October 10, 2019
Kleinfelder File No. RAL19R102413

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
Parcels 50, 56, 60 – BH & HH Realty, LLC
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
PARCELS 50, 56, 60 – BH & HH REALTY, LLC
PARCEL 11332E0000012
1496 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 10, 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

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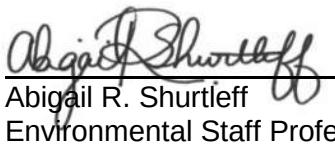
Prepared by:



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

October 10, 2019

Kleinfelder Project No. 20201105.001A

PRELIMINARY SITE ASSESSMENT REPORT

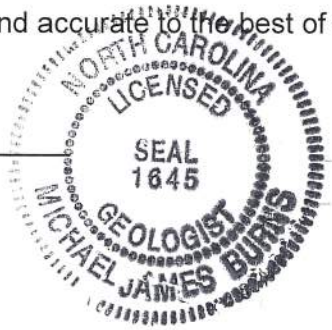
Site Name and Location:	Parcels 50, 56, & 60 1496 Old US Highway 52 Lexington, Davidson County, North Carolina
Latitude and Longitude:	35.845926°N, -80.253739°W
County Parcel Number	11332E0000012
Facility ID Number:	N/A
Leaking UST Incident:	N/A
State Project No.:	U-5757
NCDOT Project No.:	NCDOT WBS 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:	October 10, 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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PRELIMINARY SITE ASSESSMENT
PARCELS 50, 56, 60 – BH & HH REALTY, LLC
PARCEL 11332E0000012
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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 11332E0000012 and by NCDOT as Parcels 50, 56, and 60 (the assessment area is hereafter referred to as the "Project Study Area"). The Project Study Area consists of the western portions of all three parcels and the southern portion of Parcel 50. The parcels are collectively occupied by a used car dealership and associated maintenance buildings. The parcels are located northeast of the intersection of NC Highway 8 (Winston Road) and Evans Street and northwest of the intersection of Evans Street and Michael Alley, in the Town of Lexington, Davidson County, North Carolina (Figure 1).

The parcel was not previously covered in the Hazardous Materials Survey Report, dated February 28, 2019, prepared by Kleinfelder for SEPI Engineering & Construction. 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

Parcels 50, 56, and 60 have a listed owner of BH & HH Realty, LLC. The parcels have a collective street address of 1496 Old US Highway 52. The parcels are occupied by a used car dealership, Phoenix Pre-Owned Motors, Inc., and associated maintenance bays, storage sheds, and offices along with paved and gravel parking areas. The parcels are bounded by Evans Street to the south, beyond which is a vacant former tire store and heavily vegetated area; by NC Highway 8 (Winston Road) to the west, beyond which is residential and commercial land; by a car wash (Parcel 62) to the north; and by Michael Alley to the east, beyond which is residential land. 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 used car dealership, Phoenix Pre-Owned Motors, Inc., and associated maintenance bays, storage sheds, and offices. The entirety of the properties is occupied by buildings or paved and/or gravel parking areas.

The parcels were not previously covered in Kleinfelder's 2018 Hazardous Materials Survey Report.

Kleinfelder conducted historical research to determine whether environmental listings of concern were identified for Parcels 50, 56, and 60. The following are the results of the additional research:

- Based on a review of aerial photographs, the site appears to have been occupied by residential and agricultural land from at least 1936 to 1998, and by the used car dealership (in varying configurations) from at least 2002 to present day.
- Kleinfelder searched the registered UST database, maintained by the North Carolina Department of Environmental Quality (NCDEQ). The site was not listed.
- Kleinfelder searched the NCDEQ's online Division of Waste Management Site Locator Tool to obtain any other records of environmental concern. The site was not listed.

2.2 FACILITY ID NUMBERS

Kleinfelder reviewed the NCDEQ UST database for Parcels 50, 56, and 60. The parcels were not identified in the database.

2.3 GROUNDWATER INCIDENT NUMBERS

No groundwater incident numbers are known to be associated with Parcels 50, 56, or 60 at this time.

3 OBSERVATIONS

3.1 GROUNDWATER MONITORING WELLS

No groundwater monitoring wells were found within the Project Study Area at the time of site exploration, August 7th, 8th, and September 3rd, 2019.

3.2 ACTIVE USTS

Based on a review of the NCDEQ UST database and contact with site personnel, no active USTs are known to be located on Parcels 50, 56 or 60 at this time.

3.3 OTHER FEATURES APPARENT BEYOND PROJECT STUDY AREA

The Project Study Area consisted on the western portion of all three parcels and the southern portion of Parcel 50. The eastern portion of the parcels, beyond the Project Study Area, was observed to be occupied by automotive maintenance areas and storage sheds. There were no other features of concern observed beyond the Project Study Area, including in-ground hydraulic lifts. The shop on parcel 56 was observed to have at least two and up to four aboveground hydraulic lifts as well as an aboveground lift within a covered shed southwest of the shop. Two manholes behind the shop may be associated with an oil/water separator system. The interior of the shops on parcels 50 and 60 could not be observed for the presence of lifts, but the roof heights of these shops do not appear to be high enough to lift vehicles.

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 16th and 18th, 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.

Evidence of one (1) possible UST within the southern survey area of Parcel 50 was discovered. No evidence of subsurface anomalies indicative of USTs or other buried structures was found on Parcels 56 or 60. The UST was located southeast of the building on Parcel 50, and is approximately 22.5 feet long by 7 feet wide (thus, approximately 6,475 gallons in capacity). The approximate location of the UST is depicted on Figure 2.

A copy of the Pyramid Geophysical Investigation Report, detailing the field methodology and depicting the location of the possible UST, 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, and, if encountered, to define the horizontal and vertical extent of the contamination. Soil borings were planned to be advanced to maximum

depths 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 all three parcels on August 7th and 8th, 2019. Prior to the initial boring and after each subsequent boring, the sampling equipment was decontaminated. Quantex advanced three (3) soil borings on Parcel 50 (P50-B1 through P50-B3), three (3) soil borings on Parcel 56 (P56-B1 through P56-B3), and two (2) soil borings on Parcel 60 (P60-B1 through P60-B2) by direct-push technology from the ground surface to boring termination (10 feet bgs) at locations specified by Kleinfelder. Kleinfelder subcontracted South Atlantic Environmental Drilling and Construction Company (SAEDACCO) to perform additional drilling on Parcel 50 on September 3rd, 2019. SAEDACCO advanced three (3) soil borings on the southeastern portion of Parcel 50 (P50-B4 through P50-B6) in the vicinity of the possible UST. Since the tank was estimated to be seven feet in diameter and assumed to be buried two feet below the ground surface, Kleinfelder advanced the borings around the possible UST one foot below the tank or 10 feet bgs.

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 along NC Highway 8 (Winston Road) and the western and southern 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 on the western portion of Parcel 50 were determined to be primarily a silty clay within the upper 5 feet, underlain by a silt or clayey silt, underlain by a sandy silt. Soils in the vicinity of the possible UST on Parcel 50 were primarily a loose gravelly sand within the upper 4 feet, underlain by several feet of clay then several feet of clayey silt or silt. Soils on Parcel 56 were determined to be primarily clay within the upper 5 feet underlain by clayey silt. Soils on Parcel 60 were determined to be primarily silt within the upper 4 feet, underlain by several feet of silty clay then

clayey, sandy silt. 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 or two samples from each boring advanced in August were selected for on-site laboratory analysis, and one sample from soil boring P50-B4 advanced in the vicinity of the UST on Parcel 50 in September was selected for off-site laboratory analysis.

The on-site samples were 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 possible use of petroleum products on Parcels 50, 56, and 60. 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 (P50-B4-5) was analyzed by Prism Laboratories of Charlotte, NC for TPH GRO and DRO, because the previous contents of the probable UST were assumed to be used for fueling vehicles or heating. 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 identified one (1) possible UST, approximately 7-ft in diameter, 22.5-ft in length, and 6,475-gallons in capacity, in the southeastern portion of Parcel 50 within the public utility easement.

5.2 SOIL SAMPLING DATA

The UVF analysis of soil samples did not indicate the presence of petroleum impact above NCDEQ Action Limits in any of the soil samples analyzed. As such, shallow soil impact does not appear to be present within the existing right-of-way or along the western and southern parcel boundaries. Samples collected within the right-of-way and public utility easement around the probable UST did not indicate that the tank has leaked. A summary of soil sample analytical results is presented in Table 2. The laboratory results associated with each soil 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 quantifiable soil impact within the current right-of-way and parcel boundaries.

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 identified one (1) possible UST located on the southeastern portion of Parcel 50 within the public utility easement.
- The parcels are not associated with any known active USTs, groundwater incidents, or database listings of environmental concern.
- No soil impact above the NCDEQ Action Limits for TPH GRO and DRO was detected in borings advanced along NC Highway 8 (Winston Road) and the western parcel boundaries or along Evans Street and the southern boundary of Parcel 50.
- 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 Parcels 50, 56, and 60 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
8/7/2019	U5757-P50-B1	1	1.0	
		2	0.8	
		3	0.9	
		4	1.8	
		5	7.6	UVF Analysis
		6	9.9	
		7	11.4	
		8	8.7	
		9	14.3	UVF Analysis
		10	12.2	
8/7/2019	U5757-P50-B2	1	0.1	
		2	0.2	
		3	0.2	
		4	0.3	
		5	0.4	
		6	0.5	
		7	0.6	
		8	0.4	
		9	0.3	
		10	0.7	UVF Analysis
8/7/2019	U5757-P50-B3	1	0.2	
		2	0.2	
		3	0.2	
		4	0.2	
		5	0.2	
		6	0.3	UVF Analysis
		7	0.3	
		8	0.2	
		9	0.3	
		10	0.2	
9/3/2019	U5757-P50-B4	1	NR	
		2	NR	
		3	NR	
		4	1.2	
		5	0.9	Offsite Analysis
		6	0.9	
		7	1.0	
		8	0.9	
		9	1.3	
		10	1.1	
9/3/2019	U5757-P50-B5	1	0.4	
		2	1.6	
		3	1.5	
		4	2.1	
		5	2.6	
		6	2.5	
		7	0.7	
		8	1.8	
		9	1.2	
		10	0.2	
9/3/2019	U5757-P50-B6	1	0.1	
		2	NR	
		3	NR	
		4	1.1	
		5	0.6	
		6	0.4	
		7	0.4	
		8	0.8	
		9	0.1	
		10	0.0	
8/8/2019	U5757-P56-B1	1	0.0	
		2	0.0	
		3	0.0	
		4	0.1	
		5	0.0	
		6	0.1	
		7	0.2	
		8	0.5	UVF Analysis
		9	0.2	
		10	0.2	
8/8/2019	U5757-P56-B2	1	0.1	
		2	0.1	
		3	1.0	
		4	1.0	
		5	0.7	
		6	1.5	
		7	1.0	
		8	1.9	UVF Analysis
		9	1.6	
		10	0.6	
8/8/2019	U5757-P56-B3	1	0.0	
		2	0.6	
		3	0.8	
		4	0.8	
		5	0.8	UVF Analysis
		6	0.6	
		7	0.5	
		8	0.6	
		9	0.6	
		10	0.3	
8/8/2019	U5757-P60-B1	1	2.4	
		2	7.7	
		3	5.0	UVF Analysis
		4	2.9	
		5	3.9	
		6	3.9	
		7	3.9	
		8	4.0	UVF Analysis
		9	3.0	
		10	2.7	
8/8/2019	U5757-P60-B2	1	0.9	
		2	3.0	
		3	3.7	
		4	3.0	
		5	5.1	UVF Analysis
		6	4.3	
		7	3.4	
		8	2.5	
		9	3.3	
		10	1.2	

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	P50-B1-5	P50-B1-9	P50-B2-10	P50-B3-6	P50-B4-5	P56-B1-8	P56-B2-8	P56-B3-5	P60-B1-3	P60-B1-8	P60-B2-5	State Action Limit	Protection of Groundwater	Residential Health
PID Reading (ppm)	7.6	14.3	0.7	0.3	0.9	0.5	1.9	0.8	5.0	4.0	5.1			
Collection Depth (ft bgs)	5	9	10	6	5	8	8	5	3	8	5			
Collection Date	8/7/19	8/7/19	8/7/19	8/7/19	9/3/19	8/8/19	8/8/19	8/8/19	8/8/19	8/8/19	8/8/19			
UVF Method														
Diesel Range Organics	<0.58	<0.56	<0.59	<0.5	N/A	**0.44**	<0.45	<0.33	**5.9**	<0.49	<0.54	100	--	--
Gasoline Range Organics	<0.58	<0.56	<0.59	<0.5	N/A	<0.44	<0.45	<0.33	<0.52	<0.49	<0.54	50	--	--
EPA Method 8015C														
Gasoline Range Organics	N/A	N/A	N/A	N/A	<1.9	N/A	N/A	N/A	N/A	N/A	N/A	50	--	--
Diesel Range Organics	N/A	N/A	N/A	N/A	<2.8	N/A	N/A	N/A	N/A	N/A	N/A	100	--	--

Notes:
Results displayed in milligram per kilogram (mg/kg)
ft bgs = Feet below ground surface
Bold = Above Laboratory Detection Limit
UVF = Ultraviolet Flouresence
N/A = Not Analyzed
EPA = Environmental Protection Agency

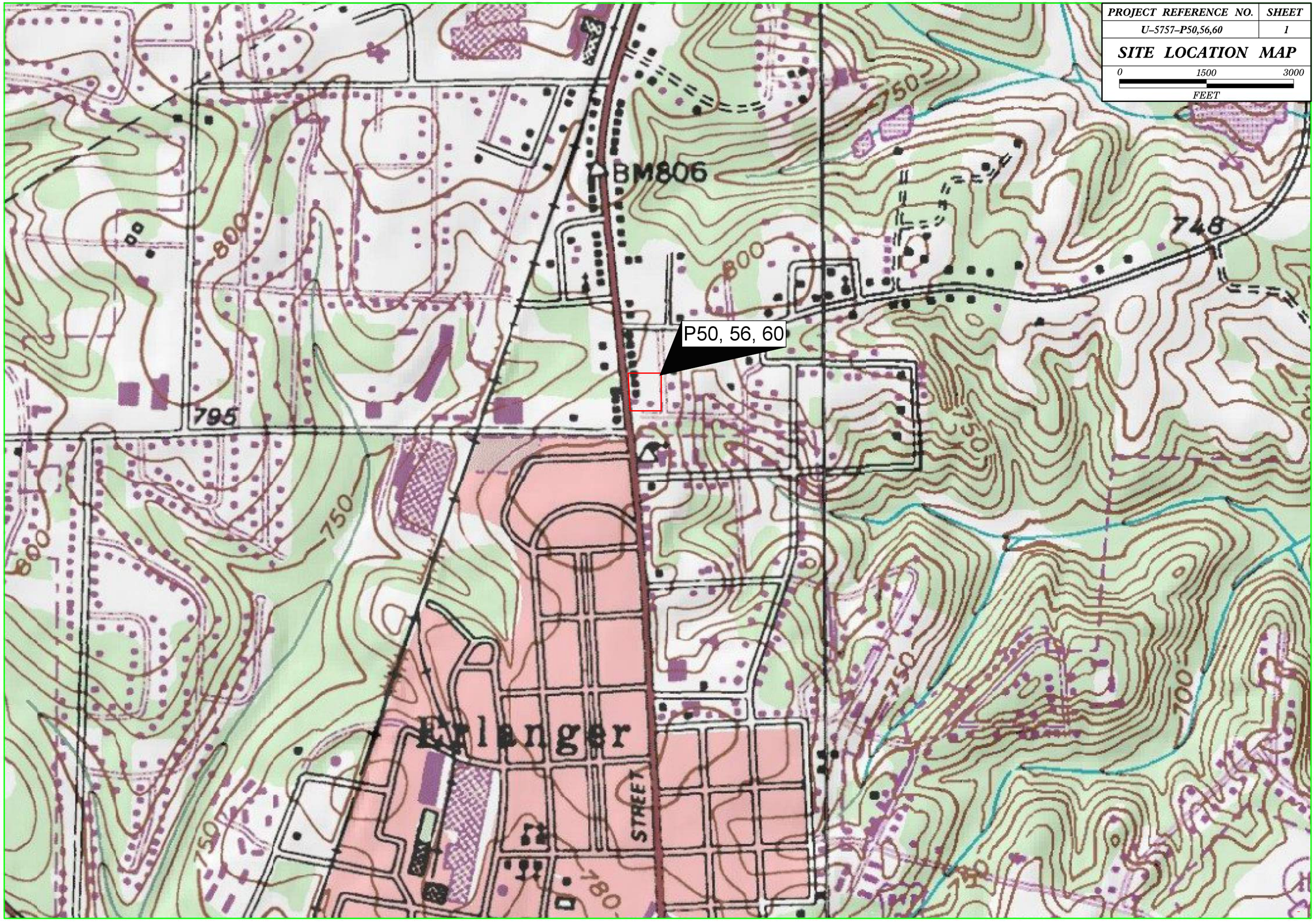
FIGURES

PROJECT REFERENCE NO.	SHEET
U–5757–P50,56,60	1

SITE LOCATION MAP

0 1500 3000

FEET



PROJECT REFERENCE NO.	SHEET
U-5757-P50,56,60	2

SITE MAP

0 40 80

FEET

LEGEND
SOIL SAMPLE LOCATIONS
HOWARD WAYNE HARVEY
DB 2135 PG 2403
PB 3 PG 34
PB 5 PG 89
BH & HH REALTY, LLC
DB 1873 PG 1913
PB 3 PG 34
OWNER UNKNOWN
JEFFREY F. TUCKER
DB 1063 PG 787
GEORGE K. CARTER
DB 631 PG 332
-Y15- EVANS STREET
460' LANE TRANSITION
37' INC. TYP. LT. & RT.
EXISTING R/W VARIES
2'-6" C&G
PUE
PDE
DUE
PSH
P60-B1
P60-B2
P56-B1
P56-B2
P56-B3
P50-B1
P50-B2
P50-B3
P50-B4
P50-B5
P50-B6
17.5+00.00
73.00
90.00
81.00
50
51
52
53
54
56
60

PROJECT REFERENCE NO.	SHEET
U-5757-P50,56,60	3

SOIL SAMPLE ANALYTICAL RESULTS

0 40 80

FEET

NC GRID
NAD 83 NA 2011

LEGEND

P50B1 SOIL SAMPLE LOCATIONS

SOIL SAMPLE RESULTS

	DRO	GRO
P50-B1-5	<0.58	<0.58
P50-B1-9	<0.56	<0.56
P50-B2-10	<0.59	<0.59
P50-B3-6	<0.5	<0.5
P50-B4-5	<2.8	<1.9
P50-B5	NA	NA
P50-B6	NA	NA
P56-B1-8	0.44	<0.44
P56-B2-8	<0.45	<0.45
P56-B3-5	<0.33	<0.33
P60-B1-3	5.9	<0.52
P60-B1-8	<0.49	<0.49
P60-B2-5	<0.54	<0.54

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 Limits
5) NA = not analyzed

APPENDIX A
SITE PHOTOGRAPHS

View facing south along Winston Road on Parcel 50.

View facing east away from Winston Road on Parcel 50.

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-P50, 56, 60 Lexington, Davidson County, North Carolina	FIGURE **A-1**

View facing north along Winston Road towards Parcel 56 and 60.

View facing westerly toward Winston Road on Parcel 50.

