PRELIMINARY SITE ASSESSMENT

SR 1997 (FAYETTEVILLE ROAD) WIDENING
TIP NO. U-5797, WBS NO. 44367.1.1

NCDOT PARCEL NO. 23
OWNER: GRAHAM & FAUST LLC
2191 ROBERTS ROAD
LUMBERTON, ROBESON COUNTY, NORTH CAROLINA

PREPARED FOR:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
C/O STV ENGINEERS, INC.
1600 PERIMETER PARK DRIVE, SUITE 225
MORRISVILLE, NC 2756002

PREPARED BY:
FALCON ENGINEERING, INC.
1210 TRINITY ROAD, SUITE 110
CARY, NC 27513

PROJECT NUMBER: G19011.00
JUNE 9, 2020

FALCON ENGINEERING

June 9, 2020

Mr. Patrick Livingston, PE
STV Engineers, Inc.
900 W. Trade St, Suite 715
Charlotte, NC 28202

Re: **Preliminary Site Assessment**
SR 1997 (Fayetteville Road) Widening
TIP No. U-5797, WBS No. 44367.1.1
Parcel No. 23
Owner: Graham & Faust LLC
2191 Roberts Road
Lumberton, Robeson County, North Carolina

Dear: Mr. Livingston:

Falcon is pleased to present the following Preliminary Site Assessment in support of the above-mentioned Project. Specifically, Falcon sampled soil in proximity to the project limits on this parcel in general accordance with the approved scope of work. Soils requiring remediation or special handling during construction were not identified. One monitoring well was observed on-site. Two additional wells were previously on-site. The status (obscured or abandoned) of the other two wells is unknown.

Falcon recommends if drums, USTs, above ground storage tanks (ASTs), petroleum odors or sheen are observed during any excavation associated with any property involved in the project that all work in the vicinity stop until further assessment takes place. Further assessment can include but is not limited to; sampling the soil and groundwater, excavation, and proper handling and disposal of contaminated soils and groundwater.

Please review this report and advise us if you have any questions or concerns. We appreciate this opportunity to provide services to you and look forward to partnering with you on future projects. If you have any questions, please give Falcon a call at (919) 871-0800.

Sincerely,
FALCON ENGINEERING, INC.

Christopher J. Burkhardt
Environmental Services Manager

Jeremy R. Hamm, PE
Geotechnical Services Manager

TABLE OF CONTENTS

LIST OF FIGURES AND ATTACHMENTS

SECTION 1: INTRODUCTION

1.1 DESCRIPTION

Falcon Engineering, Inc. (Falcon) has completed a Preliminary Site Assessment of NCDOT TIP Project U-5797 Parcel No. 23. Parcel No. 23 is addressed as 2191 Roberts Road, Lumberton Robeson County, North Carolina. NCDOT is proposing to widen Fayetteville Road (SR 1997) from Farringdom Street to 22nd Street. The limits of the assessment are between the existing edge of NCDOT maintained pavement (within the existing NCDOT ROW) where accessible, and the proposed NCDOT ROW and/or easement (whichever boundary represents the largest area). Boring locations were placed in the vicinity of proposed excavations for drainage features, utilities, and roadway/ditch cuts to determine if soils requiring remediation or special handling were present where excavation was planned to take place.

1.2 SCOPE OF WORK

Falcon's scope of work included coordination of; public and private utility location near the proposed borings, geophysical surveys, collecting soil samples using direct push technology, and laboratory analysis. Samples were analyzed for petroleum hydrocarbons via UVF technology.

SECTION 2: HISTORY

2.1 PARCEL USAGE

Falcon performed a Phase I Environmental Site Assessment (ESA) for U-5797 under Project No. G17057 dated April 2018. The ESA identified this parcel as a Recognized Environmental Condition (REC) based on the parcel's history as potentially containing four USTs reportedly removed in 1983. Mr. Oliver sent documents pertaining to USTs that had been installed and/or removed from Baxley's addressed as Highway 211 East, and Taco Bell addressed as Fayetteville Road and Roberts Ave. The exact location of USTs associated with these facilities is not known. Historic air photographs dated 1976 through 2000 show Parcel No. 23 developed with a small structue. The application did not include soil or groundwater sampling or specific UST locations. The application is attached.

2.2 FACILITY IDENTIFICATION NUMBER

A Facility Identification Number was not identified for this parcel.

2.3 GROUNDWATER INCIDENT NUMBER

A Groundwater Incident Number was not identified for this parcel.

SECTION 3: SITE OBSERVATIONS

3.1 GROUNDWATER MONITORING WELLS

One groundwater monitoring well (MW) was observed near the center of the north parcel boundary. Coordinates 34.6386858 -79.0008892 correspond to the MW. This MW was installed to investigate the Pantry 3131 Leaking Underground Storage Tank (LUST) Incident (groundwater incident number 29032) located on the north-adjoining Parcel 25 (current Walgreens). Falcon reviewed a Groundwater Monitoring Report (GMR) prepared by ATC Associates of North Carolina P. C. dated January 2014. A map of MW locations is included in the attached figures. The full GMR is also attached.

The GMR states; "*On December 30, 2013, ATC installed three additional monitoring wells (MW-8, MW-9, and MW-10) on the south side of Roberts Avenue in Lumberton, NC to determine if the petroleum impacted groundwater from the former Pantry #3131 site has impacted the properties south of the site. Three groundwater samples collected from monitoring wells MW-8 through MW-10 were analyzed by EPA Method 6200B, extended to include MTBE. Laboratory analyses did not indicate petroleum constituent concentrations in monitoring wells MW-8, MW-9, and MW-10 were greater than the 15A NCAC 2L Groundwater Standards (2L Standards). Based on this data, the petroleum impacted groundwater from The Pantry #3131 site does not appear to be impacting the properties on the south side of Roberts Avenue.*"

The State Issued a Conditional No Further Action Letter (CNFA) for the LUST dated January 2018. The CNFA was conditional based on placing a notice of residual petroleum on Parcel 25. The observed MW is in the general location of MW-10. MW-8 and 9 are mapped near the north parcel line east of MW-10. MW-8 and 9 were not observed; however, it is not clear if they have been properly abandoned or obscured from view.

3.2 ACTIVE USTS

Active USTs were not observed within the project limits or registered at this parcel.

3.3 FEATURES APPARENT BEYOND ROW/EASEMENT

USTs, remediation systems, or hydraulic lifts were not observed within the project limits.

SECTION 4: METHODOLOGY

4.1 GEOPHYSICS

Pyramid Geophysical Services (Pyramid) was subcontracted to perform a geophysical survey of the assessment area. The assessment area is between the existing edge of NCDOT maintained pavement (within the existing NCDOT ROW) where accessible, and the proposed NCDOT ROW and/or easement (whichever boundary represents the largest area). The survey was used to locate private utility lines, as well as possible indications of USTs, and/or their pits.

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 georeferenced and can be overlain on aerial photographs and CADD drawings.

GPR data was acquired across select EM anomalies (where identified), using a Geophysical Survey Systems, Inc. (GSSI) UtilityScan DF unit equipped with a dual frequency 300/800 MHz antenna. Pyramid marked their findings on the surface with paint. 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 to obtain adequate coverage. A copy of the full Geophysical Report is included in the Attachments.

4.2 BORINGS

Regional Probing was subcontracted to advance soil borings using direct push technology. Regional Probing used a truck-mounted Geoprobe® 5410 unit mounted on an off-road modified Ford F350 Diesel 4x4. The unit has auger-capabilities and is equipped with a GH-42 soil-probing hammer, with 21,700 pounds of down force and 28,900 pounds of retraction force. The unit has an on-board tank for decontaminating the geoprobe rods before advancing the probe at each sample location.

4.3 SAMPLE PROTOCOL

Prior to initiating sample collection Falcon contacted NC One Call and requested public utility locations be marked around the proposed sample locations. Sampling was in general accordance with the NC Department of Environmental Quality (DEQ) Division of Waste Management's (DWM) "Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases" (March 1, 2007 Version Change 9 – February 1, 2019) guidance document. Sampling strategy was derived based upon the project scope and objectives as outlined above. Red Lab, LLC was selected to perform the UVF laboratory analytical analysis. Appropriate sterile containers were received by Falcon from Red Lab prior to beginning the fieldwork. The containers were labeled appropriately.

A Minirae 3000 photoionization detector (PID) was used to field screen samples for volatile organics to determine if a release had occurred. The instrument was calibrated per manufacturer instructions prior to use. Falcon staff bagged composite soil samples of each boring in approximately two-foot sections. Representative samples were placed in a sealed plastic bag for approximately 10 minutes to allow soil hydrocarbons to reach equilibrium within the headspace prior to scanning with the PID. One sample per boring was collected from the depth of the proposed cut or from the section above the depth of cut with the highest PID reading.

To avoid cross contamination, a new unused pair of non-powdered nitrile gloves was worn while extracting each sample. Samples were placed in the appropriate laboratory provided containers. The labels on each container were then completed so that each provided the date and time of sampling, method of analysis, sample collector, preservative used and sampling location identification. Samples were placed in an ice filled cooler and transported to the lab. Appropriate chain-of-custody procedures, including the completion of necessary forms, were followed.

SECTION 5: RESULTS

5.1 GEOPHYSICS

The geophysical investigation was performed between March 18 and March 27, 2019 to investigate for metallic underground storage tanks (USTs) beneath the survey area. A total of sixteen EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. Several EM anomalies were associated a suspected utility, a metal plate, suspected metallic debris, and suspected reinforced concrete and were further investigated with GPR.

GPR verified metal reinforcement within the concrete, recorded minor reflectors that were suggestive of possible buried metallic debris, and verified the presence of utilities at the site. Evidence of larger structures such as USTs was not observed.

5.2 SAMPLE DATA

Falcon and our subcontractor advanced seven borings (B-28 through B-34) to the proposed excavation depth of the drainage features, utilities, or roadway/ditch cut being assessed. Groundwater was not observed. Please the Boring Layout Plan in the attachments for a visual depiction of the sample locations. The coordinates (latitude and longitude) that correspond to the sample locations are shown below in Table No. 1 Boring Coordinates.

TABLE NO. 1 BORING COORDINATES

Boring	Latitude	Longitude
B-28	34.6388025	-79.0011189
B-29	34.6387356	-79.0010987
B-30	34.6387194	-79.0010752
B-31	34.6388374	-79.0010245
B-32	34.6387381	-79.0008855
B-33	34.6385573	-79.0005867
B-34	34.6385118	-79.0004191

Borings were field screened with a PID in sections for evidence of volatile organics. The PID screening results are presented in Table No. 2 PID Readings. Falcon selected soil samples based on the field screening results and the needs of the project. Red Lab analyzed the selected samples and their full analytical report is attached. The results of the laboratory analysis are shown in Table No. 3 Summary of UVF Soil Sampling Results.

Petroleum hydrocarbons above State Action Levels were not detected in the samples.

TABLE NO. 2 PID READINGS

Boring	Depth BGS*	PID**
B-28	0-2.0	0.7
	2.0-4.0	0.7
	4.0-6.2	**2.0**
	6.2-8.5	1.4
B-29	0-2.0	1.0
	2.0-4.0	1.0
	4.0-6.0	**1.3**
	6.0-8	0.9
B-30	0-2.5	**0.6**
B-31	0-2.0	1.5
	2.0-4.0	1.3
	4.0-6.0	1.6
	6.0-8.0	**1.4**
B-32	0-2.0	0.7
	2.0-4.0	**0.9**
B-33	0-2.0	0.8
	2.0-4.0	**0.9**
B-34	0-3.2	1.4
	3.2-6.5	**1.4**

*BGS = Depth below ground surface in feet
**PID readings are in parts per million
Samples shown in **bold** were selected for analysis

TABLE NO. 3 SUMMARY OF UVF SOIL SAMPLING RESULTS

Sample ID	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	
B-28	<0.55	<0.55	2.8	2.8	1.3	<0.17	<0.022	0	76.6	23.4	V.Deg.PHC 95.3%,(FCM)
B-29	<0.52	0.83	5.4	6.2	2.6	<0.17	<0.021	28.9	57.1	14	Deg.PHC 79.3%,(FCM)
B-30	<0.58	<0.58	5.7	5.7	3.1	<0.18	<0.023	0	72.8	27.2	V.Deg.PHC 93.1%,(FCM)
B-31	<0.52	<0.26	<0.26	<0.26	<0.05	<0.08	<0.01	57.1	42.9	0	Residual HC + Deg.Gas + Deg.Gas
B-32	<0.54	0.54	0.42	0.96	0.27	<0.09	<0.011	75.6	20.2	4.2	Deg Fuel 75.7%,(FCM)
B-33	<0.26	<0.26	1.5	1.5	0.74	<0.08	<0.01	0	75.5	24.5	V.Deg.PHC 91.7%,(FCM)
B-34	<0.29	<0.29	3.8	3.8	1.7	<0.09	<0.012	0	77.2	22.8	Deg.PHC 76.2%,(FCM)

Results reported in mg/kg (milligrams per kilogram)

5.3 SAMPLE OBSERVATIONS

Obvious indications of a release (stained soils, odors, or oily sheen) were not observed. Table No. 4 Soil Observations lists visual soil observations of color and texture.

TABLE NO. 4 SOIL OBSERVATIONS

Sample ID	Depth	Color	Soil Type
B-28	0-2.0	Brown	Clayey Silty Sand (A-2-4)
	2.0-4.0	Brown Orange	Clayey Silty Sand (A-2-4)
	4.0-6.2	Gray	Silty Sand (A-2-4)
	6.2-8.5	Gray	Silty Sand (A-2-4)
B-29	0-2.0	Brown & Orange	Silty Sand (A-2-4)
	2.0-4.0	Brown Orange	Silty Clayey Sand (A-2-6)
	4.0-6.0	Brown	Sandy Clay (A-6)
	6.0-8	Gray	Silty Clayey Sand (A-2-6)
B-30	0-2.5	Brown Tan	Silty Sand (A-2-4)
B-31	0-2.0	Brown	Silty Sand (A-2-4)
	2.0-4.0	Brown	Clayey Silty Sand (A-2-4)
	4.0-6.0	Brown Gray	Silty Sand (A-2-4)
	6.0-8.0	Brown Gray	Silty Clayey Sand (A-2-6)
B-32	0-2.0	Orange	Silty Sand (A-2-4)
	2.0-4.0	Brown	Clayey Silty Sand (A-2-6)
B-33	0-2.0	Brown	Silty Sand (A-2-4)
	2.0-4.0	Brown Orange	Clayey Silty Sand (A-2-6)
B-34	0-3.2	Brown Orange	Clayey Silty Sand (A-2-4)
	3.2-6.5	Brown Gray	Silty Sand (A-2-4)

Depth is in feet below ground surface

5.4 QUANTITIES CALCULATIONS

Soils requiring quantity calculations were not identified.

SECTION 6: CONCLUSIONS

6.1 INTERPRETATION OF RESULTS

This Preliminary Site Assessment was performed to evaluate the soils in proximity to the project limits on this parcel for the presence of petroleum hydrocarbons. The findings are as follows:

- Soil sampling completed on the parcel did not identify contaminants in the soil at levels requiring remediation.

6.2 GEOPHYSICS

Collectively, the geophysical data did not record evidence of unknown metallic USTs within the geophysical survey area at Parcel No. 23. Falcon does not anticipate USTs will be encountered within the project limits on this parcel during construction.

6.3 SAMPLING

Sampling results did not identify contaminates in the soil which require remediation in the areas sampled. Based on past project experience, Falcon does not anticipate soil remediation or special handling and disposal will be required during construction on this parcel.

6.4 QUANTITIES

Soils requiring quantities calculations were not identified.

SECTION 7: RECOMMENDATIONS

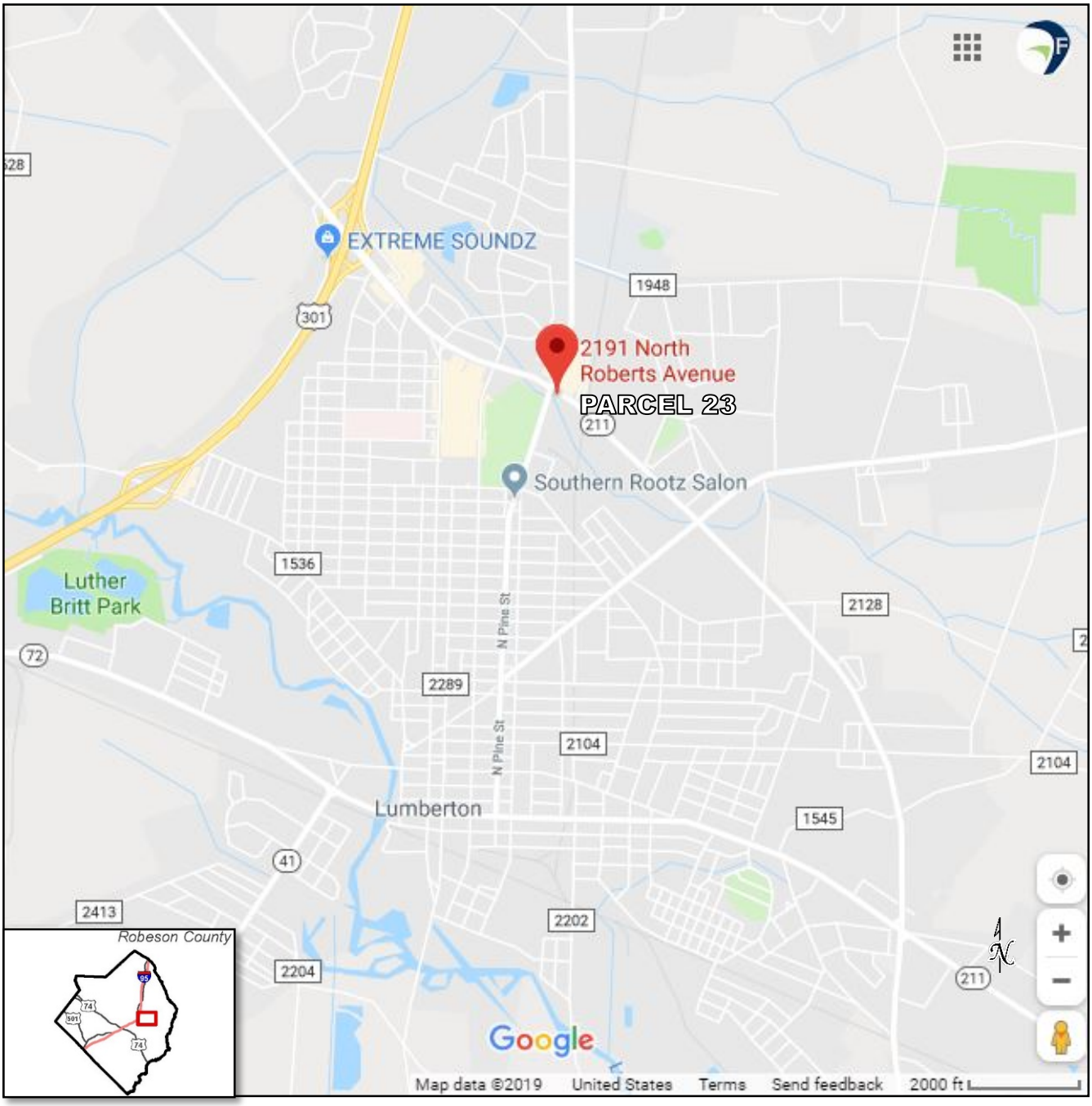
7.1 ADDITIONAL SAMPLING

Contaminants above the Industrial / Commercial Soil Cleanup Levels were not identified; therefore, additional assessment is not warranted at this time. Falcon recommends if drums, USTs, above ground storage tanks (ASTs), petroleum odors or sheen are observed during any excavation associated with any property involved in the project that all work in the vicinity stop until further assessment takes place. Further assessment can include but is not limited to; sampling the soil and groundwater, excavation, and proper handling and disposal of contaminated soils and groundwater.

7.2 SPECIAL HANDLING OF IMPACTED SOIL

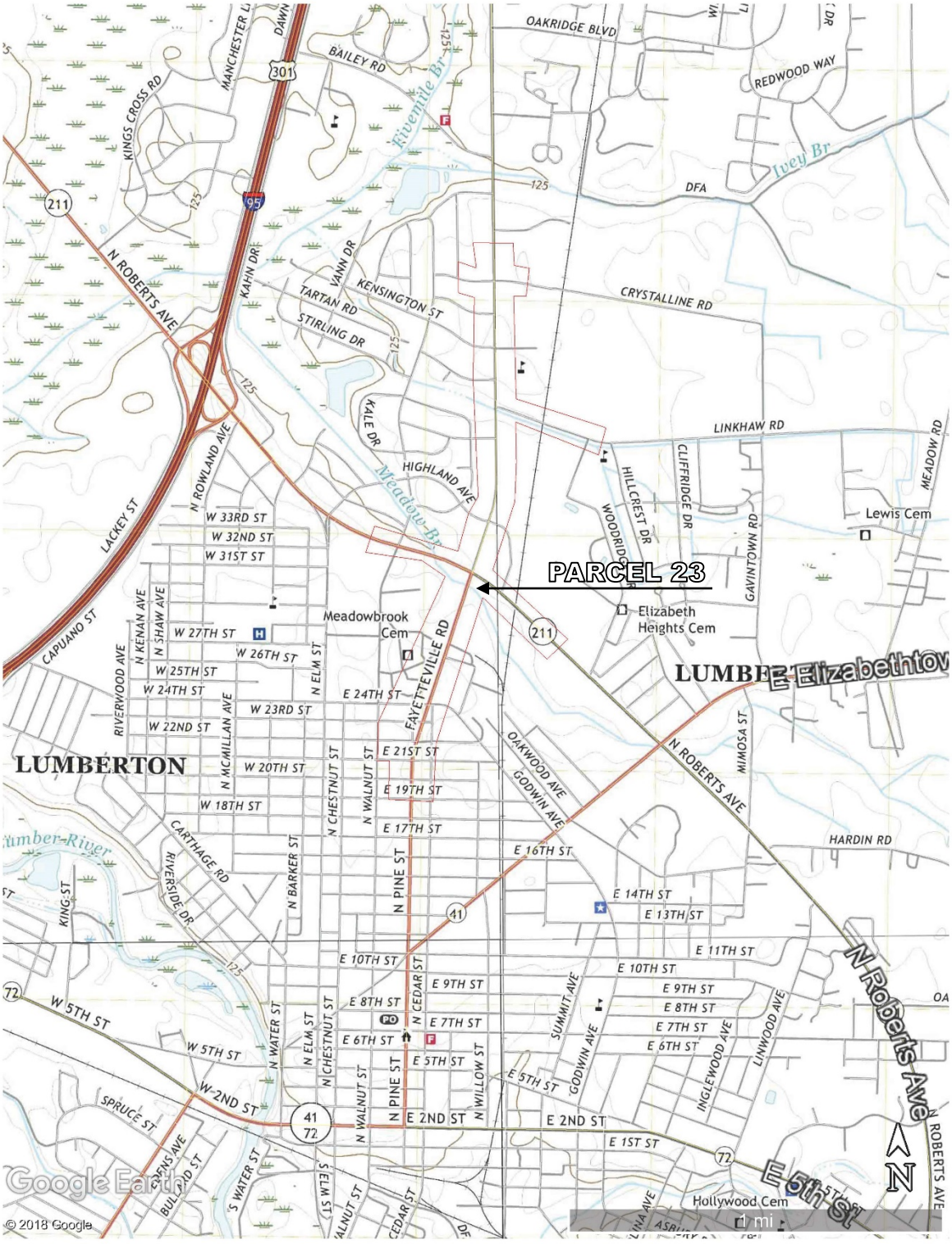
Soils requiring special handling were not identified. If suspect contaminated soils are encountered during construction Falcon and the NCDOT GeoEnvironmental Group should be contacted for proper handling instructions.

