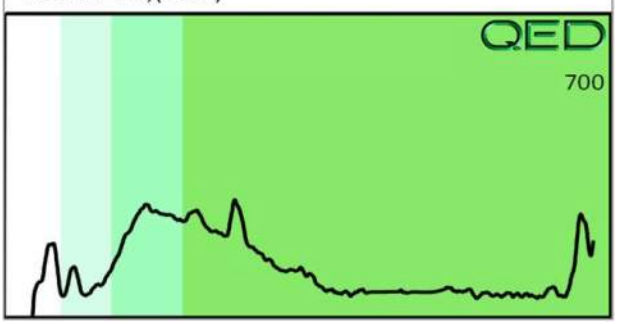
P22-B3-5 : Road Tar 76.9%,(FCM),(BO)



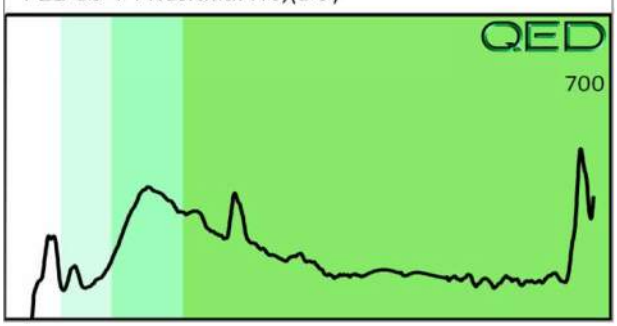
P22-B3-10 : Deg Fuel 72.1%,(FCM)



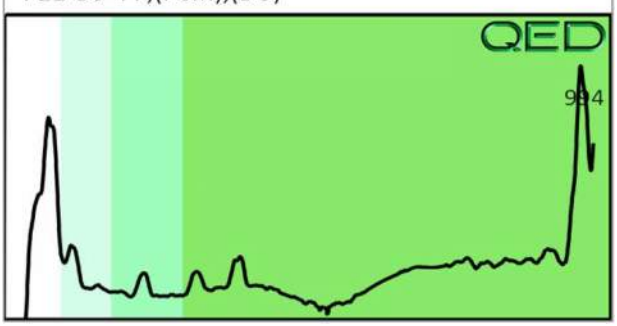
P22-B4-6 : ,(FCM)



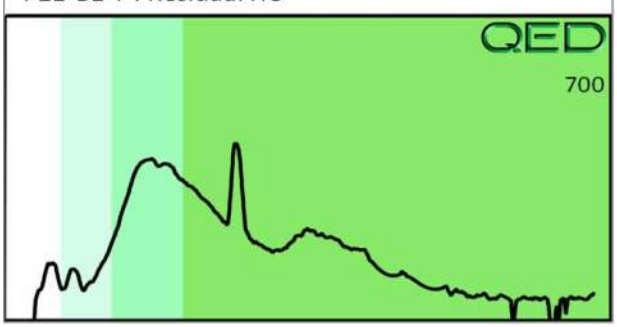
P22-B5-7 : Residual HC,(BO)



P22-B6-4 : ,(FCM),(BO)



P21-B1-7 : Residual HC



KLEINFELDER
Bright People. Right Solutions.

September 22, 2023
Kleinfelder File No. RAL23R158568

Mr. Matthew J Alexander, P.E.
North Carolina Department of Transportation
State Geotechnical Engineer
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

SUBJECT: **UST CLOSURE REPORT**
WBS ELEMENT NO. 54035.1.1, TIP NO. U-5757
NC 8 (WINSTON RD) FROM 9TH STREET TO SR 1408 (BIESECKER RD) IN LEXINGTON
PARCEL 22 PSH 5, SAM & SOAS LEM
1223 OLD US 52 (N 8), LEXINGTON, NC 27295
DAVIDSON COUNTY, NORTH CAROLINA
KLEINFELDER PROJECT NO. 24001596.001A

Dear Mr. Alexander:

Please find enclosed Kleinfelder's report summarizing the underground storage tank (UST) removal activities and initial abatement actions performed at the referenced site. This report summarizes Kleinfelder's field activities, observations, and includes the laboratory reports.

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

Sincerely,
KLEINFELDER, INC.

Adam Mahr
Staff Professional

Michael J. Burns, LG
Environmental Program Manager

AM/MJB: das
Enclosure

KLEINFELDER 3200 Gateway Centre Blvd. Suite 100, Morrisville, NC 27560 **p |** 919.755.5011

UST CLOSURE REPORT
1223 OLD US 53 (N 8)
LEXINGTON, DAVIDSON COUNTY, NORTH CAROLINA 27295

TIP NUMBER U-5757
WBS ELEMENT NUMBER 54035.1.1

NC 8 (WINSTON RD) FROM 9TH STREET TO SR 1408 (BIESECKER RD) IN LEXINGTON
PARCEL 22 PSH 5/PARCEL NUMBER 1101000000058

KLEINFELDER PROJECT NUMBER 24001596.001A

SEPTEMBER 22, 2023

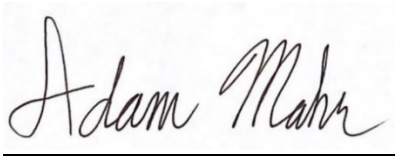
KLEINFELDER 3200 Gateway Centre Blvd. Suite 100, Morrisville, NC 27560 **p |** 919.755.5011

A Report Prepared for:

North Carolina Department of Transportation
Geotechnical Unit
GeoEnvironmental Section
1020 Birch Ridge Drive
Raleigh, North Carolina 27610

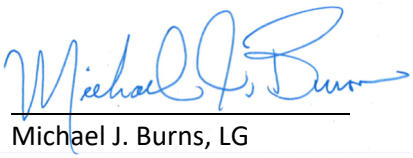
UST CLOSURE REPORT
1223 OLD US 52 (N 8)
LEXINGTON, DAVIDSON COUNTY, NORTH CAROLINA 27295
TIP NUMBER U-5757
WBS ELEMENT NUMBER 54035.1.1
NC 8 (WINSTON RD) FROM 9TH STREET TO SR 1408 (BIESECKER RD) IN LEXINGTON
PARCEL 22 PSH 5/PARCEL NUMBER 1101000000058

Prepared by:



Adam Mahr
Staff Professional

Reviewed by:



Michael J. Burns, LG
Program Manager

KLEINFELDER, INC.
3200 Gateway Centre Blvd. | Suite 100
Raleigh, North Carolina 27560

September 22, 2023

Kleinfelder Project No. 24001596.001A

UST CLOSURE AND INITIAL ABATEMENT ACTION REPORT

1. SITE IDENTIFICATION

Facility I.D.:	Not Assigned
UST Incident Number (if known):	Not Assigned
Site Risk:	Not Determined
Site Name:	Not Assigned
Site Street Address:	1223 Old US 52 (N 8)
City/Town:	Lexington
Zip Code:	27295
County:	Davidson
Parcel ID	1101000000058
Description of Geographical Data Point (e.g., diesel fill port):	Center of UST Basin
Location Method (GPS, topographical map, other):	GPS
Latitude (decimal degrees):	35.842183
Longitude (decimal degrees):	-80.253675
Date of Report:	September 22, 2023

2. Information about Contacts Associated with the UST System

UST Owner:	Sam and Soas Lem
Address:	1306 Winston-Salem Road Lexington, North Carolina 27295
Phone:	Unknown
UST Operator:	Sam and Soas Lem
Property Owner:	Sam and Soas Lem
Address:	1306 Winston-Salem Road Lexington, North Carolina 27295
Property Occupant:	No current occupant
Consultant:	Kleinfelder, Inc.
Address:	3200 Gateway Centre Blvd. | Suite 100

	Morrisville, NC 27560
Phone:	919.755.5011
Contact:	Michael J. Burns, LG
Analytical Laboratory:	Waypoint Analytical
Address:	449 Springbrook Road Charlotte, NC 28217
Phone:	704.529.6364
State Certification No.	402

3. Information about Release

Date Discovered:	August 22, 2023
Estimated Quantity of Release:	Unknown
Cause of Release:	Metal corrosion of UST
Source of Release (Dispenser/Piping/UST):	UST
Sizes and Contents of Tanks:	One (1) 1,000-gallon steel UST One (1) 500-gallon steel UST One (1) 200-gallon steel UST

Release Information: The UST system at the referenced site included one (1) 1,000-gallon commercial UST, one (1) 500-gallon commercial UST, and one (1) 200-gallon commercial UST. The USTs and associated piping were removed on August 22, 2023. Laboratory analysis of soil samples collected from the UST basin during closure indicated that a release of petroleum had occurred. Following limited over-excavation activities, no impacted soils above the TPH action levels, the Soil-to-Water MSCCs or Residential MSCCs.

4. CERTIFICATION

SEAL AND SIGNATURE OF CERTIFYING LICENSED GEOLOGIST

I, Michael J. Burns, a Licensed Geologist for Kleinfelder, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

DocuSigned by:
Michael Burns
7E53DC44AC794CA...

09/25/2023

Michael J Burns, LG
NC License No. 1645

NORTH CAROLINA LICENSED SEAL 1645 GEOLOGIST MICHAEL JAMES BURNS

Kleinfelder, Inc. is permitted to practice geology | engineering in North Carolina. The certification number of the corporation is C521 | F-1312.

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A EXECUTIVE SUMMARY

The subject site is located at 1223 Old US 52 in Lexington, Davidson County, North Carolina (Figure 1). The site is identified as Davidson County Parcel Number 1101000000058. The site was vacant at the time of removal of the USTs. Prior assessments indicated that the site operated as a gasoline service station in the 1960s.

During a Preliminary Site Assessment (PSA) performed at the site in July 2019 by Kleinfelder, two (2) orphan USTs were identified on Parcel 22 adjacent to the southwest corner of a single-story structure. No petroleum-impacted soil was identified in soil borings advanced on Parcel 22 at the time.

On August 22, 2023, Kleinfelder provided oversight of the removal of one (1) 1,000-gallon commercial UST (UST #1), one (1) 500-gallon commercial UST (UST #2), and one (1) 200-gallon commercial UST (UST #3). The USTs contained a water/petroleum mixture that was removed prior to removal of the USTs. Upon removal of the USTs, the tanks were observed to be in relatively poor condition.

After the removal of the USTs, Kleinfelder provided oversight of the over-excavation of petroleum impacted soil around UST #3. A total of 11.6 tons of soil was removed from the site. Confirmation sampling indicated no contaminant concentrations in excess of the Soil-to-Water Maximum Contaminant Concentrations (MSCCs) or Residential Cleanup MSCCs.

B SITE HISTORY AND CHARACTERIZATION

The subject site is located at 1223 Old US 52 (N 8) in Lexington, Davidson County, North Carolina (Figure 1). The site is identified as Davidson County Parcel Identification Number 1101000000058. The site was vacant at the time of removal of the USTs. Prior assessments indicated that the site operated as a gasoline service station in the 1960s.