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-P50, 56, 60 Lexington, Davidson County, North Carolina	FIGURE **A-1**

APPENDIX B

GEOPHYSICAL SURVEY REPORT

PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2019-211)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCELS 50, 56, & 60
NCDOT PROJECT U-5757 (54035.1.1)

1496 WINSTON ROAD, LEXINGTON, NC

August 20, 2019

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C257: GEOLOGY C1251: ENGINEERING

GEOPHYSICAL INVESTIGATION REPORT
Parcels 50, 56, & 60 - 1496 Winston Road
Lexington, Davidson County, North Carolina

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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 Parcels 50, 56, & 60 located at 1496 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 16-18, 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 seventeen EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. GPR performed in most of the areas of interference from the vehicles and the fences did not reveal any significant buried structures.

GPR performed around the vehicles in the southeastern portion of the property showed a long lateral reflector consistent with the length of a UST. GPR also showed a smaller lateral reflector inconsistent with the hyperbolic reflector typical of the width of a UST. This feature is classified as a possible UST and is approximately 22.5 feet long by 7 feet wide. Collectively, the geophysical data recorded evidence of one possible UST within the survey area at Parcels 50, 56, & 60.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Kleinfelder, Inc. at Parcels 50, 56, & 60 located at 1496 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 16-18, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

The site included multiple commercial buildings surrounded by asphalt, gravel, and concrete 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 18, 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	Water Meter	
4	Fence	
5	Flagpole	
6	Suspected Debris/Utility	✓
7	Utility	
8	Water Meter	
9	Sign	
10	Reinforced Concrete Pipe	✓
11	Water Meter	
12	Sign	
13	Fence/Vehicles	✓
14	Lights	
15	Suspected Metallic Debris	✓
16	Vehicles	✓
17	Vehicles/**One Possible UST**	✓

The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface including fences, signs, water meters, a flagpole, vehicles, and lights. EM Anomalies 6 and 15 were suspected to be the result of suspected buried metallic debris and a buried utility and were investigated further with GPR. EM Anomaly 10 was suspected to be the result of a reinforced concrete pipe and was further investigated with GPR. GPR scans were also performed around the areas of interference caused by the vehicles and fence (Anomalies 13, 16, and 17) to verify that no buried 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 select transect images. All of the transect images are included in **Appendix A**. A total of 39 formal GPR transects were performed at the site.

GPR Transects 1-2, 3-4, 5-7, 8-10, 21, 25-28, 29-33, and 34-35 were performed across areas of interference caused by the vehicles at the site (EM Anomaly 16). GPR Transects 37-39 were performed across areas of interference caused by vehicles and the fence (EM Anomaly 13). No evidence of buried structures such as USTs was observed.

GPR Transects 11-20 were performed across EM Anomaly 17. GPR Transect 19 showed a long lateral reflector consistent with the length of a UST. GPR Transect 20 showed a smaller lateral reflector inconsistent with the hyperbolic reflector typical of the width of a UST. This feature is classified as a possible UST (Possible UST #1). Possible UST #1 was approximately 22.5 feet long and 7 feet wide. **Figure 4** provides the location and size of the possible UST overlain on an aerial, along with ground-level photographs.

GPR Transects 22 and 23-24 were performed across areas associated with a suspected utility and suspected buried metallic debris (EM Anomalies 6 and 15). These transects recorded evidence of isolated hyperbolic reflectors that were characteristic of a buried utility and minor reflectors associated with increases in signal penetration relative to the surrounding soil that are typical indicators of buried metallic debris. No evidence of any buried structures such as USTs was observed.

GPR Transect 36 was performed across an anomaly suspected to be a reinforced concrete pipe (EM Anomaly 10). This transect confirmed the presence of reinforcement in the concrete pipe. No evidence of buried structures such as USTs was observed.

Collectively, the geophysical data recorded evidence of one possible UST within the survey area at Parcels 50, 56, & 60. **Figure 5** provides an overlay of the metal detection results and the locations of the possible UST on the NCDOT MicroStation engineering plans for reference.

SUMMARY & CONCLUSIONS

Pyramid's evaluation of the EM61 and GPR data collected at Parcels 50, 56, & 60 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.
- GPR performed in most of the areas of interference from the vehicles and the fences did not reveal any significant buried structures.
- GPR performed around the vehicles in the southeastern portion of the property showed a long lateral reflector consistent with the length of a UST. GPR also showed a smaller lateral reflector inconsistent with the hyperbolic reflector typical of the width of a UST. This feature is classified as a possible UST and is approximately 22.5 feet long by 7 feet wide.
- Collectively, the geophysical data recorded evidence of one possible UST within the survey area at Parcels 50, 56, & 60.

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 East)


View of Survey Area
(Facing Approximately North)


View of Survey Area
(Facing Approximately North)

N

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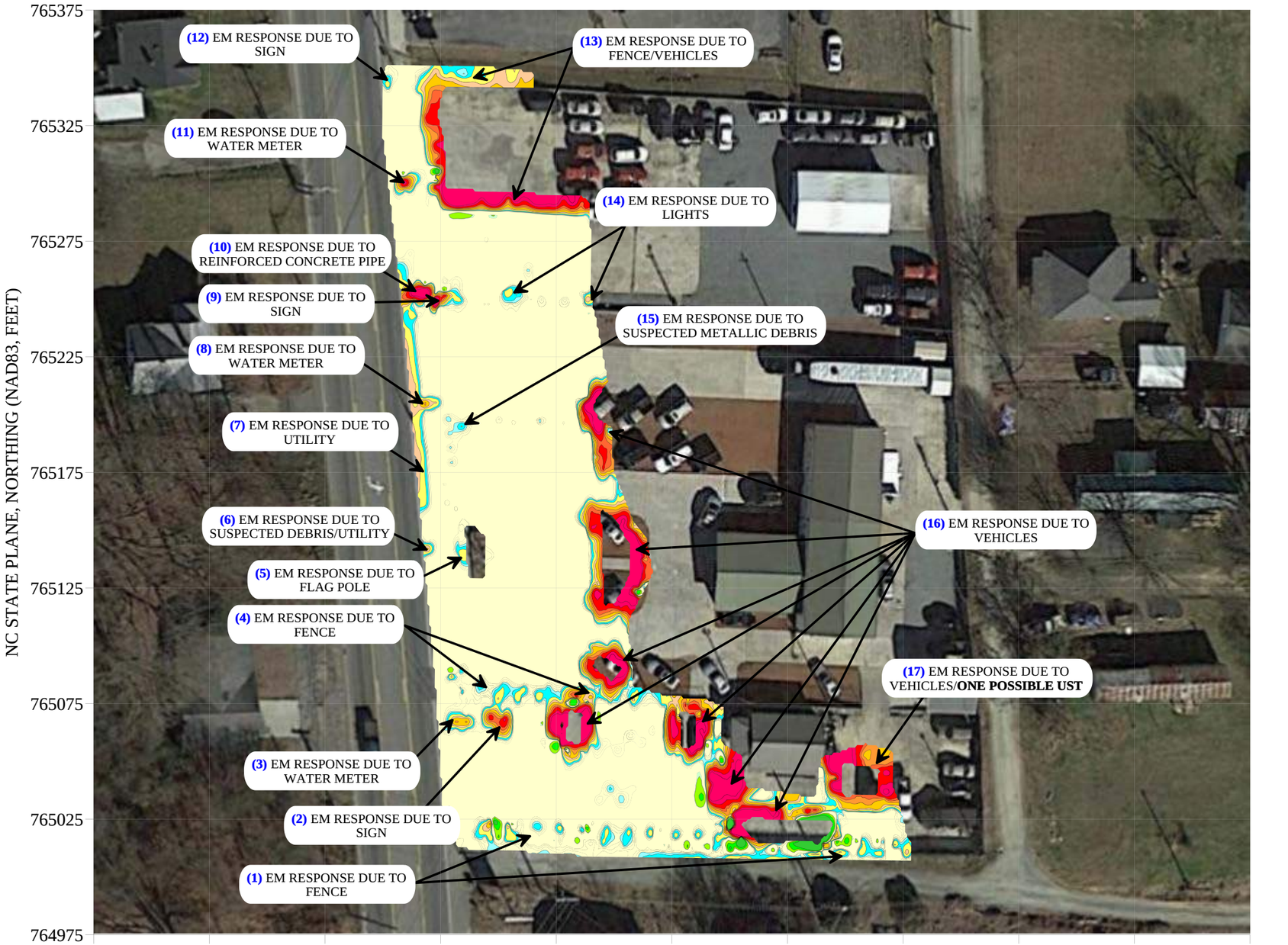
PROJECT	PARCELS 50, 56, & 60 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757
TITLE	PARCEL 50, 56, & 60 - GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS
DATE	7/19/2019
CLIENT	KLEINFELDER
PYRAMID PROJECT #:	2019-211
	FIGURE 1

EM61 METAL DETECTION RESULTS



EVIDENCE OF ONE POSSIBLE METALLIC UST 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 16, 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 18, 2019.

EM61 Metal Detection Response (millivolts)

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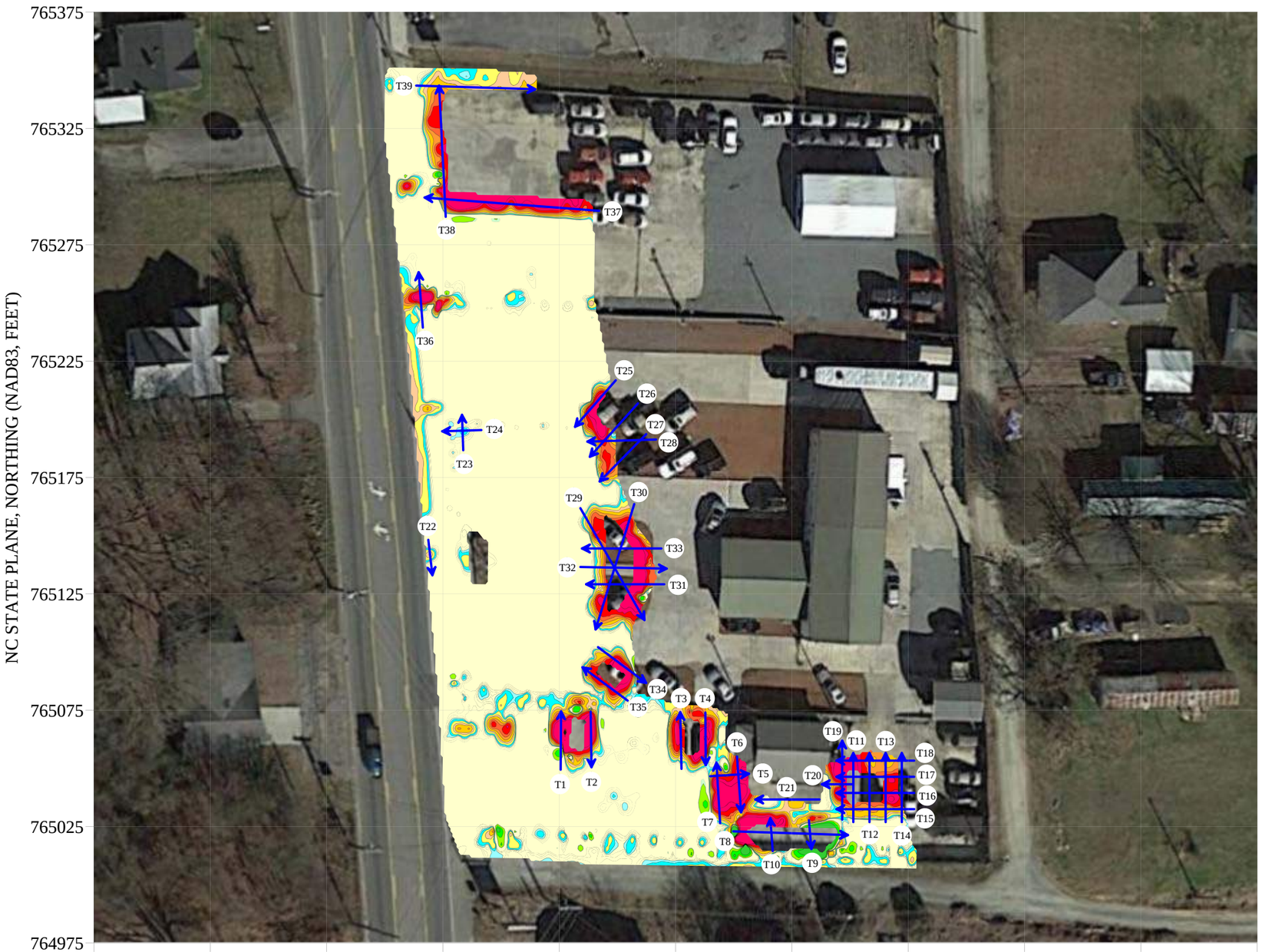
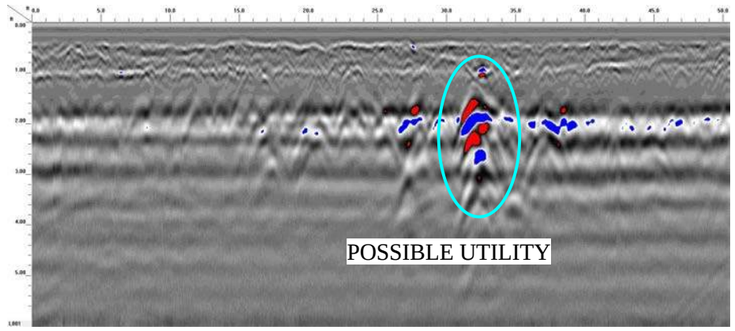
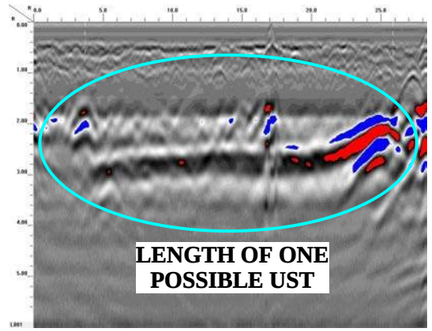
TITLE	PARCELS 50, 56, & 60 - EM61 METAL DETECTION CONTOUR MAP
DATE	7/19/2019
PYRAMID PROJECT #:	2019-211
CLIENT	KLEINFELDER
	FIGURE 2

LOCATIONS OF GPR TRANSECTS





GPR TRANSECT 8 (T8)



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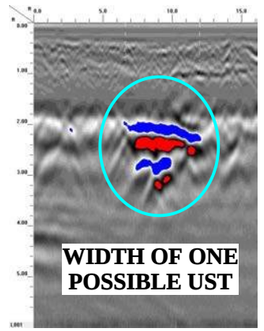

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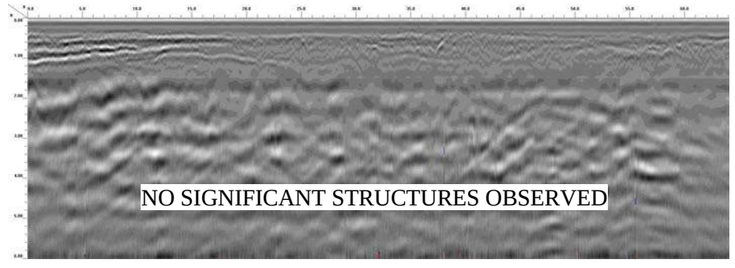
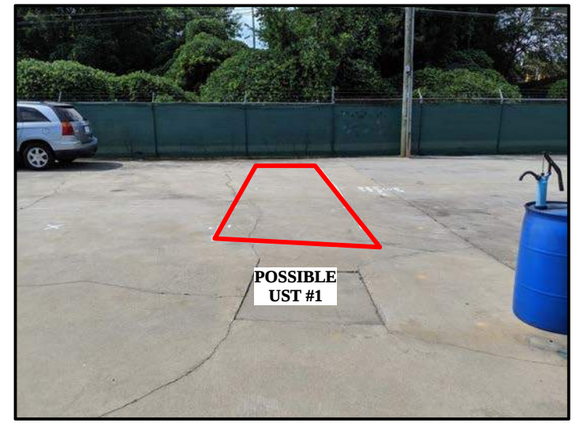


GPR TRANSECT 37 (T37)

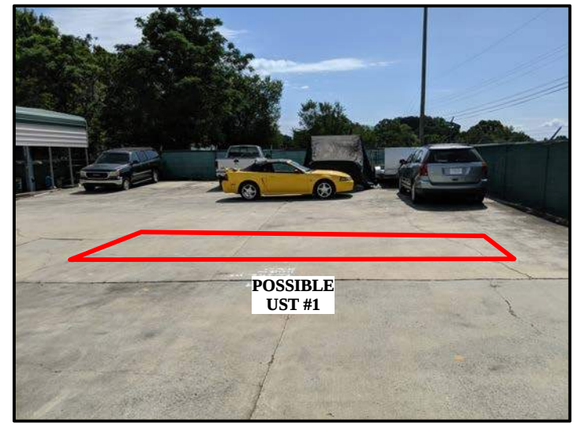
N

PYRAMID GEOPHYSICS 503 INDUSTRIAL AVENUE GREENSBORO, NC 27406 (336) 335-3174 (p) (336) 691-0648 (f) License # C1251 Eng. / License # C257 Geology	PROJECT PARCELS 50, 56 & 60 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757	TITLE PARCELS 50, 56, & 60 - GPR TRANSECT LOCATIONS AND SELECT IMAGES	DATE 7/19/2019 PYRAMID PROJECT #: 2019-211	CLIENT KLEINFELDER **FIGURE 3**

LOCATION OF ONE POSSIBLE UST



View of One Possible UST Facing Approximately South



View of One Possible UST Facing Approximately East

N

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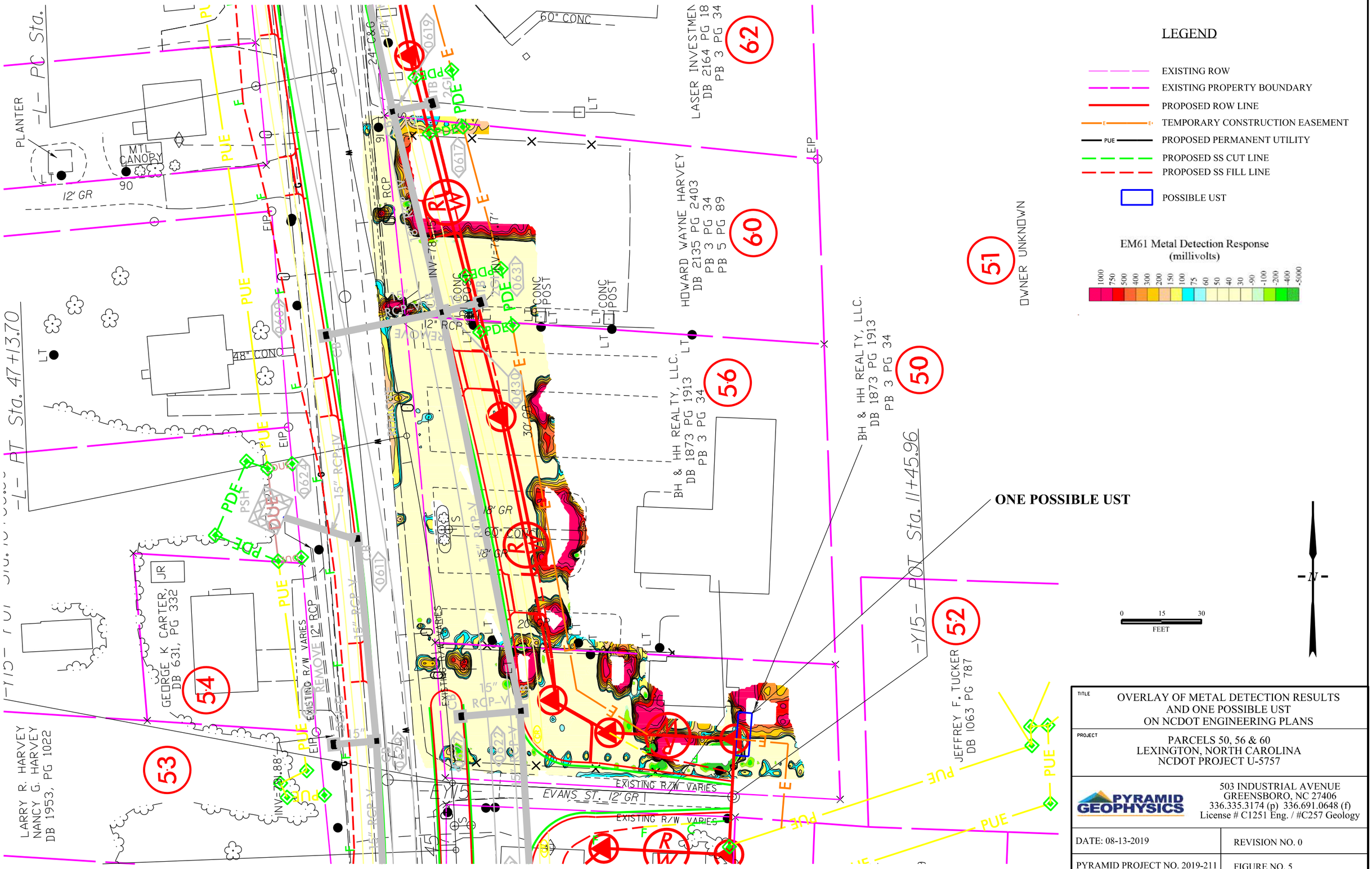
PROJECT	PARCELS 50, 56, & 60 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757
TITLE	PARCELS 50, 56, & 60 - LOCATION AND SIZE OF ONE POSSIBLE UST
DATE	7/19/2019
CLIENT	KLEINFELDER
PYRAMID PROJECT #:	2019-211
	FIGURE 4