NCDOT U-5797 (SR 1997 Widening) Parcel 23
Preliminary Site Assessment
Vicinity Map



Project No.: G19011.00
Date: September 2019
Source: Google Maps

NCDOT U-5797 (SR 1997 Widening) Parcel 23
Preliminary Site Assessment
USGS Topographic Maps



Project No.: G19011.00
Date: September 2019
Source: "NW, NE, SW, and SE Lumberton, NC" 2019

NCDOT U-5797 (SR 1997 Widening) Parcel 23
Preliminary Site Assessment
Parcel Location Map

September 5, 2019

- County Line
- City Limits
- Streets
- Parcels

1:2,138

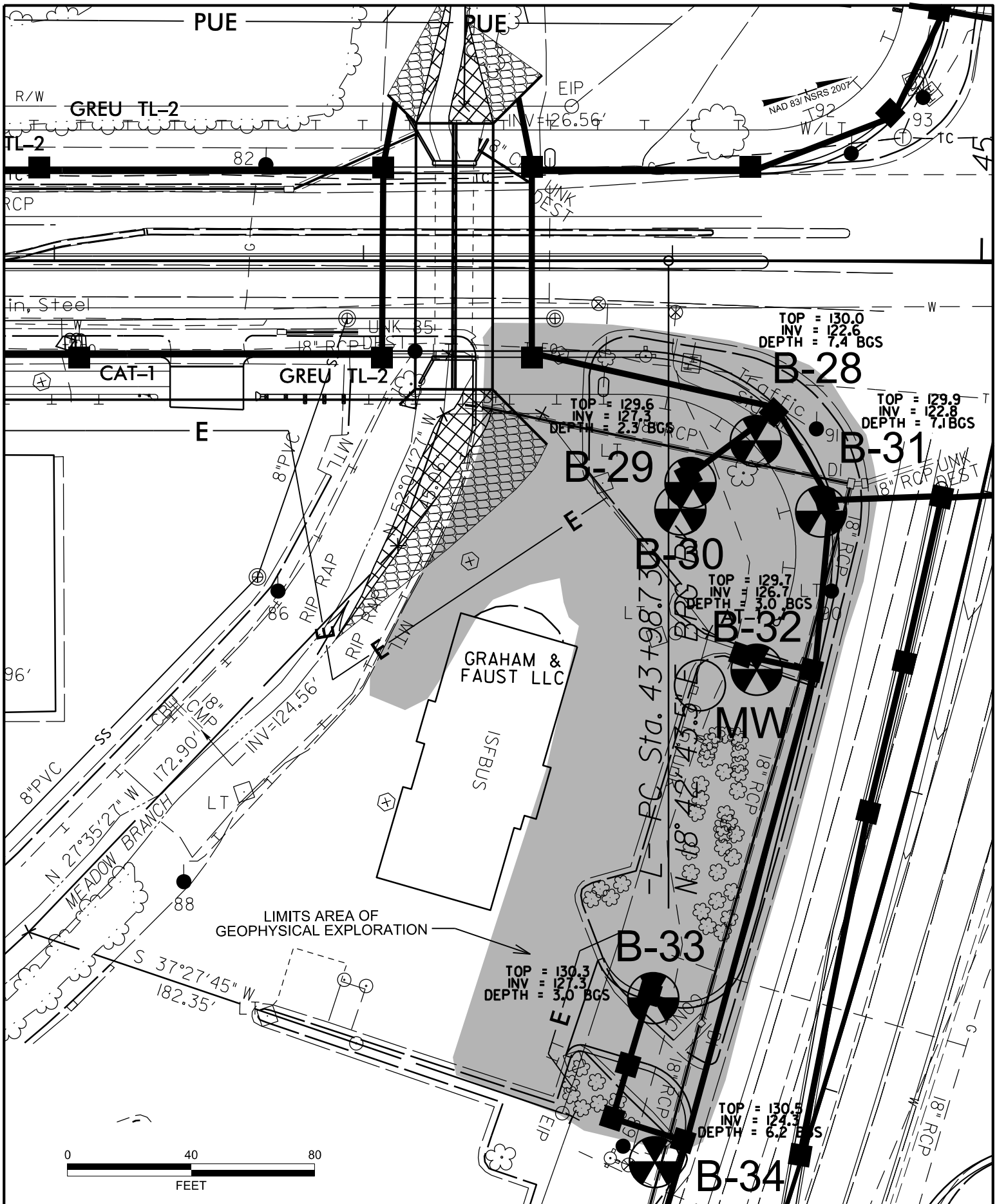
0 0.0175 0.035 0.07 mi

0 0.0275 0.055 0.11 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

2019

Project No.: G19011.00
Date: September 2019
Source: Robeson County GIS



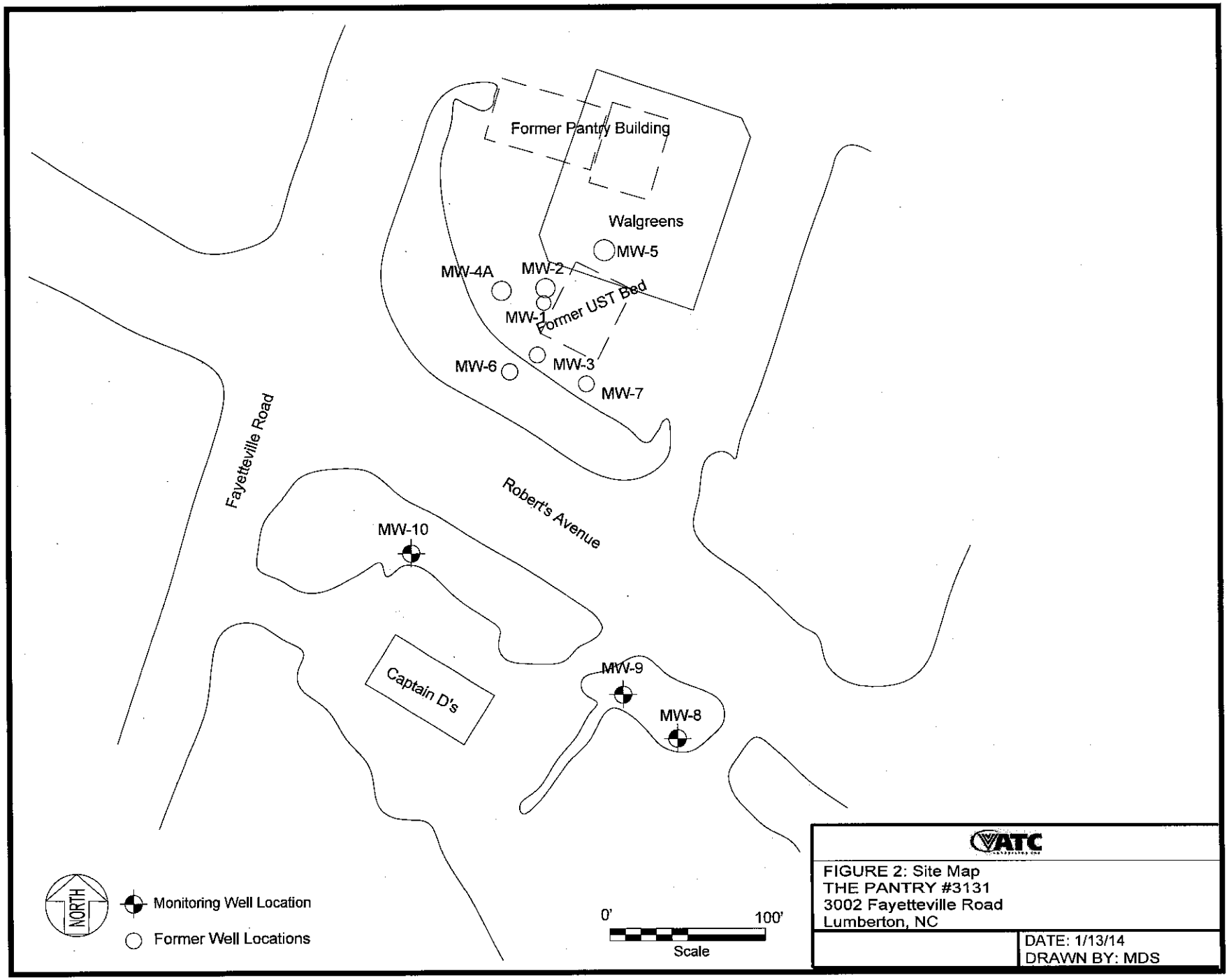
NOTES:

- BGS = BELOW GROUND SURFACE
- BORINGS B-30 WAS DRILLED TO 4.0 BGS

FALCON ENGINEERING
FALCON ENGINEERING, INC.
1210 TRINITY ROAD, SUITE 110
RALEIGH, NC 27607
PHONE: 919.871.0800
FAX: 919.871.0803

BORING LOCATION PLAN

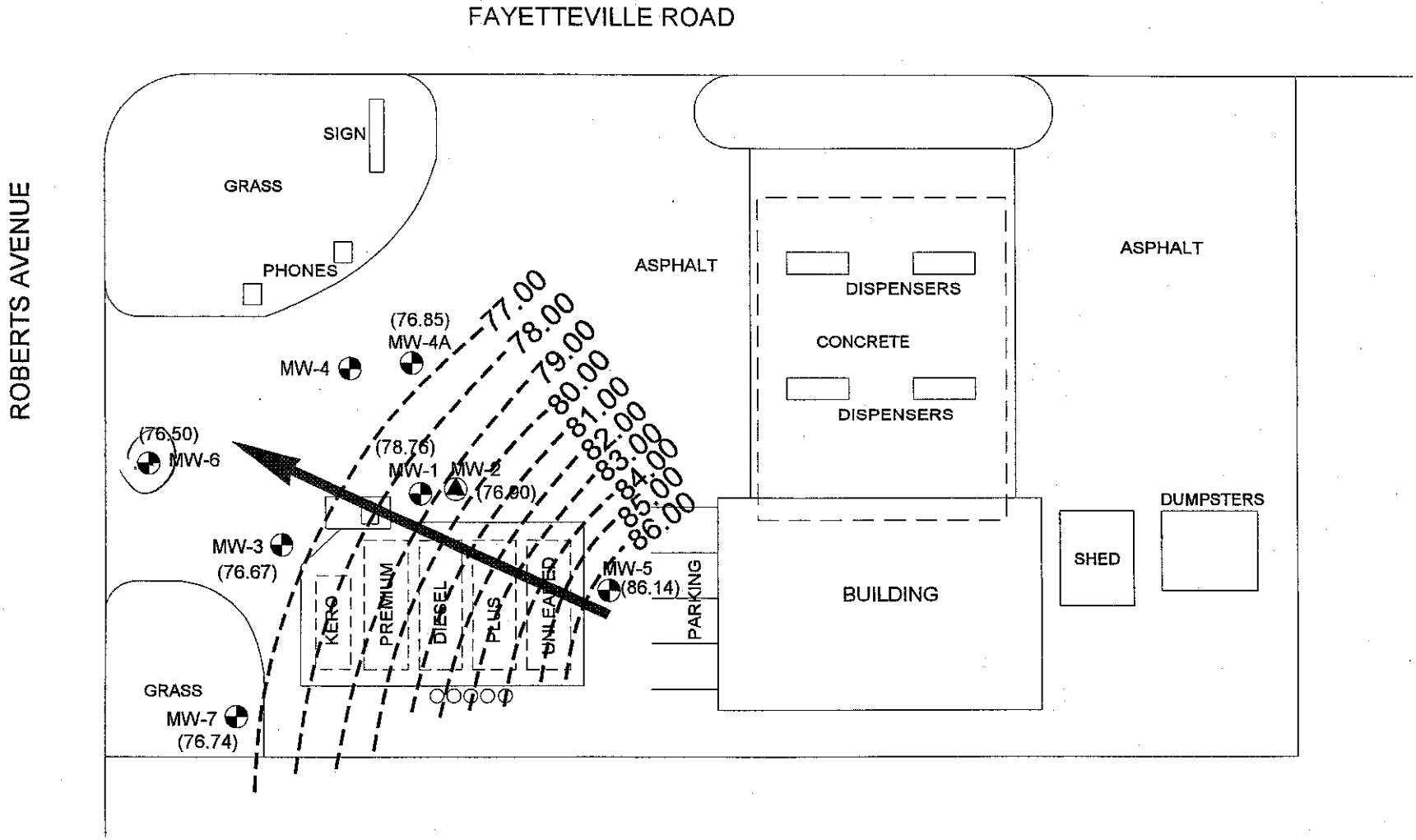
NCDOT U-5797 (SR 1997 WIDENING)
PARCEL 23 - GRAHAM & FAUST LLC
ROBESON / LUMBERTON, NC
WBS NO.: 44367.1.1 & TIP NO.: U-5797
FALCON PROJECT NO. G19011.00



VATC

FIGURE 2: Site Map
THE PANTRY #3131
3002 Fayetteville Road
Lumberton, NC

DATE: 1/13/14
DRAWN BY: MDS



NORTH

LEGEND:

- TYPE II MONITORING WELL
- TYPE III MONITORING WELL
- (XXX) GROUNDWATER ELEVATION(FT.) BASED ON ARBITRARY DATUM OF 100.00 FT. NM = NOT MEASURED
- 77.00 GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTE: WELLS GAUGED 05/28/03.

0 15 30 FT.

SEI *Engineering & Geological Services, P.C.*
5100 North I-85, Suite 7A, Charlotte, NC 28206, Ph# 704-597-4022

FIGURE 8: GROUNDWATER ELEVATION CONTOUR MAP
THE PANTRY #3131(DBA EXPRESS STOP #1)
3002 FAYETTEVILLE RD.
LUMBERTON, NC

W.O. #: 503-555	DATE: 5/29/03
DWG #: PA31315C	DRAWN BY: JCJ

NCDOT U-5797 (SR 1997 Widening) Parcel 23
Preliminary Site Assessment
1990 Aerial Photograph

Project No.: G19011.00
Date: September 2019
Source: NCDOT Historical Aerial Imagery Index

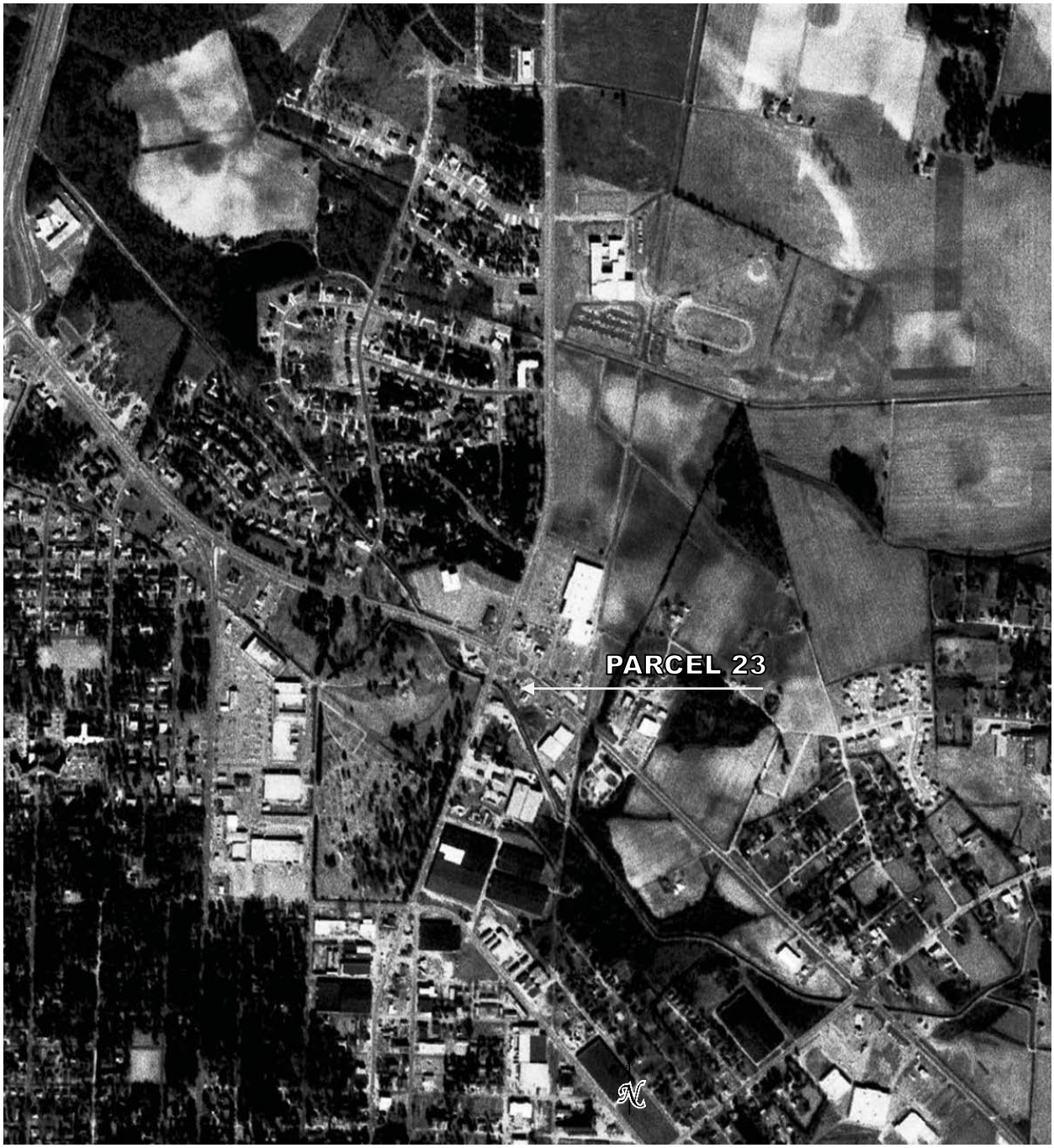
NCDOT U-5797 (SR 1997 Widening) Parcel 23
Preliminary Site Assessment
1986 Aerial Photograph

Project No.: G19011.00
Date: September 2019
Source: NCDOT Historical Aerial Imagery Index

NCDOT U-5797 (SR 1997 Widening) Parcel 23
Preliminary Site Assessment
1985 Aerial Photograph

Project No.: G19011.00
Date: September 2019
Source: NCDOT Historical Aerial Imagery Index

NCDOT U-5797 (SR 1997 Widening) Parcel 23
Preliminary Site Assessment
1976 Aerial Photograph



Project No.: G19011.00
Date: September 2019
Source: ERIS Aerial Photographs

NCDOT U-5797 (SR 1997 Widening) Parcel 23
Preliminary Site Assessment
Site Photographs

Photograph No. 1: General view of Boring B-28.

Photograph No. 2: General view of Boring B-29 and B-30.

NCDOT U-5797 (SR 1997 Widening) Parcel 23
Preliminary Site Assessment
Site Photographs

Photograph No. 3: General view of Boring B-31.

Photograph No. 4: General view of Boring B-32.

NCDOT U-5797 (SR 1997 Widening) Parcel 23
Preliminary Site Assessment
Site Photographs

Photograph No. 5: General view of Boring B-33

Photograph No. 6: General view of Boring B-34.

QED

REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS

QROS

Hydrocarbon Analysis Results

Client: FALCON
Address: 1210 TRINITY ROAD SUITE 116
CARY NC 28513

Contact: CHRISTOPHER BURKHARDY

Project: G19011 U5797

Samples taken Tuesday, April 9, 2019
Samples extracted Tuesday, April 9, 2019
Samples analysed Tuesday, April 16, 2019

Operator DAVIS MARTINEC

U00902

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	% Ratios			HC Fingerprint Match
										C5 - C10	C10 - C18	C18	
s	B-28	21.8	<0.55	<0.55	2.8	2.8	1.3	<0.17	<0.022	0	76.6	23.4	V.Deg.PHC 95.3%,(FCM)
s	B-29	20.6	<0.52	0.83	5.4	6.2	2.6	<0.17	<0.021	28.9	57.1	14	Deg.PHC 79.3%,(FCM)
s	B30	23.0	<0.58	<0.58	5.7	5.7	3.1	<0.18	<0.023	0	72.8	27.2	V.Deg.PHC 93.1%,(FCM)
s	B-31	10.4	<0.52	<0.26	<0.26	<0.26	<0.05	<0.08	<0.01	57.1	42.9	0	Residual HC + Deg.Gas + Deg.Gas
s	B-32	10.9	<0.54	0.54	0.42	0.96	0.27	<0.09	<0.011	75.6	20.2	4.2	Deg Fuel 75.7%,(FCM)
s	B-33	10.4	<0.26	<0.26	1.5	1.5	0.74	<0.08	<0.01	0	75.5	24.5	V.Deg.PHC 91.7%,(FCM)
s	B-34	11.7	<0.29	<0.29	3.8	3.8	1.7	<0.09	<0.012	0	77.2	22.8	Deg.PHC 76.2%,(FCM)

Initial Calibrator QC check OK

Final FCM QC Check OK

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

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

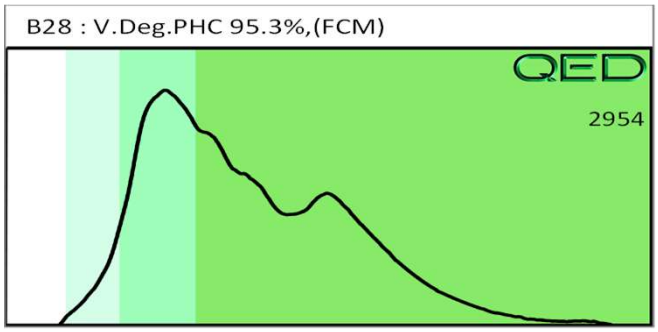
B = Blank Drift : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : (OCR) = Outside cal range : (M) = Modifed Result.

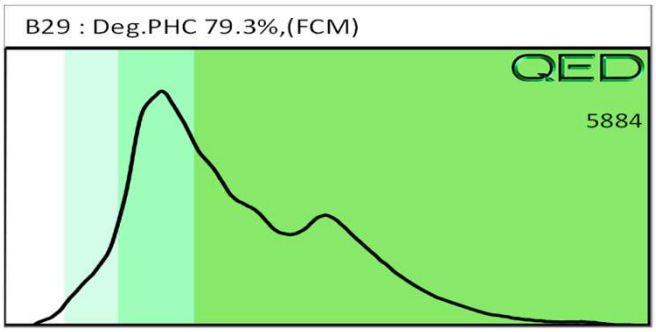
% Ratios estimated aromatic carbon number proportions : HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only. **Data generated by HC-1 Analyser**

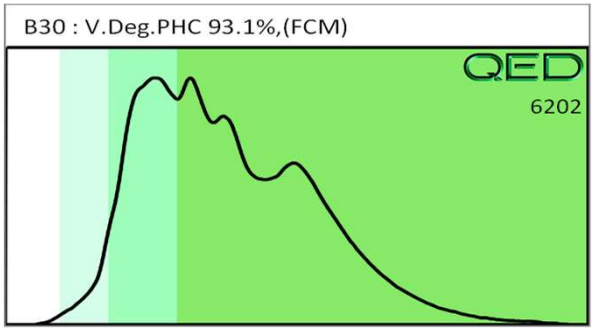
QED Hydrocarbon Fingerprints

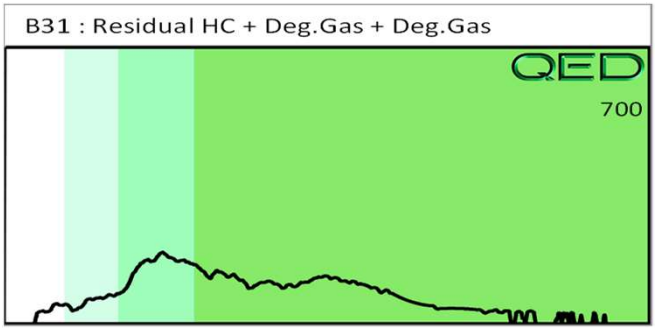
Project: G19011 U5797

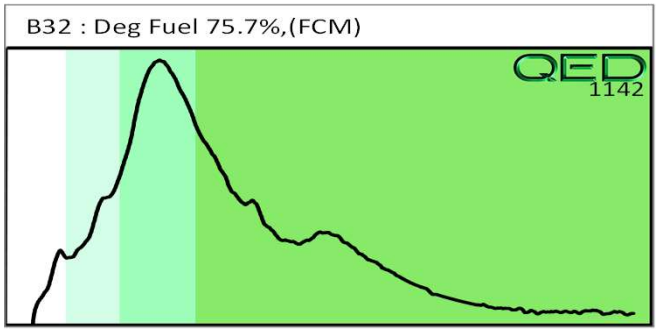
Tuesday, April 16, 2019

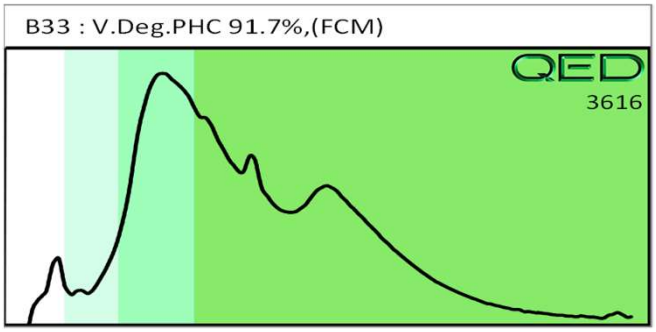


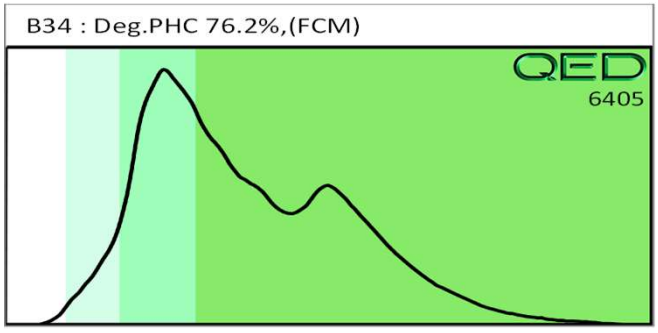












PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2019-091)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCEL 23
NCDOT PROJECT U-5797

ROBERTS & FAYETTEVILLE RD., LUMBERTON, NC

APRIL 22, 2019

Report prepared for: **Christopher J. Burkhardt, PWS**
Falcon Engineers
1210 Trinity Rd. #110
Raleigh, NC 27607

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 23 - Roberts & Fayetteville Road
Lumberton, Robeson 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 Falcon Engineers at Parcel 23, located at the intersection of Roberts & Fayetteville Road in Lumberton, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5797). 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 March 18-27, 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 sixteen EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. Several EM anomalies were associated a suspected utility, a metal plate, suspected metallic debris, and suspected reinforced concrete and were further investigated with GPR.