C SITE CHECK

There was no evidence of a release from the UST prior to closure, therefore site check assessment procedures were not performed.

D UST CLOSURE PROCEDURES

Kleinfelder was contacted to remove two (2) USTs at a commercial property located at 1223 Old US 52 (N 8) in Lexington, Davidson County, North Carolina. A third UST was identified at the time of the removal of the USTs. NCDOT provided authorization to remove the third UST.

The following is a chronological description of the closure activities that were performed on August 22, 2023. Initial abatement measures are described in Section D.

August 22, 2023

- Kleinfelder personnel met A&D Environmental, Inc. (A&D) of Archdale, North Carolina at the site to begin UST closure activities.
- The location of the USTs were marked prior to removal activities. A&D began breaking up the concrete pad covering the USTs. Following the removal of the concrete, A&D began excavating the soil around the location of UST #1 to better uncover the fill port.
- A&D utilized a vacuum truck to remove a small quantity of residual product and water from UST #1. The liquid was manifested and taken offsite for disposal at A&D's facility in Archdale, North Carolina. A copy of the liquid material manifest is included in Appendix B.
- A&D began excavating the soil around UST #1. The top of UST #1 was located approximately three (3) feet below the ground surface (bgs) and had visible signs of corrosion. A hole was intentionally punctured in the top of UST #1 for cleanout access.
- A&D excavated along the sides of UST #1 to expose the top of the tank. The tank was loosened and removed from the ground.
- No evidence of oil staining was observed beneath the location of the tank after removal.
- UST #1 was a single-wall steel tank that had a capacity of 1,000-gallons. The UST information is included on Table 1. A visual observation of the tank identified areas of corrosion and pitting. UST #1 was loaded onto a truck for proper off-site disposal by A&D. Copies of the tank manifests are included in Appendix C. Photographs of the UST removal are included in Appendix E.
- The same procedure as described for UST #1 was performed to remove UST#2.

- No evidence of oil staining was observed beneath the location of UST #2 after removal.
- UST #2 was a single-wall steel tank that had a capacity of approximately 500-gallons. The UST information is included on Table 1. A visual observation of the tank identified areas of corrosion and pitting. The UST was loaded onto a truck for proper off-site disposal by A&D.
- Following the removal of UST #1 and UST #2, Kleinfelder collected soil samples from the bottom of the tank basin underneath the former location of the USTs.
- The soil in the sampling areas were screened with a Photoionization Detector (PID) to minimize the amount of soil that needed to be hauled to a disposal facility.
- PID readings did not indicate the presence of impacted soils from underneath UST #1 and UST #2.
- Kleinfelder collected confirmatory total petroleum hydrocarbon (TPH) gasoline range organic (GRO) bottom samples to be analyzed by Waypoint Analytical.
- Following the removal of UST #1 and UST #2, a third UST was identified adjoining to the excavated tank basin.
- A&D excavated along the sides of UST #3 to expose the tank. UST #3 was visibly in poor condition and corroded into multiple pieces. The pieces of UST #3 were removed from the ground.
- UST #3 was a single-wall steel tank that had a capacity of approximately 200-gallons. The UST information is included in Table 1.
- Following the removal of UST #3, Kleinfelder collected a soil sample from underneath UST #3 to be screened with a PID. The PID reading indicated the likely presence of impacted soils from underneath UST #3.

E INITIAL RESPONSE AND ABATEMENT

- Soil screening with a PID was performed at the locations of UST #1, UST #2, and UST #3. Only soil around UST #3 appeared to be impacted based on PID readings. Therefore, initial abatement activities were only performed at UST #3.
- After screening with a PID and results indicated impacted soil, A&D excavated additional soil vertically and horizontally around the location of UST #3 until PID readings indicated the unlikely presence of impacted soils.
- Kleinfelder collected soil samples from the bottom of the tank basin and the north, east, and south sidewalls for risk-based lab testing. The soil was placed into laboratory provided containers, labeled, and maintained on ice until pickup by Waypoint Analytical.
- The samples were analyzed for volatile organic compounds (VOCs) by EPA method 8260, semi-volatile organic compounds (SVOCs) by EPA method 8270, extractable petroleum hydrocarbons (EPH), and volatile petroleum hydrocarbons (VPH) using the Massachusetts Department of Environmental Protection (MADEP) methods. The sample locations are shown on Figure 3. Analytical results are provided in Table 3.
- A total of 11.6 tons of soil was excavated, loaded, and transported offsite for disposal at Great Oak Landfill in Randleman, North Carolina. A copy of the transportation manifests is included in Appendix D.
- Following soil sample collection, the excavation was backfilled with clean soil, compacted, and covered with gravel.

F SAMPLE RESULTS

The laboratory analysis of the soil samples surrounding UST #3 had no concentrations that exceeded Soil-to-Water or Residential MSCCs. Petroleum-impacted soil was not identified at concentrations that exceeded the total petroleum hydrocarbon (TPH) gasoline range organic (GRO) actions level from underneath UST #1 and UST #2.

The sample locations are shown on Figure 3 and the laboratory results are summarized in Table 3. The laboratory report and associated chain-of-custody document are included in Appendix F.

G CONCLUSIONS

Based Kleinfelder's field observations, and the results of the laboratory analyses, Kleinfelder presents the following conclusions:

- Three (3) USTs were closed by removal on August 22, 2023. The USTs were observed to be in poor condition with obvious signs of corrosion and pitting.
- A total of 324 gallons of liquid was collectively removed from the USTs prior to excavation.
- A total of 11.6 tons of soil was excavated, manifested, and hauled offsite for disposal.
- The excavation was backfilled with clean soil, compacted, and covered with gravel.
- Confirmation laboratory analysis of soil samples indicated no residual soil contamination above the Soil-to-Water or Residential Cleanup MSCCs.

H LIMITATIONS

Kleinfelder's work will be performed in a manner consistent with that level of care and skill ordinarily exercised by other members of its profession practicing in the same locality, under similar conditions and at the date the services are provided. Kleinfelder's conclusions, opinions and recommendations will be 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.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more-detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, Kleinfelder's clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that NCDOT has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or generator, or person who arranges for disposal, transport, storage or treatment of hazardous materials within the meaning of any governmental statute, regulation or order. NCDOT is solely responsible for directing notification of all governmental agencies, and the public at large, of the existence, release,

treatment or disposal of any hazardous materials observed at the project site, either before or during performance of Kleinfelder's services. NCDOT is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

TABLES

FIGURES

APPENDIX A
UST-2B SITE INVESTIGATION REPORT FOR PERMANENT CLOSURE OR CHANGE-IN-SERVICE OF UNREGISTERED UST

UST-3 PERMANENT CLOSURE OR CHANGE-IN-SERVICE

APPENDIX B
LIQUID DISPOSAL MANIFEST

APPENDIX C
UST DISPOSAL CERTIFICATES

APPENDIX D
SOIL DISPOSAL MATERIAL MANIFESTS AND WEIGHT TICKETS

APPENDIX E
PHOTOGRAPHS

APPENDIX F
LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS

September 19, 2019
Kleinfelder File No. RAL19R101352

Mr. John L. Pilipchuk, LG., PE
North Carolina Department of Transportation
State Geotechnical Engineer
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

SUBJECT: Preliminary Site Assessment Report
Parcel 22, Sam & Soas Lem
WBS Element No. 54035.1.1, TIP No. U-5757
NC 8 (Winston Road) from 9th Street to SR 1408 (Biesecker Rd) in Lexington. Widen to multi lanes
Kleinfelder Project No. 20201105.001A

Dear Mr. Pilipchuk,

Kleinfelder is pleased to provide its report detailing the activities conducted as part of the preliminary site assessment for the subject project.

Kleinfelder appreciates the opportunity to be of service to you. Should you have questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,
KLEINFELDER, INC.

Abigail R. Shurtleff
Environmental Staff Professional

Michael J Burns, PG
Environmental Program Manager

ARS/MJB:asp

KLEINFELDER 3200 Gateway Centre Blvd. Suite 100, Morrisville, NC 27560 **p |** 919.755.5011 **f |** 919.755.1414

PRELIMINARY SITE ASSESSMENT REPORT
PARCEL 22 SAM & SOAS LEM
PARCEL 1101000000058
1223 OLD US HWY 52
LEXINGTON, DAVIDSON COUNTY, NORTH CAROLINA

NCDOT WBS ELEMENT 54035.1.1
STATE PROJECT U-5757
NC 8 (WINSTON RD) FROM 9TH STREET TO SR 1408 (BIESECKER RD) IN LEXINGTON. WIDEN TO MULTI LANES

KLEINFELDER PROJECT NO. 20201105.001A

SEPTEMBER 19, 2019

A Report Prepared for:

Mr. John L. Pilipchuk, LG., PE
North Carolina Department of Transportation
State Geotechnical Engineer
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

PRELIMINARY SITE ASSESSMENT REPORT
PARCEL 22 SAM & SOAS LEM
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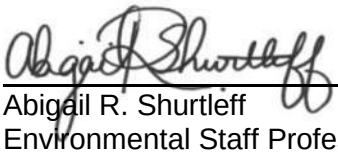
NC 8 (WINSTON RD) FROM 9TH STREET TO SR 1408 (BIESECKER RD) IN LEXINGTON. WIDEN TO MULTI LANES

Prepared by:



Abigail R. Shurtleff
Environmental Staff Professional

Reviewed by:

Michael J. Burns, PG
Environmental Program Manager

KLEINFELDER
3200 Gateway Centre Blvd. | Suite 100
Raleigh, North Carolina 27560
P | 919.755.5011

September 19, 2019

Kleinfelder Project No. 20201105.001A

PRELIMINARY SITE ASSESSMENT REPORT

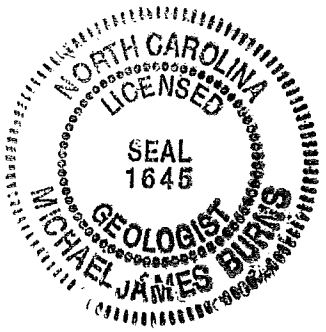
Site Name and Location:	Parcel 22 1223 Old US Hwy 52 Lexington, Davidson County, North Carolina
Latitude and Longitude:	35.842249°N, -80.253722°W
County Parcel Number	1101000000058
Facility ID Number:	N/A
Leaking UST Incident:	N/A
State Project No.:	U-5757
NCDOT Project No.:	NCDOT WBS Element 54035.1.1
Description:	NC 8 (Winston Rd) from 9th Street to SR 1408 (Biesecker Rd) in Lexington. Widen to multi lanes
Date of Report:	September 19, 2019
Consultant:	Kleinfelder, Inc. 3200 Gateway Center Boulevard | Suite 100 Morrisville, North Carolina 27560 Corporate Geology License No. C-521 Corporate Licensure for Engineering F-1312

SEAL AND SIGNATURE OF CERTIFYING LICENSED GEOLOGIST

I, Michael J Burns, a Licensed Geologist for Kleinfelder, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

DocuSigned by:
7E53DC44AC794CA...