TITLE
OVERLAY OF METAL DETECTION RESULTS
AND ONE POSSIBLE UST
ON NCDOT ENGINEERING PLANS

PROJECT
PARCELS 50, 56 & 60
LEXINGTON, NORTH CAROLINA
NCDOT PROJECT U-5757

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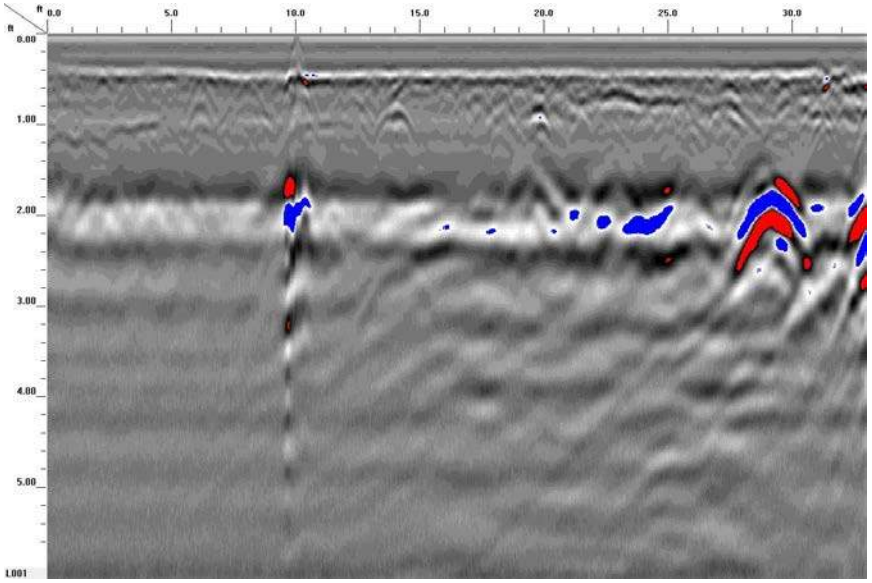
DATE: 08-13-2019 | REVISION NO. 0

PYRAMID PROJECT NO. 2019-211 | FIGURE NO. 5

Appendix A – GPR Transect Images



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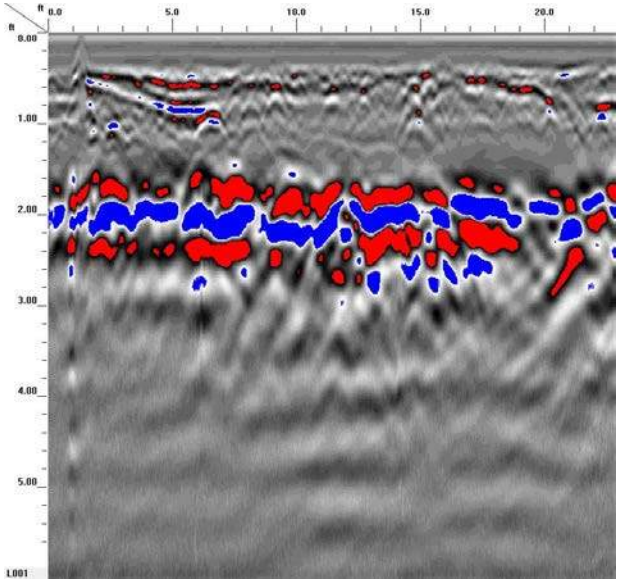

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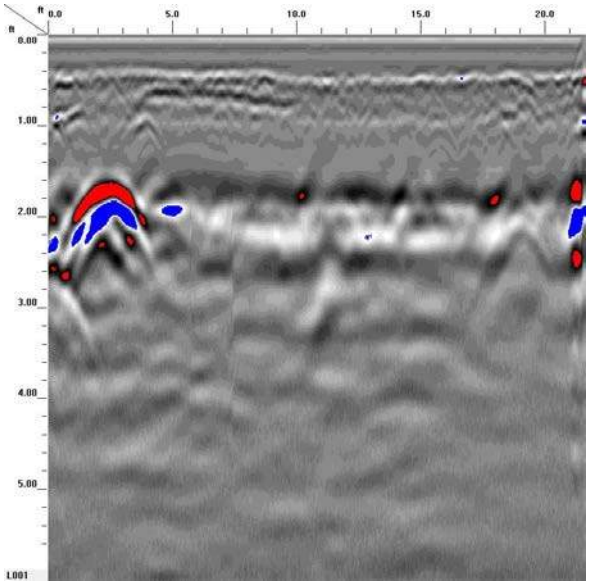

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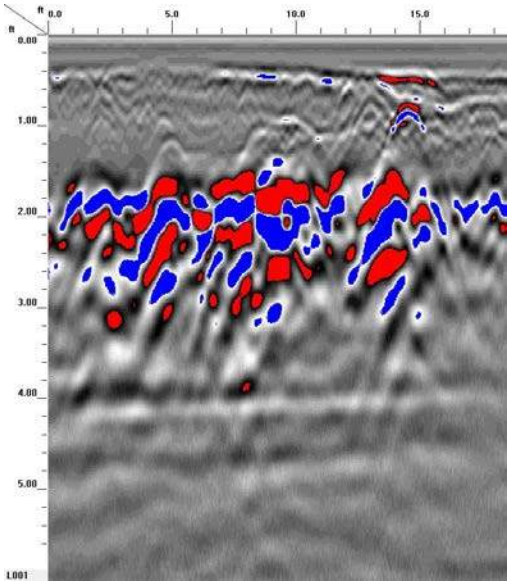

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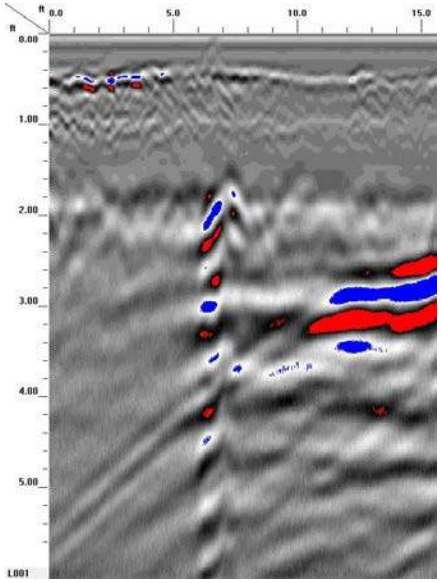

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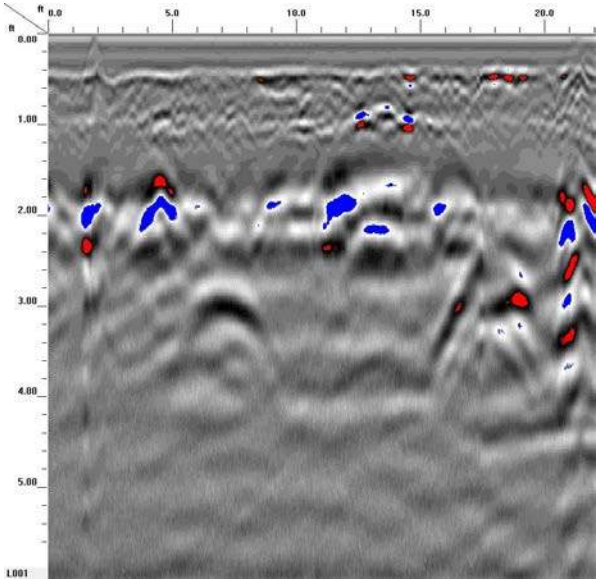

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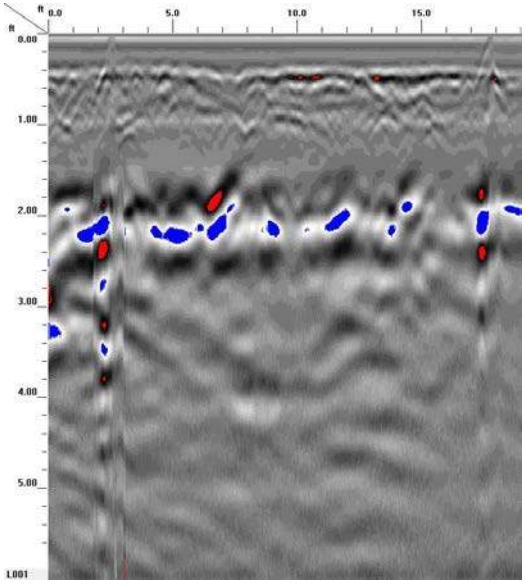

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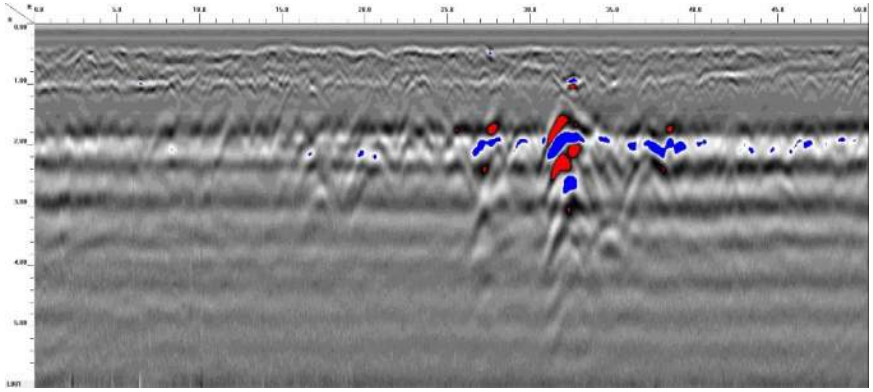

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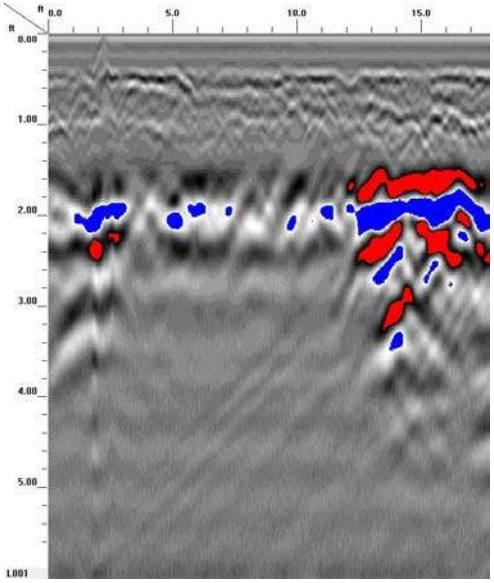

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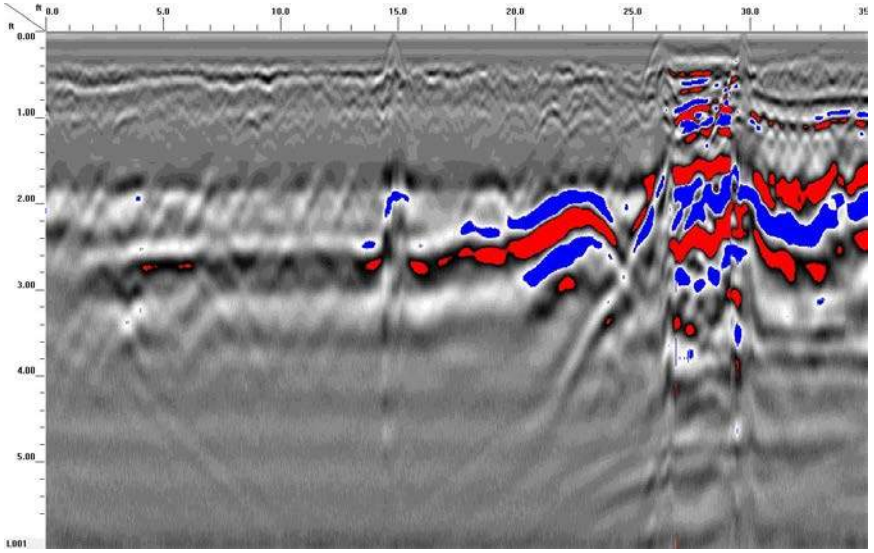

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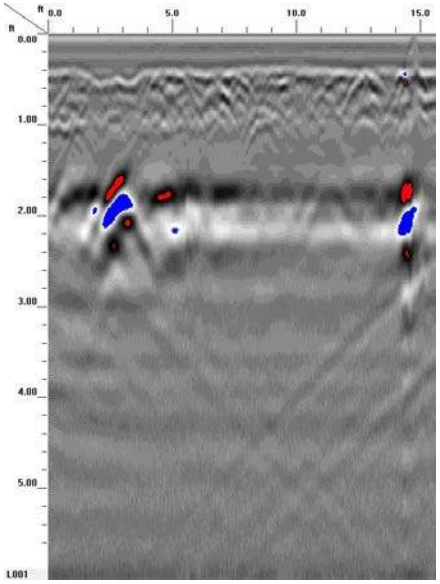

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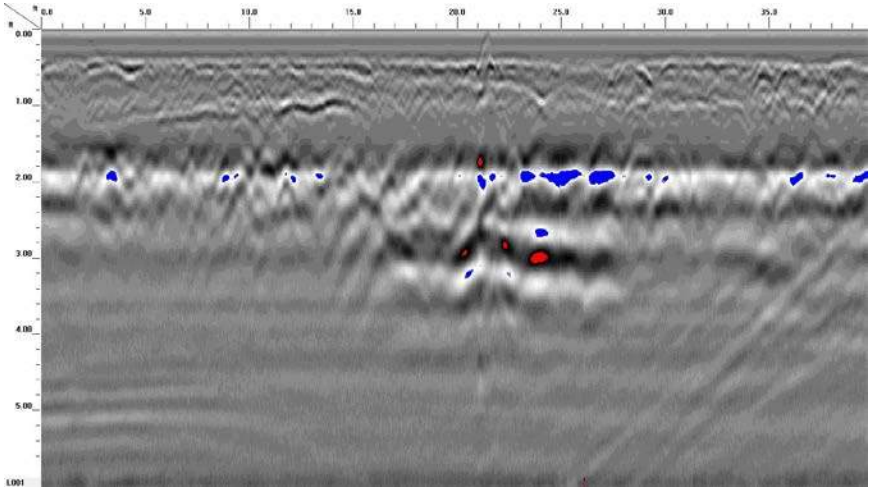

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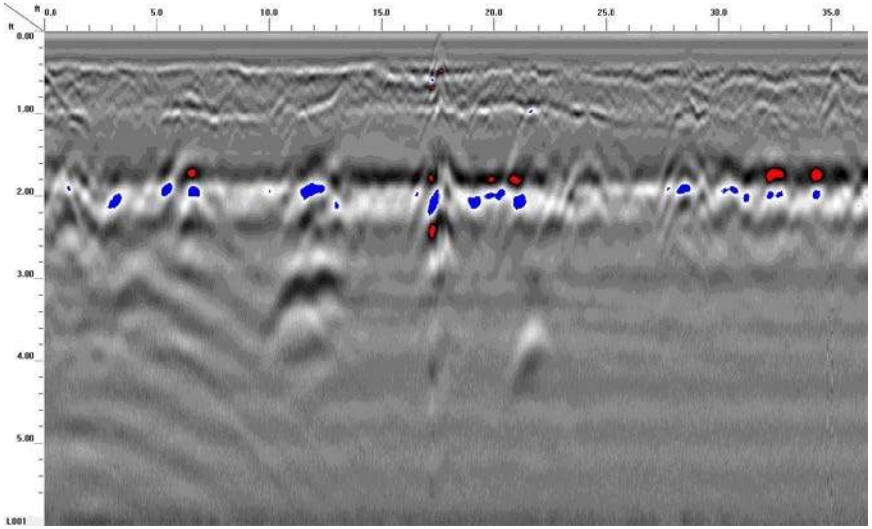

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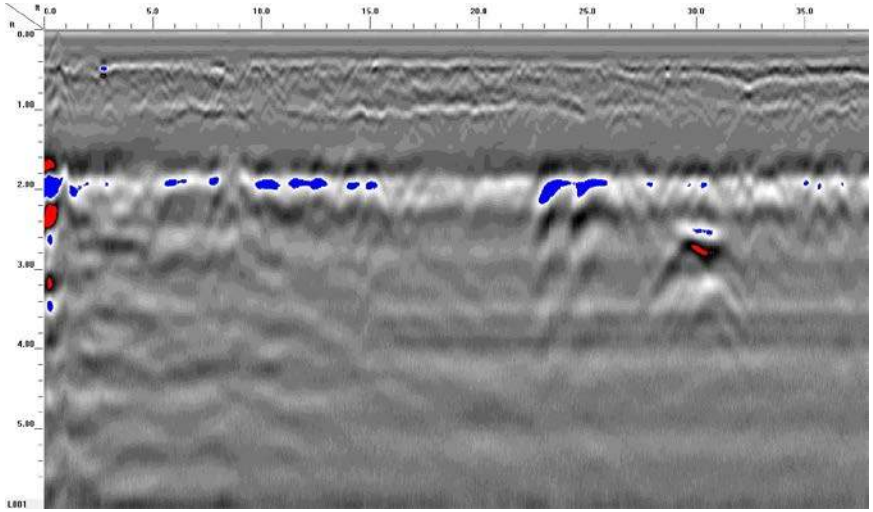

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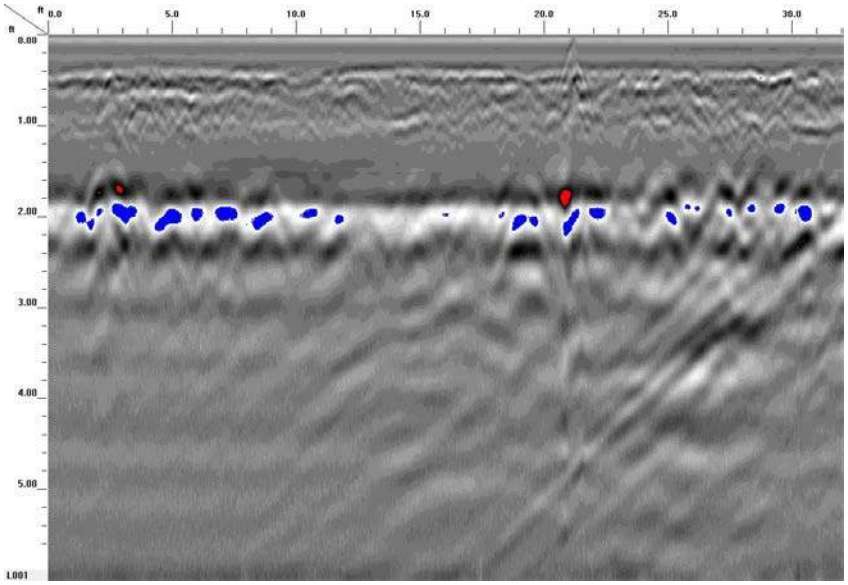