GPR verified metal reinforcement within the concrete, recorded minor reflectors that were suggestive of possible buried metallic debris, and verified the presence of utilities at the site. No evidence of any larger structures such as USTs was observed. Collectively, the geophysical data did not record any evidence of unknown metallic USTs within the geophysical survey area at Parcel 23.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Falcon Engineers at Parcel 23, located at the intersection of Roberts & Fayetteville Road in Lumberton, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5797). 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 March 18-27, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

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

FIELD METHODOLOGY

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

According to the instrument specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. Smaller objects (1-foot or less in size) can be detected to a maximum depth of 4 to 5 feet. The EM61 data were digitally collected at approximately 0.8-foot intervals along north-south trending or east-west trending, generally parallel survey lines, spaced five feet apart. The data were downloaded to a

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

GPR data were acquired across select EM anomalies on March 27, 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	Drop Inlet	
2	Hydrant/Utility	☑
3	Metal Plate	☑
4	Drop Inlet	
5	Storm Sewer	
6	Light	
7	Signs	
8	Light/Sign	
9	Surface Metal	
10	Drop Inlet/Sign	
11	Drop Inlet	
12	Suspected Metallic Debris	☑
13	Reinforced Concrete	☑
14	Building	
15	Bollard	
16	Guard Rail	

The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface, including drop inlets, a hydrant, a storm sewer, lights, signs, surface metal, a building, a bollard, and the guard rail. EM Anomaly 2 was associated with a suspected buried utility and was further investigated with GPR.

EM Anomaly 3 was associated with interference from a metal plate and was investigated with GPR to verify that the interference did not obscure buried structures such as USTs.

EM Anomalies 12 and 13 were associated with suspected metallic debris and suspected reinforced concrete, respectively, and were further investigated with GPR.

Discussion of GPR Results

Figure 3 presents the locations of the formal GPR transects performed at the property as well as select transect images. All of the transect images are included in **Appendix A**. A total of eight formal GPR transects were performed at the site. GPR Transect 1 was

performed across an area of suspected buried metallic debris (EM Anomaly 12). GPR Transect 1 recorded intermittent, isolated reflectors that were suggestive of possible buried metallic debris. No evidence of any larger structures such as USTs was observed.

GPR Transects 2-5 were performed across the area of suspected reinforced concrete along the northeast corner of the building (EM Anomaly 13). These transects verified the presence of metal reinforcement in the concrete. No evidence of any larger structures such as USTs was observed.

GPR Transect 6 was performed across a suspected utility (EM Anomaly 2). This transect recorded a small, low-amplitude anomaly, consistent with a suspected utility. No evidence of any larger structures such as USTs was observed.

GPR Transects 7-8 were performed across a visible metal plate near a suspected storm drain (EM Anomaly 3). These transects recorded evidence of repeating isolated lateral reflectors, indicating the metal plate, and an isolated hyperbolic reflector that was suggestive of a storm drain. No evidence of any larger structures such as USTs was observed.

Collectively, the geophysical data did not record any evidence of unknown metallic USTs within the geophysical survey area at Parcel 23. **Figure 4** provides an overlay of the EM61 metal detection contour map onto the NCDOT MicroStation engineering plans for reference.

SUMMARY & CONCLUSIONS

Pyramid's evaluation of the EM61 and GPR data collected at Parcel 23 in Lumberton, North Carolina, provides the following summary and conclusions:

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

features at the ground surface.

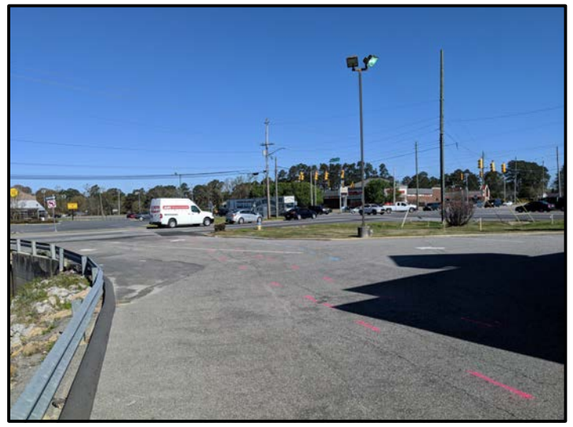
- Several EM anomalies were associated a suspected utility, a metal plate, suspected metallic debris, and suspected reinforced concrete and were further investigated with GPR.
- GPR verified metal reinforcement within the concrete, recorded minor reflectors that were suggestive of possible buried metallic debris, and verified the presence of utilities at the site. No evidence of any larger structures such as USTs was observed.
- Collectively, the geophysical data did not record any evidence of unknown metallic USTs within the geophysical survey area at Parcel 23.

LIMITATIONS

Geophysical surveys have been performed and this report was prepared for Falcon Engineers 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 West)

N

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License # C1251 Eng. / License # C257 Geology

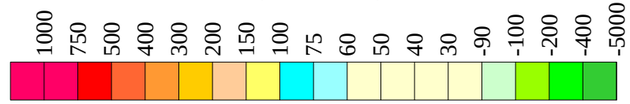
PROJECT	PARCEL 23 LUMBERTON, NORTH CAROLINA NCDOT PROJECT U-5797
TITLE	PARCEL 23 - GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS
DATE	3/27/2019
PYRAMID PROJECT #:	2019-091
CLIENT	FALCON ENGINEERS
	FIGURE 1

EM61 METAL DETECTION RESULTS

NO EVIDENCE OF METALLIC USTs 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 March 18, 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 March 27, 2019.

EM61 Metal Detection Response (millivolts)



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PROJECT
PARCEL 23
LUMBERTON, NORTH CAROLINA
NCDOT PROJECT U-5797

TITLE
PARCEL 23 -
EM61 METAL DETECTION CONTOUR MAP

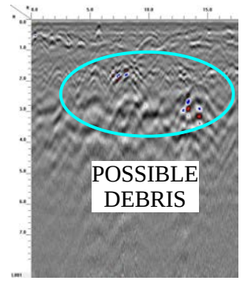
DATE 3/27/2019

PYRAMID PROJECT #: 2019-091

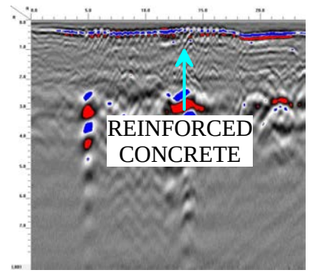
CLIENT FALCON ENGINEERS

FIGURE 2

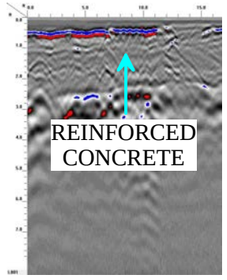
LOCATIONS OF GPR TRANSECTS



GPR TRANSECT 1 (T1)



GPR TRANSECT 4 (T4)



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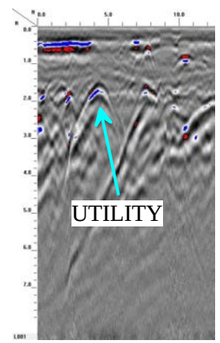

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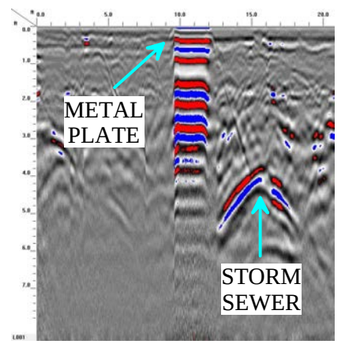

GPR TRANSECT 7 (T7)

N

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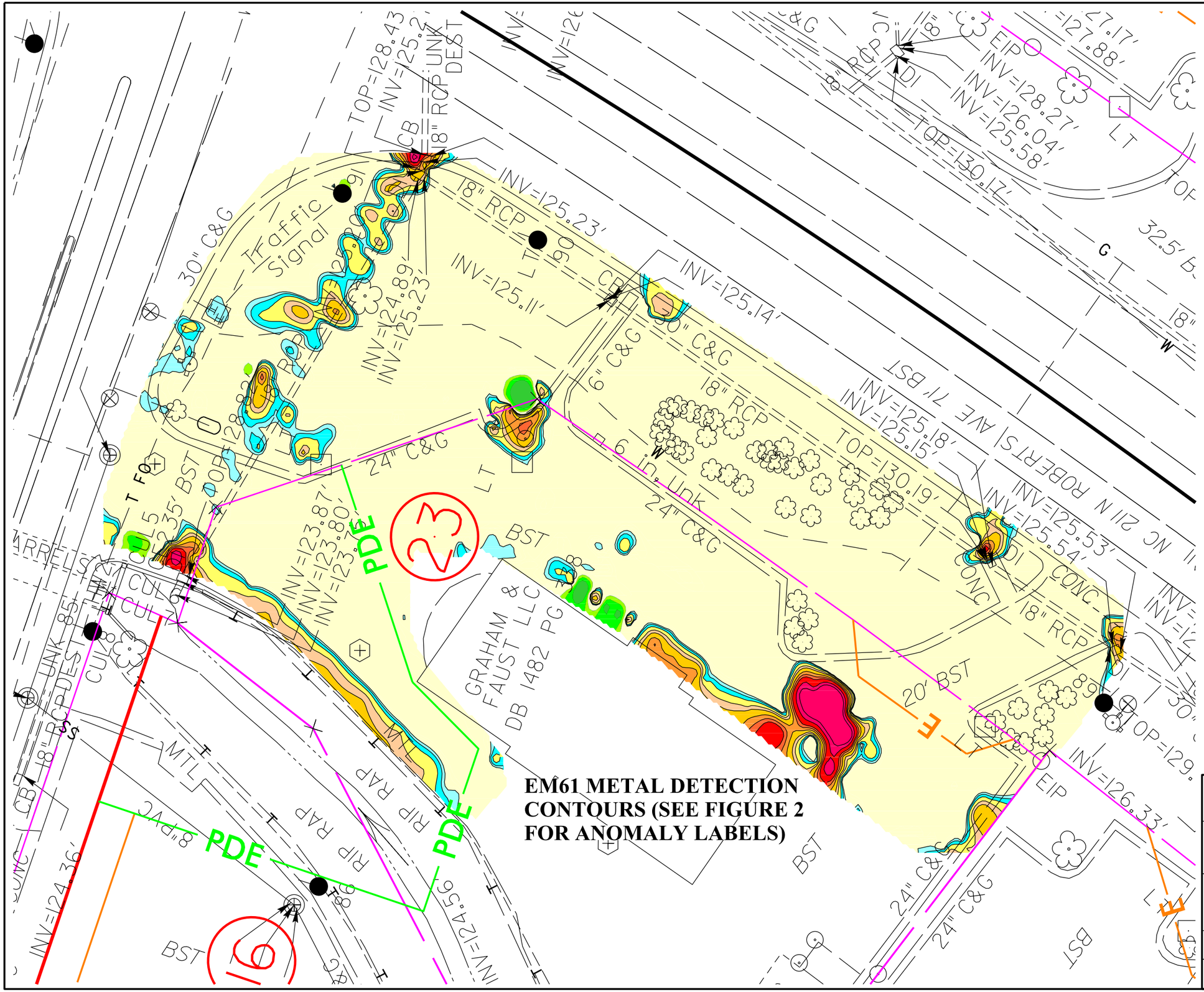
PROJECT: PARCEL 23 LUMBERTON, NORTH CAROLINA NCDOT PROJECT U-5797	TITLE: PARCEL 23 - GPR TRANSECT LOCATIONS AND SELECT IMAGES	DATE: 3/27/2019 PYRAMID PROJECT #: 2019-091	CLIENT: FALCON ENGINEERS **FIGURE 3**



TITLE

OVERLAY OF METAL DETECTION RESULTS ON NCDOT ENGINEERING PLANS

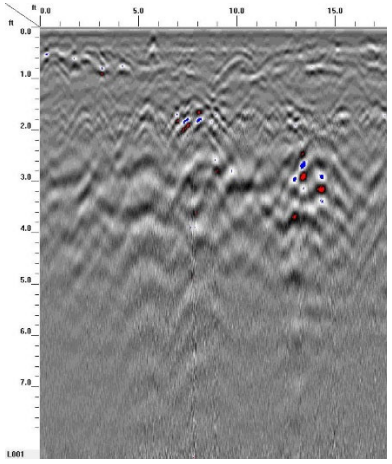
PROJECT

PARCEL 023
LUMBERTON, NORTH CAROLINA
NCDOT PROJECT U-5797

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

DATE: 04-11-2019	REVISION NO. 0
PYRAMID PROJECT NO. 2019-091	FIGURE NO. 4

Appendix A – GPR Transect Images



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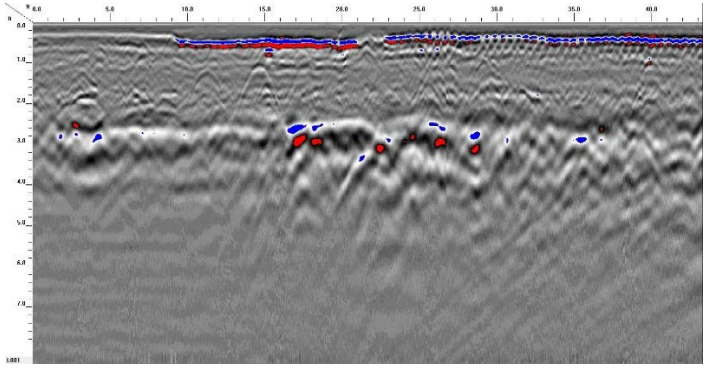

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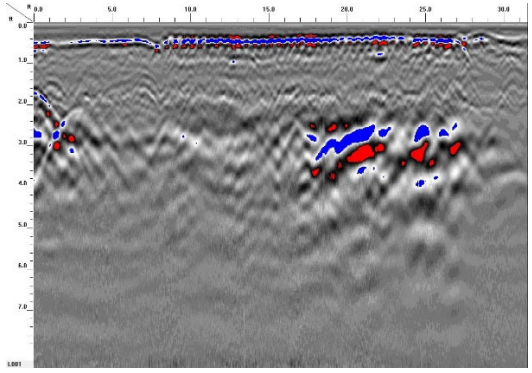

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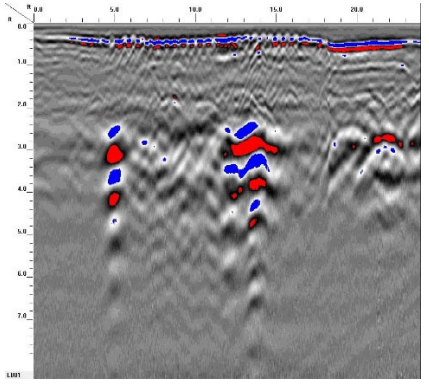

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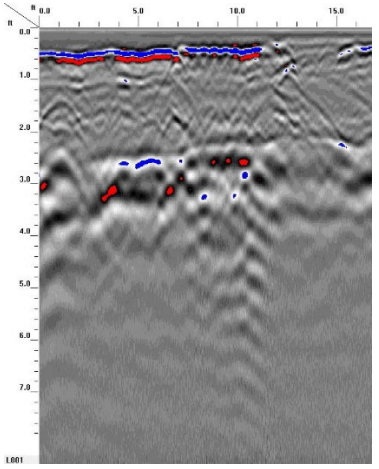

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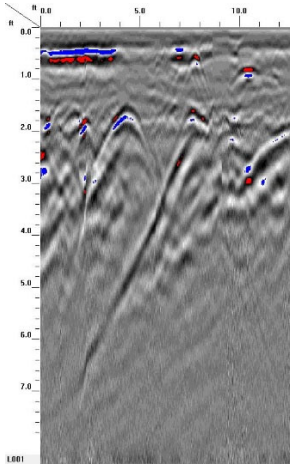

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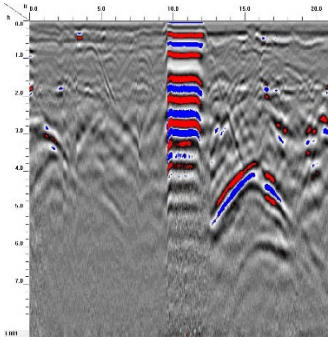
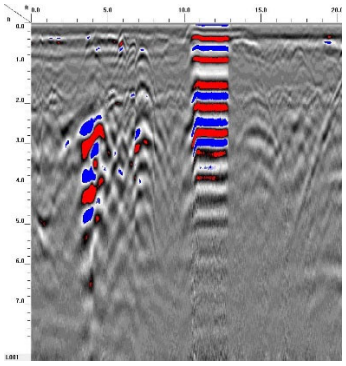


GPR TRANSECT 7



GPR TRANSECT 8

Waste Management
ENVIRONMENTAL QUALITY

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL SCOTT
Director

January 29, 2018

VIA EMAIL ATTACHMENT

Mr. Brent Puzak, Director
North American Environmental Shared Services
Circle K Stores, Inc.
1100 Situs Ct., Ste. 100
Raleigh, NC 27606

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

Pantry 3131 (former)
3002 Fayetteville Road
Lumberton, Robeson County
Incident Number: 29032
Risk Classification: Low
Ranking: L-65-R

Dear Mr. Puzak,

The Groundwater Monitoring Report received by the UST Section, Division of Waste Management, Fayetteville Regional Office on October 11, 2017, and the Notice of Residual Petroleum received on January 16, 2018, have been reviewed. The available incident data indicates groundwater contamination meets the cleanup requirements for a low-risk site, but exceeds the groundwater quality standards established in Title 15A NCAC 2L .0202. Historical data available in the Underground Storage Tank Closure Report dated September 17, 2004, documents soil contamination does not exceed the residential maximum soil contaminant concentrations (MSCCs) established in Title 15A NCAC 2L .0411.

The UST Section determines the subject incident to be conditionally eligible for no further action status. However, final approval of no further action status is contingent on the filing of the approved NRP (sending under separate cover to Partner Engineering on behalf of others) with the Robeson County Register of Deeds and verified by the receipt of a certified copy of the filed NRP by this office; and on receipt of confirmation that public notice requirements have been completed, as described in the following paragraphs.

Be advised that as groundwater contamination exceeds the groundwater quality standards established in Title 15A NCAC 2L .0202, groundwater within the area of contamination or within the area where groundwater contamination is expected to migrate is not suitable for use as a water supply.

As groundwater contamination exceeds the groundwater quality standards established in Title 15A NCAC 2L .0202 and soil contamination exceeds the residential MSCCs, pursuant to NCGS 143B-279.9 and 143B-279.11, you must file the approved Notice of Residual Petroleum (attached) with the Robeson County Register of Deeds and submit a certified copy to the UST Section within 30 days of receipt of this letter.

As groundwater contamination exceeds the groundwater quality standards established in Title 15A NCAC 2L .0202, public notice in accordance with 15A NCAC 2L .0409(b) also is required. Thus, within 30 days of receipt of this letter, a copy of the letter must be provided by certified mail, or by posting in a prominent place, if certified mail is impractical, to the local health director, the chief administrative officer of each political jurisdiction in which the contamination occurs, all property owners and occupants within or contiguous to the area containing contamination, and all property owners and occupants within or contiguous to the area where the contamination is expected to migrate. Within 60 days of receiving this letter, this office must be provided with proof of receipt of the copy of the letter or of refusal by the addressee to accept delivery of the copy of the letter or with a description of the way the letter was posted. Interested parties may examine the complete incident file by contacting this regional office and may submit comments on the site to the regional office at the address or telephone number listed below.

This conditional No Further Action determination will not become valid until the UST Section receives a certified copy of the Notice of Residual Petroleum which is filed with the Robeson County Register of Deeds and until public notice requirements are completed.

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

Sincerely,

Kenneth E. Currie, Hydrogeologist
Fayetteville Regional Office
UST Section, Division of Waste Management

cc: Mr. William J. Smith, Director, Robeson County Health Department *(email copy)*
Mr. Michael McKenna, Partner Engineering & Science, Inc., Charlotte, NC *(email copy)*
Mr. Wayne Randolph, Regional Supervisor, NCDEQ-DWM-UST *(email copy)*
FRO Electronic Incident File #29032

Mr. Michael McKenna (original Notice of Residual Petroleum)
4 McDonald Street
Greenville, SC 29609

WAL (Lumberton)REALTY, LLC
c/o Mattrone Group, LLC
134-01 20th Avenue
College Point, NY 11356

RECEIVED
FEB 12 2014
DIVISION OF WASTE MANAGEMENT
FAYETTEVILLE REGIONAL OFFICE

Groundwater Monitoring Report

Site Location:
The Former Pantry #3131
3002 Fayetteville Road
Lumberton, North Carolina
Robeson County

Site Owner:
John and Mary P. Lennon
Post Office Box 53557
Fayetteville, North Carolina 28305

Prepared for:

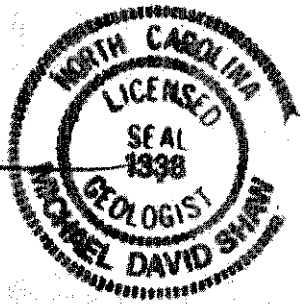
The Pantry, Inc.
305 Gregson Drive
Cary, North Carolina 27511

GW INCIDENT NUMBER: 29032
RISK RANKING: I80

General Site Information:

Latitude/Longitude – N 34° 38' 35'' / W 79° 00' 06"
Date Release Discovered – January 16, 2003
Estimated Quantity – Unknown
Cause of Release – UST system
UST Information – Three 12,000-gallon gasoline USTs, one 15,000-gallon diesel UST, and one 6,000-gallon kerosene UST.

PREPARED BY:



Michael D. Shaw, P.G.
N.C. License #1338
ATC Associates of North Carolina, P.C.
7606 Whitehall Executive Center Drive
Charlotte, North Carolina 28273
(704) 529-3200

January 13, 2014

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APPENDICES

LIMITATIONS

This report has been prepared under the guidance of a North Carolina Professional Geologist to meet the requirements of the North Carolina Department of Environment and Natural Resources. The information and conclusions expressed in this report are based upon normal standards of the profession and are limited to information available at this time. Chemical analyses of samples associated with this report were performed by a subcontracted, independent, North Carolina-certified laboratory. Laboratory results have been accepted based on subcontractor's internal laboratory procedures and should be considered qualitative unless verified with appropriate QA/QC samples analysis.

EXECUTIVE SUMMARY

On December 30, 2013, ATC installed three additional monitoring wells (MW-8, MW-9, and MW-10) on the south side of Roberts Avenue in Lumberton, NC to determine if the petroleum impacted groundwater from the former Pantry #3131 site has impacted the properties south of the site. Three groundwater samples collected from monitoring wells MW-8 through MW-10 were analyzed by EPA Method 6200B, extended to include MTBE. Laboratory analyses did not indicate petroleum constituent concentrations in monitoring wells MW-8, MW-9, and MW-10 were greater than the 15A NCAC 2L Groundwater Standards (2L Standards). Based on this data, the petroleum impacted groundwater from The Pantry #3131 site does not appear to be impacting the properties on the south side of Roberts Avenue.

1.0 INTRODUCTION

1.1 Site Location

The Pantry #3131 is a retail fuel and convenience store located at 3002 Fayetteville Road in Lumberton, Robeson County, North Carolina. Figure 1 is an excerpt from a United States Geological Survey (USGS) 7.5-minute topographical quadrangle map showing the location of the site and cultural features. The subject property previously contained five active underground storage tanks (USTs): three 12,000-gallon gasoline USTs, one 15,000-gallon diesel UST, and one 6,000-gallon kerosene UST.

The site currently houses a Walgreens Drug Store. It appears that all onsite monitoring wells were distroied during the construction of the Walgreens. **Figure 2** is a site map showing characteristics of the subject property. **Figure 3** is an area map showing contiguous property boundaries with reference numbers to surrounding property owner names, mailing addresses, and water supply well information as listed in **Table B-2**.

1.2 Site History

On January 16, 2003, SEI Environmental, Inc. conducted a Phase II Environmental Site Assessment (ESA) for a real estate transaction with the advancement of seven soil borings (SB-1 through SB-7) to between four and eight feet bls around the UST system. A release was discovered during the Phase II ESA and a 24-Hour Release and UST Leak Reporting Form (UST Form 61) was faxed to the Fayetteville Regional Office of the Division of Waste Management, UST Section on January 16, 2003, to report the release. A groundwater sample was collected during the Phase II ESA and submitted for laboratory analysis.

In response to the Notice of Regulatory Requirements dated February 13, 2003, SEI Engineering and Geological Services, P.C. and SEI Environmental, Inc. initiated a Site Check and Limited Site Assessment (LSA). SEI Engineering and Geological Services, P.C. submitted a Site Check

on February 20, 2003. Because results from the Phase II ESA indicated concentrations of several constituents in the groundwater sample exceeded ten times the 15A NCAC 2L standards, SEI Environmental, Inc. proceeded immediately to a Phase II Limited Site Assessment (LSA) on February 13 and 14, 2003. The Phase II LSA included the installation of four type II groundwater monitoring wells (MW-1 and MW-3 through MW-4) and one type III monitoring well (MW-2). Due to an insufficient water column, monitoring well MW-4 was replaced with monitoring well MW-4A on March 6, 2003. SEI Engineering and Geological Services, P.C. submitted the LSA Report on March 26, 2003. The site has been given a priority rank of intermediate risk with a residential land use status.

In response to the Notice of Regulatory Requirements dated April 3, 2003, SEI Engineering and Geological Services, P.C. and SEI Environmental, Inc. initiated a Comprehensive Site Assessment (CSA) in order to delineate the contamination. The CSA report summarizes the installation of two (MW-6 and MW-7) monitoring wells and the associated groundwater samples. Figure 3 is a site map showing the site features and the UST pit location. A slug test was also performed on May 28, 2003, in order to determine the hydrogeologic conditions at the site

The UST system was removed from the site in July 2004.

2.0 GROUNDWATER MONITORING ACTIVITIES

2.1 Monitoring Well Installation

On December 30, 2014, three monitoring wells (MW-8, MW-9, and MW-10) were installed on the south side of Roberts Avenue to delineate the down gradient edge of the plume. Well locations are shown on **Figure 2** and boring logs and well construction diagrams are included in **Appendix A**.