Michael J Burns, LG
NC License No. 1645 10/7/2019



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PRELIMINARY SITE ASSESSMENT
PARCEL 22 SAM & SOAS LEM
PARCEL 1101000000058
1223 OLD US HWY 52
LEXINGTON, DAVIDSON COUNTY, NORTH CAROLINA

NCDOT WBS ELEMENT 54035.1.1
STATE PROJECT U-5757
NC 8 (WINSTON RD) FROM 9TH STREET TO SR 1408 (BIESECKER RD) IN LEXINGTON. WIDEN TO MULTI LANES

1 INTRODUCTION

Kleinfelder, Inc. (Kleinfelder) has prepared this Preliminary Site Assessment (PSA) report to document assessment activities performed on a parcel of land identified by the Davidson County, NC Tax Assessor's Office as Parcel Number 1101000000058, and by NCDOT as Parcel 22 (the assessment area is hereafter referred to as the "Project Study Area"). The Project Study Area consists of the western portion of Parcel 22. Parcel 22 is currently occupied by a vacant building on the eastern side of Winston Road, southeast of the intersection of Winston Road and Conrad Street in Lexington, Davidson County, North Carolina (Figure 1).

Based on information provided in the Hazardous Materials Survey Report, dated February 28, 2018, prepared by Kleinfelder for SEPI Engineering & Construction, the parcel is currently an abandoned building and asphalt parking area with no registered underground storage tanks (USTs). However, the parcel appears to have operated as a gasoline service station in at least 1966. As such, the purpose of the PSA was to evaluate whether unknown USTs or contaminated soil are present in the Project Study Area that may result in increased project costs and future liability if acquired by the NCDOT.

1.1 SITE DESCRIPTION

Parcel 22 has a listed owner of Sam & Soas Lem. The parcel has a street address of 1223 Old US Hwy 52. The parcel consists of a vacant building with an asphalt parking area and an overgrown vegetated area on the eastern portion of the parcel. The parcel is bounded by Conrad Street to the north, residential property to the east, a vacant building followed by an open field to the south, and Old US Hwy 52 to the west. The parcel is currently the location of a vacant store. Photographs of the Project Study Area are provided in Appendix A.

1.2 SCOPE OF WORK

Kleinfelder conducted this PSA in accordance with the NCDOT's May 24, 2019, Request for Technical and Cost Proposal (RFP) and Kleinfelder's June 18, 2019 Technical and Cost Proposal. The NCDOT granted a formal Notice to Proceed on June 27, 2019.

2 HISTORY

2.1 PARCEL USAGE

The parcel consists of a vacant building, an asphalt parking area, and an overgrown vegetated area. An access road runs north and south between the undeveloped and developed portions of the parcel to Conrad Street.

The February 2018 Hazardous Materials Survey Report identifies the parcel as Parcel 33 located at 1223 Old US Hwy 52 (since changed to Parcel 22). This report indicates no records of USTs for the parcel; however, orphan USTs and the potential for petroleum contaminated soil/groundwater from former use of the parcel as a gasoline filling station are mentioned in the report.

Kleinfelder conducted historical research to determine whether additional environmental listings were identified for Parcel 22, and identified a gasoline filling station, Hartle Astrojet Service Station, which operated on site in 1966. The property appears to have changed operations into a retail carpeting and/or clothing business from the late 1960s to 2018. No records of USTs or UST closure activities were reported for the site.

2.2 FACILITY ID NUMBERS

Kleinfelder reviewed the NCDEQ UST database for Parcel 22. The parcel was not listed in the database at the time of this report.

2.3 GROUNDWATER INCIDENT NUMBERS

No known groundwater incident numbers are associated with Parcel 22 at this time.

3 OBSERVATIONS

3.1 GROUNDWATER MONITORING WELLS

No groundwater monitoring wells were observed on Parcel 22 at the time of site exploration, August 6, 2019.

3.2 ACTIVE USTS

No indication of the active use of USTs at Parcel 22 was observed at the time of site exploration, August 6, 2019. However, the location of two (2) probable USTs were located off the southwest corner of the vacant building on Parcel 22.

3.3 OTHER FEATURES APPARENT BEYOND PROJECT STUDY AREA

The Project Study Area consisted on the western portion of the parcel. There were no features of concern observed in the undeveloped portion of the parcel beyond the Project Study Area.

4 METHODS

4.1 PROPERTY OWNER CONTACTS

As part of Kleinfelder's scope of work, the listed property owner was contacted about the work schedule for the field work and the type of work being performed. The owner did not express any concern or special conditions associated with the work being performed.

4.2 HEALTH AND SAFETY

Prior to commencing the field work, Kleinfelder personnel developed a Site-Specific Health and Safety Plan (HASP) covering activities to be performed. The site-specific HASP was discussed with all Kleinfelder personnel involved with the project and at a daily on-site "tail gate" safety meetings with subcontractors and sub consultants. In addition to the HASP, Kleinfelder utilized its comprehensive Corporate Health and Safety Program, targeted to address those specific and critical tasks that involve Kleinfelder personnel and subcontractors. The Loss Prevention System (LPS™), a behavior-based program, is Kleinfelder's company-wide safety system implemented and embraced by all levels of the company.

4.3 GEOPHYSICAL INVESTIGATION

Pyramid Environmental & Engineering, P.C (Pyramid) conducted a geophysical investigation in the Project Study Area between July 15 and 16, 2019. The undeveloped portion of the site was not included as part of the geophysical study because the historical review and site observations did not suggest that sources of soil and/or groundwater impact may be present within this portion of the property. Pyramid utilized electromagnetic (EM) induction technology and ground penetrating radar (GPR) to locate potential geophysical anomalies and potential USTs within the Project Study Area.

EM and GPR responses indicated the probable presence of two (2) orphan USTs located off the southwestern corner of the vacant building on Parcel 22. The southern probable UST was approximately 12 feet long by 4 feet wide, thus approximately 1,130-gallons in estimated capacity. The northern probable UST was approximately 10 feet long by 4 feet wide, thus approximately 940-gallons in estimated capacity.

A copy of the Pyramid Geophysical Investigation Report, detailing the field methodology and including the locations of the two (2) probable USTs, is included in Appendix B.

4.4 SOIL ASSESSMENT

The scope of work for the soil assessment was to evaluate the presence of soil contamination along the existing right of way and/or easement to evaluate whether known impact is present in this area and maybe migrating off-site. The soil borings were planned to be advanced to maximum depths of 10 feet below the ground surface unless groundwater was encountered. Field screening using a photo ionization detector (PID) was to be conducted at 1-foot intervals beginning at 0 foot to 1 foot. The soil sample with the highest PID reading above background or the sample from the maximum drilled depth would be selected for on-site laboratory analyses.

Prior to the drilling activities, public utilities were marked by NC One Call and private utilities were marked by Pyramid.

Kleinfelder subcontracted Quantex, Inc. (Quantex) to perform the drilling on-site on August 6, 2019. Quantex advanced six (6) soil borings (P22-B1 to P22-B6) by direct-push technology from the ground surface to boring termination (10 feet bgs) at locations specified by Kleinfelder. The soil boring locations were identified in the field using a GPS. The soil boring locations are shown on Figure 2. Soil borings P22-B1 through P22-B3 were advanced in the vicinity of the two (2) probable USTs located via EM and GPR southwest of the vacant building on the western portion of the parcel. Soil borings P22-B4 through P22-B6 were located within the public utility easements of Winston Road and Conrad Street and the northern and western parcel boundaries. Soil samples were collected by driving Macro Core™ samplers in 5-foot intervals. Each soil core was cut open, the soil samples were classified, and the soil was divided into 1-foot sections. Each 1-foot section was screened in the field using a PID. The PID readings are summarized in Table 1.

Soils from Parcel 22 generally consisted of clay within the first 3 feet, underlain by a clayey silt and micaceous silt with sand. Groundwater was not encountered in any of the borings at the termination depth of 10 feet bgs. Copies of the boring logs are included in Appendix C.

4.5 SOIL ANALYSIS

The PID readings from soil borings advanced were noted to be low. Based on the PID data and visual observations, one sample from borings P22-B1, P22-B2, P22-B4, P22-B5, and P22-B6 were selected for on-site analysis. Three samples from boring P22-B3 were selected for on-site analysis, as these PID readings were slightly higher than other borings advanced on Parcel 22.

The samples were analyzed on-site by RED Lab, LLC utilizing ultraviolet fluorescence (UVF) methodology to provide real-time analytical results of Total Petroleum Hydrocarbons (TPH),

Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). The UVF method was selected because of the possible use of petroleum products on Parcel 22. The UVF analysis also provided data regarding Environmental Protection Agency 16 total Polycyclic Aromatic Hydrocarbons (PAHs), and Benzo(a)pyrene (BaP).

5 RESULTS

5.1 GEOPHYSICAL INVESTIGATION

EM and GPR responses indicated the probable presence of two (2) orphan USTs located off the southwestern corner of the vacant building on Parcel 22. The southern probable UST was approximately 12 feet long by 4 feet wide, thus approximately 1,130-gallons in estimated capacity. The northern probable UST was approximately 10 feet long by 4 feet wide, thus approximately 940-gallons in estimated capacity.

5.2 SOIL SAMPLING DATA

The UVF analysis of soil samples did not indicate the presence of petroleum impact in any of the soil samples analyzed. As such, shallow soil impact does not appear to be present within the existing right of way, public utility easement, or along the western parcel boundary above NCDEQ Action Limits. A summary of soil sample analytical results is presented in Table 2. The laboratory results associated with each boring are presented on Figure 3. The laboratory report and graphs are included in Appendix D.

5.3 SAMPLE OBSERVATIONS

Soils were observed for any obvious evidence of contamination. No visual or olfactory evidence of contamination was noted in any of the soil samples from the borings.

5.4 QUANTITY CALCULATIONS

Kleinfelder did not identify soil impact in the current right of way, nor have previous assessments identified quantifiable soil impact on Parcel 22.

6 CONCLUSIONS

Based on results of the EM/GPR survey, soil assessment and field observations, Kleinfelder has reached the following conclusions:

- EM and GPR responses indicated the probable presence of two (2) orphan USTs located off the southwestern corner of the vacant building on Parcel 22. The southern probable UST was approximately 12 feet long by 4 feet wide, thus approximately 1,130-gallons in estimated capacity. The northern probable UST was approximately 10 feet long by 4 feet wide, thus approximately 940-gallons in estimated capacity.
- Parcel 22 is not listed on the NCDEQ UST database, nor are any groundwater incident numbers known to be associated with Parcel 22 at this time.
- No soil impact was detected in borings advanced along Old US Hwy 52, Conrad Street, or in the vicinity of the two (2) probable USTs located on Parcel 22 above the NCDEQ Action Limits for TPH GRO and DRO.
- Groundwater was not encountered in the soil borings at a depth of 10 feet bgs.