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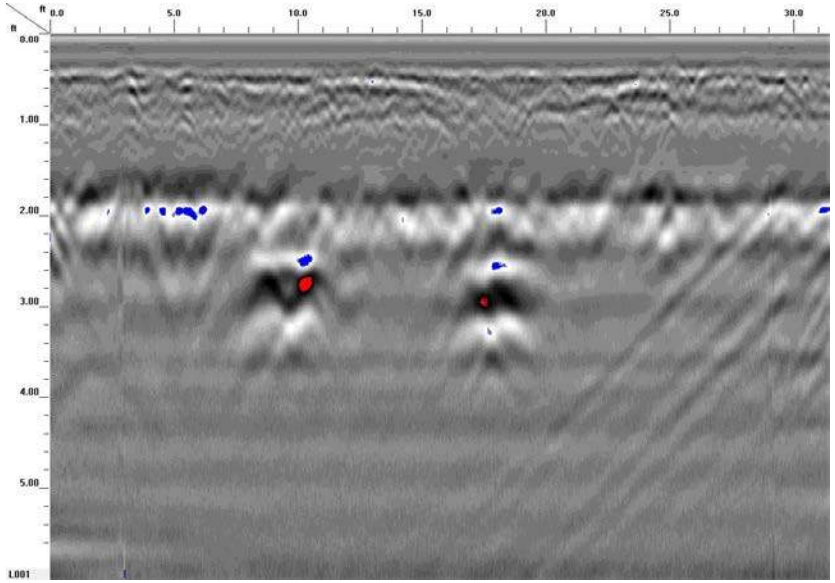

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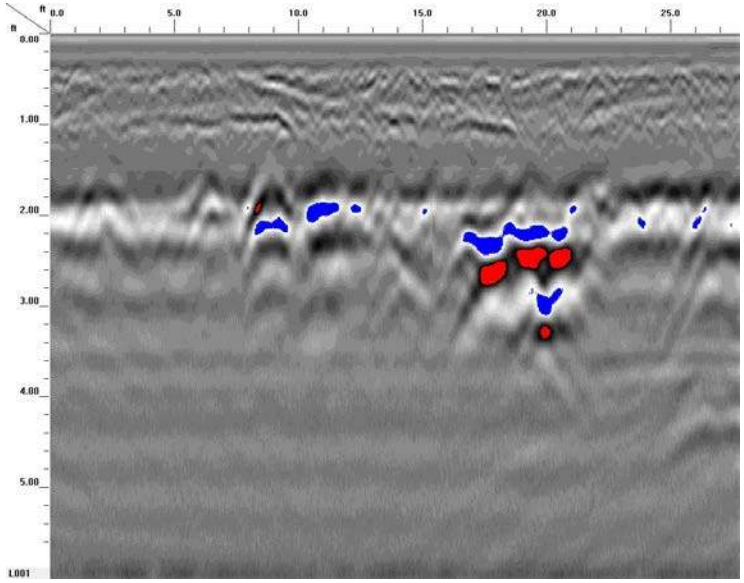

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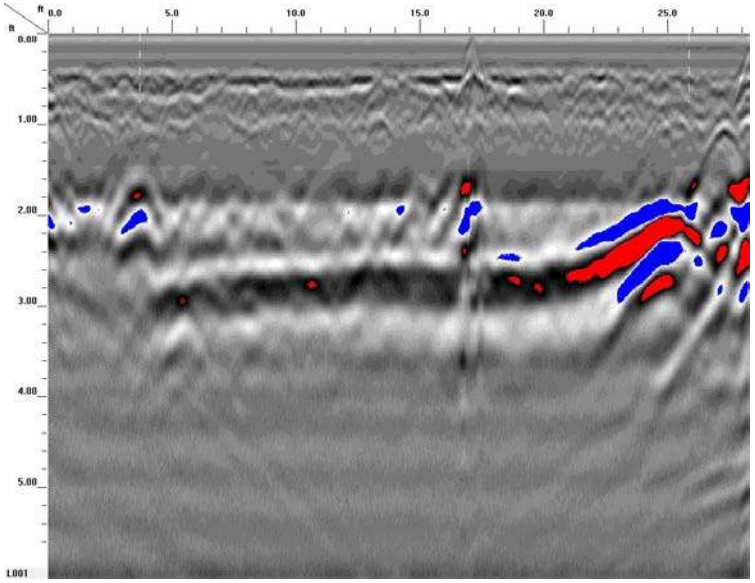

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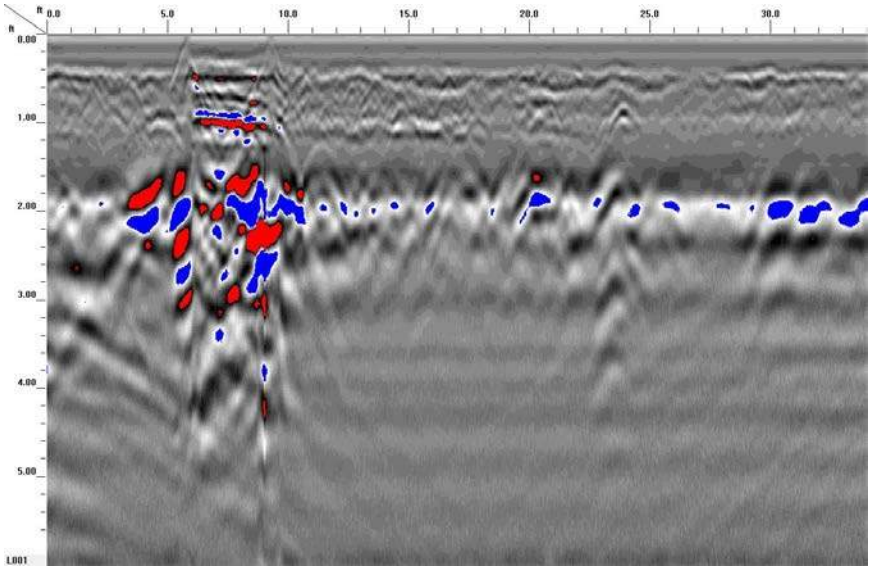

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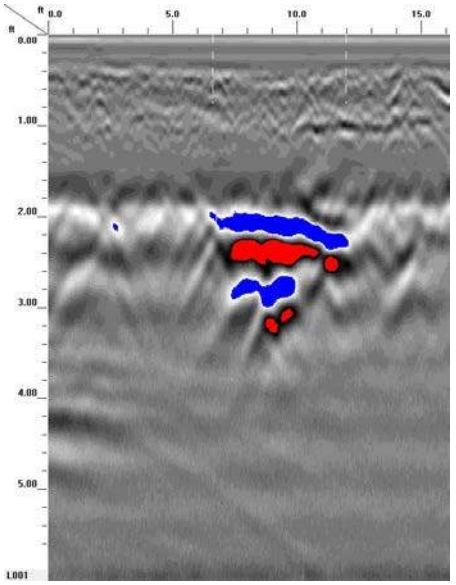

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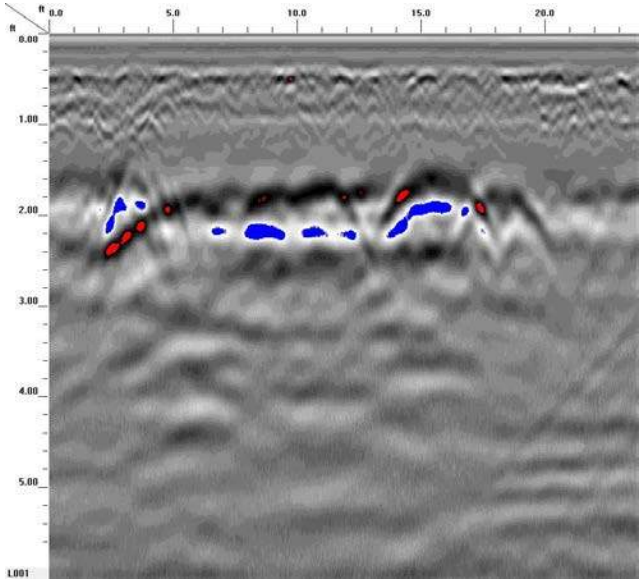
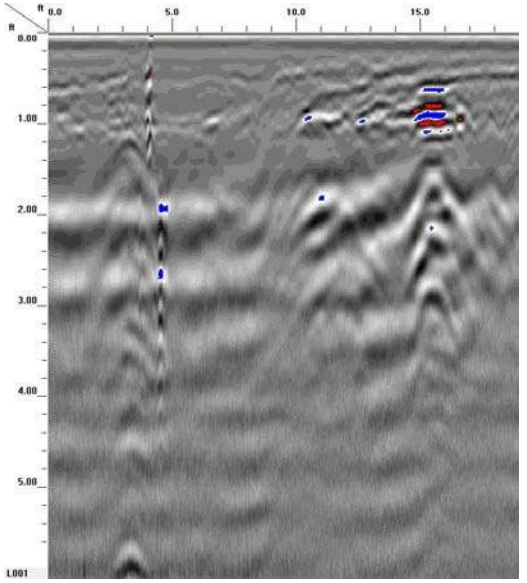
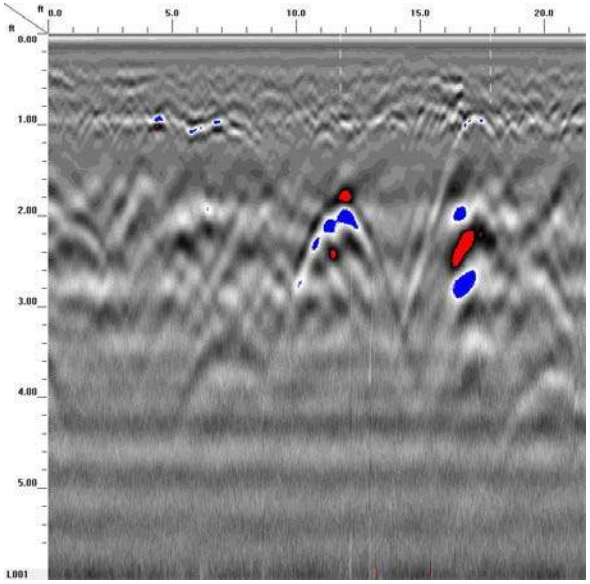