2.2 Groundwater Gauging

On January 3, 2014, the newly installed groundwater monitoring wells were opened and gauged using a properly decontaminated electronic oil/water interface probe. Liquid-phase hydrocarbons were not detected in any of the wells. Current groundwater elevations are provided in **Table B-5B**.

2.3 Groundwater Sampling

On January 3, 2014, ATC Associates of North Carolina, P.C. (ATC) collected groundwater samples from monitoring wells MW-8 through MW-10. Samples were collected from the monitoring wells after calculating the standing volume of water in each well. Three times the volume of water was purged from each well using a dedicated, disposable plastic bailer. After each well was purged, a groundwater sample was collected into properly preserved, laboratory-provided, glass containers, and placed on ice for transport to Accutest Laboratories, a North Carolina-certified laboratory.

Groundwater samples were analyzed by EPA Method 6200B, extended to include MTBE. Laboratory results indicated monitoring wells MW-8, MW-9, and MW-10 did not contain petroleum constituent concentrations greater than the 15A NCAC 2L Groundwater Standards. The laboratory analytical report and the chain-of-custody are included in **Appendix B**. The current laboratory analytical results for this sampling event are presented in **Table B-4**. Historical analytical data is presented in **Table B-4B**.

3.0 RECOMMENDATIONS AND CONCLUSIONS

Historical groundwater quality data at the site shows contamination is generally centered in the area of the former UST pit and dispensers and does not appear to be migrating offsite. Based on the new data collected, it does not appear that the impacted groundwater from the Former Pantry #313 site has impacted the properties south of the site.

TABLES

TABLE B-1

Water Supply Well Information

Former The Pantry #3131
3002 Fayetteville Road (Business Highway 301)
Lumberton, Robeson County, North Carolina
Facility ID Number: 0-018822
Incident Number: 29032

Well #	Well Owner	Address	Phone Number	Well Use	Well Depth (feet bls)	Type of Well	Well Casing Depth (feet bls)	Well Screen Interval (feet bls)	Distance from source area of release (feet)	Cardinal Direction from release
No Water Supply Wells were noted within 1,000 feet.										

TABLE B-2

Property Owners/Occupants Former The Pantry #3131 3002 Fayetteville Road (Business Highway 301) Lumberton, Robeson County, North Carolina Facility ID Number: 0-018822 Incident Number: 29032			
Map	**Property Address**	**Property Owner/ Mailing Address**	**Tenant**
006	3002 Fayetteville Road	Lennon Oil Company, Inc. c/o Ernst & Young, LLP Post Office Box 53557 Fayetteville, North Carolina 28305	The Pantry #3131
00601	3002 Fayetteville Road	John and Mary P. Lennon Post Office Box 53557 Fayetteville, North Carolina 28305	The Pantry #3131
007	2190 Roberts Avenue	Thomas A. & Robert S. Bryant 2190 Roberts Avenue Lumberton, North Carolina 28358	Bryant's Gun and Pawn
00501	2100 Roberts Avenue	JHM Investments, LLC Post Office Box 689 Lumberton, North Carolina 28358	Taco Bell (under construction)
00502	2000 Roberts Avenue	JHM Investments, LLC Post Office Box 689 Lumberton, North Carolina 28358	Kentucky Fried Chicken
005	Fayetteville Road	JHM Investments, LLC Post Office Box 689 Lumberton, North Carolina 28358	Vacant Lot
028	508 Highland Avenue	Larry L. McCallum 508 Highland Avenue Lumberton, North Carolina 28358	McCallum Residence
01901	3001 Fayetteville Road	Brookgreen Carolina Corp. c/o Hector MacLean Post Office Box 987 Lumberton, North Carolina 28359	CVS Pharmacy
019	2205 Roberts Avenue	Brookgreen Carolina Co. c/o Hector MacLean Post Office Box 5227 Englewood, Colorado 80155	Cinema IV
01902	3009 Fayetteville Road	Brookgreen Carolina Corp. c/o Hector MacLean Post Office Box 987 Lumberton, North Carolina 28359	Vacant (former Burger King)

TABLE B-2 (continued)

Property Owners/Occupants Former The Pantry #3131 3002 Fayetteville Road (Business Highway 301) Lumberton, Robeson County, North Carolina Facility ID Number: 0-018822 Incident Number: 29032			
Map	**Property Address**	**Property Owner/ Mailing Address**	**Tenant**
020	2201 Roberts Avenue	Insured Income Properties 17207 North Perimeter Drive Scottsdale, Arizona 85255	Taco Bell
003	Address not specified	City of Lumberton	Meadowbrook Cemetery
021	2550 Fayetteville Road	Dorothy Bryan 2300 Shaw Avenue Lumberton, North Carolina 28358	Citi Financial
	2548 A Fayetteville Road		Florist
	2548 B Fayetteville Road		Armed Forces Recruiting Center
	2548 C Fayetteville Road		
	2548 D Fayetteville Road		Ron Family Hair Center
	2548 E Fayetteville Road		Smith's Cleaners
014	2191 Roberts Avenue	John and Mary P. Lennon Post Office Box 53557 Fayetteville, North Carolina 28305	Wendy's
015	2175 Roberts Avenue	Barry W. & Laurie Partlo 435 Highway 42 East Clayton, North Carolina 27520	Vacant (former Agri-Supply)
01501	2177 Roberts Avenue	Lawson Development Co. c/o Nelson Price & Associates 4904 B Fayetteville Road Lumberton, North Carolina 28358	Calabash West Seafood Restaurant

TABLE B-3A

Soil Sample Field Screening and Analytical Results

Former The Pantry #3131
3002 Fayetteville Road (Business Highway 301)
Lumberton, Robeson County, North Carolina
Facility ID Number: 0-018822
Incident Number: 29032

Sample Date: January 16, 2003

Sample Location	Sample Depth (feet)	OVA (ppm)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Carbon Disulfide (µg/kg)	n-Butylbenzene (µg/kg)
SB-1*	(0-4')	0	NA	NA	NA	NA	NA	NA	NA
	(4-8')	760	<250	<250	**594.7**	496.6	<250	<250	1,790.3
SB-2	(0-4')	0	NA	NA	NA	NA	NA	NA	NA
	(4-8')	0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
SB-3	(0-4')	0	NA	NA	NA	NA	NA	NA	NA
	(4-8')	0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
SB-4	(0-4')	0	NA	NA	NA	NA	NA	NA	NA
	(4-8')	0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
SB-5	(0-4')	0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
SB-6	(0-4')	1260	<5.1	<5.1	173.3	7.2	<5.1	17.1	321
SB-7	(0-4')	0	<5.0	<5.0	12.2	19.2	13	8.0	<5.0
NCDWM Soil-to-Groundwater MSCCs			**5.6**	**7,000**	**240**	**5,000**	**920**	**4,000**	**4,000**
NCDWM Residential MSCCs			**22,000**	**3,200,000**	**1,560,000**	**32,000,000**	**156,000**	**1,564,000**	**156,000**

*Soil Sample SB-1 was collected from the location of monitoring well MW-1
ppm – parts per million
µg/kg - micrograms per kilogram
Bold denotes concentrations above the Soil-to-Groundwater Maximum Soil Contaminant Concentrations (MSCC)
NA – Not Analyzed

TABLE B-3B

Additional Soil Sample Analytical Results

Former The Pantry #3131
3002 Fayetteville Road (Business Highway 301)
Lumberton, Robeson County, North Carolina
Facility ID Number: 0-018822
Incident Number: 29032

Sample Date: January 16, 2003

Sample Location	Sample Depth (feet)	Isopropylbenzene (µg/kg)	n-Propylbenzene (µg/kg)	1,3,5-Trimethylbenzene (µg/kg)	1,2,4-Trimethylbenzene (µg/kg)	sec-Butylbenzene (µg/kg)	4-Isopropyltoluene (µg/kg)	Naphthalene 8260 (µg/kg)	Naphthalene 8270 (µg/kg)	2-Methylnaphthalene (µg/kg)
SB-1*	(4-8')	374	876.8	1,606.4	5,444.5	1,226.2	**993.3**	**882.9**	**950.3**	**10,055.2**
SB-2	(4-8')	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100
SB-3	(4-8')	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100
SB-4	(4-8')	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA
SB-5	(0-4')	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100
SB-6	(0-4')	102.3	555.9	17	<5.1	105.8	<5.1	80.5	NA	NA
SB-7	(0-4')	<5.0	<5.0	7.9	29	<5.0	<5.0	5.5	<100	<100
NCDWM Soil-to-Groundwater MSCCs		**2,000**	**2,000**	**7,000**	**7,000**	**3,000**	**NE**	**580**	**580**	**3,000**
NCDWM Residential MSCCs		**1,564,000**	**156,000**	**782,000**	**782,000**	**156,000**	**NE**	**63,000**	**63,000**	**63,000**

*Soil Sample SB-1 was collected with a Geoprobe from the location of monitoring well MW-1
µg/kg - micrograms per kilogram
Bold denotes concentrations above the Soil-to-Groundwater Maximum Soil Contaminant Concentrations (MSCC)
NA – Not Analyzed
NE – Not Established

TABLE B-3C

Additional Soil Sample Analytical Results
Former The Pantry #3131
3002 Fayetteville Road (Business Highway 301)
Lumberton, Robeson County, North Carolina
Facility ID Number: 0-018822
Incident Number: 29032

Date Sampled: February 13, 2003

Sample Location	Sample Depth (feet)	C5-C8 Aliphatics (µg/kg)	C9-C18 Aliphatics (µg/kg)	C9-C12 Aliphatics (µg/kg)	C19-C36 Aliphatics (µg/kg)	C9-C10 Aromatics (µg/kg)	C11-C22 Aromatics (µg/kg)
MW-1	(4-8')	28,700	76,000	424,700	<14,000	**227,400**	**22,000**
NCDWM Soil-to-Groundwater MSCCs		**72,000**	**3,255,000**		**CI**	**34,000**	
NCDWM Residential MSCCs		**939,000**	**9,386,000**		**93,860,000**	**469,000**	

ppm – parts per million
µg/kg - micrograms per kilogram
Bold denotes concentrations above the Soil-to-Groundwater Maximum Soil Contaminant Concentrations (MSCC)

TABLE B-4

Groundwater Analytical Results

Former The Pantry #3131
3002 Fayetteville Road (Business Highway 301)
Lumberton, Robeson County, North Carolina
Facility ID Number: 0-018822
Incident Number: 29032

Sample Location	Date Sampled	Benzene (µg/L)	Ethylbenzene (µg/L)	Toluene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	IPE (µg/L)	Lead (µg/L)	Ehtylene Dibromide (µg/L)	Trans-1,2-dichloropropene (µg/L)	Chloroform (µg/L)	Methylene Chloride (µg/L)
MW-1	02/18/03	**1,600**	190	75	351	**170**	<25	**20**	<0.01	<5.0	<5.0	<25
MW-2[d]	02/18/03	**46**	8.6	20	23.4	14	<5.0	<5.0	<0.01	<1.0	19	<5.0
MW-3	03/11/03	**340**	190	5.3	140	**2,000**	10	NA	NA	<1.0	<1.0	<5.0
MW-4A	03/07/03	**2.8**	<1.0	0.70	1.85	**32**	1.9	**16**	<0.01	**0.75**	<1.0	**16**
MW-5	02/18/03	**1.3**	<1.0	<1.0	<3.0	**56**	<5.0	<5.0	<0.01	<1.0	<1.0	<5.0
MW-6	04/29/03	**46**	11	<5.0	12.7	**370**	<5.0	14	<0.01	<1.0	<1.0	<5.0
MW-7	04/29/03	**3.5**	100	6.8	370	<5.0	<5.0	13	<0.01	<1.0	<1.0	<5.0
MW-8	1/3/14	<0.1	0.58	0.26	<0.3	0.59	<0.1	NA	<0.1	NA	<0.1	<0.2
MW-9	1/3/14	<0.1	0.57	0.25	<0.3	<0.2	<0.1	NA	<0.1	NA	<0.1	<0.2
MW-10	1/3/14	<0.1	0.5	0.18	<0.3	<0.2	<0.1	NA	<0.1	NA	<0.1	<0.2
2L Standards		**1**	**600**	**600**	**500**	**20**	**70**	**15**	**0.02**	**0.2**	**70**	**5**
10 x 2L Standards		**10**	**6000**	**6,000**	**5,000**	**2,00**	**700**	**150**	**0.2**	**2**	**700**	**50**
GCLs		**5,000**	**84,500**	**260,000**	**85,500**	**20,000**	**70,000**	**15,000**	**50**	**200**	**70000**	**5,000**

[d] Type III monitoring well
µg/L - micrograms per liter
Bold denotes concentration is greater than the 15A NCAC 2L Standard
GCL - Gross Contamination Level

TABLE B-5A

Monitoring Well Construction Summary Former The Pantry #3131 3002 Fayetteville Road (Business Highway 301) Lumberton, Robeson County, North Carolina Facility ID Number: 0-018822 Incident Number: 29032				
Monitoring Well	**Date Installed**	**Total Depth (feet bls)**	**Screen Interval (feet bls)**	**Date Abandoned**
MW-1	02/13/03	18	3-18	??
MW-2*	02/13&14/03	30	25-30	??
MW-3	02/13/03	18	3-18	??
MW-4	02/13/03	18	3-18	??
MW-4A	03/06/03	25	10-25	??
MW-5	02/13/03	18	3-18	??
MW-6	04/17/03	25	5-25	??
MW-7	04/17/03	25	5-25	??
MW-8	1/30/13	25	10-25	NA
MW-9	1/30/13	25	10-25	NA
MW-10	1/30/13	25	10-25	NA

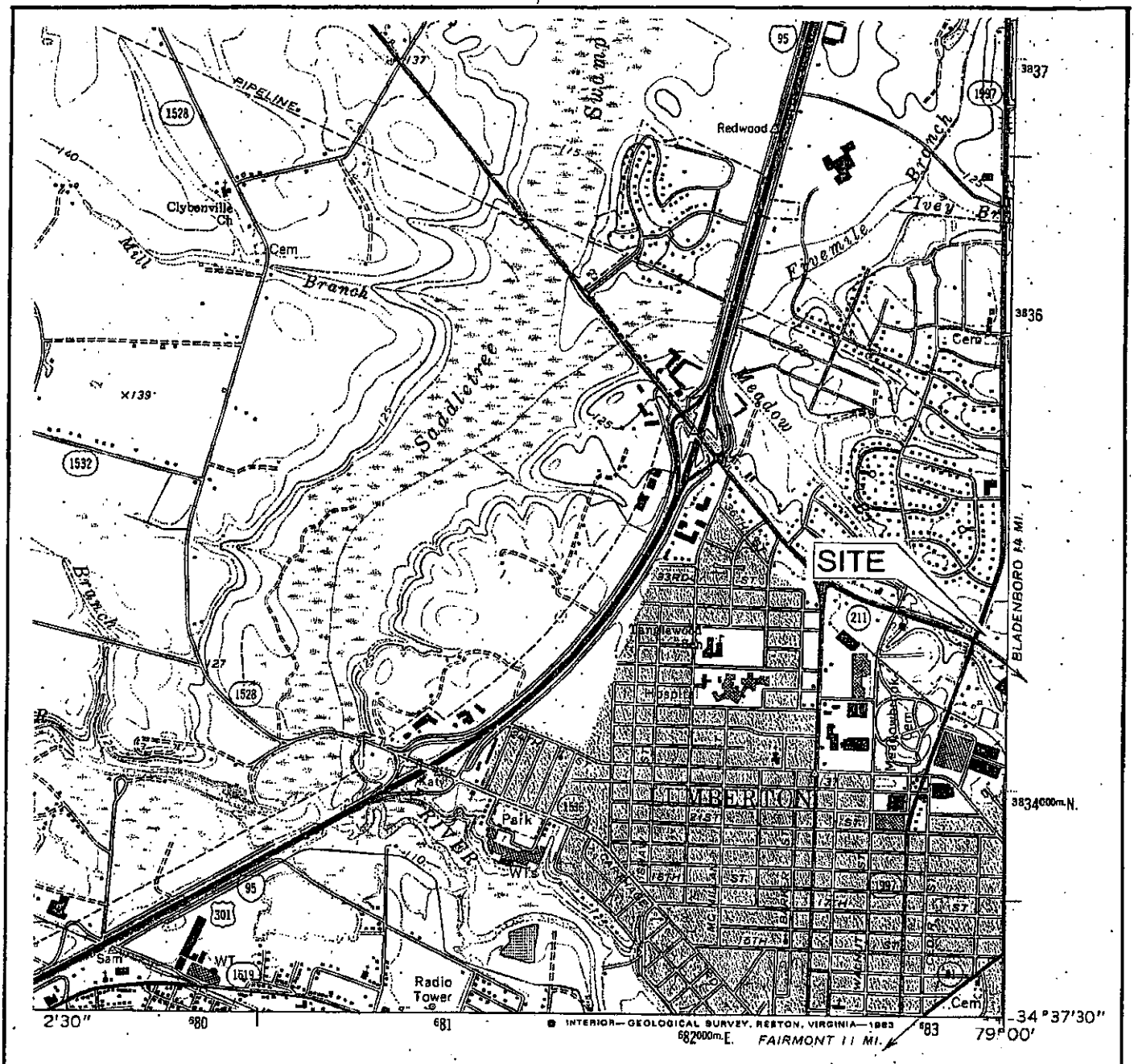
* -Type III Monitoring Well
NA – Not Applicable

TABLE B-5B

Historical Groundwater Elevation Data The Pantry #3131 (DBA Express Stop #1) 3002 Fayetteville Road (Business Highway 301) Lumberton, Robeson County, North Carolina Facility ID Number: 0-018822 Incident Number: 29032				
Well Location	**Sample Date**	**Top of Casing Elevation (feet)***	**Depth to Groundwater (feet)**	**Groundwater Elevation (feet)**
MW-1	02/18/03	93.89	17.50	76.39
	03/06/03		17.20	76.69
	05/28/03		15.13	78.76
MW-2	02/18/03	94.33	18.90	75.43
	03/06/03		18.67	75.66
	05/28/03		17.43	76.90
MW-3	02/18/03	93.45	DRY	--
	03/06/03		17.20	76.25
	05/28/03		16.78	76.67
MW-4	02/18/03	93.94	DRY	--
	03/06/03		17.90	76.04
	05/28/03		16.47	77.47
MW-4A	03/06/03	94.30	18.90	75.40
	05/28/03		17.45	76.85
MW-5	02/18/03	94.42	14.60	79.82
	03/06/03		14.30	80.12
	05/28/03		8.28	86.14
MW-6	04/29/03	93.86	17.04	76.82
	05/28/03		17.36	76.50
MW-7	04/29/03	93.65	16.60	77.05
	05/28/03		16.91	76.74
MW-8	1/3/14	NS	15.90	NS
MW-9	1/3/14	NS	16.30	NS
MW-10	1/3/14	NS	16.34	NS

* Based on arbitrary datum of 100 feet
NM – Not Measured

FIGURES



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET

QUADRANGLE LOCATION

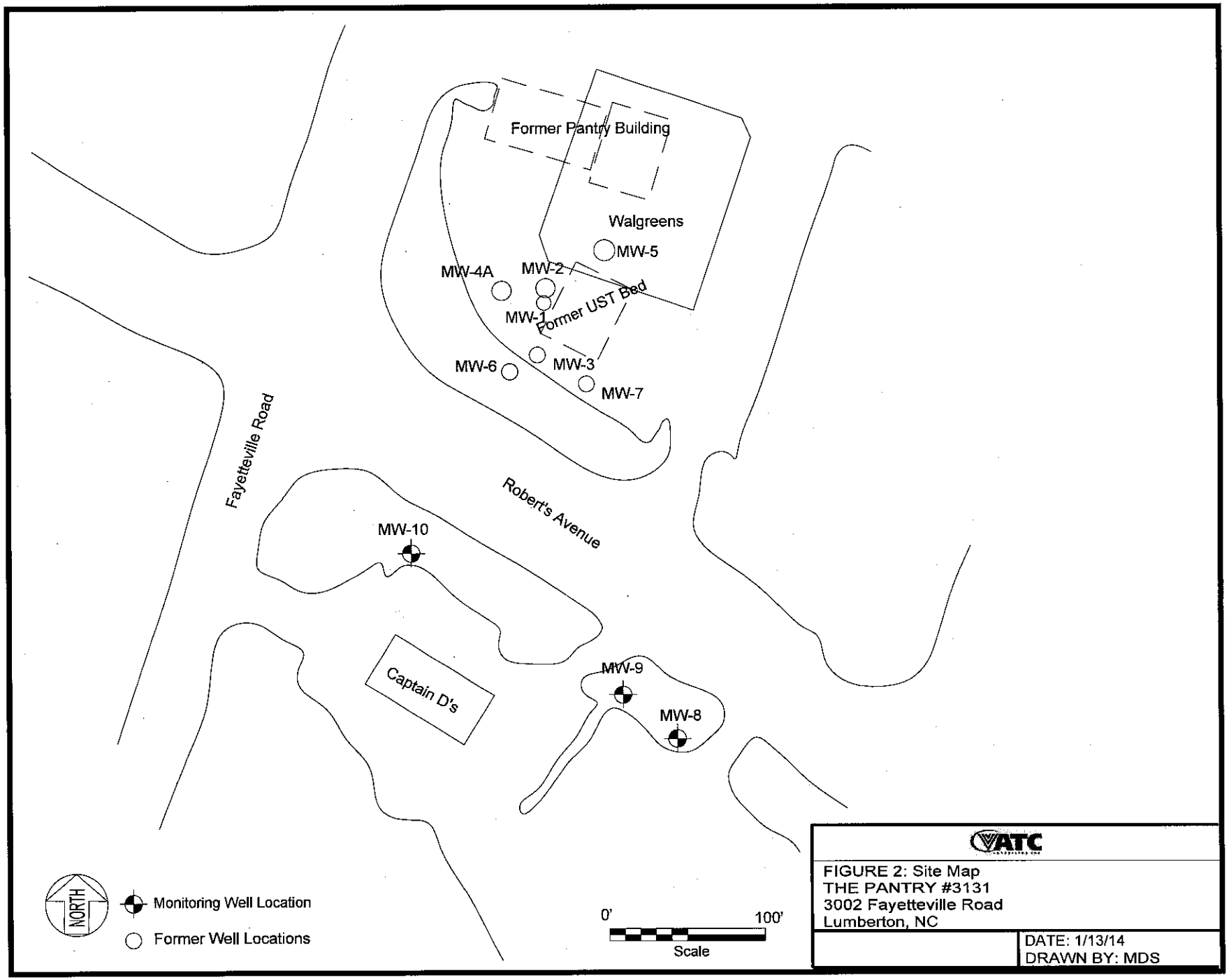
NORTHWEST LUMBERTON, N. C.