7 RECOMMENDATIONS

Based on results of this Preliminary Site Assessment, Kleinfelder recommends no additional sampling or special handling of soils be performed within the Project Study Area on Parcel 22 in Lexington, Davidson County, North Carolina. However, the two (2) probable USTs located via EM and GPR study should be properly closed if encountered during construction activities.

8 LIMITATIONS

Kleinfelder's work will be performed in a manner consistent with that level of care and skill ordinarily exercised by other members of its profession practicing in the same locality, under similar conditions and at the date the services are provided. Kleinfelder's conclusions, opinions and recommendations will be 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.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, Kleinfelder's clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that NCDOT has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or generator, or person who arranges for disposal, transport, storage or treatment of hazardous materials within the meaning of any governmental statute, regulation or order. NCDOT is solely responsible for directing notification of all governmental agencies, and the public at large, of the existence, release, treatment or disposal of any hazardous materials observed at the project site, either before or during performance of

Kleinfelder's services. NCDOT is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

TABLES

Table 1: Soil Sample Screening Results

Date	Sample ID	Depth (ft)	PID Reading	Notes
8/6/2019	U5757-P22-B1	1	0.3	
		2	1.0	
		3	1.2	
		4	1.0	
		5	0.9	
		6	0.6	
		7	1.6	
		8	2.0	UVF Analysis
		9	0.8	
		10	0.2	
8/6/2019	U5757-P22-B2	1	0.2	
		2	2.4	
		3	1.5	
		4	2.8	UVF Analysis
		5	1.5	
		6	1.9	
		7	0.6	
		8	1.6	
		9	1.1	
		10	1.0	
8/6/2019	U5757-P22-B3	1	2.2	
		2	17.1	UVF Analysis
		3	6.3	
		4	4.3	
		5	11.0	UVF Analysis
		6	2.2	
		7	1.8	
		8	2.0	
		9	2.4	
		10	4.0	UVF Analysis
8/6/2019	U5757-P22-B4	1	0.7	
		2	0.8	
		3	0.7	
		4	1.9	
		5	2.3	
		6	2.4	
		7	1.8	UVF Analysis
		8	2.2	
		9	2.0	
		10	1.6	
8/6/2019	U5757-P22-B5	1	1.4	
		2	1.8	
		3	1.5	
		4	1.7	
		5	1.7	
		6	1.7	
		7	2.0	UVF Analysis
		8	2.0	
		9	1.6	
		10	1.4	
8/6/2019	U5757-P22-B6	1	0.9	
		2	0.4	
		3	1.2	
		4	1.3	UVF Analysis
		5	1.0	
		6	0.1	
		7	0.3	
		8	0.2	
		9	0.4	
		10	0.3	

Notes:
1) PID = Photoionization Detector
2) PID readings in parts per million (ppm)

TABLE 2: Soil Sample Analytical Summary

Parameter	Analytical Results								Comparison Criteria		
	Soil Sample Results										
Sample ID	P22-B1-8	P22-B2-4	P22-B3-2	P22-B3-5	P22-B3-10	P22-B4-6	P22-B5-7	P22-B6-4	State Action Limit	Protection of Groundwater	Residential Health
PID Reading (ppm)	2.0	2.8	17.1	11.0	4.0	1.8	2.0	1.3			
Collection Depth (ft bgs)	8	4	2	5	10	6	7	4			
Collection Date	8/6/19	8/6/19	8/6/19	8/6/19	8/6/19	8/6/19	8/6/19	8/6/19			
UVF Method											
Diesel Range Organics	**0.85**	<0.27	**4.1**	**5.0**	**5.7**	<0.26	<0.36	<0.26	100	--	--
Gasoline Range Organics	<0.35	<0.27	<0.24	<0.24	<0.34	<0.26	<0.36	<0.26	50	--	--

Notes:

Results displayed in milligram per kilogram (mg/kg)

ft bgs = Feet below ground surface

Bold = Above Laboratory Detection Limit

UVF = Ultraviolet Flouresence

FIGURES

PROJECT REFERENCE NO.	SHEET
U–5757–P22	1

SITE LOCATION MAP

0 1500 3000

FEET

P22

Erlanger

STREET

SALEM

750

700

800

780

PROJECT REFERENCE NO.	SHEET
U-5757-P22	2

SITE PLAN

0 20 40

FEET

LEGEND

P22B1 SOIL SAMPLE LOCATIONS

CONRAD ST. 24' PAVED ROADWAY

P22B1 P22B2 P22B3 P22B4 P22B5 P22B6

UST UST

EXISTING R/W

PUE

50' TAPER

+40.88

+30.00

21 22 23

1'-6" C&G 2'-6" C&G 1'-6" C&G 2'-6" C&G

CONCRETE VALLEY GUTTER

NC GRID
NAD 83 NA 2011

PROJECT REFERENCE NO.	SHEET
U-5757-P22	3

SOIL SAMPLE ANALYTICAL RESULTS

0 20 40
FEET

CONRAD ST. 24' PAVED ROADWAY

P22B1
P22B2
P22B3
P22B4
P22B5
P22B6

UST
UST

50' TAPER

PUE

EXISTING R/W

1'-6" C&G
2'-6" C&G

21
22
23

NC GRID
NAD 83 NA 2011

LEGEND

P22B1
SOIL SAMPLE LOCATIONS

SOIL SAMPLE RESULTS

	DRO	GRO
P22-B1-8	0.85	<0.35
P22-B2-4	<0.27	<0.27
P22-B3-2	4.1	<0.24
P22-B3-5	5.0	<0.24
P22-B3-10	5.7	<0.34
P22-B4-6	<0.26	<0.26
P22-B5-7	<0.36	<0.36
P22-B6-4	<0.26	<0.26

NOTES:
1) All results reported in mg/kg
2) DRO = Diesel Range Organics
3) GRO = Gasoline Range Organics
4) Bold concentrations exceed the NCDEQ TPH Action Level

APPENDIX A
SITE PHOTOGRAPHS

View facing northerly along the western border of Parcel 22, NC Highway 8 (Winston Road).

Original in Color

View facing northeasterly toward the vacant building on Parcel 22.

KLEINFELDER *Bright People. Right Solutions.* www.kleinfelder.com	PROJECT NO:20201105.001A DRAWN: September 2019 DRAWN BY: ARS CHECKED BY: MB FILE NAME: Photo Pages	**SITE PHOTOGRAPHS** Preliminary Site Assessment Report U-5757-P22 Lexington, Davidson County, North Carolina	FIGURE **A-1**

View of the two (2) probable orphan USTs located southwest of the vacant building on Parcel 22.

Original in Color

View facing northerly along the eastern wall of the vacant building on Parcel 22 toward Conrad Street.

KLEINFELDER *Bright People. Right Solutions.* www.kleinfelder.com	PROJECT NO:20201105.001A DRAWN: September 2019 DRAWN BY: ARS CHECKED BY: MB FILE NAME: Photo Pages	**SITE PHOTOGRAPHS** Preliminary Site Assessment Report U-5757-P22 Lexington, Davidson County, North Carolina	FIGURE **A-2**

View facing westerly along the northern boundary of Parcel 22, Conrad Street, toward NC Highway 8 (Winston Road).

Original in Color

View facing northwesterly toward the vacant building on Parcel 22.

KLEINFELDER *Bright People. Right Solutions.* www.kleinfelder.com	PROJECT NO:20201105.001A DRAWN: September 2019 DRAWN BY: ARS CHECKED BY: MB FILE NAME: Photo Pages	**SITE PHOTOGRAPHS** Preliminary Site Assessment Report U-5757-P22 Lexington, Davidson County, North Carolina	FIGURE **A-3**

APPENDIX B

GEOPHYSICAL SURVEY REPORT

PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2019-211)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCEL 22
NCDOT PROJECT U-5757 (54035.1.1)

1223 WINSTON ROAD, LEXINGTON, NC

August 15, 2019

Report prepared for: **Michael Burns, P.G.**
Kleinfelder, Inc.
3500 Gateway Center Boulevard, Suite 200
Morrisville, NC 27560

Prepared by: _____
Eric C. Cross, P.G.
NC License #2181

Reviewed by: _____
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C257: GEOLOGY C1251: ENGINEERING

GEOPHYSICAL INVESTIGATION REPORT
Parcel 22 - 1223 Winston Road
Lexington, Davidson County, North Carolina

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Figures

Appendices

LIST OF ACRONYMS

CADD .....Computer Assisted Drafting and Design
DF .....Dual Frequency
EM.....Electromagnetic
GPR.....Ground Penetrating Radar
GPS .....Global Positioning System
NCDOT.....North Carolina Department of Transportation
ROW .....Right-of-Way
UST .....Underground Storage Tank

EXECUTIVE SUMMARY

Project Description: Pyramid Environmental conducted a geophysical investigation for Kleinfelder, Inc. at Parcel 22 located at 1223 Winston Road in Lexington, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5757). The survey was designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. Conducted from July 15-16, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

Geophysical Results: The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. A total of six EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. EM and GPR recorded evidence of two probable USTs off the southwest corner of the building. The southern probable UST (UST #1) was approximately 12 feet long and 4 feet wide. The northern probable UST (UST #2) was approximately 10 feet long and 4 feet wide. Collectively, the geophysical data recorded evidence of two probable USTs within the survey area at Parcel 22.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Kleinfelder, Inc. at Parcel 22 located at 1223 Winston Road in Lexington, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5757). The survey was designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. Conducted from July 15-16, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

The site included a vacant commercial building surrounded by asphalt, concrete, and grass surfaces. An aerial photograph showing the survey area boundaries and ground-level photographs are shown in **Figure 1**.

FIELD METHODOLOGY

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. Pyramid collected the EM data using a Geonics EM61-MK2 (EM61) metal detector integrated with a Geode External GPS/GLONASS receiver. The integrated GPS system allows the location of the instrument to be recorded in real-time during data collection, resulting in an EM data set that is geo-referenced and can be overlain on aerial photographs and CADD drawings. A boundary grid was established around the perimeter of the site with marks every 10 feet to maintain orientation of the instrument throughout the survey and assure complete coverage of the area.

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. The EM61 data were digitally collected at approximately 0.8-foot intervals along north-south trending or east-west trending, generally parallel survey lines, spaced five feet apart. The data were downloaded to a

computer and reviewed in the field and office using the Geonics NAV61 and Surfer for Windows Version 15.0 software programs.

GPR data were acquired across select EM anomalies on July 16, 2019, using a Geophysical Survey Systems, Inc. (GSSI) UtilityScan DF unit equipped with a dual frequency 300/800 MHz antenna. Data were collected both in reconnaissance fashion as well as along formal transect lines across EM features. The GPR data were viewed in real-time using a vertical scan of 512 samples, at a rate of 48 scans per second. GPR data were viewed down to a maximum depth of approximately 6 feet, based on dielectric constants calculated by the DF unit in the field during the reconnaissance scans. GPR transects across specific anomalies were saved to the hard drive of the DF unit for post-processing and figure generation.