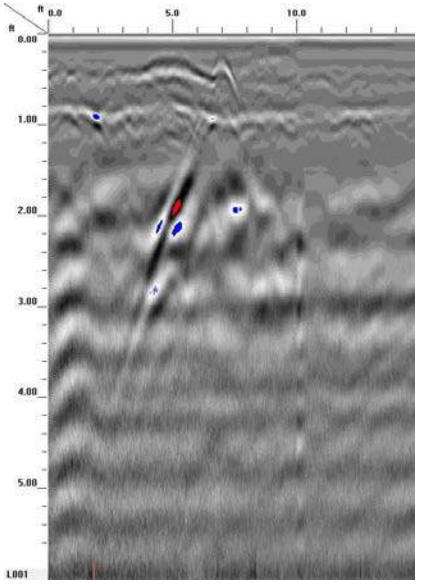
GPR TRANSECT 21



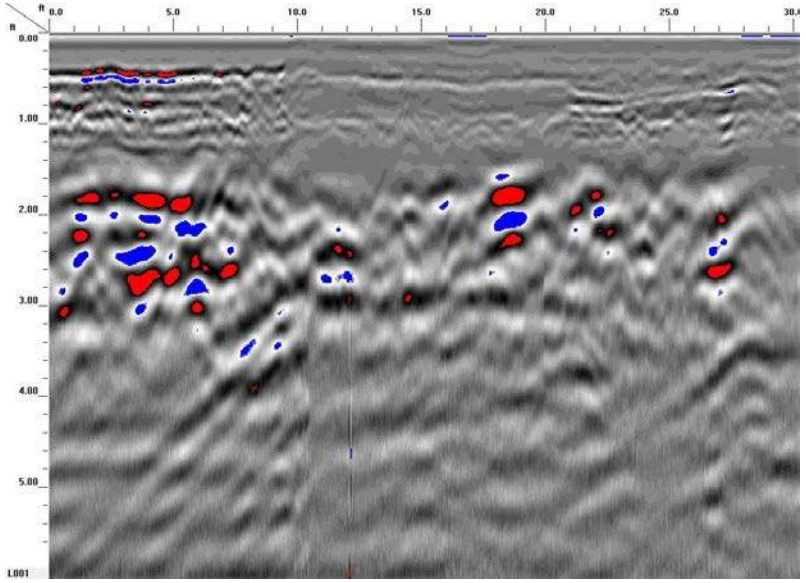
GPR TRANSECT 23



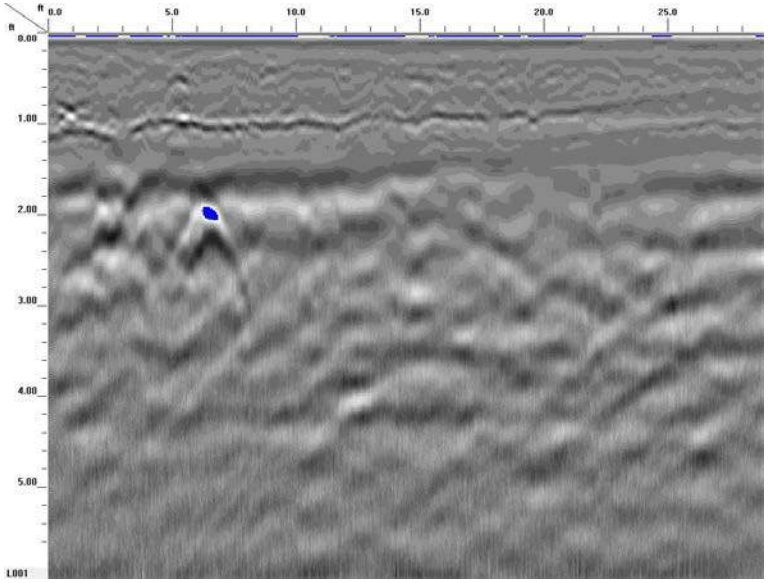
GPR TRANSECT 22



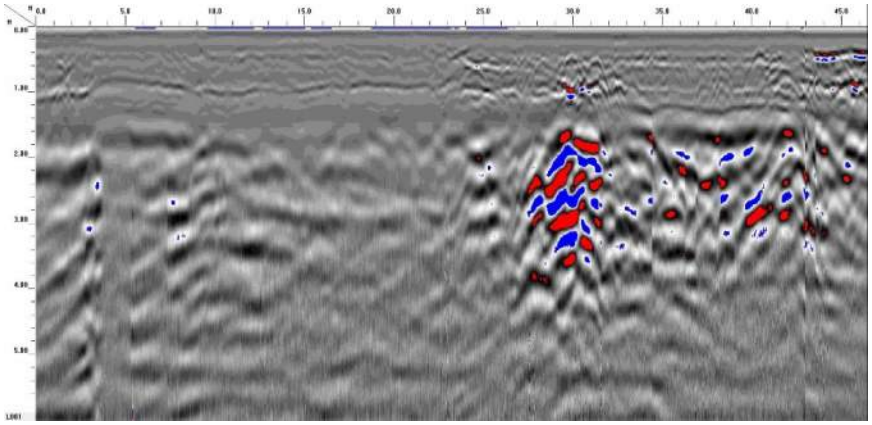
GPR TRANSECT 24



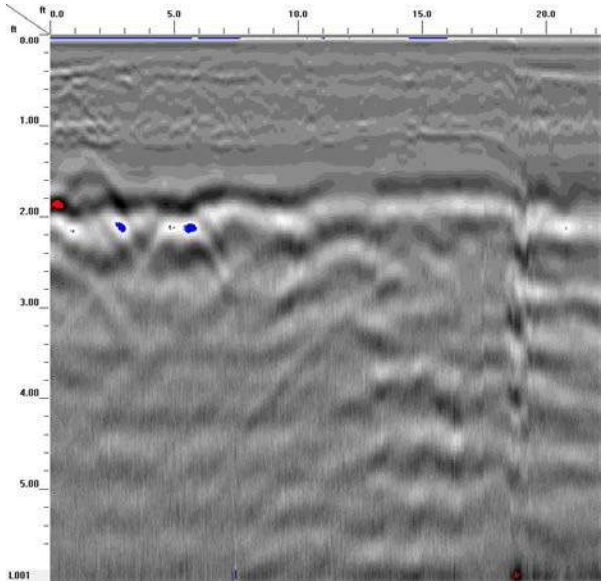
GPR TRANSECT 25



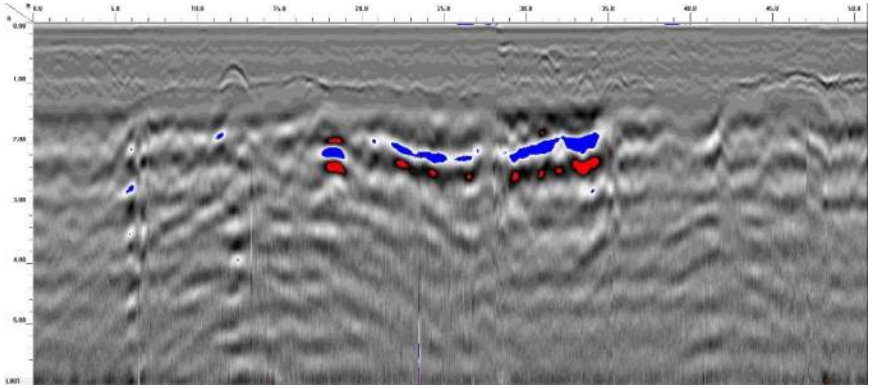
GPR TRANSECT 27



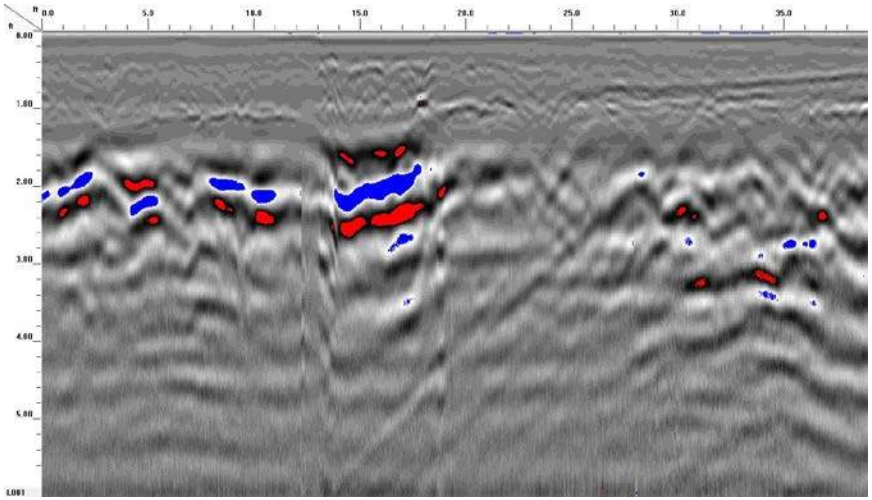
GPR TRANSECT 26



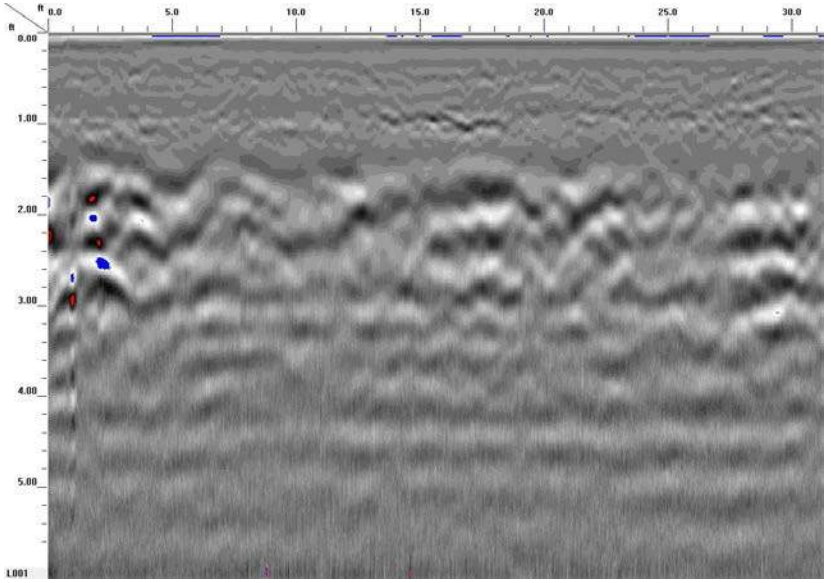
GPR TRANSECT 28



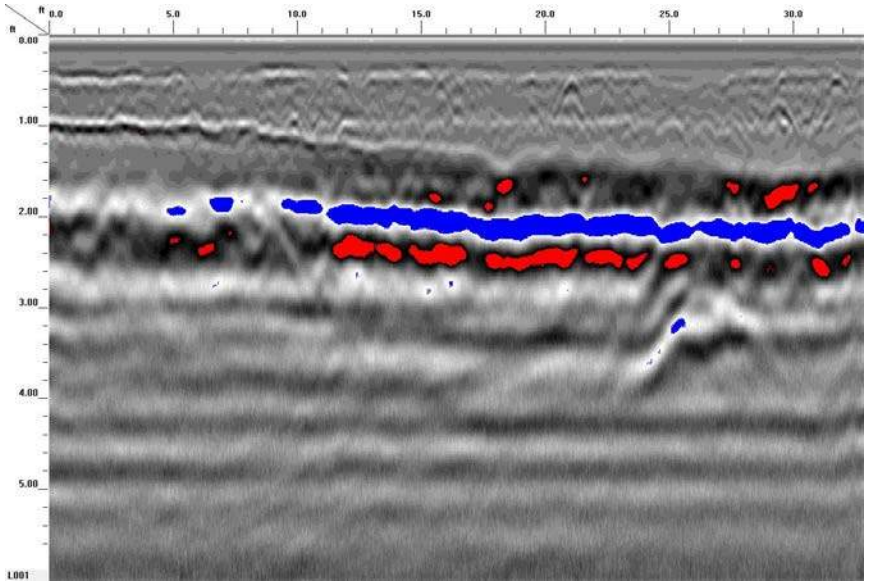
GPR TRANSECT 29



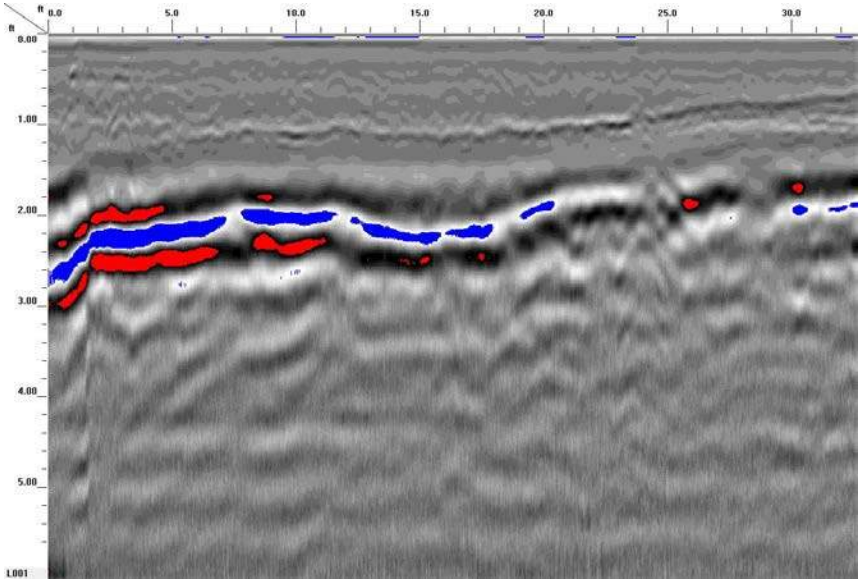
GPR TRANSECT 30



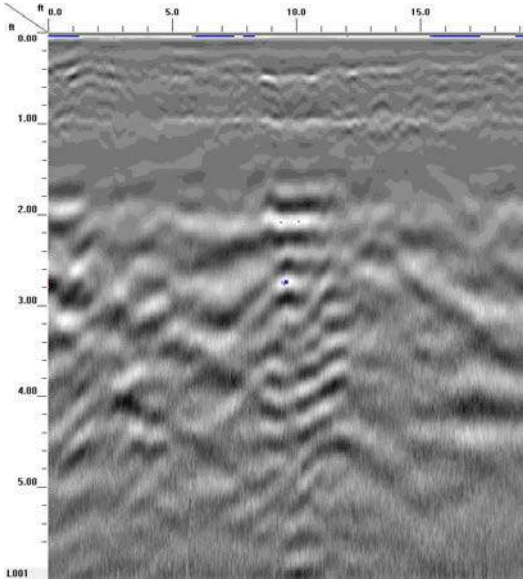
GPR TRANSECT 31



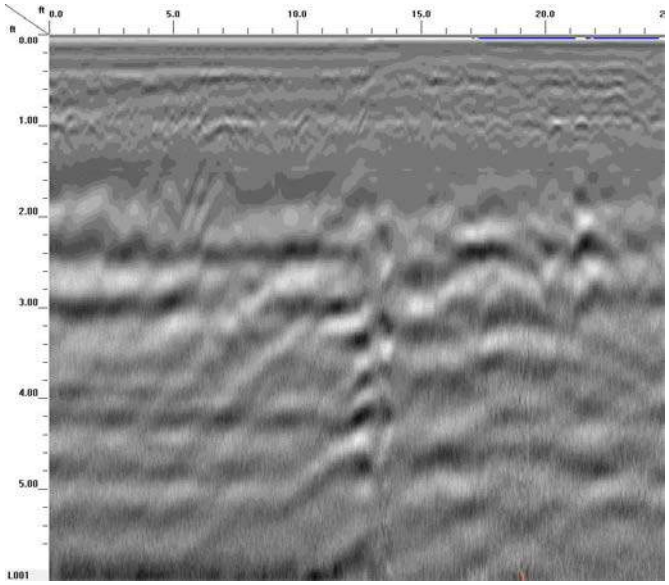
GPR TRANSECT 32



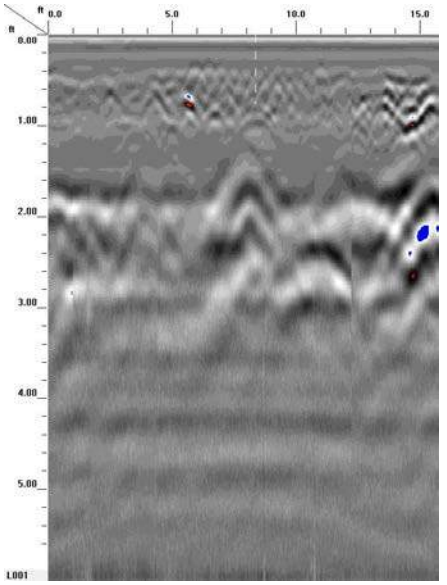
GPR TRANSECT 33



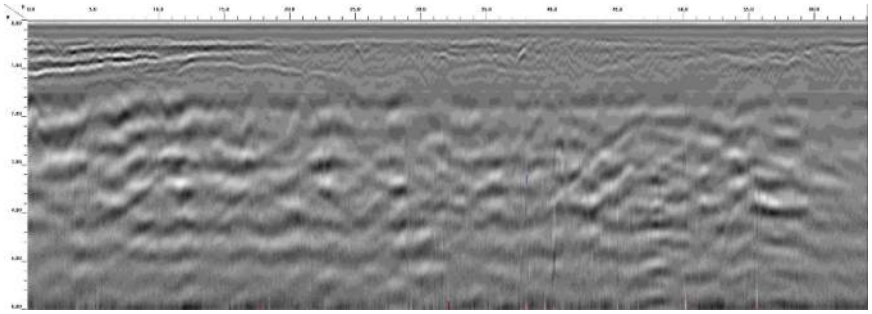
GPT TRANSECT 35



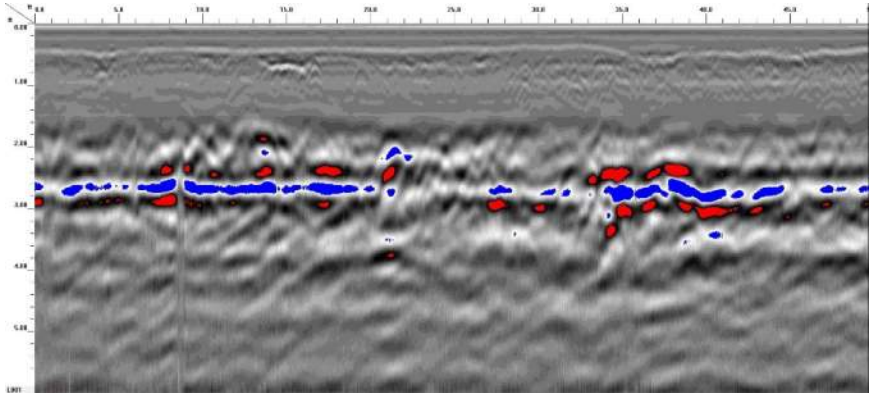
GPR TRANSECT 34



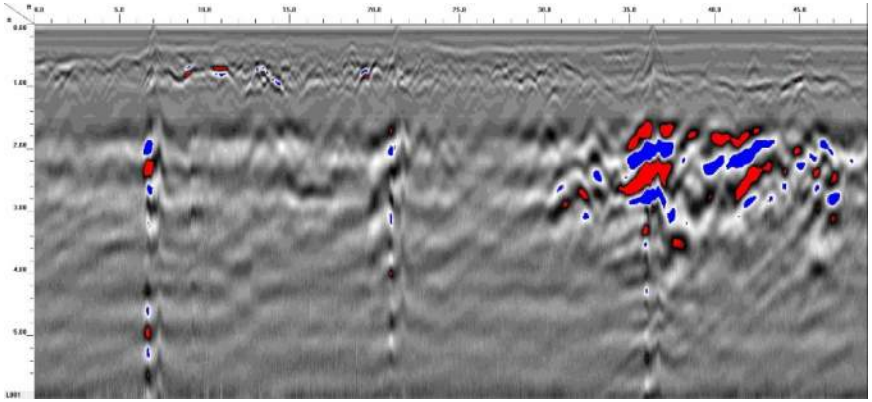
GPR TRANSECT 36



GPR TRANSECT 37



GPR TRANSECT 39



GPR TRANSECT 38

APPENDIX C
BORING LOGS

BORING LOG P50-B1

Date Begin - End:	8/07/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	90°F Clear	**Borehole Diameter:**	

FIELD EXPLORATION

Latitude: 35.84562° N
Longitude: -80.25392° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE
	Direct Push Sleeves				1.0		**CLAY with Silt**: reddish yellow and red, dry to moist
					0.8		
					0.9		
					1.8		
			P50-B1-5		7.6		
5							**SILT**: white and reddish yellow, dry to moist
					9.9		
					11.4		
					8.7		
			P50-B1-9		14.3		**SILT**: yellowish brown streaked white, moist, trace sand
					12.2		
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 bentonite

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P50-B1

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

BORING LOG P50-B2

Date Begin - End:	8/07/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	90°F Clear	**Borehole Diameter:**	

FIELD EXPLORATION

Latitude: 35.84562° N
Longitude: -80.25392° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE
	Direct Push Sleeves				0.1		**CLAY with Silt**: reddish yellow and red, dry to moist
					0.2		
					0.2		
					0.3		
					0.4		
5							
					0.5		**SILT**: white and reddish yellow, dry to moist
					0.6		
					0.4		
					0.3		**SILT**: yellowish brown streaked white, moist, trace sand
			P50-B2-10		0.7		
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 bentonite

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P50-B2

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

Date Begin - End:	8/07/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	85°F Partly Cloudy	**Borehole Diameter:**	

BORING LOG P50-B3

FIELD EXPLORATION

Latitude: 35.84562° N
Longitude: -80.25392° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE
					0.2		**CLAY**: reddish brown, dry to moist
					0.2		**SILT**: red and reddish yellow, dry to moist, trace clay
					0.2		
					0.2		
					0.2		
5	Direct Push Sleeves		P50-B3-6		0.3		
					0.3		
							SILT with Clay: light brown and reddish yellow, dry to moist
					0.2		
					0.3		
10					0.2		**SILT with Sand**: pink and reddish yellow, dry to moist

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 bentonite

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PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P50-B3

NCDOT: U-5757
Biesecker Road
Lexington, NC

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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:	90°F Clear	**Borehole Diameter:**	

BORING LOG P50-B4

FIELD EXPLORATION

Latitude: 35.84555° N
Longitude: -80.25361° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE
	Direct Push Sleeves				1.2		Limited Recovery; Loose Fill **Gravelly SAND**: gray, dry
			P50-B4-5		0.9		**CLAY**: light gray and reddish yellow, dry to moist
5					0.9		**CLAY with Silt**: light gray, dry to moist
					1.0		
					0.9		**Clayey SILT**: reddish brown streaked light gray, dry to moist
					1.3		
					1.1		**SILT**: white and pink, moist to wet, trace sand
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 bentonite

KLEINFELDER
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PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P50-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
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:	90°F Clear	**Borehole Diameter:**	

BORING LOG P50-B5

FIELD EXPLORATION

Latitude: 35.84555° N
Longitude: -80.25361° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE
	Direct Push Sleeves				0.4		**SILT**: brown and reddish brown, moist
					1.6		
							CLAY: light gray and reddish yellow, dry to moist
					1.5		
					2.1		
					2.6		
5							
					2.5		**SILT with Clay**: white and reddish yellow, dry to moist
					0.7		
					1.8		
					1.2		**SILT with Clay**: light brown and pink, moist to wet
					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 bentonite

KLEINFELDER
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PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P50-B5

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

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

BORING LOG P50-B6

FIELD EXPLORATION

Latitude: 35.84555° N
Longitude: -80.25361° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE
					0.1		**SILT**: brown and reddish brown, moist
							Limited Recovery; Loose Fill **Gravelly SAND**: gray, dry
					1.1		**CLAY**: light gray and reddish yellow, dry to moist
					0.6		
5					0.4		**SILT with Clay**: white and reddish yellow, dry to moist
					0.4		
					0.8		
					0.1		**SILT with Clay**: light brown and pink, moist to wet
					0.0		
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 bentonite

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PROJECT NO.: 20201105.001A	BORING LOG P50-B6	
DRAWN BY: A SHURTLEFF	NCDOT: U-5757 Biesecker Road Lexington, NC	6
CHECKED BY: M BURNS		
DATE: 10/8/2019		PAGE: 1 of 1

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	65°F Clear	**Borehole Diameter:**	

BORING LOG P56-B1

FIELD EXPLORATION

Latitude: 35.84585° N
Longitude: -80.25376° E
Surface Condition: Gravel

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							Decorative Red Gravel **GRAVEL**
	Direct Push Sleeves				0.0		**CLAY**: red, dry to moist, trace silt
					0.0		
					0.0		
					0.1		
					0.0		
5							
					0.1		**SILT with Clay**: reddish yellow and red, dry to moist
					0.2		
			P56-B1-8		0.5		
							CLAY: light gray and reddish yellow, dry to moist
					0.2		
					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 bentonite

KLEINFELDER
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PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P56-B1

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex	**BORING LOG P56-B2**	
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	65°F Clear	**Borehole Diameter:**			

FIELD EXPLORATION

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Latitude: 35.84585° N Longitude: -80.25376° E Surface Condition: Gravel Lithologic Description
							Decorative Red Gravel **GRAVEL**
	Direct Push Sleeves				0.1		**CLAY**: red, dry to moist, trace silt
					0.1		
					1.0		
					1.0		
5					0.7		
					1.5		
					1.0		**SILT with Clay**: reddish yellow and red, dry to moist
			P56-B2-8		1.9		
					1.6		
					0.6		**SILT with Clay**: light gray and reddish yellow, dry to moist, trace sand
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 bentonite

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PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P56-B2

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	65°F Clear	**Borehole Diameter:**	

BORING LOG P56-B3

FIELD EXPLORATION

Latitude: 35.84585° N
Longitude: -80.25376° E
Surface Condition: Gravel

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							Decorative Red Gravel **GRAVEL**
					0.0		**SAND**: olive, dry
					0.6		**CLAY**: red, dry to moist, trace silt
					0.8		
					0.8		
	Direct Push Sleeves		P56-B3-5		0.8		
5					0.6		
					0.5		**Clayey SILT**: reddish yellow and red, dry to moist
					0.6		
					0.6		**CLAY with Silt**: light gray and reddish yellow, dry to moist, trace sand
					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 bentonite

KLEINFELDER
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PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P56-B3

NCDOT: U-5757
Biesecker Road
Lexington, NC

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PAGE: 1 of 1

BORING LOG P60-B1

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	65°F Clear	**Borehole Diameter:**	

FIELD EXPLORATION

Latitude: 35.84620° N
Longitude: -80.25402° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE
					2.4		**SILT**: dark brown, dry to moist, trace organic
					7.7		
			P60-B1-3		5.0		**SILT**: light brown, dry to moist
					2.9		
	Direct Push Sleeves				3.9		**CLAY with Silt**: light brown and yellowish brown, dry to moist
5					3.9		
					3.9		
			P60-B1-8		4.0		
					3.0		**Clayey SILT with Sand**: reddish yellow nodules light greenish gray, dry to moist
					2.7		
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 bentonite

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P60-B1

NCDOT: U-5757
Biesecker Road
Lexington, NC

10

PAGE: 1 of 1

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	70°F Clear	**Borehole Diameter:**	

BORING LOG P60-B2

FIELD EXPLORATION

Latitude: 35.84622° N
Longitude: -80.25402° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE
					0.9		**SILT**: dark brown, dry to moist, trace organic
							Weathered Brick red
					3.0		
					3.7		**CLAY**: light brown and reddish brown, dry to moist
					3.0		
							CLAY with Silt: light brown and yellowish brown, dry to moist
5	Direct Push Sleeves		P60-B2-5		5.1		
					4.3		
					3.4		
					2.5		
					3.3		**CLAY with Silt and Sand**: reddish yellow nodules light greenish gray, dry to moist
					1.2		
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 bentonite

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A	BORING LOG P60-B2		
DRAWN BY: A SHURTLEFF	NCDOT: U-5757 Biesecker Road Lexington, NC	11	
CHECKED BY: M BURNS			
DATE: 10/8/2019		PAGE: 1 of 1	

APPENDIX D

ANALYTICAL REPORT AND GRAPHS

QED REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS QROS

Hydrocarbon Analysis Results

Client: KLEINFELDER
Address:

Samples taken Wednesday, August 7, 2019
Samples extracted Wednesday, August 7, 2019
Samples analysed Wednesday, August 7, 2019