N3437.5—W7900/7.5

1972
PHOTOREVISED 1982
DMA 5153 II NE-SERIES V842

SEI *Engineering & Geological Services, P.C.*
5100 North I-85, Suite 7A, Charlotte, NC 28206, Ph# 704-597-4022

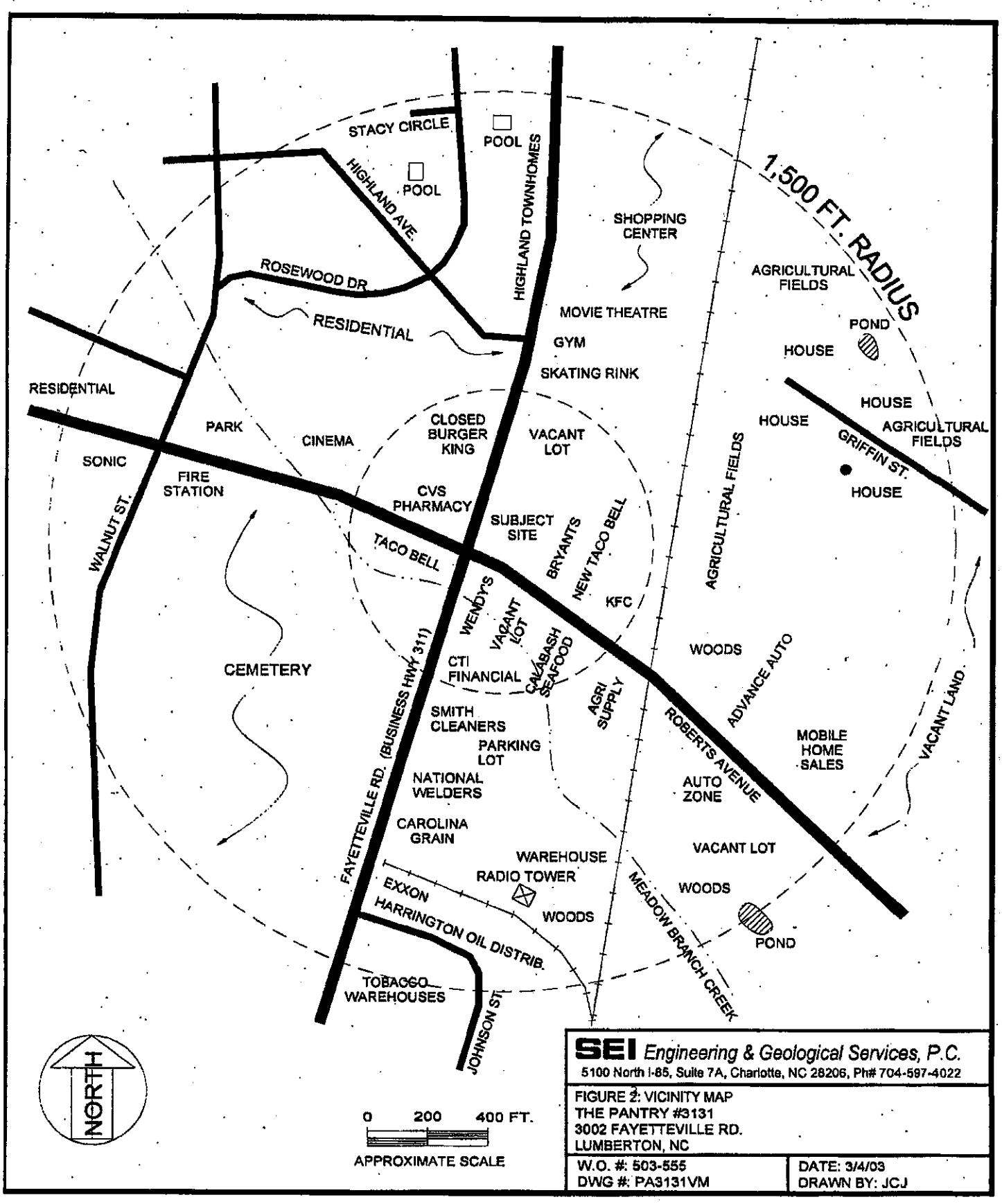
FIGURE 1: USGS QUADRANGLE MAP
THE PANTRY #3131
3002 FAYETTEVILLE ROAD
LUMBERTON, NORTH CAROLINA



VATC

FIGURE 2: Site Map
THE PANTRY #3131
3002 Fayetteville Road
Lumberton, NC

DATE: 1/13/14
DRAWN BY: MDS



SEI *Engineering & Geological Services, P.C.*
5100 North I-85, Suite 7A, Charlotte, NC 28206, Ph# 704-597-4022

FIGURE 2: VICINITY MAP
THE PANTRY #3131
3002 FAYETTEVILLE RD.
LUMBERTON, NC

W.O. #: 503-555	DATE: 3/4/03
DWG #: PA3131VM	DRAWN BY: JCJ

APPENDIX A

Soil Boring Logs and Well Construction Diagrams

Well Construction Log

PROJECT NAME:	The Pantry #3131	BORING I.D.:	MW-8
PROJECT NO.:	89.42017.3131	DATE(S) DRILLED:	12/30/2013
SITE LOCATION:	3002 Fayetteville Street Lumberton, NC	DRILLING CONTR.:	CSI
		DRILL METHOD:	Geoprobe
		BORING DIAMETER:	4"
	Client: The Pantry, Inc.	SAMPLING METHOD/INTERVAL:	Grab, 5' Interval
		WELL DIAMETER:	2"
LOGGED BY:	MDS	TOTAL DEPTH:	25
NOTES:		SCREEN INTERVAL:	10-25

DESCRIPTIVE LOG

SAMPLE INTERVAL	BLOW COUNTS	ASTM FIELD CLASSIFICATION	PID/FID (ppm)	GRAPHIC	DEPTH (FT)	DESCRIPTION OF MATERIAL
	Not Recorded	SC	Not Recorded		0	Tan Sand
					5.0	Tan Sand with Perched Water
						Black Sandy Clay
					10.0	Gray clay with Fine Sand
					15.0	Black and Gray Sandy Clay
					20.0	Total Depth
					25.0	

DRILLING METHODS
SS-SPLIT SPOON
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
GP-GEOPROBE
SPLIT SPOON

PHC = PETROLEUM HYDROCARBON ODOR

bgs = BELOW GROUND SURFACE

GRAPHIC COLUMN

DEPTH TO WATER
GROUT
BENTONITE
SAND
SCREEN

SAA= SAME AS ABOVE

Cardno ATC
Shaping the Future
7606 Whitehall Executive Center Drive
Charlotte, North Carolina 28273

Well Construction Log

PROJECT NAME:	The Pantry #3131	BORING I.D.:	MW-9
PROJECT NO.:	89.42017.3131	DATE(S) DRILLED:	12/30/2013
SITE LOCATION:	3002 Fayetteville Street Lumberton, NC	DRILLING CONTR.:	CSI
		DRILL METHOD:	Geoprobe
		BORING DIAMETER:	4"
	Client: The Pantry, Inc.	SAMPLING METHOD/INTERVAL:	Grab, 5' Interval
		WELL DIAMETER:	2"
LOGGED BY:	MDS	TOTAL DEPTH:	25
NOTES:		SCREEN INTERVAL:	10-25

DESCRIPTIVE LOG

SAMPLE INTERVAL	BLOW COUNTS	ASTM FIELD CLASSIFICATION	PID/FID (ppm)	GRAPHIC	DEPTH (FT)	DESCRIPTION OF MATERIAL
	Not Recorded	SC	Not Recorded		5.0	Tan Sand to Sandy Gray Clay with Organic Material
		SC				Black and Gray Clay
		SC			10.0	Gray Sandy Clay
		SC			15.0	Gray and Tan Sand
		SC			20.0	Black Sandy Clay
					25.0	Total Depth

DRILLING METHODS
SS-SPLIT SPOON
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOW STEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
GP-GEOPROBE
SPLIT SPOON

PHC = PETROLEUM HYDROCARBON ODOR

bgs= BELOW GROUND SURFACE

GRAPHIC COLUMN

DEPTH TO WATER
GROUT
BENTONITE
SAND
SCREEN

SAA= SAME AS ABOVE

Cardno ATC
Shaping the Future
7606 Whitehall Executive Center Drive
Charlotte, North Carolina 28273

Well Construction Log

PROJECT NAME:	The Pantry #3131	BORING I.D.:	MW-10
PROJECT NO.:	89.42017.3131	DATE(S) DRILLED:	12/30/2013
SITE LOCATION:	3002 Fayetteville Street Lumberton, NC	DRILLING CONTR.:	CSI
		DRILL METHOD:	Geoprobe
		BORING DIAMETER:	4"
	Client: The Pantry, Inc.	SAMPLING METHOD/INTERVAL:	Grab, 5' Interval
		WELL DIAMETER:	2"
LOGGED BY:	MDS	TOTAL DEPTH:	25
NOTES:		SCREEN INTERVAL:	10-25

DESCRIPTIVE LOG

SAMPLE INTERVAL	BLOW COUNTS	ASTM FIELD CLASSIFICATION	PID/FID (ppm)	GRAPHIC	DEPTH (FT)	DESCRIPTION OF MATERIAL
		SC			5.0	Tan Sand
	Not Recorded		Not Recorded		10.0 15.0 20.0	Gray Sandy Clay
					25.0	Total Depth

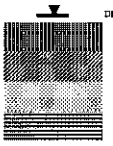
DRILLING METHODS
SS-SPLIT SPOON
AIR - AIR ROTARY
CFA - CONTINUOUS FLIGHT AUGER
DC - DRIVEN CASING
HA - HAND AUGER
HSA - HOLLOWSTEM AUGER
MD - MUD DRILLING
RC - ROCK CORING
WR - WATER ROTARY

SAMPLING METHODS
GP-GEOPROBE
SPLIT SPOON

PHC= PETROLEUM HYDROCARBON ODOR

bgs= BELOW GROUND SURFACE

GRAPHIC COLUMN



SAA= SAME AS ABOVE

Cardno ATC
Shaping the Future
7606 Whitehall Executive Center Drive
Charlotte, North Carolina 28273

APPENDIX B
LABORATORY ANALYTICAL REPORT and CHAIN-OF-CUSTODY

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Case Narrative for:

CARDNO ATC

Certificate of Analysis Number:

L0038367

Report To:		Project Name:	89.42017.3131	
CARDNO ATC		Site:	PANTRY #3131	
MIKE SHAW		Site Address:	3002 FAYETTEVILLE	
2425 EAST MILBROOK RD, SUITE 121			LUMBERTON	NC
RALEIGH		PO Number:		
NC		State:	North Carolina	
27604-		State Cert. No.:	487	
ph: (919) 871-0999	fax: (919) 871-0335	Date Reported:	1/10/2014	

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data for those samples spiked by the laboratory and may be applicable to other samples of similar matrix from the site. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process. If insufficient sample is supplied for MS/MSD, a Laboratory Control Sample (LCS) and a Laboratory Control Sample Duplicate (LCSD) are reported with the analytical batch and serve as the batch quality control (QC).

Results are reported on a Wet Weight Basis unless otherwise noted in the sample unit field as -dry.

The collection of samples using encores, terracores or other field collection devices may result in inconsistent initial sample weights for the parent sample and MS/MSD samples.

The MS/MSD recovery and precision data are calculated based on detected spike concentrations that are adjusted for initial sample weights. As a result of the variability between initial sample weights, the calculated RPD may have increased bias.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

Accutest Gulf Coast is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Cristina C. Thibeaux

Cristina Thibeaux
Project Manager

1/10/2014
Date

Accutest Gulf Coast Lafayette Laboratory Manager

Ron Benjamin

Accutest Gulf Coast Lafayette QA Officer

Karen Rodrigue-Varnado

Test results meet all requirements of NELAC, unless specified in the narrative.

Version 2.2 - Modified May 16, 2012

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

CARDNO ATC

Certificate of Analysis Number:

L0038367

Report To: CARDNO ATC
MIKE SHAW
2425 EAST MILBROOK RD, SUITE 121

RALEIGH
NC
27604-
ph: (919) 871-0999 fax: (919) 871-0335

Fax To:

Project Name: 89.42017.3131
Site: PANTRY #3131
Site Address: 3002 FAYETTEVILLE
LUMBERTON NC
PO Number:
State: North Carolina
State Cert. No.: 487
Date Reported: 1/10/2014

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-10	L0038367-01	Water	01/03/2014 10:35	1/4/2014 9:40:00 AM		☐
MW-9	L0038367-02	Water	01/03/2014 11:10	1/4/2014 9:40:00 AM		☐
MW-8	L0038367-03	Water	01/03/2014 11:45	1/4/2014 9:40:00 AM		☐
TRIP BLANK	L0038367-04	Water	01/03/2014 0:00	1/4/2014 9:40:00 AM		☐

Cristina Thibeaux
Project Manager

1/10/2014
Date

Accutest Gulf Coast Lafayette Laboratory Manager

Ron Benjamin

Accutest Gulf Coast Lafayette QA Officer

Karen Rodrigue-Varnado

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID MW-10 **Collected:** 01/03/2014 10:35 **Lab Sample ID:** L0038367-01

Site: PANTRY #3131

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY GCMS: SM6200 B			**MCL**	**SM6200 B**	**Units: ug/L**		
1,1,1,2-Tetrachloroethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,1,1-Trichloroethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,1,2,2-Tetrachloroethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,1,2-Trichloroethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,1-Dichloroethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,1-Dichloroethene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,1-Dichloropropene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,2,3-Trichlorobenzene	ND		0.5	1	01/09/14 18:52	RPJ	5363761
1,2,3-Trichloropropane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,2,4-Trichlorobenzene	ND		0.5	1	01/09/14 18:52	RPJ	5363761
1,2,4-Trimethylbenzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,2-Dibromo-3-chloropropane	ND		0.5	1	01/09/14 18:52	RPJ	5363761
1,2-Dibromoethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,2-Dichlorobenzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,2-Dichloroethane	ND		0.2	1	01/09/14 18:52	RPJ	5363761
1,2-Dichloropropane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,3,5-Trimethylbenzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,3-Dichlorobenzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,3-Dichloropropane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
1,4-Dichlorobenzene	ND		0.5	1	01/09/14 18:52	RPJ	5363761
2,2-Dichloropropane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
2-Butanone	ND		12	1	01/09/14 18:52	RPJ	5363761
2-Chlorotoluene	ND		0.2	1	01/09/14 18:52	RPJ	5363761
2-Hexanone	ND		0.5	1	01/09/14 18:52	RPJ	5363761
4-Chlorotoluene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
4-Methyl-2-pentanone	ND		0.5	1	01/09/14 18:52	RPJ	5363761
Acetone	ND		10	1	01/09/14 18:52	RPJ	5363761
Benzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Bromobenzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Bromochloromethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Bromodichloromethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Bromoform	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Bromomethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Carbon tetrachloride	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Chlorobenzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Chloroethane	ND		0.2	1	01/09/14 18:52	RPJ	5363761

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

1/10/2014 3:45:16 PM

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID MW-10 **Collected:** 01/03/2014 10:35 **Lab Sample ID:** L0038367-01

Site: PANTRY #3131

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY GCMS: SM6200 B			**MCL**	**SM6200 B**	**Units: ug/L**		
Chloroform	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Chloromethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
cis-1,2-Dichloroethene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
cis-1,3-Dichloropropene	ND		0.2	1	01/09/14 18:52	RPJ	5363761
Dibromochloromethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Dibromomethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Dichlorodifluoromethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Ethanol	ND		50	1	01/09/14 18:52	RPJ	5363761
Ethylbenzene	0.5		0.1	1	01/09/14 18:52	RPJ	5363761
Hexachlorobutadiene	ND		0.2	1	01/09/14 18:52	RPJ	5363761
Isopropyl ether	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Isopropylbenzene	ND		0.2	1	01/09/14 18:52	RPJ	5363761
Methyl tert-butyl ether	ND		0.2	1	01/09/14 18:52	RPJ	5363761
Methylene chloride	ND		0.2	1	01/09/14 18:52	RPJ	5363761
Naphthalene	ND		0.5	1	01/09/14 18:52	RPJ	5363761
n-Butylbenzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
n-Propylbenzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
p-Isopropyltoluene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
sec-Butylbenzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Styrene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
tert-Butylbenzene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Tetrachloroethene	ND		0.2	1	01/09/14 18:52	RPJ	5363761
Toluene	0.18		0.1	1	01/09/14 18:52	RPJ	5363761
trans-1,2-Dichloroethene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
trans-1,3-Dichloropropene	ND		0.2	1	01/09/14 18:52	RPJ	5363761
Trichloroethene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Trichlorofluoromethane	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Vinyl acetate	ND		0.2	1	01/09/14 18:52	RPJ	5363761
Vinyl chloride	ND		0.1	1	01/09/14 18:52	RPJ	5363761
m & p-Xylene	ND		0.2	1	01/09/14 18:52	RPJ	5363761
o-Xylene	ND		0.1	1	01/09/14 18:52	RPJ	5363761
Xylene, Total	ND		0.3	1	01/09/14 18:52	RPJ	5363761
Surr: 1,2-Dichloroethane-d4	105		% 70-130	1	01/09/14 18:52	RPJ	5363761
Surr: 4-Bromofluorobenzene	101		% 70-130	1	01/09/14 18:52	RPJ	5363761
Surr: Toluene-d8	96.9		% 70-130	1	01/09/14 18:52	RPJ	5363761

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

1/10/2014 3:45:17 PM

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID MW-9 **Collected:** 01/03/2014 11:10 **Lab Sample ID:** L0038367-02

Site: PANTRY #3131

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY GCMS: SM6200 B			**MCL**	**SM6200 B**	**Units: ug/L**		
1,1,1,2-Tetrachloroethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,1,1-Trichloroethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,1,2,2-Tetrachloroethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,1,2-Trichloroethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,1-Dichloroethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,1-Dichloroethene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,1-Dichloropropene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,2,3-Trichlorobenzene	ND		0.5	1	01/09/14 19:17	RPJ	5363762
1,2,3-Trichloropropane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,2,4-Trichlorobenzene	ND		0.5	1	01/09/14 19:17	RPJ	5363762
1,2,4-Trimethylbenzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,2-Dibromo-3-chloropropane	ND		0.5	1	01/09/14 19:17	RPJ	5363762
1,2-Dibromoethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,2-Dichlorobenzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,2-Dichloroethane	ND		0.2	1	01/09/14 19:17	RPJ	5363762
1,2-Dichloropropane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,3,5-Trimethylbenzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,3-Dichlorobenzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,3-Dichloropropane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
1,4-Dichlorobenzene	ND		0.5	1	01/09/14 19:17	RPJ	5363762
2,2-Dichloropropane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
2-Butanone	ND		12	1	01/09/14 19:17	RPJ	5363762
2-Chlorotoluene	ND		0.2	1	01/09/14 19:17	RPJ	5363762
2-Hexanone	ND		0.5	1	01/09/14 19:17	RPJ	5363762
4-Chlorotoluene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
4-Methyl-2-pentanone	ND		0.5	1	01/09/14 19:17	RPJ	5363762
Acetone	ND		10	1	01/09/14 19:17	RPJ	5363762
Benzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Bromobenzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Bromochloromethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Bromodichloromethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Bromoform	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Bromomethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Carbon tetrachloride	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Chlorobenzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Chloroethane	ND		0.2	1	01/09/14 19:17	RPJ	5363762

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

1/10/2014 3:45:18 PM

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID MW-9 **Collected:** 01/03/2014 11:10 **Lab Sample ID:** L0038367-02

Site: PANTRY #3131

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY GCMS: SM6200 B			**MCL**	**SM6200 B**	**Units: ug/L**		
Chloroform	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Chloromethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
cis-1,2-Dichloroethene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
cis-1,3-Dichloropropene	ND		0.2	1	01/09/14 19:17	RPJ	5363762
Dibromochloromethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Dibromomethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Dichlorodifluoromethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Ethanol	ND		50	1	01/09/14 19:17	RPJ	5363762
Ethylbenzene	0.57		0.1	1	01/09/14 19:17	RPJ	5363762
Hexachlorobutadiene	ND		0.2	1	01/09/14 19:17	RPJ	5363762
Isopropyl ether	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Isopropylbenzene	ND		0.2	1	01/09/14 19:17	RPJ	5363762
Methyl tert-butyl ether	ND		0.2	1	01/09/14 19:17	RPJ	5363762
Methylene chloride	ND		0.2	1	01/09/14 19:17	RPJ	5363762
Naphthalene	ND		0.5	1	01/09/14 19:17	RPJ	5363762
n-Butylbenzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
n-Propylbenzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
p-Isopropyltoluene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
sec-Butylbenzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Styrene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
tert-Butylbenzene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Tetrachloroethene	ND		0.2	1	01/09/14 19:17	RPJ	5363762
Toluene	0.25		0.1	1	01/09/14 19:17	RPJ	5363762
trans-1,2-Dichloroethene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
trans-1,3-Dichloropropene	ND		0.2	1	01/09/14 19:17	RPJ	5363762
Trichloroethene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Trichlorofluoromethane	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Vinyl acetate	ND		0.2	1	01/09/14 19:17	RPJ	5363762
Vinyl chloride	ND		0.1	1	01/09/14 19:17	RPJ	5363762
m & p-Xylene	ND		0.2	1	01/09/14 19:17	RPJ	5363762
o-Xylene	ND		0.1	1	01/09/14 19:17	RPJ	5363762
Xylene, Total	ND		0.3	1	01/09/14 19:17	RPJ	5363762
Surr: 1,2-Dichloroethane-d4	105	%	70-130	1	01/09/14 19:17	RPJ	5363762
Surr: 4-Bromofluorobenzene	101	%	70-130	1	01/09/14 19:17	RPJ	5363762
Surr: Toluene-d8	98.0	%	70-130	1	01/09/14 19:17	RPJ	5363762

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
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J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

1/10/2014 3:45:19 PM

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID MW-8 **Collected:** 01/03/2014 11:45 **Lab Sample ID:** L0038367-03

Site: PANTRY #3131

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY GCMS: SM6200 B			**MCL**	**SM6200 B**	**Units: ug/L**		
1,1,1,2-Tetrachloroethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,1,1-Trichloroethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,1,2,2-Tetrachloroethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,1,2-Trichloroethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,1-Dichloroethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,1-Dichloroethene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,1-Dichloropropene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,2,3-Trichlorobenzene	ND		0.5	1	01/09/14 19:41	RPJ	5363763
1,2,3-Trichloropropane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,2,4-Trichlorobenzene	ND		0.5	1	01/09/14 19:41	RPJ	5363763
1,2,4-Trimethylbenzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,2-Dibromo-3-chloropropane	ND		0.5	1	01/09/14 19:41	RPJ	5363763
1,2-Dibromoethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,2-Dichlorobenzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,2-Dichloroethane	ND		0.2	1	01/09/14 19:41	RPJ	5363763
1,2-Dichloropropane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,3,5-Trimethylbenzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,3-Dichlorobenzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,3-Dichloropropane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
1,4-Dichlorobenzene	ND		0.5	1	01/09/14 19:41	RPJ	5363763
2,2-Dichloropropane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
2-Butanone	ND		12	1	01/09/14 19:41	RPJ	5363763
2-Chlorotoluene	ND		0.2	1	01/09/14 19:41	RPJ	5363763
2-Hexanone	ND		0.5	1	01/09/14 19:41	RPJ	5363763
4-Chlorotoluene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
4-Methyl-2-pentanone	ND		0.5	1	01/09/14 19:41	RPJ	5363763
Acetone	ND		10	1	01/09/14 19:41	RPJ	5363763
Benzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Bromobenzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Bromochloromethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Bromodichloromethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Bromoform	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Bromomethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Carbon tetrachloride	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Chlorobenzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Chloroethane	ND		0.2	1	01/09/14 19:41	RPJ	5363763

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

1/10/2014 3:45:20 PM

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID MW-8 **Collected:** 01/03/2014 11:45 **Lab Sample ID:** L0038367-03

Site: PANTRY #3131

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY GCMS: SM6200 B			**MCL**	**SM6200 B**	**Units: ug/L**		
Chloroform	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Chloromethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
cis-1,2-Dichloroethene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
cis-1,3-Dichloropropene	ND		0.2	1	01/09/14 19:41	RPJ	5363763
Dibromochloromethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Dibromomethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Dichlorodifluoromethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Ethanol	ND		50	1	01/09/14 19:41	RPJ	5363763
Ethylbenzene	0.58		0.1	1	01/09/14 19:41	RPJ	5363763
Hexachlorobutadiene	ND		0.2	1	01/09/14 19:41	RPJ	5363763
Isopropyl ether	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Isopropylbenzene	ND		0.2	1	01/09/14 19:41	RPJ	5363763
Methyl tert-butyl ether	0.59		0.2	1	01/09/14 19:41	RPJ	5363763
Methylene chloride	ND		0.2	1	01/09/14 19:41	RPJ	5363763
Naphthalene	ND		0.5	1	01/09/14 19:41	RPJ	5363763
n-Butylbenzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
n-Propylbenzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
p-Isopropyltoluene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
sec-Butylbenzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Styrene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
tert-Butylbenzene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Tetrachloroethene	ND		0.2	1	01/09/14 19:41	RPJ	5363763
Toluene	0.26		0.1	1	01/09/14 19:41	RPJ	5363763
trans-1,2-Dichloroethene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
trans-1,3-Dichloropropene	ND		0.2	1	01/09/14 19:41	RPJ	5363763
Trichloroethene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Trichlorofluoromethane	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Vinyl acetate	ND		0.2	1	01/09/14 19:41	RPJ	5363763
Vinyl chloride	ND		0.1	1	01/09/14 19:41	RPJ	5363763
m & p-Xylene	ND		0.2	1	01/09/14 19:41	RPJ	5363763
o-Xylene	ND		0.1	1	01/09/14 19:41	RPJ	5363763
Xylene, Total	ND		0.3	1	01/09/14 19:41	RPJ	5363763
Surr: 1,2-Dichloroethane-d4	104		% 70-130	1	01/09/14 19:41	RPJ	5363763
Surr: 4-Bromofluorobenzene	99.1		% 70-130	1	01/09/14 19:41	RPJ	5363763
Surr: Toluene-d8	94.8		% 70-130	1	01/09/14 19:41	RPJ	5363763

Qualifiers:
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B - Analyte Detected In The Associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
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MI - Matrix Interference

1/10/2014 3:45:21 PM

Quality Control Documentation

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

CARDNO ATC

89.42017.3131

Analysis: Volatile Organics by GCMS: SM6200 B
Method: SM6200 B

WorkOrder: L0038367
Lab Batch ID: R325735

Method Blank

RunID: KB_140109A-5363743 Units: ug/L
Analysis Date: 01/09/2014 11:24 Analyst: RPJ

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
L0038367-01A	MW-10
L0038367-02A	MW-9
L0038367-03A	MW-8

Analyte	Result	Rep Limit
1,1,1,2-Tetrachloroethane	ND	0.10
1,1,1-Trichloroethane	ND	0.10
1,1,2,2-Tetrachloroethane	ND	0.10
1,1,2-Trichloroethane	ND	0.10
1,1-Dichloroethane	ND	0.10
1,1-Dichloroethene	ND	0.10
1,1-Dichloropropene	ND	0.10
1,2,3-Trichlorobenzene	ND	0.50
1,2,3-Trichloropropane	ND	0.10
1,2,4-Trichlorobenzene	ND	0.50
1,2,4-Trimethylbenzene	ND	0.10
1,2-Dibromo-3-chloropropane	ND	0.50
1,2-Dibromoethane	ND	0.10
1,2-Dichlorobenzene	ND	0.10
1,2-Dichloroethane	ND	0.20
1,2-Dichloropropane	ND	0.10
1,3,5-Trimethylbenzene	ND	0.10
1,3-Dichlorobenzene	ND	0.10
1,3-Dichloropropane	ND	0.10
1,4-Dichlorobenzene	ND	0.50
2,2-Dichloropropane	ND	0.10
2-Butanone	ND	12
2-Chlorotoluene	ND	0.20
2-Hexanone	ND	0.50
4-Chlorotoluene	ND	0.10
4-Methyl-2-pentanone	ND	0.50
Acetone	ND	10
Benzene	ND	0.10
Bromobenzene	ND	0.10
Bromochloromethane	ND	0.10
Bromodichloromethane	ND	0.10
Bromoform	ND	0.10
Bromomethane	ND	0.10
Carbon tetrachloride	ND	0.10
Chlorobenzene	ND	0.10
Chloroethane	ND	0.20
Chloroform	ND	0.10
Chloromethane	ND	0.10
cis-1,2-Dichloroethene	ND	0.10
cis-1,3-Dichloropropene	ND	0.20
Dibromochloromethane	ND	0.10