Pyramid's classifications of USTs for the purposes of this report are based directly on the geophysical UST ratings provided by the NCDOT. These ratings are as follows:

Geophysical Surveys for Underground Storage Tanks
on NCDOT Projects

High Confidence	Intermediate Confidence	Low Confidence	No Confidence
Known UST Active tank - spatial location, orientation, and approximate depth determined by geophysics.	**Probable UST** Sufficient geophysical data from both magnetic and radar surveys that is characteristic of a tank. Interpretation may be supported by physical evidence such as fill/vent pipe, metal cover plate, asphalt/concrete patch, etc.	**Possible UST** Sufficient geophysical data from either magnetic or radar surveys that is characteristic of a tank. Additional data is not sufficient enough to confirm or deny the presence of a UST.	Anomaly noted but not characteristic of a UST. Should be noted in the text and may be called out in the figures at the geophysicist's discretion.

DISCUSSION OF RESULTS

Discussion of EM Results

A contour plot of the EM61 results obtained across the survey area at the property is presented in **Figure 2**. Each EM anomaly is numbered for reference in the figure. The following table presents the list of EM anomalies and the cause of the metallic response, if known:

LIST OF METALLIC ANOMALIES IDENTIFIED BY EM SURVEY

Metallic Anomaly #	Cause of Anomaly	Investigated with GPR
1	Metal Poles/Building	✓
2	Building/Air Conditioner	
3	Sign	
4	Utility	✓
5	**Two Probable USTs**	✓
6	Vehicle	✓

The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface including metal poles, the building, an air conditioner, a sign, and a vehicle. EM Anomaly 4 was suspected to be the result of a buried utility and was investigated further with GPR. GPR scans were also performed around the areas of interference caused by the building, metal poles, and a vehicle (Anomalies 1 and 6) to verify that no buried structures were obscured by the interference.

Additionally, a large high-amplitude EM feature (Anomaly 5) was observed near the southwest corner of the building that was characteristic of a large buried structure such as a UST and was investigated further with GPR.

Discussion of GPR Results

Figure 3 presents the locations of the formal GPR transects performed at the property as well as select transect images. All of the transect images are included in **Appendix A**. A total of eleven formal GPR transects were performed at the site.

GPR Transects 1-6 were performed in a grid-like fashion across areas of interference caused by the building, metal poles and a vehicle (EM Anomalies 1 and 6). No evidence of buried structures such as USTs was observed.

GPR Transects 7-9 were performed across a large high-amplitude EM feature (Anomaly 5) that was observed near the southwest corner of the building. These transects recorded discreet hyperbolic reflectors and isolated high-amplitude lateral reflectors that are

characteristic of metallic USTs. The combined EM and GPR evidence result in this feature being classified as two probable metallic USTs. The southern probable UST (UST #1) was approximately 12 feet long and 4 feet wide. The northern probable UST (UST #2) was approximately 10 feet long and 4 feet wide. **Figure 4** provides the locations and sizes of the two probable USTs overlain on an aerial, along with ground-level photographs.

GPR Transects 10 and 11 were performed across areas associated with a suspected utility (EM Anomaly 4). These transects recorded evidence of discrete hyperbolic reflectors consistent with buried utilities.

Collectively, the geophysical data recorded evidence of two probable USTs within the survey area at Parcel 22. **Figure 5** provides an overlay of the metal detection results and the locations of the two probable USTs on the NCDOT MicroStation engineering plans for reference.

SUMMARY & CONCLUSIONS

Pyramid's evaluation of the EM61 and GPR data collected at Parcel 22 in Lexington, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the accessible portions of the geophysical survey area.
- The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface.
- EM and GPR recorded evidence of two probable USTs off the southwest corner of the building. The southern probable UST (UST #1) was approximately 12 feet long and 4 feet wide. The northern probable UST (UST #2) was approximately 10 feet long and 4 feet wide.
- Collectively, the geophysical data recorded evidence of two probable USTs within the survey area at Parcel 22.

LIMITATIONS

Geophysical surveys have been performed and this report was 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 surveys are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained for this project have not conclusively determined the definitive presence or absence of metallic USTs, but the evidence collected is sufficient to result in the conclusions made in this report. Additionally, it should be understood that areas containing extensive vegetation, reinforced concrete, or other restrictions to the accessibility of the geophysical instruments could not be fully investigated.

APPROXIMATE BOUNDARIES OF GEOPHYSICAL SURVEY AREA

View of Survey Area
(Facing Approximately North)

View of Survey Area
(Facing Approximately East)

N

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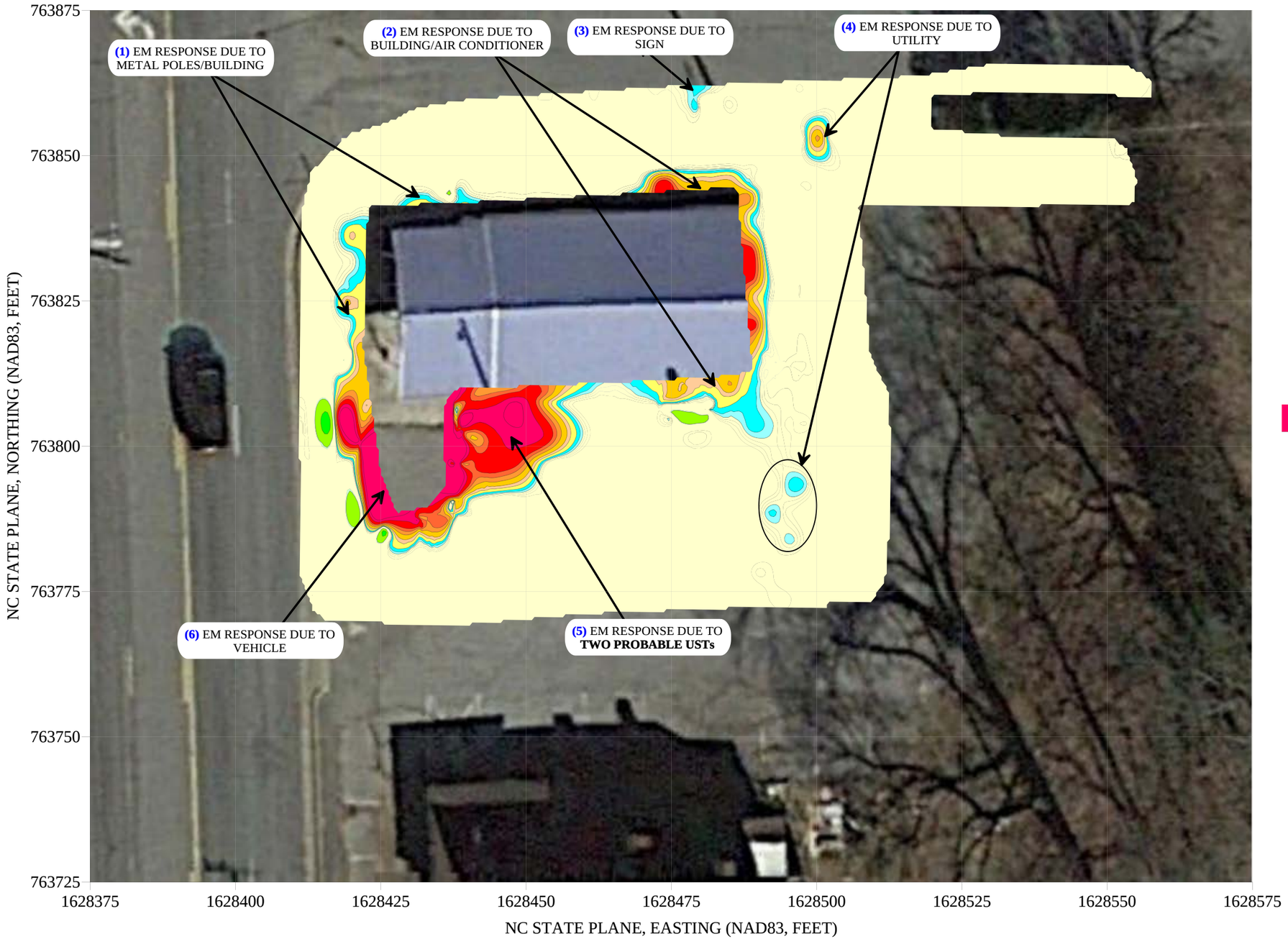
PROJECT	PARCEL 22 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757	TITLE	PARCEL 22 - GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS	DATE 7/19/2019 PYRAMID PROJECT #: 2019-211
CLIENT	KLEINFELDER			**FIGURE 1**

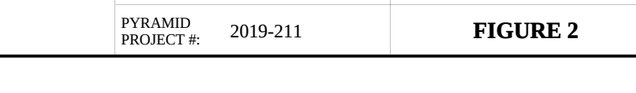
EM61 METAL DETECTION RESULTS



EVIDENCE OF TWO PROBABLE USTs WAS OBSERVED.

The contour plot shows the differential results of the EM61 instrument in millivolts (mV). The differential results focus on larger metallic objects such as USTs and drums. The EM data were collected on July 15, 2019, using a Geonics EM61-MK2 instrument. Verification GPR data were collected using a GSSI UtilityScan DF instrument with a dual frequency 300/800 MHz antenna on July 16, 2019.