Contact: ABI SHURTLEFF

Operator MAX MOYER

Project: NCDOT U-5757 ; PARCEL 46

F03640

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
										% light	% mid	% heavy	
s	P50 - B1 - 5	23.2	<0.58	<0.58	<0.58	<0.58	<0.12	<0.19	<0.023	0	0	0	PHC not detected,(BO)
s	P50 - B1 - 9	22.4	<0.56	<0.56	<0.56	<0.56	<0.11	<0.18	<0.022	0	0	0	PHC not detected,(BO)
s	P50 - B2 - 10	23.4	<0.59	<0.59	<0.59	<0.59	<0.12	<0.19	<0.023	0	0	0	PHC not detected
s	P50 - B3 - 6	20.0	<0.5	<0.5	<0.5	<0.5	<0.1	<0.16	<0.02	0	0	0	PHC not detected,(BO)

Initial Calibrator QC check OK Final FCM QC Check OK 95.7 %

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

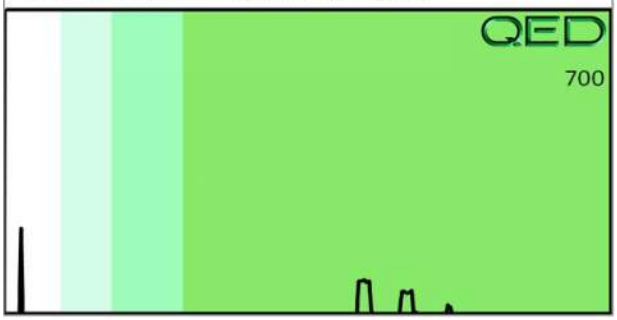
Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present

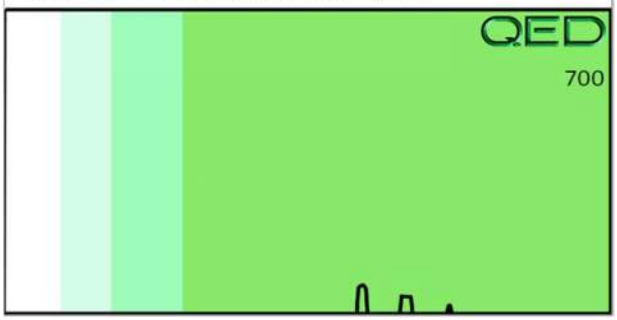
QED Hydrocarbon Fingerprints

Project: NCDOT U-5757 ; PARCEL 46 Wednesday, August 7, 2019

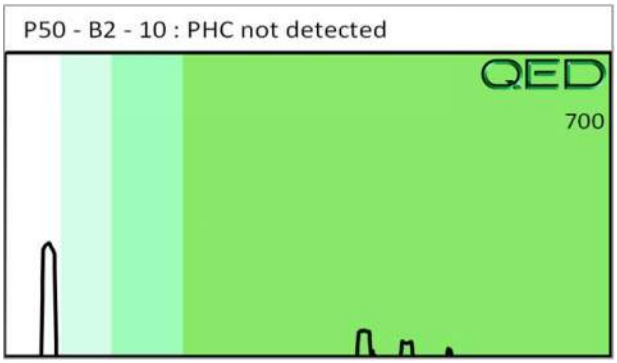
P50 - B1 - 5 : PHC not detected,(BO)



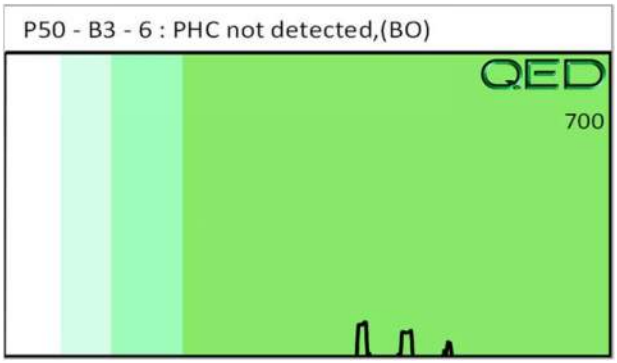
P50 - B1 - 9 : PHC not detected,(BO)



P50 - B2 - 10 : PHC not detected



P50 - B3 - 6 : PHC not detected,(BO)



QED

REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS

QROS

Hydrocarbon Analysis Results

Client: KLEINFELDER
Address:

Samples taken Thursday, August 8, 2019
Samples extracted Thursday, August 8, 2019
Samples analysed Thursday, August 8, 2019

Contact: ABI SHURTLEFF

Operator MAX MOYER

Project: NCDOT U-5757 ; PARCEL 56

F03640

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
										% light	% mid	% heavy	
s	P56 - B1 - 8	17.4	<0.44	<0.44	0.44	0.44	0.37	<0.14	<0.017	0	52.9	47.1	V.Deg.PHC 92.1%,(FCM)
s	P56 - B2 - 8	18.1	<0.45	<0.45	<0.45	<0.45	<0.09	<0.14	<0.018	0	0	0	PHC not detected,(BO)
s	P56 - B3 - 5	13.3	<0.33	<0.33	<0.33	<0.33	<0.07	<0.11	<0.013	0	0	0	,(FCM),(BO)

Initial Calibrator QC check OK

Final FCM QC Check OK 100.3 %

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

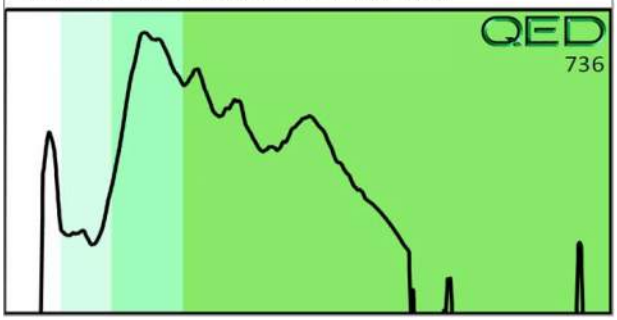
Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present

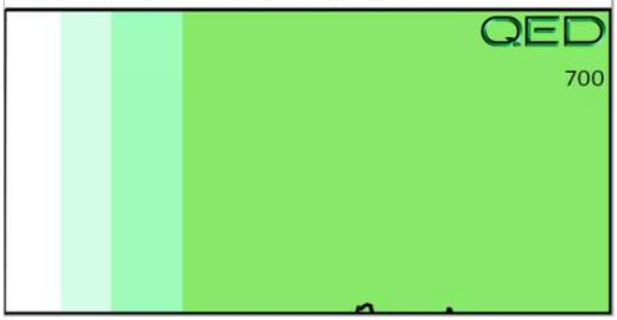
QED Hydrocarbon Fingerprints

Project: NCDOT U-5757 ; PARCEL 56 Thursday, August 8, 2019

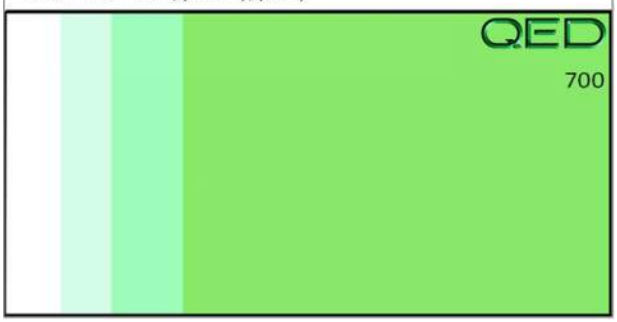
P56 - B1 - 8 : V.Deg.PHC 92.1%,(FCM)



P56 - B2 - 8 : PHC not detected,(BO)



P56 - B3 - 5 : ,(FCM),(BO)



QED REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS QROS

Hydrocarbon Analysis Results

Client: KLEINFELDER
Address:

Samples taken Thursday, August 8, 2019
Samples extracted Thursday, August 8, 2019
Samples analysed Thursday, August 8, 2019

Contact: ABI SHURTLEFF

Operator MAX MOYER

Project: NCDOT U-5757 ; PARCEL 60

F03640

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
										% light	% mid	% heavy	
s	P60 - B1 - 3	20.8	<0.52	<0.52	5.9	5.9	3.6	<0.17	<0.021	0	59	41	V.Deg.PHC 90.2%,(FCM),(P)
s	P60 - B1 - 8	19.4	<0.49	<0.49	<0.49	<0.49	<0.1	<0.16	<0.019	0	0	0	PHC not detected,(BO)
s	P60 - B2 - 5	21.7	<0.54	<0.54	<0.54	<0.54	<0.11	<0.17	<0.022	0	0	0	PHC not detected

Initial Calibrator QC check OK

Final FCM QC Check OK 96.7 %

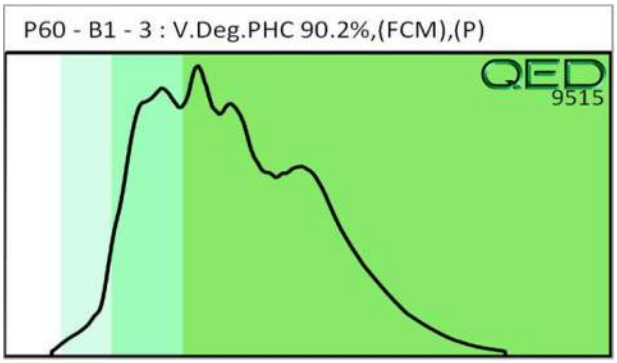
Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

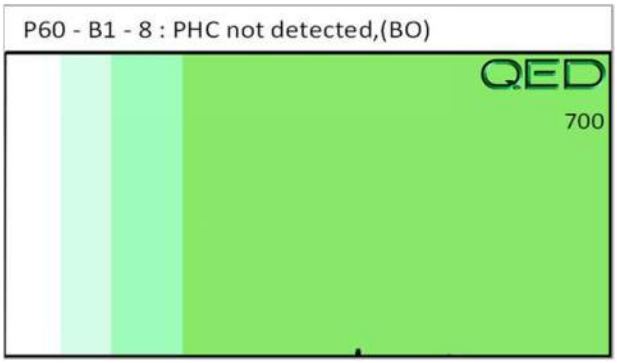
Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

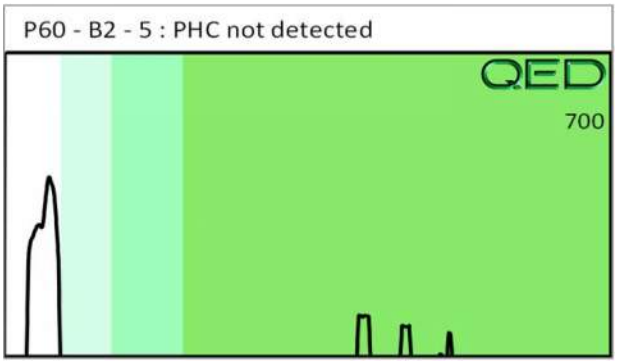
(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present

QED Hydrocarbon Fingerprints

Project: NCDOT U-5757 ; PARCEL 60 Thursday, August 8, 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

October 14, 2019
Kleinfelder File No. RAL19R102483

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 62 Laser Investments, LLC
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 62 LASER INVESTMENTS, LLC
PARCEL 11332C00P0020B
1544 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 14, 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

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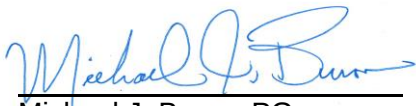
Prepared by:

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

October 14, 2019

Kleinfelder Project No. 20201105.001A

PRELIMINARY SITE ASSESSMENT REPORT

Site Name and Location:	Parcel 62 1544 Old US Highway 52 Lexington, Davidson County, North Carolina
Latitude and Longitude:	35.846614°N, -80.253992°W
County Parcel Number	11332C00P0009
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:	October 14, 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

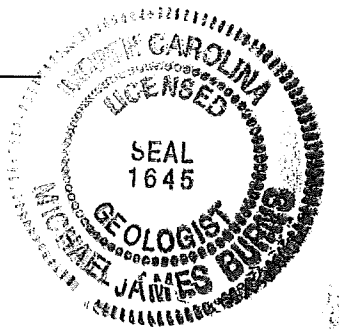
SEAL AND SIGNATURE OF CERTIFYING LICENSED GEOLOGIST

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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PRELIMINARY SITE ASSESSMENT
PARCEL 62 LASER INVESTMENTS LLC
PARCEL 11332C00P0009
1544 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 11332C00P0009 and by NCDOT as Parcel 62 (the assessment area is hereafter referred to as the "Project Study Area"). The Project Study Area consists of the western portion of Parcel 62. Parcel 62 is currently primarily occupied by a car wash, Laser Express Auto Wash, and is located east of a portion of NC Highway 8 (Winston Road), west of a portion of Michael Alley, in the Town of Lexington, Davidson County, North Carolina (Figure 1).

Parcel 62 is not mentioned in the Hazardous Materials Survey Report, dated February 28, 2018, prepared by Kleinfelder for SEPI Engineering & Construction. 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 62 has a listed owner of Laser Investments, LLC. The parcel has a street address of 1544 Old US Highway 52. The majority of the parcel is currently occupied by a car wash, Laser Express Auto Wash, with associated vacuum islands, wash building, and paved asphalt parking areas. The eastern portion of the parcel appears to be utilized for vehicle storage for the northern adjoining parcel (Parcel 65; reportedly also owned by Laser Investments, LLC). The parcel is bounded by an automotive service center to the north (Sav-Mart); by a used car dealership with associated maintenance bays, sheds, and offices to the south; by NC Highway 8 (Winston Road) to the west, beyond which is residential and commercial land; and by Michael Alley to the east,

beyond which is vacant residential land and Mt. Carmel Free Will Baptist Church. 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 majority of the parcel consists of a car wash, Laser Express Auto Wash, with two (2) associated vacuum islands, a drive-though wash building, and paved asphalt parking areas. The eastern portion of the parcel, a maintained grass lawn, appears to be used intermittently for vehicle storage for the northern adjoining parcel (Parcel 65; reportedly owned by the same entity as Parcel 62).

Parcel 62 is not mentioned in the 2018 Hazardous Materials Survey Report prepared by Kleinfelder for SEPI Engineering & Construction.

Kleinfelder conducted historical research to determine whether listings of environmental concern were identified for Parcel 62. The following are the results of the additional research:

- Based on a review of aerial photographs, the site appears to have been occupied by rural residential land from at least 1936 to 2002, with the current car wash building apparent by at least 2005. The eastern portion of the parcel, a maintained grass lawn, appears to have been utilized intermittently for vehicle storage for the northern adjoining property (Parcel 65) since at least 2008.
- 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 online Division of Waste Management Site Locator Tool, which depicted Parcel 62 as associated with Leaking UST Incident #30638. However, this incident is actually associated with the former Pantry #3183 located at 1401 Winston Road, approximately 0.12-miles south of Parcel 62. This site is known by NCDOT as Parcel 40 and is discussed in a separate PSA.
- No other listings for Parcel 62 were identified on any of the available NCDEQ pollution incident databases.

2.2 FACILITY ID NUMBERS

Kleinfelder reviewed the NCDEQ UST database for Parcel 62. The parcel was not identified as having active and/or inactive registered USTs on-site.

2.3 GROUNDWATER INCIDENT NUMBERS

Parcel 62 is erroneously associated with Leaking UST Incident #30638 on the NCDEQ online Site Locator Tool. However, this incident is actually associated with the former Pantry #3183 located at 1401 Winston Road, approximately 0.12-miles south of Parcel 62. This site is known by NCDOT as Parcel 40 and is discussed in a separate PSA.

3 OBSERVATIONS

3.1 GROUNDWATER MONITORING WELLS

No current or former groundwater monitoring wells were observed on Parcel 62 at the time of site exploration, August 8, 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 on the western portion of the parcel. There were no features of concern observed in the car wash or vacuum areas of the parcel or in the eastern portion of the parcel, beyond the Project Study Area. No in-ground oil/water separators were observed by Kleinfelder personnel at the time of site exploration.

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 on July 16, 2019. Pyramid utilized electromagnetic (EM) induction technology 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, and, if encountered, to determine the horizontal and vertical extent of contamination. The soil borings were planned to be advanced to maximum depths 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 8, 2019. Quantex advanced six (6) soil borings (P62-B1 through P62-B6) by direct-push technology from the ground surface to boring termination at locations specified by Kleinfelder. The borings were located within the public utility easement and/or right-of-way along NC Highway 8 (Winston Road) and the western and southern parcel boundaries. Soil borings P62-B1 and P62-B2 were advanced to 10-ft bgs in the vicinity of proposed catch basins to be located on-site. However, olfactory evidence of soil contamination from 1 to 2 feet bgs was detected in soil boring P62-B2. Therefore, soil borings P62-B3, P62-B4, and P62-B6 were advanced to the south, east, and west of soil boring P62-B2, respectively, to 5-ft bgs in an attempt to define the horizontal extent of contamination. Two (2) soil borings were attempted by Quantex to the north of P62-B2; however, refusal was met onto an unknown concrete surface at approximately 1-foot bgs, and the borings were terminated. Olfactory evidence of contamination was detected in P62-B4, which necessitated the advancement of P62-B5 farther to the east, which did not return olfactory evidence of contamination.

Kleinfelder then subcontracted South Atlantic Environmental Drilling and Construction Company (SAEDACCO) to perform additional drilling on-site on September 3, 2019. SAEDACCO advanced two (2) soil borings (P62-B7 through P62-B8) by direct-push technology from the ground surface to boring termination at locations specified by Kleinfelder. Soil boring P62-B7 was advanced north of soil boring P62-B2 in a further attempt to delineate the northern extent of soil contamination. P62-B7 returned loose fill and little recovery within the upper three feet of soil where olfactory evidence of contamination had been present within soil boring P62-B2. Therefore, soil boring P62-B8 was advanced further north of soil boring P62-B7 to recover soil from within the upper three feet, which was partially successful. It appears that the upper 2 to 3 feet of soil underneath the paved asphalt on the western portion of the site are a loose sandy fill, which has displaced the contaminated upper portion of soil. Soil borings P62-B7 and P62-B8 were advanced only to 5 feet bgs where olfactory evidence of contamination had been previously identified.

All soil boring locations were identified in the field using a GPS, and soil boring locations are shown on Figure 2. 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 were determined to be primarily a clay within the upper two feet, underlain by three feet of silty clay, underlain by clayey silt or silt. A layer approximately 6-inches thick of dark brown and black silt with olfactory evidence of contamination was encountered just beneath the asphalt or concrete surface of soil borings P62-B2, P62-B4, and P62-B6. Groundwater was not encountered in any of the borings at the termination depths of 5 or 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, with the exception of P62-B4 and P62-B6. Based on the PID data and visual/olfactory observations, one or two of the samples from each boring were selected for on-site laboratory analysis. One sample for P62-B8 was selected for off-site laboratory analysis, as on-site analysis was not available during the second soil sampling event.

The on-site samples were 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 possible use of petroleum products on Parcel 62. 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 (P62-B8-1) was analyzed by Prism Laboratories of Charlotte, NC for TPH GRO and DRO, because of the previously obtained soil sample results from on-site laboratory analysis. 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 UVF analysis of soil samples indicated TPH DRO above the NCDEQ Action Limit in soil samples collected from 1-ft bgs in soil borings P62-B2, P62-B4, and P62-B6. Soils samples collected from 2-ft bgs in soil borings P62-B2 and P62-B4 returned TPH DRO below the NCDEQ Action Limit. This, along with significantly lower PID readings from 2-ft bgs in all three contaminated borings, suggests that vertical contamination is limited to the upper foot of soil. Soil samples collected from 1-ft bgs from soil borings P62-B1, P62-B3, P62-B5, and P62-B8 returned TPH DRO below the NCDEQ Action Limits, which was utilized to determine the horizontal extent of contamination. Fingerprint analysis indicated the contamination is likely degraded fuel.