Qualifiers:
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E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Version 2.1 - Modified February 11, 2011

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

CARDNO ATC

89.42017.3131

Analysis: Volatile Organics by GCMS: SM6200 B
Method: SM6200 B
WorkOrder: L0038367
Lab Batch ID: R325735

Method Blank

RunID: KB_140109A-5363743 Units: ug/L
Analysis Date: 01/09/2014 11:24 Analyst: RPJ

Analyte	Result	Rep Limit
Dibromomethane	ND	0.10
Dichlorodifluoromethane	ND	0.10
Ethanol	ND	50
Ethylbenzene	ND	0.10
Hexachlorobutadiene	ND	0.20
Isopropyl ether	ND	0.10
Isopropylbenzene	ND	0.20
Methyl tert-butyl ether	ND	0.20
Methylene chloride	ND	0.20
Naphthalene	ND	0.50
n-Butylbenzene	ND	0.10
n-Propylbenzene	ND	0.10
p-Isopropyltoluene	ND	0.10
sec-Butylbenzene	ND	0.10
Styrene	ND	0.10
tert-Butylbenzene	ND	0.10
Tetrachloroethene	ND	0.20
Toluene	ND	0.10
trans-1,2-Dichloroethene	ND	0.10
trans-1,3-Dichloropropene	ND	0.20
Trichloroethene	ND	0.10
Trichlorofluoromethane	ND	0.10
Vinyl acetate	ND	0.20
Vinyl chloride	ND	0.10
m & p-Xylene	ND	0.20
o-Xylene	ND	0.10
Xylene, Total	ND	0.30
Surr: 1,2-Dichloroethane-d4	98.7	70-130
Surr: 4-Bromofluorobenzene	103.5	70-130
Surr: Toluene-d8	99.0	70-130

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: KB_140109A-5363740 Units: ug/L
Analysis Date: 01/09/2014 10:10 Analyst: RPJ

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
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1/10/2014 3:45:30 PM

Version 2.1 - Modified February 11, 2011

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

CARDNO ATC

89.42017.3131

Analysis: Volatile Organics by GCMS: SM6200 B
Method: SM6200 B
WorkOrder: L0038367
Lab Batch ID: R325735

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
1,1,1,2-Tetrachloroethane	20.0	19.0	95.1	20.0	19.3	96.5	1.4	20	70	130
1,1,1-Trichloroethane	20.0	20.1	100	20.0	20.9	105	4.1	20	70	130
1,1,2,2-Tetrachloroethane	20.0	20.5	103	20.0	20.4	102	0.3	20	70	130
1,1,2-Trichloroethane	20.0	19.1	95.5	20.0	18.9	94.4	1.1	20	70	130
1,1-Dichloroethane	20.0	18.7	93.4	20.0	19.2	96.1	2.8	20	70	130
1,1-Dichloroethene	20.0	18.3	91.7	20.0	19.0	95.1	3.7	20	70	130
1,1-Dichloropropene	20.0	19.7	98.3	20.0	20.5	103	4.3	20	70	130
1,2,3-Trichlorobenzene	20.0	21.1	106	20.0	20.6	103	2.7	20	70	130
1,2,3-Trichloropropane	20.0	20.3	102	20.0	20.7	104	1.8	20	70	130
1,2,4-Trichlorobenzene	20.0	21.6	108	20.0	21.7	109	0.3	20	70	130
1,2,4-Trimethylbenzene	20.0	17.0	84.8	20.0	17.2	85.8	1.2	20	70	130
1,2-Dibromo-3-chloropropane	20.0	17.2	86.0	20.0	17.6	87.9	2.2	20	70	130
1,2-Dibromoethane	20.0	20.3	101	20.0	21.0	105	3.6	20	70	130
1,2-Dichlorobenzene	20.0	20.5	103	20.0	20.6	103	0.5	20	70	130
1,2-Dichloroethane	20.0	19.0	95.0	20.0	18.8	94.2	0.9	20	70	130
1,2-Dichloropropane	20.0	19.5	97.7	20.0	19.8	98.9	1.2	20	70	130
1,3,5-Trimethylbenzene	20.0	22.9	114	20.0	23.3	116	1.6	20	70	130
1,3-Dichlorobenzene	20.0	21.2	106	20.0	21.3	106	0.5	20	70	130
1,3-Dichloropropane	20.0	20.5	102	20.0	20.9	105	2.4	20	70	130
1,4-Dichlorobenzene	20.0	20.5	102	20.0	20.6	103	0.6	20	70	130
2,2-Dichloropropane	20.0	20.5	103	20.0	21.4	107	4.1	20	70	130
2-Butanone	50.0	51.2	102	50.0	51.3	103	0.2	20	70	130
2-Chlorotoluene	20.0	20.5	103	20.0	20.8	104	1.1	20	70	130
2-Hexanone	50.0	56.3	113	50.0	58.3	117	3.5	20	70	130
4-Chlorotoluene	20.0	21.2	106	20.0	21.5	107	1.2	20	70	130
4-Methyl-2-pentanone	50.0	38.7	77.4	50.0	38.7	77.3	0.1	20	70	130
Acetone	50.0	42.8	85.7	50.0	40.0	80.0	6.8	20	70	130
Benzene	20.0	19.6	97.9	20.0	19.8	98.8	0.9	20	70	130
Bromobenzene	20.0	19.5	97.5	20.0	19.6	97.9	0.4	20	70	130
Bromochloromethane	20.0	17.2	85.9	20.0	17.0	84.9	1.1	20	70	130
Bromodichloromethane	20.0	18.8	94.2	20.0	18.9	94.3	0.1	20	70	130
Bromoform	20.0	17.3	86.7	20.0	17.5	87.6	1.0	20	70	130
Bromomethane	20.0	13.8	69.2	20.0	16.2	80.8	15.4	20	60	140
Carbon tetrachloride	20.0	21.4	107	20.0	22.0	110	3.1	20	70	130
Chlorobenzene	20.0	20.1	101	20.0	20.7	104	2.8	20	70	130

Qualifiers:
ND/U - Not Detected at the Reporting Limit
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Version 2.1 - Modified February 11, 2011

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

CARDNO ATC

89.42017.3131

Analysis: Volatile Organics by GCMS: SM6200 B
Method: SM6200 B
WorkOrder: L0038367
Lab Batch ID: R325735

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: KB_140109A-5363740 Units: ug/L
Analysis Date: 01/09/2014 10:10 Analyst: RPJ

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Chloroethane	20.0	18.2	91.0	20.0	21.3	106	15.6	20	60	140
Chloroform	20.0	17.4	86.9	20.0	18.3	91.3	4.9	20	70	130
Chloromethane	20.0	15.7	78.3	20.0	17.1	85.4	8.7	20	60	140
cis-1,2-Dichloroethene	20.0	18.6	93.1	20.0	19.2	96.0	3.1	20	70	130
cis-1,3-Dichloropropene	20.0	17.0	84.8	20.0	16.7	83.3	1.7	20	70	130
Dibromochloromethane	20.0	18.0	90.2	20.0	18.1	90.5	0.4	20	70	130
Dibromomethane	20.0	19.2	96.0	20.0	19.3	96.4	0.4	20	70	130
Dichlorodifluoromethane	20.0	17.9	89.6	20.0	18.9	94.3	5.1	20	60	140
Ethanol	400	567	142 *	400	349	87.2	47.7 *	20	70	130
Ethylbenzene	20.0	20.6	103	20.0	21.2	106	2.6	20	70	130
Hexachlorobutadiene	20.0	19.6	98.0	20.0	19.3	96.5	1.6	20	70	130
Isopropyl ether	20.0	22.1	110	20.0	22.3	111	1.0	20	70	130
Isopropylbenzene	20.0	23.4	117	20.0	24.1	121	3.1	20	70	130
Methyl tert-butyl ether	20.0	20.5	103	20.0	21.1	106	3.0	20	70	130
Methylene chloride	20.0	20.3	101	20.0	20.6	103	1.8	20	70	130
Naphthalene	20.0	14.3	71.5	20.0	14.3	71.7	0.3	20	70	130
n-Butylbenzene	20.0	23.9	120	20.0	24.3	121	1.5	20	70	130
n-Propylbenzene	20.0	21.2	106	20.0	21.5	107	1.4	20	70	130
p-Isopropyltoluene	20.0	17.0	84.8	20.0	17.1	85.5	0.8	20	70	130
sec-Butylbenzene	20.0	23.4	117	20.0	23.7	118	1.1	20	70	130
Styrene	20.0	17.7	88.4	20.0	18.1	90.3	2.1	20	70	130
tert-Butylbenzene	20.0	22.7	113	20.0	23.0	115	1.3	20	70	130
Tetrachloroethene	20.0	19.5	97.3	20.0	20.2	101	3.6	20	70	130
Toluene	20.0	20.4	102	20.0	21.2	106	4.0	20	70	130
trans-1,2-Dichloroethene	20.0	17.8	89.1	20.0	19.4	97.2	8.6	20	70	130
trans-1,3-Dichloropropene	20.0	18.8	94.2	20.0	19.2	96.2	2.1	20	70	130
Trichloroethene	20.0	20.6	103	20.0	20.6	103	0.1	20	70	130
Trichlorofluoromethane	20.0	20.0	100	20.0	21.7	108	8.0	20	60	140
Vinyl acetate	20.0	21.7	108	20.0	21.6	108	0.3	20	70	130

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
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1/10/2014 3:45:31 PM

Version 2.1 - Modified February 11, 2011

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

CARDNO ATC

89.42017.3131

Analysis: Volatile Organics by GCMS: SM6200 B **WorkOrder:** L0038367
Method: SM6200 B **Lab Batch ID:** R325735

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: KB_140109A-5363740 Units: ug/L
Analysis Date: 01/09/2014 10:10 Analyst: RPJ

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Vinyl chloride	20.0	18.1	90.6	20.0	18.5	92.4	1.9	20	60	140
m & p-Xylene	40.0	45.2	113	40.0	46.4	116	2.6	20	70	130
o-Xylene	20.0	23.0	115	20.0	23.6	118	2.8	20	70	130
Xylene, Total	60.0	68.2	114	60.0	70.0	117	2.6	20	70	130
Surr: 1,2-Dichloroethane-d4	10.0	9.18	91.8	10.0	9.35	93.5	1.8	20	70	130
Surr: 4-Bromofluorobenzene	10.0	10.2	102	10.0	10.4	104	2.0	20	70	130
Surr: Toluene-d8	10.0	10.2	102	10.0	9.92	99.2	2.6	20	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: L0038367-03
RunID: KB_140109A-5363764 Units: ug/L
Analysis Date: 01/09/2014 20:06 Analyst: RPJ

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
1,1,1,2-Tetrachloroethane	ND	100	90.5	90.5	100	95.7	95.7	5.60	20	70	130
1,1,1-Trichloroethane	ND	100	92.6	92.6	100	94.0	94.0	1.51	20	70	130
1,1,2,2-Tetrachloroethane	ND	100	97.7	97.7	100	99.9	99.9	2.20	20	70	130
1,1,2-Trichloroethane	ND	100	92.4	92.4	100	95.7	95.7	3.44	20	70	130
1,1-Dichloroethane	ND	100	88.8	88.8	100	89.5	89.5	0.805	20	70	130
1,1-Dichloroethene	ND	100	78.8	78.8	100	77.2	77.2	2.07	20	70	130
1,1-Dichloropropene	ND	100	88.9	88.9	100	90.0	90.0	1.22	20	70	130
1,2,3-Trichlorobenzene	ND	100	96.3	96.3	100	104	104	7.61	20	70	130
1,2,3-Trichloropropane	ND	100	101	101	100	106	106	4.99	20	70	130
1,2,4-Trichlorobenzene	ND	100	97.5	97.5	100	105	105	7.55	20	70	130

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

1/10/2014 3:45:31 PM

Version 2.1 - Modified February 11, 2011

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

CARDNO ATC

89.42017.3131

Analysis: Volatile Organics by GCMS: SM6200 B
Method: SM6200 B
WorkOrder: L0038367
Lab Batch ID: R325735

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: L0038367-03
RunID: KB_140109A-5363764 Units: ug/L
Analysis Date: 01/09/2014 20:06 Analyst: RPJ

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
1,2,4-Trimethylbenzene	ND	100	78.9	78.9	100	82.9	82.9	5.05	20	70	130
1,2-Dibromo-3-chloropropane	ND	100	83.7	83.7	100	88.6	88.6	5.62	20	70	130
1,2-Dibromoethane	ND	100	99.6	99.6	100	103	103	3.46	20	70	130
1,2-Dichlorobenzene	ND	100	97.6	97.6	100	103	103	5.48	20	70	130
1,2-Dichloroethane	ND	100	89.8	89.8	100	89.6	89.6	0.258	20	70	130
1,2-Dichloropropane	ND	100	94.2	94.2	100	94.4	94.4	0.186	20	70	130
1,3,5-Trimethylbenzene	ND	100	107	107	100	112	112	4.85	20	70	130
1,3-Dichlorobenzene	ND	100	98.8	98.8	100	103	103	3.95	20	70	130
1,3-Dichloropropane	ND	100	98.5	98.5	100	103	103	4.21	20	70	130
1,4-Dichlorobenzene	ND	100	94.6	94.6	100	99.0	99.0	4.59	20	70	130
2,2-Dichloropropane	ND	100	49.2	49.2 *	100	51.1	51.1 *	3.75	20	70	130
2-Butanone	ND	250	249	99.7	250	252	101	1.08	20	70	130
2-Chlorotoluene	ND	100	95.0	95.0	100	101	101	6.12	20	70	130
2-Hexanone	ND	250	277	111	250	289	116	4.14	20	70	130
4-Chlorotoluene	ND	100	97.6	97.6	100	102	102	4.83	20	70	130
4-Methyl-2-pentanone	ND	250	189	75.6	250	192	76.6	1.39	20	70	130
Acetone	ND	250	260	104	250	219	86.8	17.5	20	70	130
Benzene	ND	100	91.1	91.1	100	90.6	90.6	0.562	20	70	130
Bromobenzene	ND	100	93.2	93.2	100	96.2	96.2	3.19	20	70	130
Bromochloromethane	ND	100	83.0	83.0	100	79.7	79.7	4.11	20	70	130
Bromodichloromethane	ND	100	90.8	90.8	100	90.6	90.6	0.217	20	70	130
Bromoform	ND	100	80.8	80.8	100	83.5	83.5	3.21	20	70	130
Bromomethane	ND	100	12.4	12.4 *	100	14.7	14.7 *	16.9	20	60	140
Carbon tetrachloride	ND	100	94.3	94.3	100	96.7	96.7	2.56	20	70	130
Chlorobenzene	ND	100	97.2	97.2	100	99.8	99.8	2.61	20	70	130
Chloroethane	ND	100	100	100	100	91.3	91.3	9.14	20	60	140
Chloroform	ND	100	84.9	84.9	100	83.3	83.3	1.96	20	70	130
Chloromethane	ND	100	60.3	60.3	100	61.2	61.2	1.43	20	60	140

Qualifiers:
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MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
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QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

1/10/2014 3:45:32 PM

Version 2.1 - Modified February 11, 2011

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

CARDNO ATC

89.42017.3131

Analysis: Volatile Organics by GCMS: SM6200 B
Method: SM6200 B
WorkOrder: L0038367
Lab Batch ID: R325735

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: L0038367-03
RunID: KB_140109A-5363764 Units: ug/L
Analysis Date: 01/09/2014 20:06 Analyst: RPJ

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
cis-1,2-Dichloroethene	ND	100	87.8	87.8	100	89.2	89.2	1.57	20	70	130
cis-1,3-Dichloropropene	ND	100	65.0	65.0 *	100	66.8	66.8 *	2.77	20	70	130
Dibromochloromethane	ND	100	86.2	86.2	100	87.9	87.9	1.99	20	70	130
Dibromomethane	ND	100	92.7	92.7	100	93.3	93.3	0.678	20	70	130
Dichlorodifluoromethane	ND	100	62.1	62.1	100	64.0	64.0	3.00	20	60	140
Ethanol	ND	2000	853	42.6 *	2000	1520	76.1	56.3 *	20	70	130
Ethylbenzene	0.584	100	98.1	97.5	100	100	99.6	2.13	20	70	130
Hexachlorobutadiene	ND	100	81.5	81.5	100	89.1	89.1	8.99	20	70	130
Isopropyl ether	ND	100	102	102	100	106	106	4.28	20	70	130
Isopropylbenzene	ND	100	111	111	100	114	114	3.10	20	70	130
Methyl tert-butyl ether	ND	100	95.3	94.7	100	90.4	89.8	5.28	20	70	130
Methylene chloride	ND	100	91.4	91.4	100	90.9	90.9	0.557	20	70	130
Naphthalene	ND	100	66.7	66.7 *	100	72.7	72.7	8.55	20	70	130
n-Butylbenzene	ND	100	105	105	100	109	109	3.61	20	70	130
n-Propylbenzene	ND	100	96.6	96.6	100	101	101	4.47	20	70	130
p-Isopropyltoluene	ND	100	75.3	75.3	100	79.7	79.7	5.60	20	70	130
sec-Butylbenzene	ND	100	107	107	100	113	113	4.91	20	70	130
Styrene	ND	100	82.7	82.7	100	84.6	84.6	2.20	20	70	130
tert-Butylbenzene	ND	100	106	106	100	112	112	4.90	20	70	130
Tetrachloroethene	ND	100	95.0	95.0	100	95.7	95.7	0.718	20	70	130
Toluene	ND	100	96.9	96.7	100	98.5	98.2	1.57	20	70	130
trans-1,2-Dichloroethene	ND	100	83.3	83.3	100	81.3	81.3	2.46	20	70	130
trans-1,3-Dichloropropene	ND	100	64.5	64.5 *	100	70.7	70.7	9.14	20	70	130
Trichloroethene	ND	100	95.6	95.6	100	96.5	96.5	0.942	20	70	130
Trichlorofluoromethane	ND	100	93.5	93.5	100	80.1	80.1	15.4	20	60	140
Vinyl acetate	ND	100	95.1	95.1	100	103	103	8.24	20	70	130
Vinyl chloride	ND	100	75.8	75.8	100	75.9	75.9	0.178	20	60	140
m & p-Xylene	ND	200	214	107	200	217	108	1.38	20	70	130

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
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E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
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1/10/2014 3:45:32 PM

Version 2.1 - Modified February 11, 2011

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

CARDNO ATC

89.42017.3131

Analysis: Volatile Organics by GCMS: SM6200 B
Method: SM6200 B
WorkOrder: L0038367
Lab Batch ID: R325735

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: L0038367-03
RunID: KB_140109A-5363764 Units: ug/L
Analysis Date: 01/09/2014 20:06 Analyst: RPJ

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
o-Xylene	ND	100	109	109	100	112	112	2.91	20	70	130
Xylene, Total	ND	300	323	108	300	329	110	1.90	20	70	130
Surr: 1,2-Dichloroethane-d4	ND	50	48.4	96.8	50	46.8	93.6	3.36	20	70	130
Surr: 4-Bromofluorobenzene	ND	50	50.9	102	50	51.8	104	1.63	20	70	130
Surr: Toluene-d8	ND	50	50.6	101	50	49.8	99.6	1.64	20	70	130

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
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1/10/2014 3:45:33 PM

Version 2.1 - Modified February 11, 2011

Sample Receipt Checklist, Acronym Report And Chain of Custody

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Sample Receipt Checklist

Workorder:	L0038367	Received By:	TMJ
Date and Time Received:	1/4/2014 9:40:00 AM	Carrier name:	FedEx-Pri Saturday Del
Temperature:	3°C	Chilled by:	Water Ice

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
2. Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐	
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑	
4. Chain of custody present?	Yes ☑	No ☐		
5. Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
6. Chain of custody agrees with sample labels?	Yes ☑	No ☐		
7. Samples in proper container/bottle?	Yes ☑	No ☐		
8. Sample containers intact?	Yes ☑	No ☐		
9. Sufficient sample volume for indicated test?	Yes ☑	No ☐		
10. All samples received within holding time?	Yes ☑	No ☐		
11. Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
12. Water - VOA vials have zero headspace?	Yes ☑	No ☐	VOA Vials Not Present ☐	
13. Water - Preservation checked upon receipt (except VOA*)?	Yes ☐	No ☐	Not Applicable ☑	

*VOA Preservation Checked After Sample Analysis

Accutest Representative: _____ Contact Date & Time: _____

Client Name Contacted: _____

Non Conformance Issues: _____

Client Instructions: _____

ACCUTEST LABORATORIES

ACCUTEST GULF COAST
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Report Acronyms For WorkOrder L0038367

Usage: Report Header Or Footer

Abbreviation	Description
%	Percent
% Rcvry	Percent Recovery
COC	Chain Of Custody
COC ID	Chain Of Custody Identifier Or Number
Dil. Factor	Dilution Factor
MCL	Maximum Contaminant Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
Prep	Preparation
Qual	Data Qualifier
Rep. Limit	Reporting Limit
RPD	Relative Percent Difference
Smp	Sample

Usage: Units

Abbreviation	Description
ug/l	micrograms per liter

CHAIN OF CUSTODY

ACCUTEST LABORATORIES

Accutest Gulf Coast
506 Ambassador Caffery Pkwy, Scott, LA 70583
TEL.337-237-4775 FAX: 337-237-7838
www.accutest.com

LSR-F005.00

PAGE 1 OF 1

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: L00383617

Client / Reporting Information

Company Name: Cardno/ATC
Street Address: 2725 E. Millbrook Suite 115
City: Raleigh State: NC Zip: 27604
Project Contact: Mike Shaw E-mail: Mike.Shaw@Cardno
Phone #: 704-578-5974 Fax #:
Sampler(s) Name(s): Frank Beecher Phone #: 910-398-0489

Project Information

Project Name: Pantry 313
Street: 3002 Fayetteville
City: Lumberton State: NC
Project #: 89.42017.313
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analyses

SM 6200B

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	LAB USE ONLY
	MW10	1-3-14	1035	FB	GW	3	1												3
	MW9		1110																3
	MW8		1145																3

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Y557 (13)

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1 Frank Beecher	Date Time: 1-3-14 215	Received By: 1 FX	Relinquished By: 2 FX	Date Time:	Received By: 2 ACCT. Driver (RS)
Relinquished by Sampler: 3 ACCT. Driver (RS)	Date Time: 1-4-14 0840	Received By: 3 Jamelle Jones	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by:	Date Time:	Received By: 5	Custody Seal # C50C	[ ] Intact [ ] Not Intact	Preserved where applicable [X] On Ice [✓] Cooler Temp. 1.7/3.0

Page 21 of 21


(337) 237-4775
ORIGIN ID:LFTA (919) 561-3893
FRANK BEECHER
ARDNO - ATC - RALEIGH
318 BRIGHTON ROAD
WILMINGTON, NC 28409
UNITED STATES US
SHIP DATE: 29DEC13
ACTWGT: 1.0 LB MAN
CAD: 031768/CAFE2704
BILL SENDER
SAMPLE MANAGEMENT
ACCUTEST LABS
109 COMMISSION BLVD
LAFAYETTE LA 70508
(337) 237-4775
REF: 46284/KITS/MR
DEPT: ENVIRONMENTAL
FedEx
FedEx
TRK# 0221 9173 7253 2463
SATURDAY 12:00P
PRIORITY OVERNIGHT
70508
LA-US
LFT
XO LFTA
#304527 01/03 51A01/DSEC/1A9E

PA-2787

DIVISION OF ENVIRONMENTAL MANAGEMENT

June 26, 1991

Mr. Sam Everett
1203 East 11th Street
Lumberton, NC 28358

SUBJECT: Review of Lab Results
UST Soil Assessment
Oscar Baxley Grocery
Highway 211 - East
Lumberton, Robeson County

Dear Mr. Everett:

This is to acknowledge receipt of the above mentioned soil assessment dated June 14, 1991.

Based on review of the lab results, no additional soil excavation and removal is required. Should new information become available concerning this matter, we reserve the right to reverse this finding.

Should you have any questions or need clarification, please contact Mrs. Cindy Hegg of this office at (919) 486-1541.

Sincerely,

original signed by
M. J. Noland

M. J. Noland, P.E.
Regional Supervisor

CH
MJN/CH/gc

Site Investigation Report For Permanent Closure of U.S.T.

FOR TANKS IN NC

Return Completed Form To:
The appropriate DEM Regional Office according to the county of the facility's location. [SEE MAP ON REVERSE SIDE OF OWNER'S COPY (BLUE) FOR REGIONAL OFFICE ADDRESS].

Sate Use Only
I.D. Number _____
Date Received _____

INSTRUCTIONS

Please complete and return within (30) days following completion of site investigation.