EM61 Metal Detection Response (millivolts)



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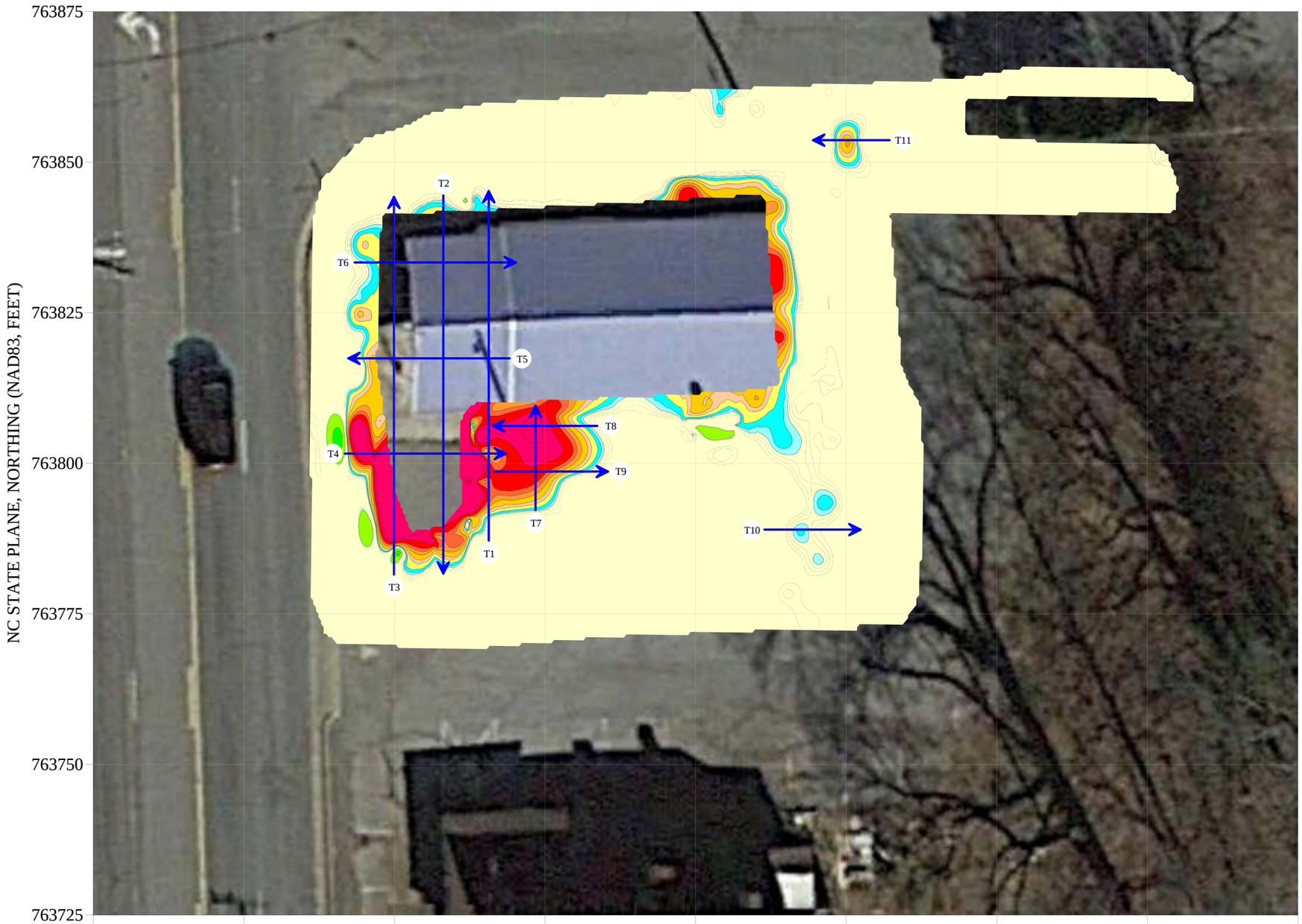
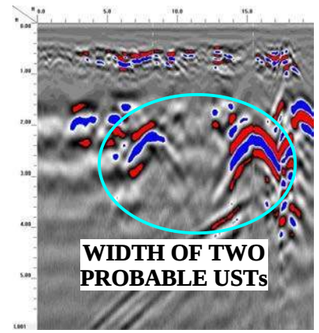
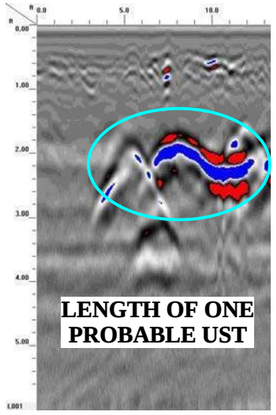
PROJECT	PARCEL 22 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757
TITLE	PARCEL 22 - EM61 METAL DETECTION CONTOUR MAP
DATE	7/19/2019
CLIENT	KLEINFELDER
PYRAMID PROJECT #:	2019-211
	FIGURE 2

LOCATIONS OF GPR TRANSECTS

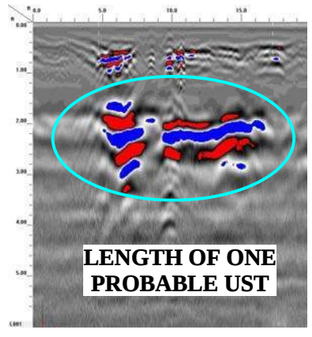




GPR TRANSECT 7 (T7)



GPR TRANSECT 8 (T8)



GPR TRANSECT 9 (T9)

N

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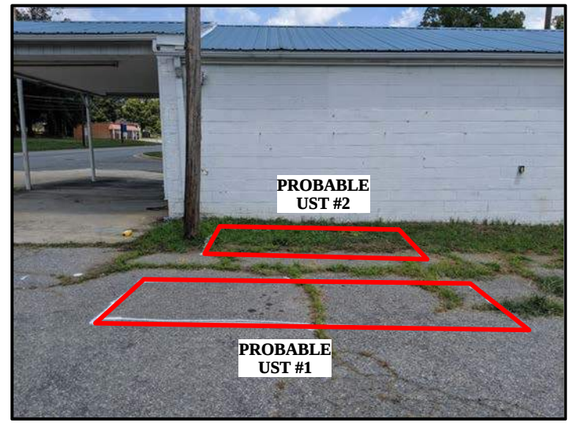
PROJECT	PARCEL 22 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757	TITLE	PARCEL 22 - GPR TRANSECT LOCATIONS AND SELECT IMAGES	DATE	7/19/2019
				PYRAMID PROJECT #:	2019-211
CLIENT	KLEINFELDER				**FIGURE 3**

LOCATIONS OF TWO PROBABLE USTs



View of Two Possible USTs Facing Approximately North

View of Two Possible USTs Facing Approximately East

N

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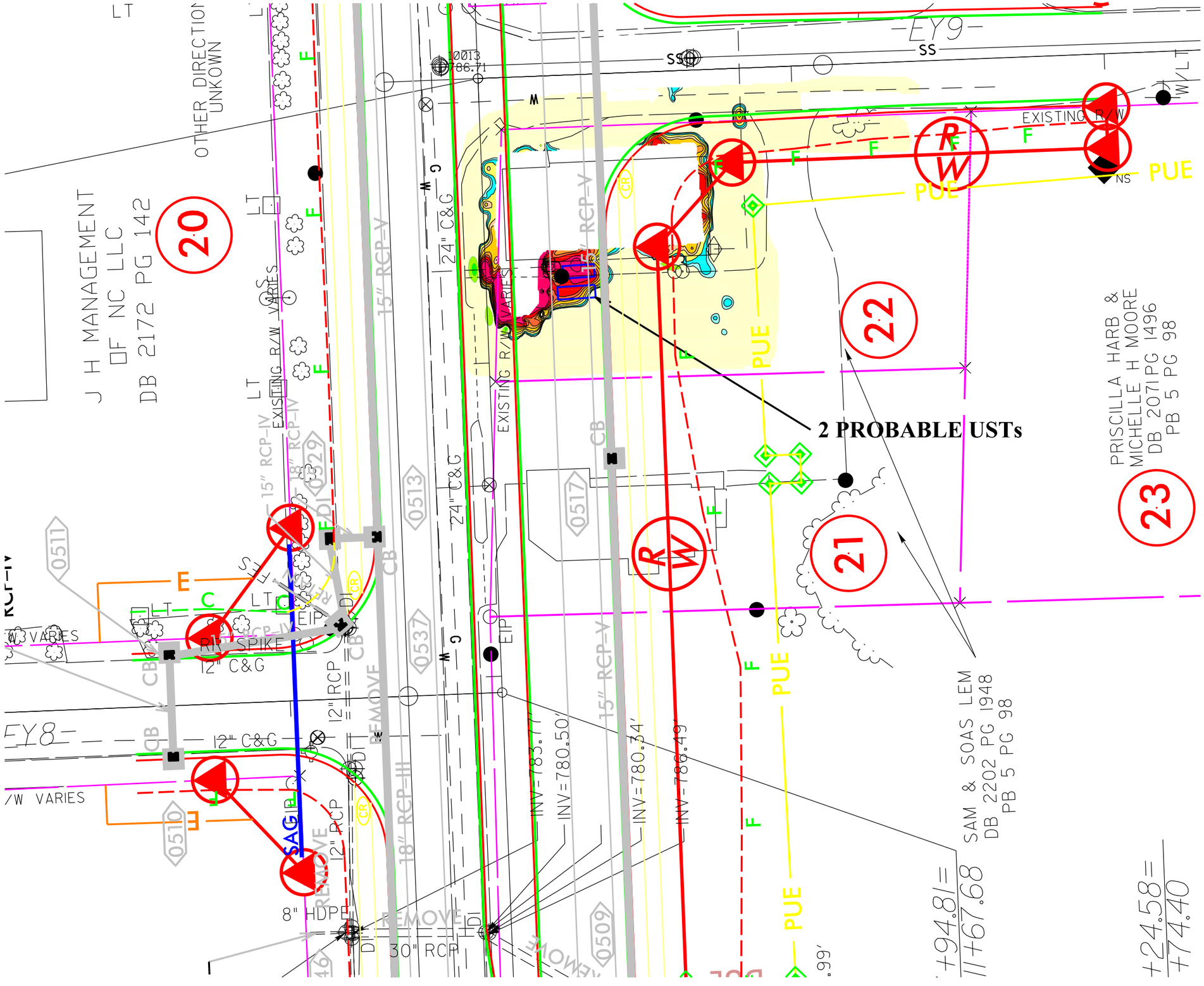
PROJECT	PARCEL 22 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757
TITLE	PARCEL 22 - LOCATIONS AND SIZES OF TWO PROBABLE USTs
DATE	7/19/2019
CLIENT	KLEINFELDER
PYRAMID PROJECT #:	2019-211
	FIGURE 4



TITLE
OVERLAY OF METAL DETECTION RESULTS AND TWO PROBABLE USTs ON NCDOT ENGINEERING PLANS

PROJECT
PARCEL 22
LEXINGTON, NORTH CAROLINA
NCDOT PROJECT U-5757

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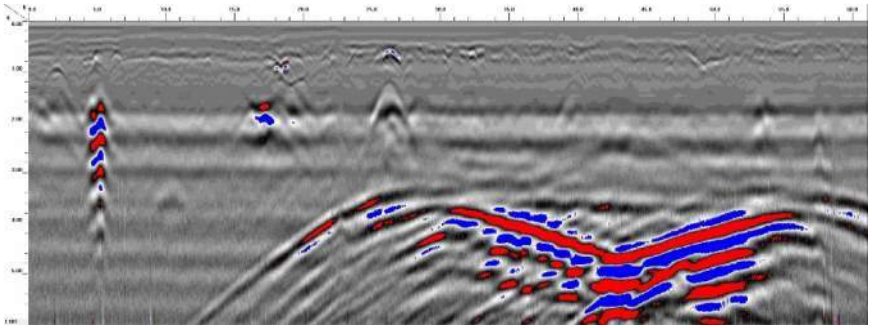
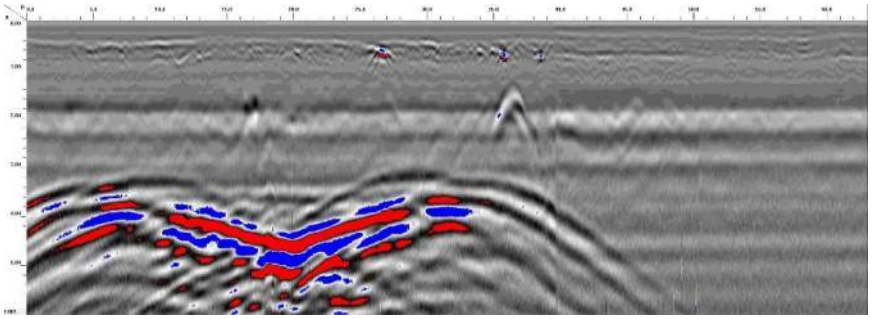
DATE: 08-13-2019	REVISION NO. 0
PYRAMID PROJECT NO. 2019-211	FIGURE NO. 5