As such, shallow soil impact appears to be present within the existing right-of-way and public utility easements, within the parcel boundaries, above NCDEQ Action Limits. A summary of soil sample analytical results is presented in Table 2. The laboratory results associated with each soil boring are presented on Figure 3 as well as the estimated area of contamination. The laboratory report and graphs are included in Appendix D.

5.3 SAMPLE OBSERVATIONS

Soils were observed for any obvious evidence of contamination. Obvious olfactory evidence of contamination was noted in the soil samples collected between ground surface and 1-foot bgs in soil borings P62-B2, P62-B4, and P62-B6. No other visual or olfactory evidence of contamination as noted in soil samples collected from other borings or below 1-foot bgs in soil borings P62-B2, P62-B4, or P62-B6.

5.4 QUANTITY CALCULATIONS

Kleinfelder identified quantifiable soil impact in the current right-of-way. It should be noted that soil borings P62-B4 and P62-B5, utilized to determine the eastern extent of soil contamination, were placed based on field observations of marked rights-of-way and utility easements (pavement markings and stakes), which appear to differ from those locations depicted on Figure 2 utilizing

the NCDOT MicroStation files. As such, portions of contamination may extend outside of the right-of-way or public utility easement.

Below is the estimated quantity of impacted soil on-site:

(Figure 3) **Estimated Area of Contamination:** 16-ft wide x 43-ft long

(Appendix C) **Estimated Thickness:** Between ground surface at 1-ft bgs

Total: 17.2 tons petroleum-contaminated soils

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 within the Project Study Area.
- Parcel 62 is erroneously associated with Leaking UST Incident #30638 on the NCDEQ online Site Locator Tool. However, this incident is actually associated with the former Pantry #3183 located at 1401 Winston Road, approximately 0.12-miles south of Parcel 62.
- Soil impact was detected above the NCDEQ Action Limits for TPH DRO between the ground surface and 1-ft bgs in borings P62-B2, P62-B4, and P62-B6. The vertical extent of contamination appears to be confined to the upper foot of soil, and the horizontal extent of contamination was defined by obtaining soil samples below the NCDEQ Action Limit for TPH DRO from 1-ft bgs in borings P62-B1, P62-B5, P62-B3, and P62-B8.
- Approximately 17 tons of petroleum-contaminated soils are present within the upper foot of the southwestern portion of Parcel 62.
- Groundwater was not encountered in the soil borings at depths of 5 to 10 feet bgs.

7 RECOMMENDATIONS

Based on results of this Preliminary Site Assessment, Kleinfelder recommends additional sampling and special handling of petroleum-contaminated soils be performed within the Project Study Area on Parcel 62 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
8/8/2019	U5757-P62-B1	1	0.2	UVF Analysis
		2	0.0	
		3	0.2	
		4	0.3	
		5	0.0	
		6	0.0	
		7	0.1	
		8	0.9	UVF Analysis
		9	0.1	
		10	0.8	
8/8/2019	U5757-P62-B2	1	5.5	UVF Analysis
		2	0.6	UVF Analysis
		3	1.0	
		4	0.5	
		5	0.7	
		6	1.3	
		7	1.1	
		8	0.9	
		9	0.7	
		10	0.3	
8/8/2019	U5757-P62-B3	1	1.9	UVF Analysis
		2	2.1	
		3	1.9	
		4	2.5	
		5	2.1	
8/8/2019	U5757-P62-B4	1	101.8	UVF Analysis
		2	3.4	UVF Analysis
		3	1.1	
		4	1.9	
		5	1.2	
8/8/2019	U5757-P62-B5	1	1.5	UVF Analysis
		2	1.9	
		3	2.5	
		4	1.9	
		5	2.3	
8/8/2019	U5757-P62-B6	1	41.2	UVF Analysis
		2	4.2	
		3	2.3	
		4	3.1	
		5	1.9	
9/3/2019	U5757-P62-B7	1	NR	
		2	0.3	
		3	0.3	
		4	0.5	
		5	0.0	
9/3/2019	U5757-P62-B8	1	0.0	Offsite Analysis
		2	0.0	
		3	0.0	
		4	0.5	
		5	0.0	

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	P62-B1-1	P62-B1-8	P62-B2-1	P62-B2-2	P62-B3-1	P62-B4-1	P62-B4-2	P62-B5-1	P62-B6-1	P62-B8-1	State Action Limit	Protection of Groundwater	Residential Health
PID Reading (ppm)	0.2	0.9	5.5	0.6	1.9	101.8	3.4	1.5	41.2	0.0			
Collection Depth (ft bgs)	1	8	1	2	1	3.4	2	1	1	1			
Collection Date	8/8/19	8/8/19	8/8/19	8/8/19	8/8/19	8/8/19	8/8/19	8/8/19	8/8/19	9/3/19			
UVF Method													
Diesel Range Organics	**26.9**	**1.0**	**1,584**	**18.9**	**0.52**	**20,654**	**16.8**	**22.3**	**10,445**	**0.36**	100	--	--
Gasoline Range Organics	<0.49	<0.5	<6.2	<0.42	<0.52	<79.6	<0.52	<0.44	<93.1	<0.5	50	--	--
EPA Method 8015C													
Diesel Range Organics	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**32**	100	--	--
Gasoline Range Organics	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1.6	50	--	--

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

FIGURES

PROJECT REFERENCE NO.	SHEET
U–5757–P62	1

SITE LOCATION MAP

0 1500 3000

FEET

P62

BM806

Erlanger

STREET

PROJECT REFERENCE NO.	SHEET
U-5757-P62	2

SITE PLAN

0 20 40
FEET

PROJECT REFERENCE NO.	SHEET
U–5757–P62	3
SOIL SAMPLE ANALYTICAL RESULTS	

0 20 40
FEET

LEGEND

P62B1 — SOIL SAMPLE LOCATIONS

AREA OF SOIL CONTAMINATION

SOIL SAMPLE RESULTS

	DRO	GRO
P62-B1-1	26.9	<0.49
P62-B1-8	1.0	<0.5
P62-B2-1	**1,584**	<6.2
P62-B2-2	18.9	<0.42
P62-B3-1	0.52	<0.52
P62-B4-1	**20,654**	<79.6
P62-B4-2	16.8	<0.52
P62-B5-1	22.3	<0.44
P62-B6-1	**10,445**	<93.9
P62-B7	NA	NA
P62-B8-1	32.0	<1.6

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 Limit
5) NA = not analyzed

P62-B8 P62-B7 P62-B6 P62-B2 P62-B4 P62-B5 P62-B3

SAG

END 2'-6" C
-L- STA. 51+

+16.00

17.5'+00.00

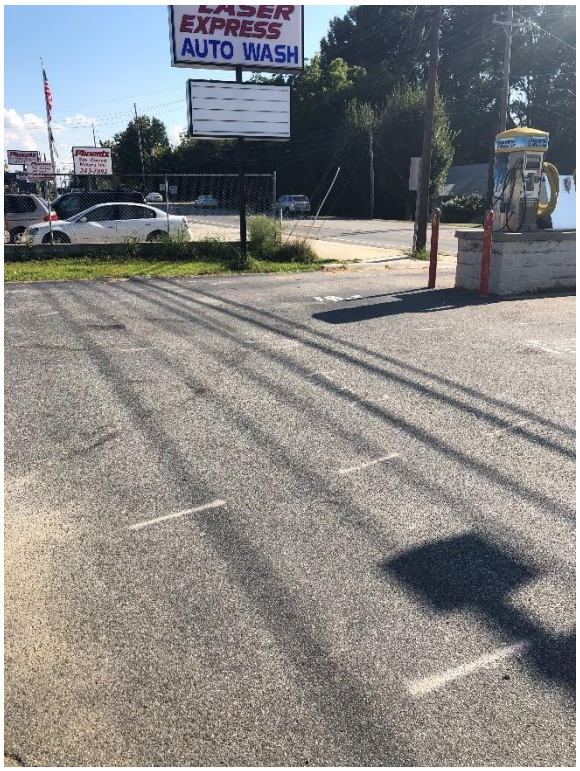
NC GRID
NAD 83 NA 2011

LASER INVESTMENTS, INC.
DB 2164 PG 1870
PB 3 PG 34

HARVEY
403

65 62

APPENDIX A
SITE PHOTOGRAPHS



View facing southwesterly along Winston Road on Parcel 62 including vacuum island.

View facing northeasterly toward the Laser Express car wash on Parcel 62. *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-P62 Lexington, Davidson County, North Carolina	FIGURE **A-1**

View facing north along Winston Road on Parcel 62.

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-P62 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 62
NCDOT PROJECT U-5757 (54035.1.1)

1544 WINSTON ROAD, LEXINGTON, NC

August 20, 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 62 - 1544 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 62 located at 1544 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 on July 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 an electromagnetic (EM) induction-metal detection survey. A total of five EM anomalies were identified. The five EM anomalies were directly attributed to visible cultural features; therefore, verification GPR was not required. The geophysical data did not record any evidence of unknown metallic USTs at Parcel 62.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Kleinfelder, Inc. at Parcel 62 located at 1544 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 on July 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 asphalt parking lot surrounded by grass and concrete 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 an electromagnetic (EM) induction-metal detection survey. 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.

Verification GPR was not required due to all EM anomalies being directly attributed to visible cultural features at the ground surface (see *Discussion of Results* section below).

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	Vacuums	
2	Fence	
3	Light	
4	Fence	
5	Sign	

Five EM anomalies were recorded, and all anomalies were associated with visible cultural features at the ground surface, including vacuums, a fence, a light, and a sign.

The geophysical data did not record any evidence of unknown metallic USTs at Parcel 62. **Figure 3** provides an overlay of the metal detection results on the NCDOT MicroStation engineering plans for reference.

SUMMARY & CONCLUSIONS

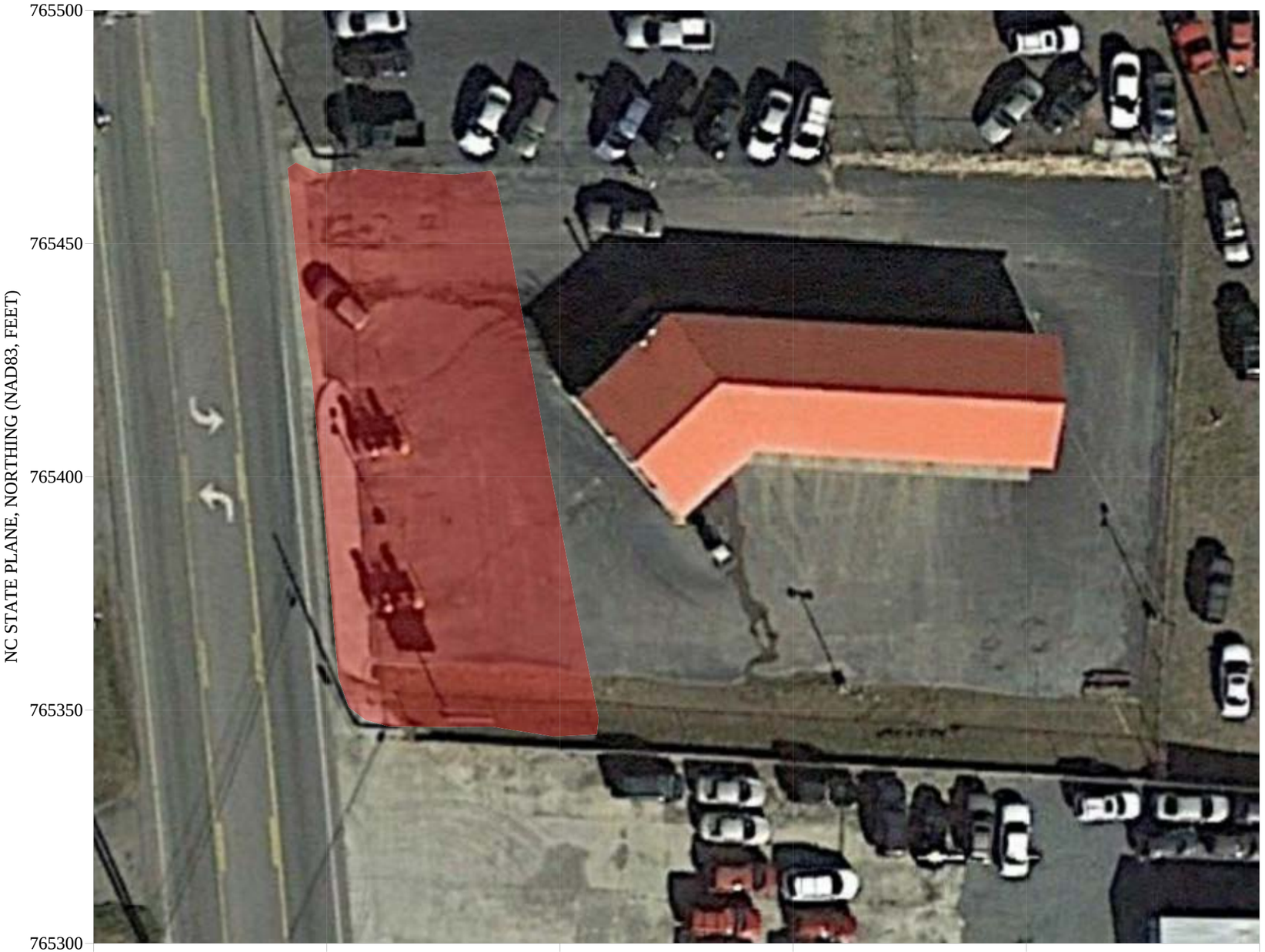
Pyramid's evaluation of the EM61 and GPR data collected at Parcel 62 in Lexington, North Carolina, provides the following summary and conclusions:

- The EM61 survey provided reliable results for the detection of metallic USTs within the accessible portions of the geophysical survey area.
- The five EM anomalies identified at the site were directly attributed to visible cultural features; therefore, verification GPR was not required.
- The geophysical data did not record any evidence of unknown metallic USTs at Parcel 62.

LIMITATIONS

Geophysical surveys have been performed and this report was prepared for Kleinfelder in accordance with generally accepted guidelines for EM61 surveys. It is generally recognized that the results of the EM61 surveys are non-unique and may not represent actual subsurface conditions. The EM61 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)

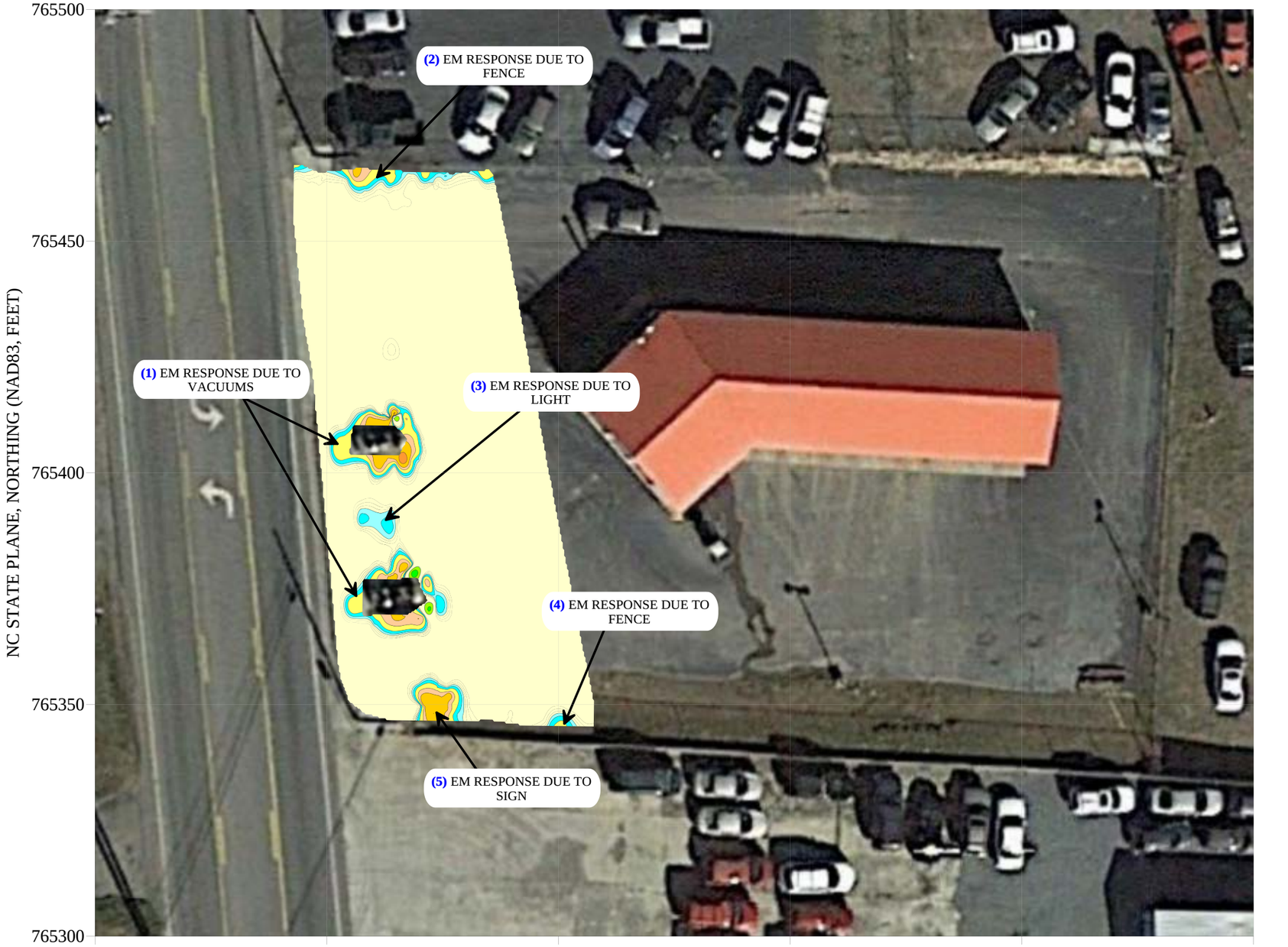
View of Survey Area
(Facing Approximately North)

N

PYRAMID GEOPHYSICS
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27406
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

PROJECT	PARCEL 62 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757	TITLE	PARCEL 62 - GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS	DATE 7/19/2019 PYRAMID PROJECT #: 2019-211
				CLIENT KLEINFELDER **FIGURE 1**

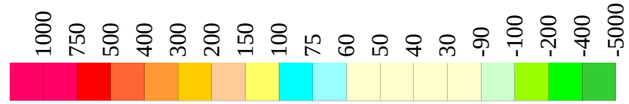
EM61 METAL DETECTION RESULTS



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 16, 2019, using a Geonics EM61-MK2 instrument. All of the EM anomalies were a result of features at the ground surface and verfication GPR was not required.