I. Ownership of Tank(s)

Owner Name (Corporation, Individual, Public Agency, or Other Entity): Pauline Barley Everett
Street Address: 1203 East 11th Street
County: Robeson
City: Lumberton State: NC Zip Code: 28358
Area Code: 919 Telephone Number: 738-5863

II. Location of Tank(s)

Facility Name or Company: Oscar Barley Grocery
Facility ID # (if available): None
Street Address or State Road: Highway 211 East
County: Robeson City: Lumberton Zip Code: 28358
Area Code: 919 Telephone Number: None

III. Contact Person

Name: Sam Everett Job Title: Husband of Owner Telephone Number: (919) 738-5863
Closure Contractor (Name): Floyd Grading Co (Address): PO Box 3107 Lumberton NC 28359
Lab (Name): Oxford Laboratories Inc (Address): 1316 South 5th Street Wilmington, NC 28401

IV. U.S.T. Information

Tank No.	Size in Gallons	Tank Dimensions	Last Contents
1	550	42" X 7'.6"	GAS
2	550	42" X 7'.6"	GAS

V. Excavation Condition

Tank No.	Water in Excavation Yes	Water in Excavation No	Free Product Yes	Free Product No	Notable Odor or Visible Soil Contamination Yes	Notable Odor or Visible Soil Contamination No
1		✓		✓		✓
2		✓		✓		✓

VI. Additional Information Required

See reverse side of blue copy (owner's copy) for additional information required by N.C. - DEM in the written report and sketch.

VII. Check List

Check the activities completed.

- ✓ Contact local fire marshall
- ✓ Notify DEM Regional Office before abandonment.
- ✓ Drain & flush piping into tank.
- ✓ Remove all product and residuals from tank
- ✓ Excavate down to tank.
- ✓ Clean and inspect tank.
- ✓ Remove drop tube, fill pipe, gauge pipe, vapor recovery tank connections, submersible pumps and other tank fixtures.
- ✓ Cap or plug all lines except the vent and fill lines.
- ✓ Purge tank of all product & flammable vapors.
- ✓ Cut one or more large holes in the tanks.
- ✓ Backfill the area.

Date Tank Permanently closed: 5/23/91

ABANDONMENT IN PLACE
- ☐ Fill tank until material overflows tank opening;
- ☐ Plug or cap all openings;.
- ☐ Disconnect and cap or remove vent line
- ☐ Solid inert material used - please specify: _____

REMOVAL
- ✓ Create vent hole
- ✓ Label tank
- ✓ Dispose of tank in approved manner

Final tank destination: Floyd Grading Co

VIII. Certification (Read and Sign)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Print name and official title of owner or owner's authorized representative	Signature	Date Signed
Sam Everett	Sam Everett	5/23/91

GW/UST-2 White Copy - Regional Office Yellow Copy - Central Office Blue Copy - Owner

Notice of Intent: UST Permanent Closure or Change-In-Service

FOR TANKS IN **NC**

Return Completed Form To:
The appropriate DEM Regional Office according to the county of the facility's location. [SEE REVERSE SIDE OF OWNER'S COPY (BLUE) FOR REGIONAL OFFICE ADDRESS].

State Use Only
I. D. Number _____
Date Received _____

INSTRUCTIONS
Complete and return thirty (30) days prior to closure or change-in-service.

I. OWNERSHIP OF TANK(S)

Tank Owner Name: Pauline Barkley Everett
(Corporation, Individual, Public Agency, or Other Entity)
Street Address: 1203 East 11th Street
County: Robeson
City: Lumberton State: NC Zip Code 28358
Tele. No. (Area Code): 919-738-5863

II. LOCATION OF TANK(S)

Facility Name or Company Oscar Barkley Grocery
Facility ID # (if available) None
Street Address or State Road: Hwy 211 - East
County: Robeson City: Lumberton Zip Code 28358
Tele. No. (Area Code): None

III. CONTACT PERSON

Name: Sam Everett Job Title: Husband Telephone Number: 919) 738-5863

IV. TANK REMOVAL, CLOSURE IN PLACE, CHANGE-IN-SERVICE

1. Contact Local Fire Marshall.
2. Plan the entire closure event.
3. Conduct Site Soil Assessments.
4. If Removing Tanks or Closing in Place refer to API Publications. 2015 "Cleaning Petroleum Storage Tanks" & 1604 "Removal & Disposal of Used Underground Petroleum Storage Tanks".
5. Provide a sketch locating piping, tanks and soil sampling locations.
6. Fill out form GW/UST-2 "Site Investigation Report for Permanent Closure" and return within 30 days following the site investigation.
7. Keep records for 3 years.

V. WORK TO BE PERFORMED BY:

(Contractor) Name: Floyd Grading Co.
Address: P.O Box 3197 Lumberton State: N.C. Zip Code: 28359
Contact: Calvin F. Floyd Phone: Office 671-1177

VI. TANK(S) SCHEDULED FOR CLOSURE OR CHANGE-IN-SERVICE

TANK ID#	TANK CAPACITY	LAST CONTENTS	PROPOSED ACTIVITY: CLOSURE – Removal	CLOSURE – Abandonment In Place	CHANGE-IN-SERVICE – New Contents Stored
1	550	GAS	✓		
2	550	GAS	✓		

VII. OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

Print name and official title: Sam Everett - Owner
*Scheduled Removal Date: 5/23/91
Signature: Sam Everett
Date Submitted: 5/23/91

*If scheduled work date changes, notify your appropriate DEM Regional Office 48 hours prior to originally scheduled date.

GW/UST-3 White Copy - Regional Office Yellow Copy - Central Office Blue Copy - Owner

Fire Prevention Form 1.

APPLICATION TO USE, INSTALL, CONDUCT PROCESSES OR CARRY ON OPERATIONS INVOLVING OR CREATING CONDITIONS DEEMED HAZARDOUS TO LIFE OR PROPERTY

10-14-83
Date

To Chief of Fire Department, City of Lumberton, N. C.

Application is hereby made by the undersigned for a Permit to { Use / Install / Operate / Conduct }

in or on the premises known as TACO-BELL / FAYETTEVILLE ROAD ROBERTS ~~Street or~~ Avenue

the following materials, processes or operations.

(Describe briefly what is to be done and state what hazardous materials are to be used.)

FOR THE REMOVAL OF 4 - 4000 GALLON UNDERGROUND GASOLINE STORAGE TANKS.

#12-83

Conditions, surroundings and arrangements to be in accordance with the Fire Prevention Ordinance.

This application is / is not approved insofar as Zoning and Building Ordinances are concerned.

Inspector of Buildings

C. M. Lewis Jr.
Name of Applicant

P.O. Box 1887
Lumberton N.C.
Address of Applicant

Complete plans and construction details must be filed on all major projects and when requested by the chief of the fire department.

FREEMAN PRINTING CO., LUMBERTON, N. C., 500-2/68

PRELIMINARY SITE ASSESSMENT

SR 1997 (FAYETTEVILLE ROAD) WIDENING
TIP NO. U-5797, WBS NO. 44367.1.1

NCDOT PARCEL NO. 26
OWNER: LUMBERTON SQUARE LLC
3101 FAYETTEVILLE STREET
LUMBERTON, ROBESON COUNTY, NORTH CAROLINA

PREPARED FOR:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
C/O STV ENGINEERS, INC.
1600 PERIMETER PARK DRIVE, SUITE 225
MORRISVILLE, NC 2756002

PREPARED BY:
FALCON ENGINEERING, INC.
1210 TRINITY ROAD, SUITE 110
CARY, NC 27513

PROJECT NUMBER: G19011.00
JUNE 9, 2020

June 9, 2020

Mr. Patrick Livingston, PE
STV Engineers, Inc.
900 W. Trade St, Suite 715
Charlotte, NC 28202

Re: **Preliminary Site Assessment**
SR 1997 (Fayetteville Road) Widening
TIP No. U-5797, WBS No. 44367.1.1
Parcel No. 26
Owner: Lumberton Square LLC
3101 Fayetteville Street
Lumberton, Robeson County, North Carolina

Dear: Mr. Livingston:

Falcon is pleased to present the following Preliminary Site Assessment in support of the above-mentioned Project. Specifically, Falcon sampled soil in proximity to the project limits on this parcel in general accordance with the approved scope of work. Soils requiring remediation or special handling during construction were not identified.

Falcon recommends if drums, USTs, above ground storage tanks (ASTs), petroleum odors or sheen are observed during any excavation associated with any property involved in the project that all work in the vicinity stop until further assessment takes place. Further assessment can include but is not limited to; sampling the soil and groundwater, excavation, and proper handling and disposal of contaminated soils and groundwater.

Please review this report and advise us if you have any questions or concerns. We appreciate this opportunity to provide services to you and look forward to partnering with you on future projects. If you have any questions, please give Falcon a call at (919) 871-0800.

Sincerely,
FALCON ENGINEERING, INC.

Christopher J. Burkhardt
Environmental Services Manager

Jeremy R. Hamm, PE
Geotechnical Services Manager

TABLE OF CONTENTS

LIST OF FIGURES AND ATTACHMENTS

SECTION 1: INTRODUCTION

1.1 DESCRIPTION

Falcon Engineering, Inc. (Falcon) has completed a Preliminary Site Assessment of NCDOT TIP Project U-5797 Parcel No. 26. Parcel No. 26 is addressed as 3001 Fayetteville Road, Lumberton Robeson County, North Carolina. NCDOT is proposing to widen Fayetteville Road (SR 1997) from Farringdom Street to 22nd Street. The limits of the assessment are between the existing edge of NCDOT maintained pavement (within the existing NCDOT ROW) where accessible, and the proposed NCDOT ROW and/or easement (whichever boundary represents the largest area). Boring locations were placed in the vicinity of proposed excavations for drainage features, utilities, and roadway/ditch cuts to determine if soils requiring remediation or special handling were present where excavation was planned to take place.

1.2 SCOPE OF WORK

Falcon's scope of work included coordination of; public and private utility location near the proposed borings, geophysical surveys, collecting soil samples using direct push methods, and laboratory analysis. Samples were analyzed for petroleum hydrocarbons via UVF technology.

SECTION 2: HISTORY

2.1 PARCEL USAGE

Falcon performed a Phase I Environmental Site Assessment (ESA) for U-5797 under Project No. G17057 dated April 2018. The ESA identified this parcel as a Recognized Environmental Condition (REC) based on the history of the parcel and adjoining parcels. Falcon contacted Mr. Joe Oliver the County Fire Marshal during the ESA to inquire about known USTs along Fayetteville Road in the general area of Parcel No. 26. Mr. Oliver sent documents pertaining to USTs that had been installed and/or removed from Nichols addressed as 3100 Fayetteville Road, Baxley's addressed as Highway 211 East, and Taco Bell addressed as Fayetteville Road and Roberts Ave.

Falcon also contacted Mr. Brandon Love, City of Lumberton Director of Planning & Neighborhood Services, to request information on permits for USTs, wells, or septic systems. Mr. Love remembered the former Nichols Grocery Store being in the general area of Parcel No. 26. Historic air photographs dated 1976 through 2000 show the majority of Parcel No. 26 as a parking lot with a portion of a large commercial building along the eastern parcel line. The exact location of USTs associated with the above listed facilities is unknown. UST closure documentation including soil sampling results were not available for review.

2.2 FACILITY IDENTIFICATION NUMBER

Facility Identification Number 00-0-0000018350 is associated with the former Nichols Grocery Store which may have been located on this parcel.

2.3 GROUNDWATER INCIDENT NUMBER

A Groundwater Incident Number was not identified for this parcel.

SECTION 3: SITE OBSERVATIONS

3.1 GROUNDWATER MONITORING WELLS

Groundwater monitoring wells (MWs) were not observed on this parcel.

3.2 ACTIVE USTS

Active USTs were not observed within the project limits or registered at this parcel.

3.3 FEATURES APPARENT BEYOND ROW/EASEMENT

USTs, monitoring wells, remediation systems, or hydraulic lifts were not observed.

SECTION 4: METHODOLOGY

4.1 GEOPHYSICS

Pyramid Geophysical Services (Pyramid) was subcontracted to perform a geophysical survey of the assessment area. The assessment area is between the existing edge of NCDOT maintained pavement (within the existing NCDOT ROW) where accessible, and the proposed NCDOT ROW and/or easement (whichever boundary represents the largest area). The survey was used to locate private utility lines, as well as possible indications of USTs, and/or their pits.

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 georeferenced and can be overlain on aerial photographs and CADD drawings.

GPR data was acquired across select EM anomalies (where identified), using a Geophysical Survey Systems, Inc. (GSSI) UtilityScan DF unit equipped with a dual frequency 300/800 MHz antenna. Pyramid marked their findings on the surface with paint. 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 to obtain adequate coverage. A copy of the full Geophysical Report is included in the Attachments.

4.2 BORINGS

Regional Probing was subcontracted to advance soil borings using direct push technology. Regional Probing used a truck-mounted Geoprobe® 5410 unit mounted on an off-road modified Ford F350 Diesel 4x4. The unit has auger-capabilities and is equipped with a GH-42 soil-probing hammer, with 21,700 pounds of down force and 28,900 pounds of retraction force. The unit has an on-board tank for decontaminating the geoprobe rods before advancing the probe at each sample location.

4.3 SAMPLE PROTOCOL

Prior to initiating sample collection Falcon contacted NC One Call and requested public utility locations be marked around the proposed sample locations. Sampling was in general accordance with the NC Department of Environmental Quality (DEQ) Division of Waste Management's (DWM) "Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases" (March 1, 2007 Version Change 9 – February 1, 2019) guidance document. Sampling strategy was derived based upon the project scope and objectives as outlined above. Red Lab, LLC was selected to perform the UVF laboratory analytical analysis. Appropriate sterile containers were received by Falcon from Red Lab prior to beginning the fieldwork. The containers were labeled appropriately.

A Minirae 3000 photoionization detector (PID) was used to field screen samples for volatile organics to determine if a release had occurred. The instrument was calibrated per manufacturer instructions prior to use. Falcon staff bagged composite soil samples of each boring in approximately two-foot sections. Representative samples were placed in a sealed plastic bag for approximately 10 minutes to allow soil hydrocarbons to reach equilibrium within the headspace prior to scanning with the PID. One sample per boring was collected from the depth of the proposed cut or from the section above the depth of cut with the highest PID reading.

To avoid cross contamination, a new unused pair of non-powdered nitrile gloves was worn while extracting each sample. Samples were placed in the appropriate laboratory provided containers. The labels on each container were then completed so that each provided the date and time of sampling, method of analysis, sample collector, preservative used and sampling location identification. Samples were placed in an ice filled cooler and transported to the lab. Appropriate chain-of-custody procedures, including the completion of necessary forms, were followed.

SECTION 5: RESULTS

5.1 GEOPHYSICS

The geophysical investigation was performed between March 19 and March 27, 2019 to investigate for metallic underground storage tanks (USTs) beneath the survey area. A total of seven EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. One EM anomaly was associated with unknown buried metal and was further investigated with GPR. GPR recorded evidence of isolated high-amplitude reflectors that lacked the size and characteristics typically associated with a UST. Some evidence of possible metal reinforcement was also observed, suggesting this feature may be associated with a buried reinforced slab. Therefore, this feature is classified as a No Confidence anomaly. This anomaly was approximately 18 feet long by 15 feet wide.

5.2 SAMPLE DATA

Falcon and our subcontractor advanced four borings (B-40, B-41, B-48, and B-49) to the proposed excavation depth of the drainage features, utilities, or roadway/ditch cut being assessed. Groundwater was not observed. Please see The Boring Location Map in the attachments for a visual depiction of the sample locations. The coordinates (latitude and longitude) that correspond to the sample locations are shown below in Table No. 1 Boring Coordinates.

TABLE NO. 1 BORING COORDINATES

Boring	Latitude	Longitude
B-40	34.6398877	-79.0006593
B-41	34.6400783	-79.0005931
B-48	34.6397010	-78.9994645
B-49	34.6394418	-78.9994512

Borings were field screened with a PID in sections for evidence of volatile organics. The PID screening results are presented in Table No. 2 PID Readings. Falcon selected soil samples based on the field screening results and the needs of the project. Red Lab analyzed the selected samples and their full analytical report is attached. The results of the laboratory analysis are shown in Table No. 3 Summary of UVF Soil Sampling Results.

Petroleum hydrocarbons above State Action Levels were not detected in the samples.

TABLE NO. 2 PID READINGS

Boring	Depth BGS*	PID**
B-40	0-2.0	0.5
	2.0-4.0	0.6
	4.0-6.0	0.7
	6.0-8.0	0.6
B-41	0-2.0	0.2
	2.0-4.0	0.5
	4.0-6.0	1.3
	6.0-8.0	0.5
B-48	0-2.0	0.1
	2.0-4.0	0.6
B-49	0-1.0	0.8
	1.0-2.0	0.8
	2.0-3.0	1.1
	3.0-4.0	1.1

*BGS = Depth below ground surface in feet
**PID readings are in parts per million
Samples shown in **bold** were selected for analysis

TABLE NO. 3 SUMMARY OF UVF SOIL SAMPLING RESULTS

Sam-ple ID	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	
B-40	<0.6	1.4	40.6	42	19.4	2.2	0.053	8.1	82.2	9.7	Road Tar 98.4%,(FCM)
B-41	<1.1	<0.53	<0.53	<0.53	<0.11	<0.17	<0.021	100	0	0	Residual HC
B-48	<0.27	2	<0.27	2	<0.05	<0.09	<0.011	98.4	1.6	0	Deg.PHC 89.6%,(FCM)
B-49	<0.52	<0.52	2.3	2.3	1.5	<0.17	<0.021	0	80	20	Deg Fuel 71.3%,(FCM)

Results reported in mg/kg (milligrams per kilogram)

5.3 SAMPLE OBSERVATIONS

Obvious visual indications of a release (stained soils, odors, or oily sheen) were not observed. Table No. 4 Soil Observations lists visual soil observations of color and texture.

TABLE NO. 4 SOIL OBSERVATIONS

Sample ID	Depth	Color	Soil Type
B-40	0-2.0	Tan Orange	Silty Sand (A-2-4)
	2.0-4.0	Brown	Silty Clayey Sand (A-2-6)
	4.0-6.0	Brown	Sandy Clay (A-6)
	6.0-8.0	Tan Red	Sandy Clay (A-6)
B-41	0-2.0	Tan	Highly Sandy Clay (A-6)
	2.0-4.0	Tan Orange	Sandy Clay (A-6)
	4.0-6.0	Tan Gray	Sandy Clay (A-6)
	6.0-8.0	Red Gray (mottled)	Sandy Clay (A-6)
B-48	0-2.0	Brown Orange	Slightly Clayey Silty Sand (A-2-4)
	2.0-4.0	Brown Orange	Silty Clayey Sand (A-2-6)
B-49	0-1.0	Brown	Silty Sand (A-2-4)
	1.0-2.0	Brown	Silty Sand (A-2-4)
	2.0-3.0	Brown Orange	Silty Sand (A-2-4)
	3.0-4.0	Brown Orange	Clayey Silty Sand (A-2-6)

Depth is in feet below ground surface

5.4 QUANTITIES CALCULATIONS

Soils requiring quantity calculations were not identified.

SECTION 6: CONCLUSIONS

6.1 INTERPRETATION OF RESULTS

This Preliminary Site Assessment was performed to evaluate the soils in proximity to the project limits on this parcel for the presence of petroleum hydrocarbons. The findings are as follows:

- Soil sampling completed on the parcel did not identify contaminants in the soil at levels requiring remediation.

6.2 GEOPHYSICS

The geophysical data did not record evidence of unknown metallic USTs within the geophysical survey area at Parcel No. 26. Falcon does not anticipate USTs will be encountered within the project limits on this parcel during construction.

6.3 SAMPLING

Sampling results did not identify contaminates in the soil which require remediation in the areas sampled. Based on past project experience, Falcon does not anticipate soil remediation or special handling and disposal will be required during construction on this parcel.

6.4 QUANTITIES

Soils requiring quantities calculations were not identified.

SECTION 7: RECOMMENDATIONS

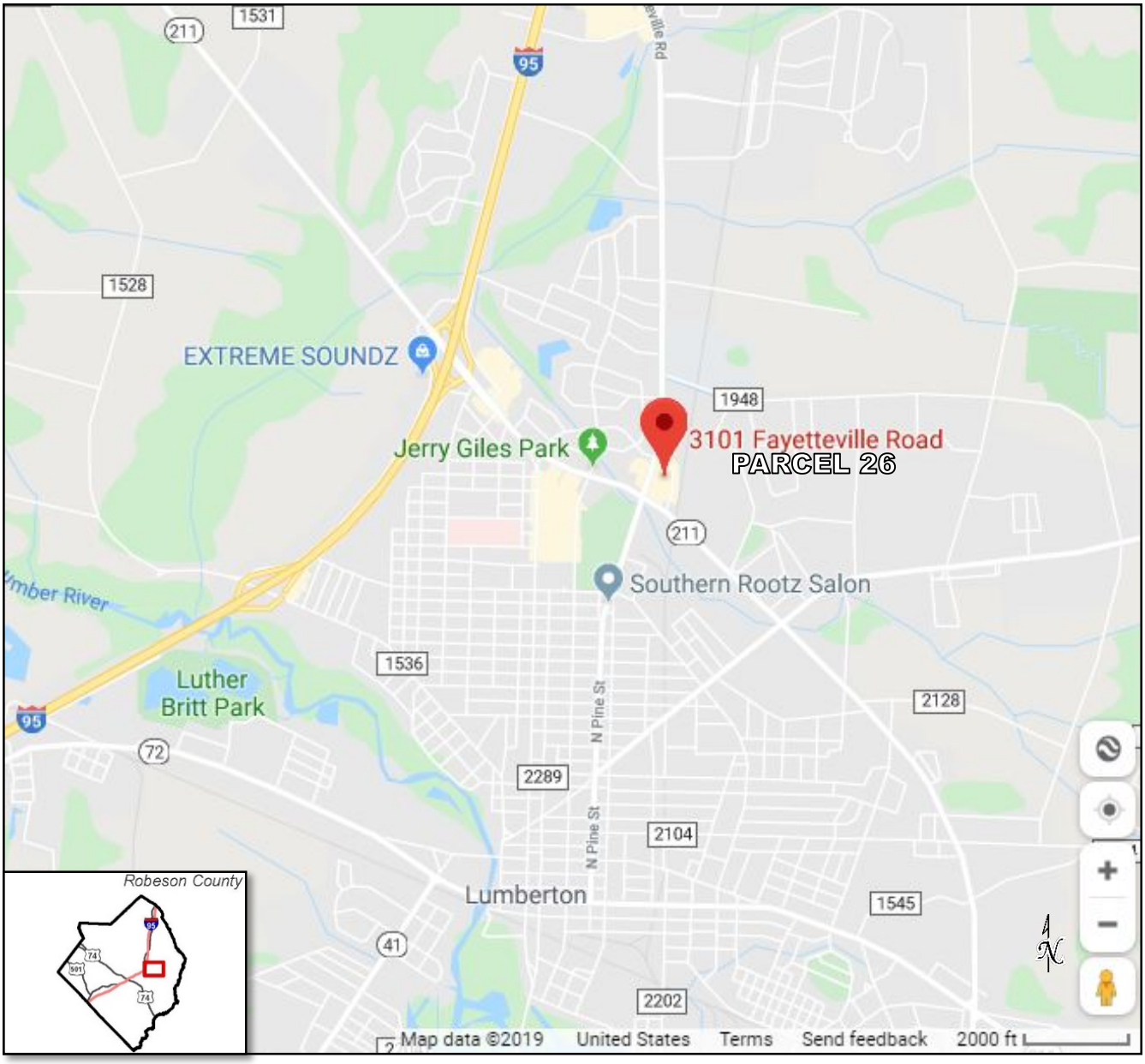
7.1 ADDITIONAL SAMPLING

Contaminants above the Industrial / Commercial Soil Cleanup Levels were not identified; therefore, additional assessment is not warranted at this time. Falcon recommends if drums, USTs, above ground storage tanks (ASTs), petroleum odors or sheen are observed during any excavation associated with any property involved in the project that all work in the vicinity stop until further assessment takes place. Further assessment can include but is not limited to; sampling the soil and groundwater, excavation, and proper handling and disposal of contaminated soils and groundwater.