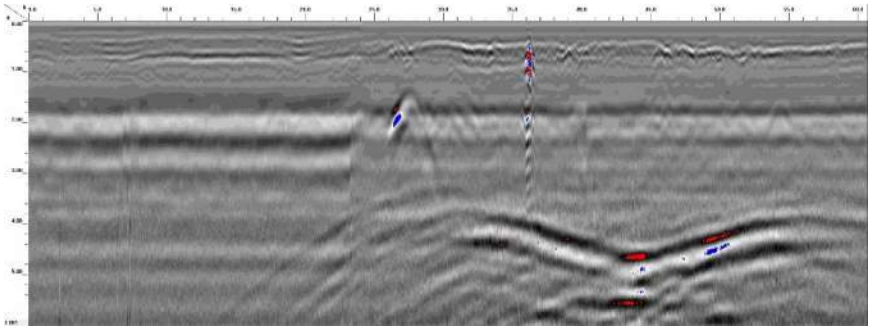
Appendix A – GPR Transect Images



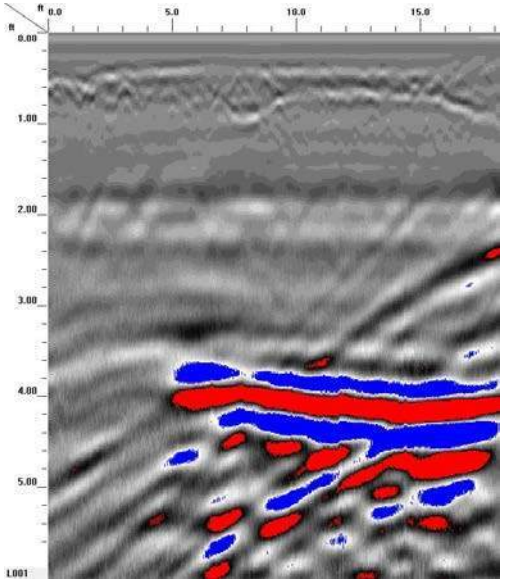
GPR TRANSECT 1



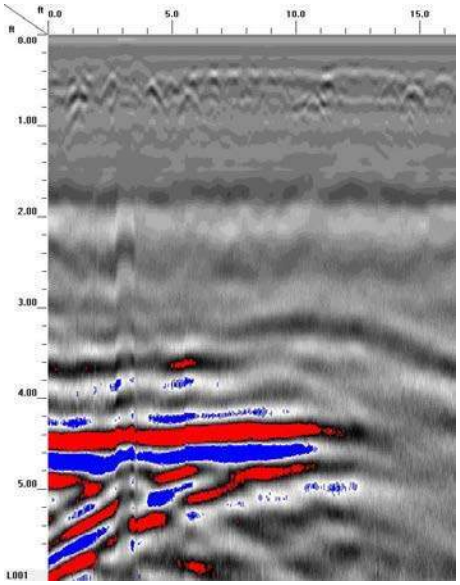
GPR TRANSECT 2



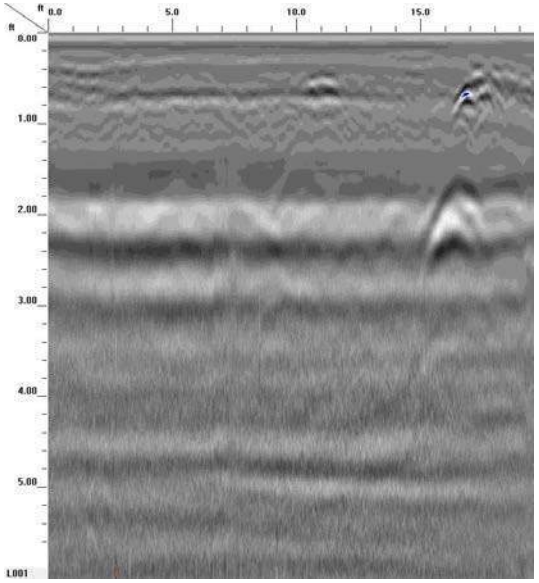
GPR TRANSECT 3



GPR TRANSECT 4



GPR TRANSECT 5



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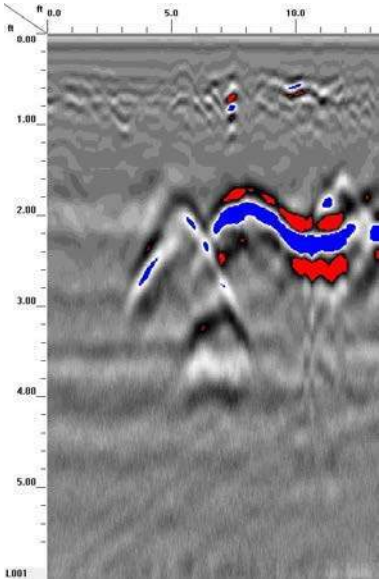

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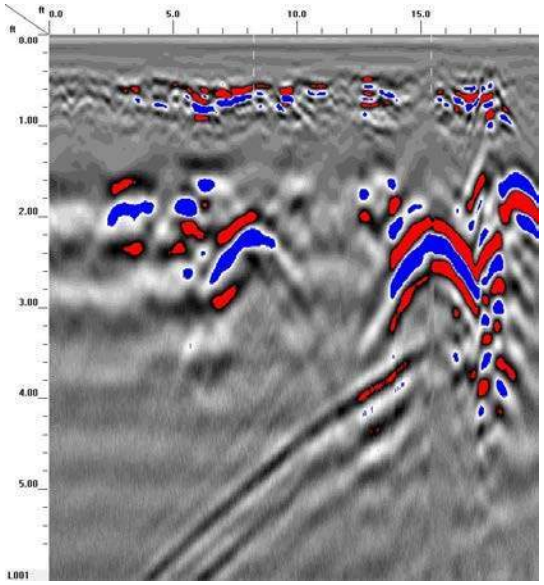

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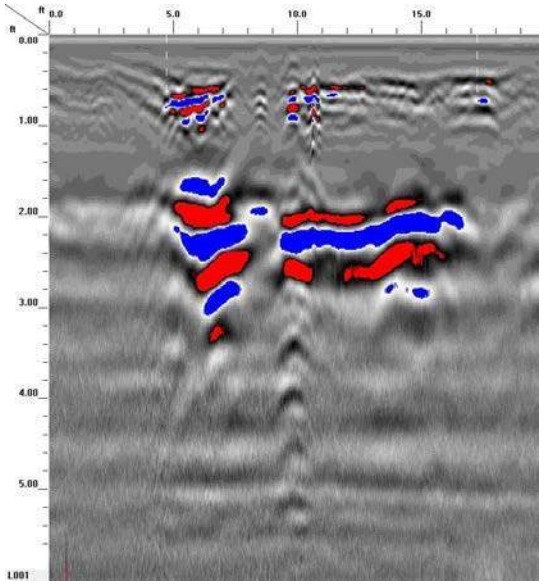
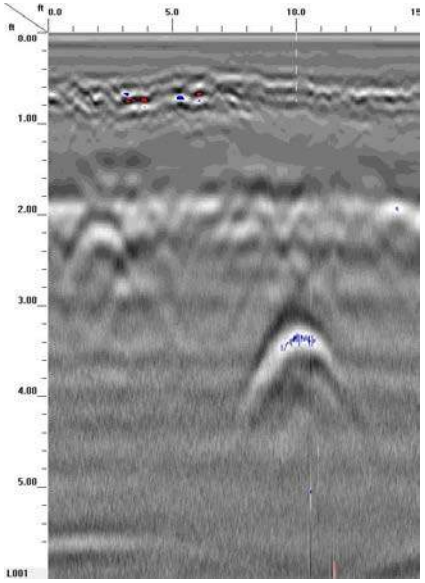
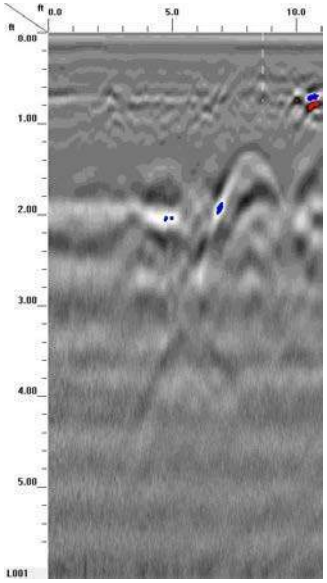


GPR TRANSECT 9



GPR TRANSECT 10



GPR TRANSECT 11

APPENDIX C
BORING LOGS

Date Begin - End:	8/06/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	70°F Clear	**Borehole Diameter:**	

BORING LOG P22-B1

FIELD EXPLORATION

Latitude: 35.84225° N
Longitude: -80.25366° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							ASPHALT
					0.3		**CLAY with Silt**: reddish brown, dry
					1.0		
					1.2		
	Direct Push Sleeves				1.0		**SILT with Clay**: reddish brown and reddish yellow, dry to moist
					0.9		
5					0.6		
					1.6		
			P22-B1-8		2.0		**SILT**: reddish yellow nodules black, dry to moist, trace sand, Micaceous
					0.8		
					0.2		
10							

The borehole was terminated at approximately 10 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P22-B1

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

Date Begin - End:	8/06/2019	**Drilling Company:**	Quantex	**BORING LOG P22-B2**	
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	70°F Clear	**Borehole Diameter:**			

FIELD EXPLORATION

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Latitude: 35.84225° N Longitude: -80.25366° E Surface Condition: Asphalt Lithologic Description
							ASPHALT
					0.2		**CLAY with Silt**: reddish brown, dry
					2.4		
					1.5		
							SILT with Clay: reddish brown and reddish yellow, dry to moist
	Direct Push Sleeves		P22-B2-4		2.8		
5					1.5		
					1.9		
					0.6		
					1.6		**SILT**: reddish yellow nodules black, dry to moist, trace sand, Micaceous
					1.1		
					1.0		
10							

The borehole was terminated at approximately 10 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P22-B2

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

Date Begin - End:	8/06/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	70°F Clear	**Borehole Diameter:**	