EM61 Metal Detection Response (millivolts)



N

PYRAMID GEOPHYSICS
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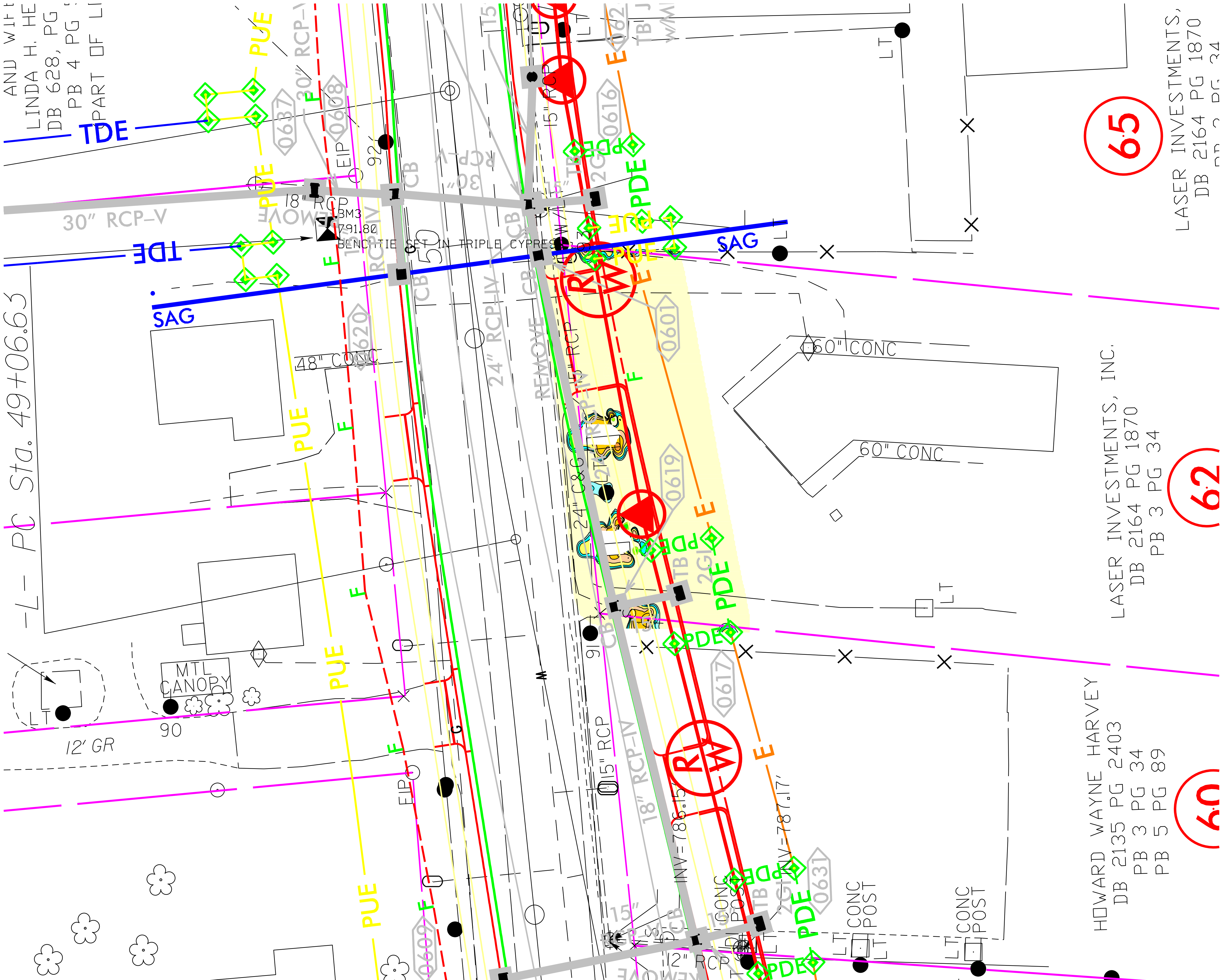
GREENSBORO, NC 27406
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

PROJECT	PARCEL 62 LEXINGTON, NORTH CAROLINA NCDOT PROJECT U-5757
TITLE	PARCEL 62 - EM61 METAL DETECTION CONTOUR MAP
DATE	7/19/2019
CLIENT	KLEINFELDER
PYRAMID PROJECT #:	2019-211
	FIGURE 2



LEGEND

- EXISTING ROW
- EXISTING PROPERTY BOUNDARY
- PROPOSED ROW LINE
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED PERMANENT UTILITY
- PROPOSED SS CUT LINE
- PROPOSED SS FILL LINE

EM61 Metal Detection Response
(millivolts)

1000 750 500 400 300 200 150 100 75 60 50 40 30 -90 -100 -200 -400 -5000

0 15 30
FEET

N

TITLE	OVERLAY OF METAL DETECTION RESULTS ON NCDOT ENGINEERING PLANS
PROJECT	PARCEL 62 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. 3

APPENDIX C
BORING LOGS

BORING LOG P62-B1

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine 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: 35.84652° N Longitude: -80.25400° E Surface Condition: Asphalt Lithologic Description
							ASPHALT
	Direct Push Sleeves		P62-B1-1		0.2		**CLAY**: brown, dry to moist, trace silt
					0.0		
					0.2		**CLAY with Silt**: reddish brown streaked black, dry to moist
					0.3		
5					0.0		**SILT with Clay**: reddish yellow and reddish brown, dry to moist
					0.0		
					0.1		
			P62-B1-8		0.9		
					0.1		
10					0.8		

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 bentonite

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P62-B1

NCDOT: U-5757
Biesecker Road
Lexington, NC

1

PAGE: 1 of 1

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	70°F Clear	**Borehole Diameter:**	

BORING LOG P62-B2

FIELD EXPLORATION

Latitude: 35.84652° N
Longitude: -80.25400° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE with Gravel
	Direct Push Sleeves		P62-B2-B1		5.5		**SILT**: dark brown and black, odor, dry to moist, trace silt
			P62-B2-2		0.6		**CLAY**: reddish brown and light brown, weak odor, dry to moist, trace silt
					1.0		**CLAY with Silt**: reddish yellow streaked black, dry to moist
					0.5		
5					0.7		
					1.3		**SILT with Clay**: light greenish gray and reddish yellow, dry to moist
					1.1		
					0.9		
					0.7		**CLAY**: light greenish gray streaked pale red, dry to moist, iron oxide staining
10					0.3		

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 bentonite

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 20201105.001A
DRAWN BY: A SHURTLEFF
CHECKED BY: M BURNS
DATE: 10/8/2019

BORING LOG P62-B2

NCDOT: U-5757
Biesecker Road
Lexington, NC

2

PAGE: 1 of 1

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex	**BORING LOG P62-B3**	
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	80°F Clear	**Borehole Diameter:**			

FIELD EXPLORATION

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Latitude: 35.84652° N Longitude: -80.25400° E Surface Condition: Grass Lithologic Description
	Direct Push Sleeves		P62-B3-1		1.9		**SILT**: brown and light brown, dry to moist
					2.1		**SILT**: red, dry to moist, trace clay, micaceous
					1.9		**CLAY with Silt**: reddish yellow and light brown, dry to moist
					2.5		
5					2.1		

The borehole was terminated at approximately 5 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	BORING LOG P62-B3		
DRAWN BY: A SHURTLEFF	NCDOT: U-5757 Biesecker Road Lexington, NC	3	
CHECKED BY: M BURNS			
DATE: 10/8/2019		PAGE: 1 of 1	

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex	**BORING LOG P62-B4**	
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	75°F Clear	**Borehole Diameter:**			

FIELD EXPLORATION

Latitude: 35.84652° N
Longitude: -80.25400° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE
	Direct Push Sleeves		P62-B4-1		101.8		**SILT**: dark brown and black, odor, dry to moist, trace silt
							CLAY: reddish brown and light brown, weak odor, dry to moist, trace silt
			P62-B4-2		3.4		
							CLAY with Silt: reddish yellow streaked black, no odor, dry to moist
					1.1		
					1.9		
5					1.2		

The borehole was terminated at approximately 5 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: 10/8/2019

BORING LOG P62-B4

NCDOT: U-5757
Biesecker Road
Lexington, NC

4

PAGE: 1 of 1

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex	**BORING LOG P62-B5**	
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C		
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe		
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	80°F Clear	**Borehole Diameter:**			

FIELD EXPLORATION

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Latitude: 35.84652° N Longitude: -80.25400° E Surface Condition: Grass Lithologic Description
	Direct Push Sleeves		P62-B5-1		1.5		**SILT**: brown and red, dry
					1.9		**SILT**: brown and reddish brown, dry to moist, trace clay, micaceous
					2.5		
					1.9		**CLAY with Silt**: reddish yellow and light brown, dry to moist About 3-4" of very moist silty clay at 3'
5					2.3		

The borehole was terminated at approximately 5 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: 10/8/2019

BORING LOG P62-B5

NCDOT: U-5757
Biesecker Road
Lexington, NC

5

PAGE: 1 of 1

Date Begin - End:	8/08/2019	**Drilling Company:**	Quantex
Logged By:	A Shurtleff	**Drill Crew:**	Andrew C
Hor.-Vert. Datum:	WGS 1984 - Not Available	**Drilling Equipment:**	Genuine Geoprobe
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column
Weather:	75°F Clear	**Borehole Diameter:**	

BORING LOG P62-B6

FIELD EXPLORATION

Latitude: 35.84652° N
Longitude: -80.25400° E
Surface Condition: Concrete

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Lithologic Description
							CONCRETE with Gravel
	Direct Push Sleeves		P62-B6-1		41.2		**SILT**: dark brown and black, odor, dry to moist, trace silt
					4.2		**CLAY**: reddish brown and light brown, weak odor, dry to moist, trace silt
					2.3		**CLAY with Silt**: reddish yellow streaked black, no odor, dry to moist
					3.1		
5					1.9		

The borehole was terminated at approximately 5 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	BORING LOG P62-B6		
DRAWN BY: A SHURTLEFF	NCDOT: U-5757 Biesecker Road Lexington, NC	6	
CHECKED BY: M BURNS			
DATE: 10/8/2019		PAGE: 1 of 1	

Date Begin - End:	9/03/2019	**Drilling Company:**	SAEDACCO	**BORING LOG P62-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:	90°F Clear	**Borehole Diameter:**			

FIELD EXPLORATION

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Latitude: 35.84646° N Longitude: -80.25391° E Surface Condition: Asphalt Lithologic Description
							ASPHALT
	Direct Push Sleeves				0.3		Loose Fill **SAND with Gravel**: light gray, dry
					0.3		
					0.5		**CLAY with Silt**: reddish yellow and red, dry to moist
5					0.0		

The borehole was terminated at approximately 5 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: 10/8/2019

BORING LOG P62-B7

NCDOT: U-5757
Biesecker Road
Lexington, NC

7

PAGE: 1 of 1

Date Begin - End:	9/03/2019	**Drilling Company:**	SAEDACCO	**BORING LOG P62-B8**	
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:	90°F Clear	**Borehole Diameter:**			

FIELD EXPLORATION

Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID / FID (ppmv)	Graphical Log	Latitude: 35.84646° N Longitude: -80.25391° E Surface Condition: Asphalt Lithologic Description
							ASPHALT
	Direct Push Sleeves		P62-B8-1		0.0		Loose Fill **SAND with Gravel**: light gray, dry
					0.0		**SILT**: greenish gray and gray, dry to moist, trace sand
					0.0		**CLAY with Silt**: reddish yellow and red, dry to moist
					0.5		
5					0.0		

The borehole was terminated at approximately 5 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	BORING LOG P62-B8		
DRAWN BY: A SHURTLEFF	NCDOT: U-5757 Biesecker Road Lexington, NC	8	
CHECKED BY: M BURNS			
DATE: 10/8/2019		PAGE: 1 of 1	

APPENDIX D

ANALYTICAL REPORT AND GRAPHS

QED

REDLAB
RAPID ENVIRONMENTAL DIAGNOSTICS

QROS

Hydrocarbon Analysis Results

Client: KLEINFELDER
Address:

Samples taken Thursday, August 8, 2019
Samples extracted Thursday, August 8, 2019
Samples analysed Thursday, August 8, 2019

Contact: ABI SHURTLEFF

Operator MAX MOYER

Project: NCDOT U-5757 ; PARCEL 62

F03640

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
										% light	% mid	% heavy	
s	P62 - B1 - 8	20.0	<0.5	<0.5	1	1	0.46	<0.16	<0.02	0	69.3	30.7	Deg Fuel 91.2%,(FCM)
s	P62 - B2 - 1	247.0	<6.2	<6.2	1584	1584	171.8	6.4	<0.25	0	76.5	23.5	Deg.Fuel 87.3%,(FCM)
s	P62 - B2 - 2	16.9	<0.42	<0.42	18.9	18.9	12	0.46	<0.017	0	70.8	29.2	Deg.Fuel 72.9%,(FCM)

Initial Calibrator QC check OK

Final FCM QC Check OK 101.3 %

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

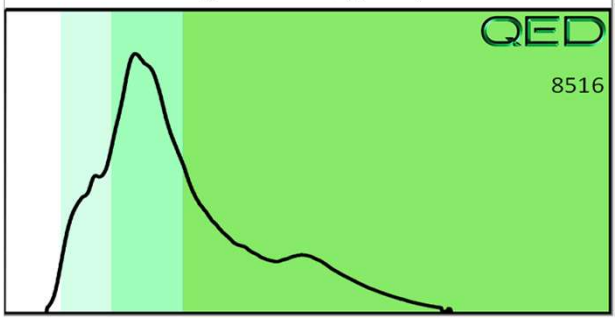
(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present

QED Hydrocarbon Fingerprints

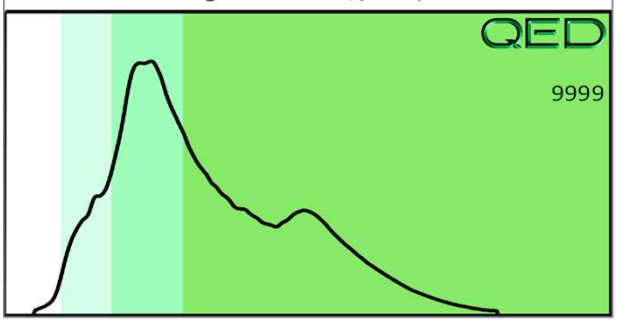
Project: NCDOT U-5757 ; PARCEL 62 Thursday, August 8, 2019

P62 - B1 - 8 : Deg Fuel 91.2%,(FCM)

P62 - B2 - 1 : Deg.Fuel 87.3%,(FCM)



P62 - B2 - 2 : Deg.Fuel 72.9%,(FCM)



QED

REDLAB
RAPID ENVIRONMENTAL DIAGNOSTICS

QROS

Hydrocarbon Analysis Results

Client: KLEINFELDER
Address:

Samples taken Thursday, August 8, 2019
Samples extracted Thursday, August 8, 2019
Samples analysed Thursday, August 8, 2019

Contact: ABI SHURTLEFF

Operator MAX MOYER

Project: NCDOT U-5757 ; PARCEL 62

F03640

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
										% light	% mid	% heavy	
s	P62 - B1 - 1	19.4	<0.49	<0.49	26.9	26.9	19.4	0.73	<0.019	0	72.1	27.9	Deg.Fuel 70.8%,(FCM)
s	P62 - B3 - 1	20.6	<0.52	<0.52	0.52	0.52	0.56	<0.17	<0.021	0	50.1	49.9	V.Deg.PHC 66.8%,(FCM)
s	P62 - B4 - 1	3184.0	<79.6	<79.6	20654	20654	1932	72	<3.2	0	78.2	21.8	Deg.Fuel 79.3%,(FCM)
s	P62 - B4 - 2	20.8	<0.52	<0.52	16.8	16.8	15.7	0.58	<0.021	0	74.1	25.9	Deg.Fuel 80.2%,(FCM)
s	P62 - B5 - 1	17.7	<0.44	<0.44	22.3	22.3	10.6	0.45	<0.018	0	68.6	31.4	V.Deg.PHC 92.7%,(FCM)
s	P62 - B6 - 1	3756.0	<93.9	<93.9	10445	10445	3690	141.7	<3.8	0	75.7	24.3	Deg.Fuel 81.1%,(FCM)

Initial Calibrator QC check OK

Final FCM QC Check OK 101.1 %

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

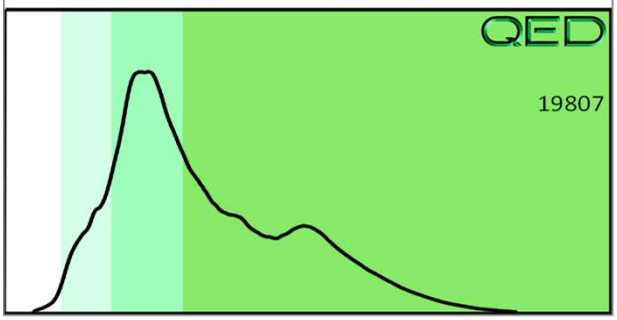
Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present

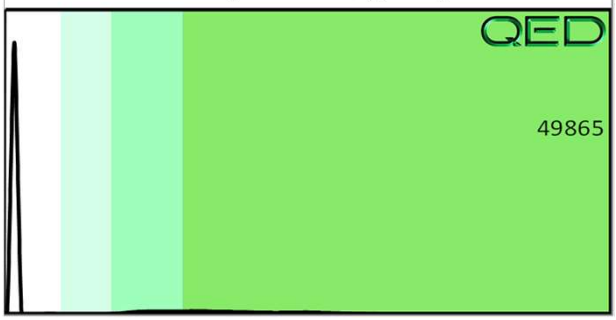
QED Hydrocarbon Fingerprints

Project: NCDOT U-5757 ; PARCEL 62 Thursday, August 8, 2019

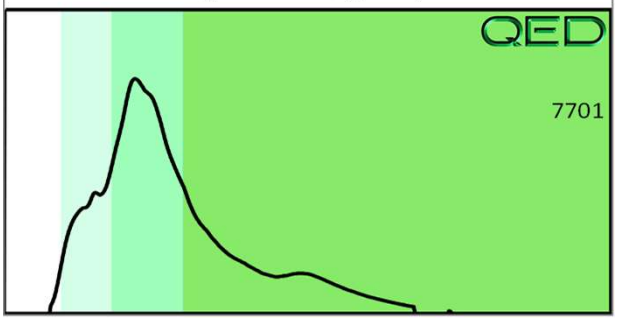
P62 - B1 - 1 : Deg.Fuel 70.8%,(FCM)



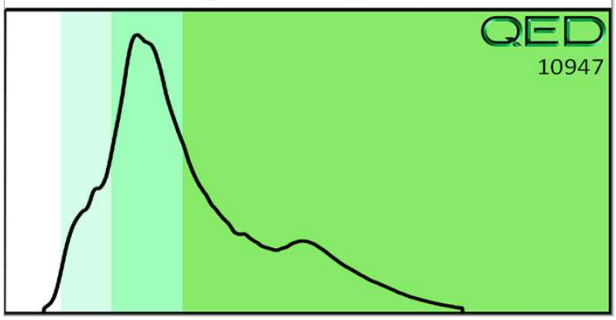
P62 - B3 - 1 : V.Deg.PHC 66.8%,(FCM)



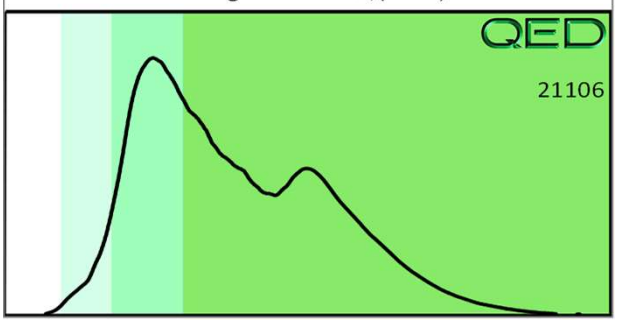
P62 - B4 - 1 : Deg.Fuel 79.3%,(FCM)



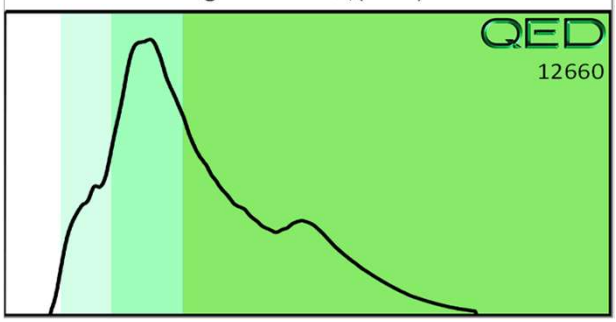
P62 - B4 - 2 : Deg.Fuel 80.2%,(FCM)



P62 - B5 - 1 : V.Deg.PHC 92.7%,(FCM)



P62 - B6 - 1 : Deg.Fuel 81.1%,(FCM)



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

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: 919 755 5011 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 Abigail Shurtleff 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