BORING LOG P22-B3

FIELD EXPLORATION

Latitude: 35.84225° N
Longitude: -80.25366° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							ASPHALT
					2.2		**CLAY with Silt**: reddish brown, dry
			P22-B3-2		17.1		
					6.3		
					4.3		**SILT with Clay**: reddish brown and reddish yellow, dry to moist
5	Direct Push Sleeves		P22-B3-5		11.0		
					2.2		
					1.8		
					2.0		**SILT**: reddish yellow nodules black, dry to moist, trace sand, Micaceous
					2.4		
10			P22-B3-10		4.0		

The borehole was terminated at approximately 10 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P22-B3

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

Date Begin - End:	8/06/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	70°F Clear	**Borehole Diameter:**	

BORING LOG P22-B4

FIELD EXPLORATION

Latitude: 35.84225° N
Longitude: -80.25366° E
Surface Condition: Asphalt

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE
					0.7		**CLAY with Silt**: reddish brown, dry
					0.8		
					0.7		
							SILT with Clay: reddish brown and reddish yellow, dry to moist
					1.9		
					2.3		
5	Direct Push Sleeves				2.4		
			P22-B4-7		1.8		
					2.2		**SILT**: reddish yellow nodules black, dry to moist, trace sand, Micaceous
					2.0		
					1.6		
10							

The borehole was terminated at approximately 10 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P22-B4

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

Date Begin - End:	8/06/2019	**Drilling Company:**	Quantex	**BORING LOG P22-B5**	
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	70°F Clear	**Borehole Diameter:**			

FIELD EXPLORATION

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Latitude: 35.84225° N Longitude: -80.25366° E Surface Condition: Grass Lithologic Description
					1.4		**SILT with Clay**: dark brown, dry to moist
					1.8		
					1.5		**CLAY with Silt**: red, dry to moist
					1.7		
5	Direct Push Sleeves				1.7		
					1.7		
			P22-B5-7		2.0		**SILT with Clay**: red and reddish yellow, dry to moist
					2.0		
					1.6		
					1.4		**SILT**: reddish yellow nodules black, dry to moist, trace sand, Micaceous
10							

The borehole was terminated at approximately 10 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P22-B5

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

Date Begin - End:	8/06/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Geunine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	70°F Clear	**Borehole Diameter:**	

BORING LOG P22-B6

FIELD EXPLORATION

Latitude: 35.84225° N
Longitude: -80.25366° E
Surface Condition: Grass

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
	Direct Push Sleeves		P22-B6-4		0.9		**SILT with Clay**: dark brown, dry to moist
					0.4		
					1.2		**CLAY with Silt**: red, dry to moist
					1.3		
5					1.0		
					0.1		
					0.3		**SILT with Clay**: red and reddish yellow, dry to moist
					0.2		
					0.4		**SILT**: reddish yellow nodules black, dry to moist, trace sand, Micaceous
					0.3		
10							

The borehole was terminated at approximately 10 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:
An iPad integrated GPS unit was used to locate the borehole with an accuracy of 5 meters.
The boring was backfilled with excavated material

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 9/18/2019

BORING LOG P22-B6

NCDOT: U-5757
Biesecker Road
Lexington, NC

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APPENDIX D

ANALYTICAL REPORT AND GRAPHS

QED

QROS

Hydrocarbon Analysis Results

Client: KLEINFELDER
Address:

Samples taken Tuesday, August 6, 2019
Samples extracted Tuesday, August 6, 2019
Samples analysed Tuesday, August 6, 2019

Contact: ABIGAIL SHURTLEFF

Operator CAROLINE STEVENS

Project: NCDOT U-5757

U00904

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	% Ratios			HC Fingerprint Match
										C5 - C10	C10 - C18	C18	
s	P22-B1-8	14.0	<0.35	<0.35	0.85	0.85	0.38	<0.11	<0.014	50	39.3	10.6	Deg.PHC 62.5%,(FCM)
s	P22-B2-4	11.0	<0.27	<0.27	<0.27	<0.27	<0.05	<0.09	<0.011	0	100	0	Residual HC
s	P22-B3-2	9.8	<0.24	<0.24	4.1	4.1	2.9	0.11	<0.01	0	79.3	20.7	Deg Fuel 74.6%,(FCM)
s	P22-B3-5	9.7	<0.24	<0.24	5	5	2.4	0.26	<0.01	0	71.2	28.8	Road Tar 76.9%,(FCM),(BO)
s	P22-B3-10	13.7	<0.34	<0.34	5.7	5.7	3.4	<0.11	<0.014	0	70.6	29.4	Deg Fuel 72.1%,(FCM)
s	P22-B4-6	10.3	<0.26	<0.26	<0.26	<0.26	<0.05	<0.08	<0.01	0	79.7	20.3	,(FCM)
s	P22-B5-7	14.4	<0.36	<0.36	<0.36	<0.36	<0.07	<0.12	<0.014	0	85.3	14.7	Residual HC,(BO)
s	P22-B6-4	10.5	<0.26	<0.26	<0.26	<0.26	<0.05	<0.08	<0.011	0	100	0	,(FCM),(BO)
s	P21-B1-7	11.2	<0.28	<0.28	<0.28	<0.28	<0.06	<0.09	<0.011	0	56.2	43.8	Residual HC

Initial Calibrator QC check OK

Final FCM QC Check OK 102.4 %

Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values uncorrected for moisture or stone content. Fingerprints provide a tentative hydrocarbon identification.

Abbreviations :- FCM = Results calculated using Fundamental Calibration Mode : % = confidence of hydrocarbon identification : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate detected

B = Blank Drift : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : (OCR) = Outside cal range : (M) = Modifed Result.

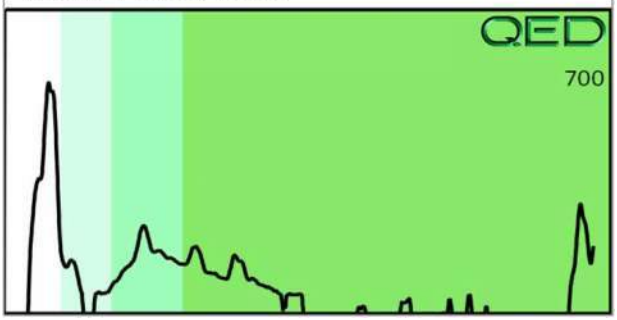
% Ratios estimated aromatic carbon number proportions : HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only. **Data generated by HC-1 Analyser**

QED Hydrocarbon Fingerprints

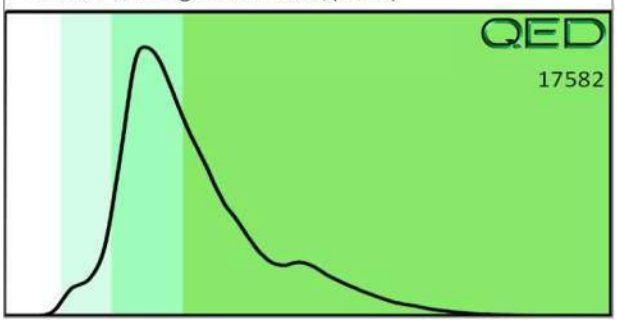
Project: NCDOT U-5757 Tuesday, August 6, 2019

P22-B1-8 : Deg.PHC 62.5%,(FCM)

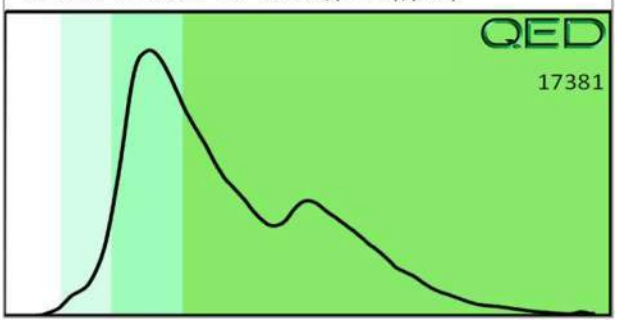
P22-B2-4 : Residual HC



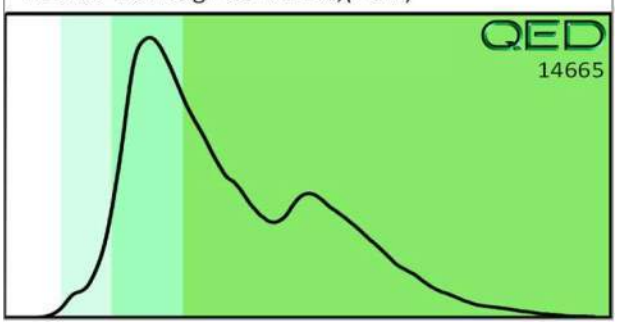
P22-B3-2 : Deg Fuel 74.6%,(FCM)



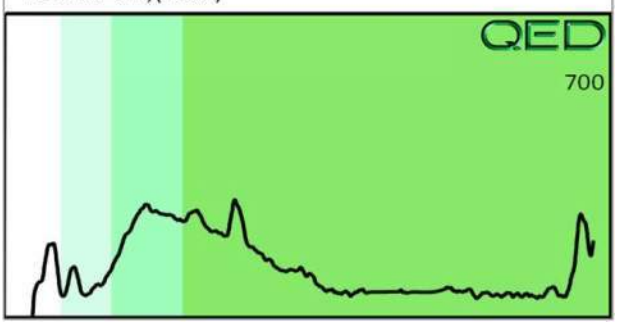
P22-B3-5 : Road Tar 76.9%,(FCM),(BO)



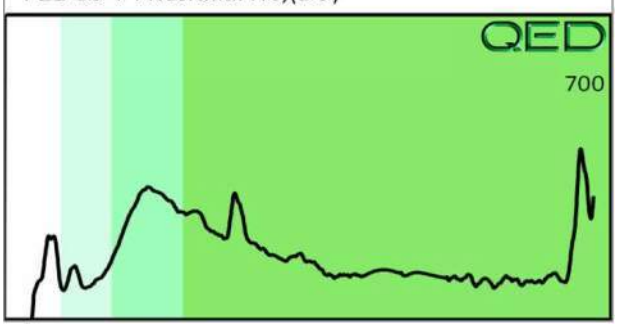
P22-B3-10 : Deg Fuel 72.1%,(FCM)



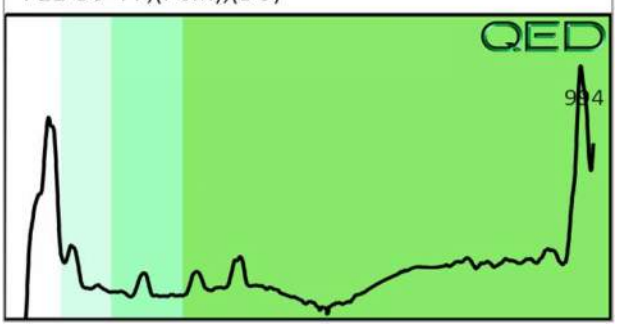
P22-B4-6 : ,(FCM)



P22-B5-7 : Residual HC,(BO)



P22-B6-4 : ,(FCM),(BO)



P21-B1-7 : Residual HC