7.2 SPECIAL HANDLING OF IMPACTED SOIL

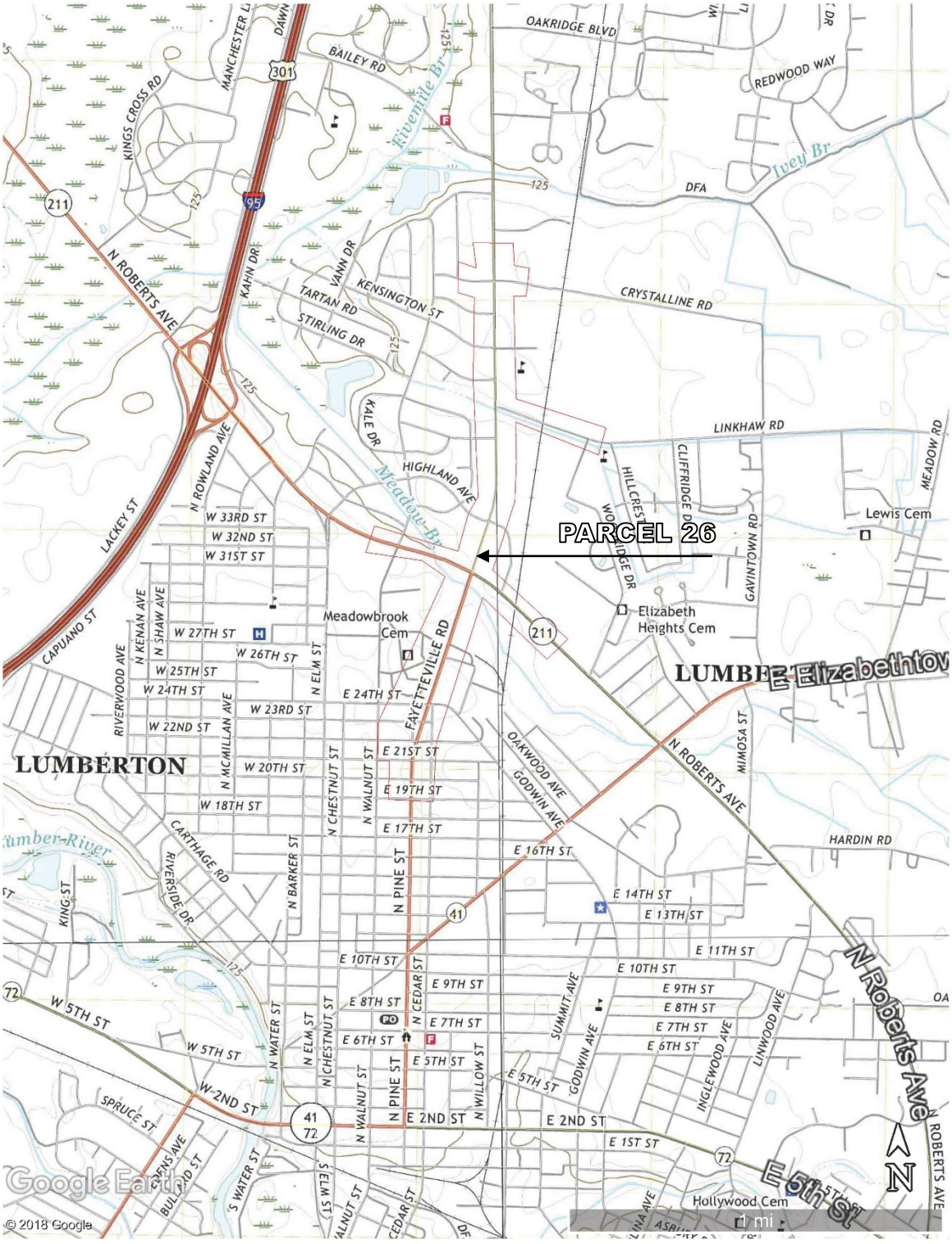
Soils requiring special handling were not identified. If suspect contaminated soils are encountered during construction Falcon and the NCDOT GeoEnvironmental Group should be contacted for proper handling instructions.

NCDOT U-5797 (SR 1997 Widening) Parcel 26
Preliminary Site Assessment
Vicinity Map



Project No.: G19011.00
Date: September 2019
Source: Google Maps

NCDOT U-5797 (SR 1997 Widening) Parcel 26
Preliminary Site Assessment
USGS Topographic Maps



Project No.: G19011.00
Date: September 2019
Source: "NW, NE, SW, and SE Lumberton, NC" 2019

NCDOT U-5797 (SR 1997 Widening) Parcel 26
Preliminary Site Assessment
Parcel Location Map

September 5, 2019

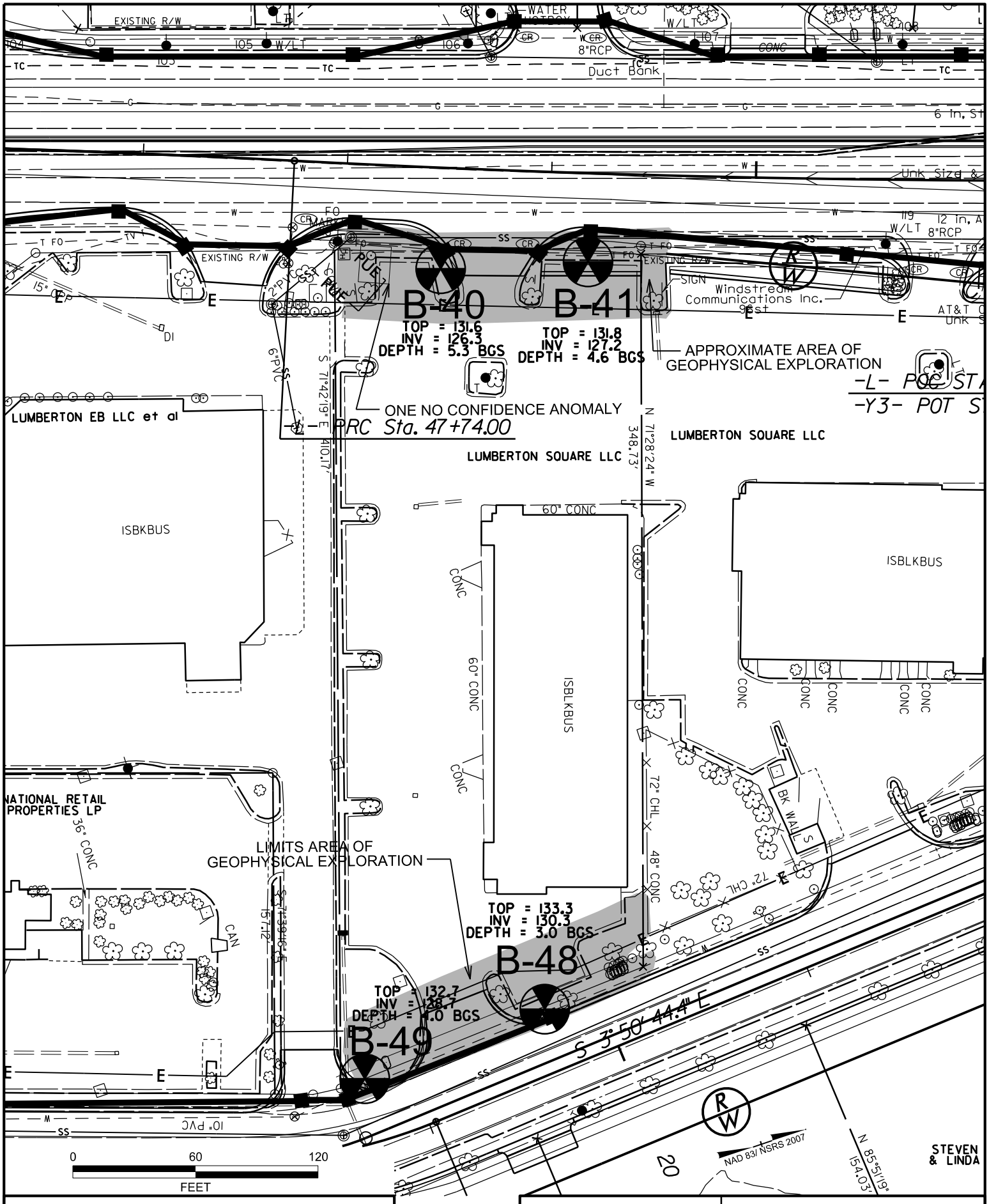
County Line
City Limits
Streets
Parcels

1:2,138
0 0.0175 0.035 0.07 mi
0 0.0275 0.055 0.11 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

2019

Project No.: G19011.00
Date: September 2019
Source: Robeson County GIS



NOTES:

- BGS = BELOW GROUND SURFACE

FALCON ENGINEERING
FALCON ENGINEERING, INC.
1210 TRINITY ROAD, SUITE 110
RALEIGH, NC 27607
PHONE: 919.871.0800
FAX: 919.871.0803

BORING LOCATION PLAN

NCDOT U-5797 (SR 1997 WIDENING)
PARCEL 26 - LUMBERTON SQUARE LLC
ROBESON / LUMBERTON, NC
WBS NO.: 44367.1.1 & TIP NO.: U-5797
FALCON PROJECT NO. G19011.00

NCDOT U-5797 (SR 1997 Widening) Parcel 26
Preliminary Site Assessment
1990 Aerial Photograph

Project No.: G19011.00
Date: September 2019
Source: NCDOT Historical Aerial Imagery Index

NCDOT U-5797 (SR 1997 Widening) Parcel 26
Preliminary Site Assessment
1986 Aerial Photograph

Project No.: G19011.00
Date: September 2019
Source: NCDOT Historical Aerial Imagery Index

NCDOT U-5797 (SR 1997 Widening) Parcel 26
Preliminary Site Assessment
1985 Aerial Photograph

Project No.: G19011.00
Date: September 2019
Source: NCDOT Historical Aerial Imagery Index

NCDOT U-5797 (SR 1997 Widening) Parcel 26
Preliminary Site Assessment
1976 Aerial Photograph

Project No.: G19011.00
Date: September 2019
Source: ERIS Aerial Photographs

NCDOT U-5797 (SR 1997 Widening) Parcel 26
Preliminary Site Assessment
Site Photographs

Photograph No. 1: General view of Boring B-40.

Photograph No. 2: General view of Boring B-41.

NCDOT U-5797 (SR 1997 Widening) Parcel 26
Preliminary Site Assessment
Site Photographs

Photograph No. 3: General view of Boring B-48.

Photograph No. 4: General view of Boring B-49.

PA-2787

DIVISION OF ENVIRONMENTAL MANAGEMENT

June 26, 1991

Mr. Sam Everett
1203 East 11th Street
Lumberton, NC 28358

SUBJECT: Review of Lab Results
UST Soil Assessment
Oscar Baxley Grocery
Highway 211 - East
Lumberton, Robeson County

Dear Mr. Everett:

This is to acknowledge receipt of the above mentioned soil assessment dated June 14, 1991.

Based on review of the lab results, no additional soil excavation and removal is required. Should new information become available concerning this matter, we reserve the right to reverse this finding.

Should you have any questions or need clarification, please contact Mrs. Cindy Hegg of this office at (919) 486-1541.

Sincerely,

original signed by
M. J. Noland

M. J. Noland, P.E.
Regional Supervisor

CH
MJN/CH/gc

Site Investigation Report For Permanent Closure of U.S.T.

FOR TANKS IN NC

Return Completed Form To:
The appropriate DEM Regional Office according to the county of the facility's location. [SEE MAP ON REVERSE SIDE OF OWNER'S COPY (BLUE) FOR REGIONAL OFFICE ADDRESS].

Sate Use Only
I.D. Number _____
Date Received _____

INSTRUCTIONS

Please complete and return within (30) days following completion of site investigation.

I. Ownership of Tank(s)

Owner Name (Corporation, Individual, Public Agency, or Other Entity): Pauline Barley Everett
Street Address: 1203 East 11th Street
County: Robeson
City: Lumberton State: NC Zip Code: 28358
Area Code: 919 Telephone Number: 738-5863

II. Location of Tank(s)

Facility Name or Company: Oscar Barley Grocery
Facility ID # (if available): None
Street Address or State Road: Highway 211 East
County: Robeson City: Lumberton Zip Code: 28358
Area Code: 919 Telephone Number: None

III. Contact Person

Name: Sam Everett Job Title: Husband of Owner Telephone Number: (919) 738-5863
Closure Contractor (Name): Floyd Grading Co (Address): PO Box 3107 Lumberton NC 28359
Lab (Name): Oxford Laboratories Inc (Address): 1316 South 5th Street Wilmington, NC 28401

IV. U.S.T. Information

Tank No.	Size in Gallons	Tank Dimensions	Last Contents
1	550	42" X 7'.6"	GAS
2	550	42" X 7'.6"	GAS

V. Excavation Condition

Tank No.	Water in Excavation Yes	Water in Excavation No	Free Product Yes	Free Product No	Notable Odor or Visible Soil Contamination Yes	Notable Odor or Visible Soil Contamination No
1		✓		✓		✓
2		✓		✓		✓

VI. Additional Information Required

See reverse side of blue copy (owner's copy) for additional information required by N.C. - DEM in the written report and sketch.

VII. Check List

Check the activities completed.

- ✓ Contact local fire marshall
- ✓ Notify DEM Regional Office before abandonment.
- ✓ Drain & flush piping into tank.
- ✓ Remove all product and residuals from tank
- ✓ Excavate down to tank.
- ✓ Clean and inspect tank.
- ✓ Remove drop tube, fill pipe, gauge pipe, vapor recovery tank connections, submersible pumps and other tank fixtures.
- ✓ Cap or plug all lines except the vent and fill lines.
- ✓ Purge tank of all product & flammable vapors.
- ✓ Cut one or more large holes in the tanks.
- ✓ Backfill the area.

Date Tank Permanently closed: 5/23/91

ABANDONMENT IN PLACE
- ☐ Fill tank until material overflows tank opening;
- ☐ Plug or cap all openings;.
- ☐ Disconnect and cap or remove vent line
- ☐ Solid inert material used - please specify: _____

REMOVAL
- ✓ Create vent hole
- ✓ Label tank
- ✓ Dispose of tank in approved manner

Final tank destination: Floyd Grading Co

VIII. Certification (Read and Sign)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Print name and official title of owner or owner's authorized representative	Signature	Date Signed
Sam Everett	Sam Everett	5/23/91

GW/UST-2 White Copy - Regional Office Yellow Copy - Central Office Blue Copy - Owner

Notice of Intent: UST Permanent Closure or Change-In-Service

FOR TANKS IN **NC**

Return Completed Form To:
The appropriate DEM Regional Office according to the county of the facility's location. [SEE REVERSE SIDE OF OWNER'S COPY (BLUE) FOR REGIONAL OFFICE ADDRESS].

State Use Only
I. D. Number _____
Date Received _____

INSTRUCTIONS
Complete and return thirty (30) days prior to closure or change-in-service.

I. OWNERSHIP OF TANK(S)

Tank Owner Name: Pauline Barkley Everett
(Corporation, Individual, Public Agency, or Other Entity)
Street Address: 1203 East 11th Street
County: Robeson
City: Lumberton State: NC Zip Code 28358
Tele. No. (Area Code): 919-738-5863

II. LOCATION OF TANK(S)

Facility Name or Company Oscar Barkley Grocery
Facility ID # (if available) None
Street Address or State Road: Hwy 211 - East
County: Robeson City: Lumberton Zip Code 28358
Tele. No. (Area Code): None

III. CONTACT PERSON

Name: Sam Everett Job Title: Husband Telephone Number: 919) 738-5863

IV. TANK REMOVAL, CLOSURE IN PLACE, CHANGE-IN-SERVICE

1. Contact Local Fire Marshall.
2. Plan the entire closure event.
3. Conduct Site Soil Assessments.
4. If Removing Tanks or Closing in Place refer to API Publications. 2015 "Cleaning Petroleum Storage Tanks" & 1604 "Removal & Disposal of Used Underground Petroleum Storage Tanks".
5. Provide a sketch locating piping, tanks and soil sampling locations.
6. Fill out form GW/UST-2 "Site Investigation Report for Permanent Closure" and return within 30 days following the site investigation.
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V. WORK TO BE PERFORMED BY:

(Contractor) Name: Floyd Grading Co.
Address: P.O Box 3197 Lumberton State: N.C. Zip Code: 28359
Contact: Calvin F. Floyd Phone: Office 671-1177

VI. TANK(S) SCHEDULED FOR CLOSURE OR CHANGE-IN-SERVICE

TANK ID#	TANK CAPACITY	LAST CONTENTS	PROPOSED ACTIVITY: CLOSURE – Removal	CLOSURE – Abandonment In Place	CHANGE-IN-SERVICE – New Contents Stored
1	550	GAS	✓		
2	550	GAS	✓		

VII. OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

Print name and official title: Sam Everett - Owner
*Scheduled Removal Date: 5/23/91
Signature: Sam Everett
Date Submitted: 5/23/91

*If scheduled work date changes, notify your appropriate DEM Regional Office 48 hours prior to originally scheduled date.

GW/UST-3 White Copy - Regional Office Yellow Copy - Central Office Blue Copy - Owner

Fire Prevention Form 1.

APPLICATION TO USE, INSTALL, CONDUCT PROCESSES OR CARRY ON OPERATIONS INVOLVING OR CREATING CONDITIONS DEEMED HAZARDOUS TO LIFE OR PROPERTY

10-14-83
Date

To Chief of Fire Department, City of Lumberton, N. C.

Application is hereby made by the undersigned for a Permit to { Use / Install / Operate / Conduct }

in or on the premises known as TACO-BELL / FAYETTEVILLE ROAD ROBERTS ~~Street or~~ Avenue

the following materials, processes or operations.

(Describe briefly what is to be done and state what hazardous materials are to be used.)

FOR THE REMOVAL OF 4 - 4000 GALLON UNDERGROUND GASOLINE STORAGE TANKS.

#12-83

Conditions, surroundings and arrangements to be in accordance with the Fire Prevention Ordinance.

This application is / is not approved insofar as Zoning and Building Ordinances are concerned.

Inspector of Buildings

C. M. Lewis Jr.
Name of Applicant

P.O. Box 1887
Lumberton N.C.
Address of Applicant

Complete plans and construction details must be filed on all major projects and when requested by the chief of the fire department.

FREEMAN PRINTING CO., LUMBERTON, N. C., 500-2/68

550 gal.

Fire Prevention Form 1.

APPLICATION TO USE, INSTALL, CONDUCT PROCESSES OR CARRY ON OPERATIONS INVOLVING OR CREATING CONDITIONS DEEMED HAZARDOUS TO LIFE OR PROPERTY

6-1-92
Date

To Chief of Fire Department, City of Lumberton, N. C.

Application is hereby made by the undersigned for a Permit to { Use / Install / Operate / Conduct ✓ }

in or on the premises known as NICHOLS / 3100 FAYETTEVILLE ROAD ~~Street or Avenue~~

the following materials, processes or operations.

(Describe briefly what is to be done and state what hazardous materials are to be used.)

TO REMOVE ONE 550 GALLON UNDERGROUND STORAGE TANK, FOR USED MOTOR OIL, FROM PREMISES.

#20-92

Conditions, surroundings and arrangements to be in accordance with the Fire Prevention Ordinance.

This application is / is not approved insofar as Zoning and Building Ordinances are concerned.

Inspector of Buildings

Name of Applicant

3041 Stantonsburg Rd.
Address of Applicant
Wilson NC 27893

Complete plans and construction details must be filed on all major projects and when requested by the chief of the fire department.

FREEMAN PRINTING CO., LUMBERTON, N. C., 300-2/66

QED

REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS

QROS

Hydrocarbon Analysis Results

Client: FALCON
Address: 1210 TRINITY RD SUITE 110
CARY, NC 28513

Contact: CHRISTOPHER BURKHARDT

Project: G19011 U5797

Samples taken Tuesday, April 9, 2019
Samples extracted Tuesday, April 9, 2019
Samples analysed Monday, April 15, 2019

Operator CAROLINE STEVENS

U00902

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	% Ratios			HC Fingerprint Match
										C5 - C10	C10 - C18	C18	
s	B41	23.9	<0.6	1.4	40.6	42	19.4	2.2	0.053	8.1	82.2	9.7	Road Tar 98.4%,(FCM)
s	B40	21.1	<1.1	<0.53	<0.53	<0.53	<0.11	<0.17	<0.021	100	0	0	Residual HC
s	B48	10.7	<0.27	2	<0.27	2	<0.05	<0.09	<0.011	98.4	1.6	0	Deg.PHC 89.6%,(FCM)
s	B49	21.0	<0.52	<0.52	2.3	2.3	1.5	<0.17	<0.021	0	80	20	Deg Fuel 71.3%,(FCM)

Initial Calibrator QC check OK

Final FCM QC Check OK

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

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

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

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

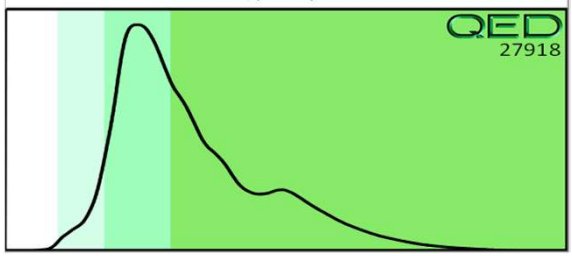
QED Hydrocarbon Fingerprints

Project: G19011 U5797

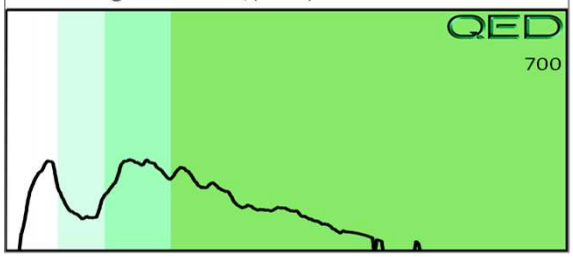
Monday, April 15, 2019

B40 : Residual HC

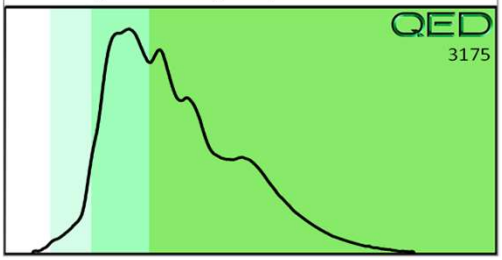
B41 : Road Tar 98.4%,(FCM)



B48 : Deg.PHC 89.6%,(FCM)



B49 : Deg Fuel 71.3%,(FCM)



PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2019-091)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCEL 26
NCDOT PROJECT U-5797

3002 FAYETTEVILLE RD., LUMBERTON, NC

APRIL 24, 2019

Report prepared for: **Christopher J. Burkhardt, PWS**
Falcon Engineers
1210 Trinity Rd. #110
Raleigh, NC 27607

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 26 - 3002 Fayetteville Rd.
Lumberton, Robeson 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 Falcon Engineers at Parcel 26, located at 3002 Fayetteville Rd. in Lumberton, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5797). 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 March 19-27, 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 seven EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. One EM anomaly was associated with unknown buried metal and was further investigated with GPR. GPR recorded evidence of isolated high-amplitude reflectors that lacked the size and characteristics typically associated with a UST. Some evidence of possible metal reinforcement was also observed, suggesting this feature may be associated with a buried reinforced slab. Therefore, this feature is classified as a No Confidence anomaly. This anomaly was approximately 18 feet long by 15 feet wide. Collectively, the geophysical data recorded evidence of one No Confidence anomaly within the geophysical survey area at Parcel 26.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Falcon Engineers at Parcel 26, located at 3002 Fayetteville Rd. in Lumberton, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5797). 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 March 19-27, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

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

FIELD METHODOLOGY

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

According to the instrument specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. Smaller objects (1-foot or less in size) can be detected to a maximum depth of 4 to 5 feet. The EM61 data were digitally collected at approximately 0.8-foot intervals along north-south trending or east-west trending, generally parallel survey lines, spaced five feet apart. The data were downloaded to a

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

GPR data were acquired across select EM anomalies on March 27, 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	Utility	
2	Sign	
3	Bollards	
4	**No Confidence Anomaly**	☑
5	Sign	
6	Utility	
7	Drop Inlet	

The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface, including utilities, signs, bollards, and a drop inlet. EM Anomaly 4 was associated with unknown buried metal and was further investigated with GPR.

Discussion of GPR Results

Figure 3 presents the locations of the formal GPR transects performed at the property as well as the transect images. A total of four formal GPR transects were performed at the site. GPR Transects 1-4 were performed across EM Anomaly 4. These transects isolated high-amplitude reflectors that lacked the size and characteristics typically associated with a UST. Some evidence of possible metal reinforcement was also observed, suggesting this feature may be associated with a buried reinforced slab. Therefore, this feature is classified as a No Confidence anomaly. This anomaly was approximately 18 feet long by 15 feet wide. **Figure 4** provides the location and size of the No Confidence anomaly overlain on an aerial, along with ground-level photographs.

Collectively, the geophysical data recorded evidence of one No Confidence anomaly within the geophysical survey area at Parcel 26. **Figure 5** provides an overlay of the EM61 metal detection contour map, and one No Confidence anomaly, onto the NCDOT MicroStation engineering plans for reference.

SUMMARY & CONCLUSIONS

Pyramid's evaluation of the EM61 and GPR data collected at Parcel 26 in Lumberton, 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.
- One EM anomaly was associated with unknown buried metal and was further investigated with GPR.
- GPR recorded evidence of isolated high-amplitude reflectors that lacked the size and characteristics typically associated with a UST. Some evidence of possible metal reinforcement was also observed, suggesting this feature may be associated with a buried reinforced slab. Therefore, this feature is classified as a No Confidence anomaly. This anomaly was approximately 18 feet long by 15 feet wide.
- Collectively, the geophysical data recorded evidence of one No Confidence anomaly within the geophysical survey area at Parcel 26.

LIMITATIONS

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

APPROXIMATE BOUNDARIES OF GEOPHYSICAL SURVEY AREA

View of Survey Area
(Facing Approximately South)

View of Survey Area
(Facing Approximately South)

N

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

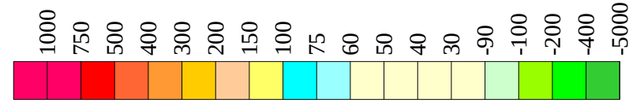
PROJECT	PARCEL 26 LUMBERTON, NORTH CAROLINA NCDOT PROJECT U-5797
TITLE	PARCEL 26 - GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS
DATE	3/27/2019
PYRAMID PROJECT #:	2019-091
CLIENT	FALCON ENGINEERS
	FIGURE 1

EM61 METAL DETECTION RESULTS

EVIDENCE OF ONE NO CONFIDENCE ANOMALY 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 March 19, 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 March 27, 2019.

EM61 Metal Detection Response (millivolts)



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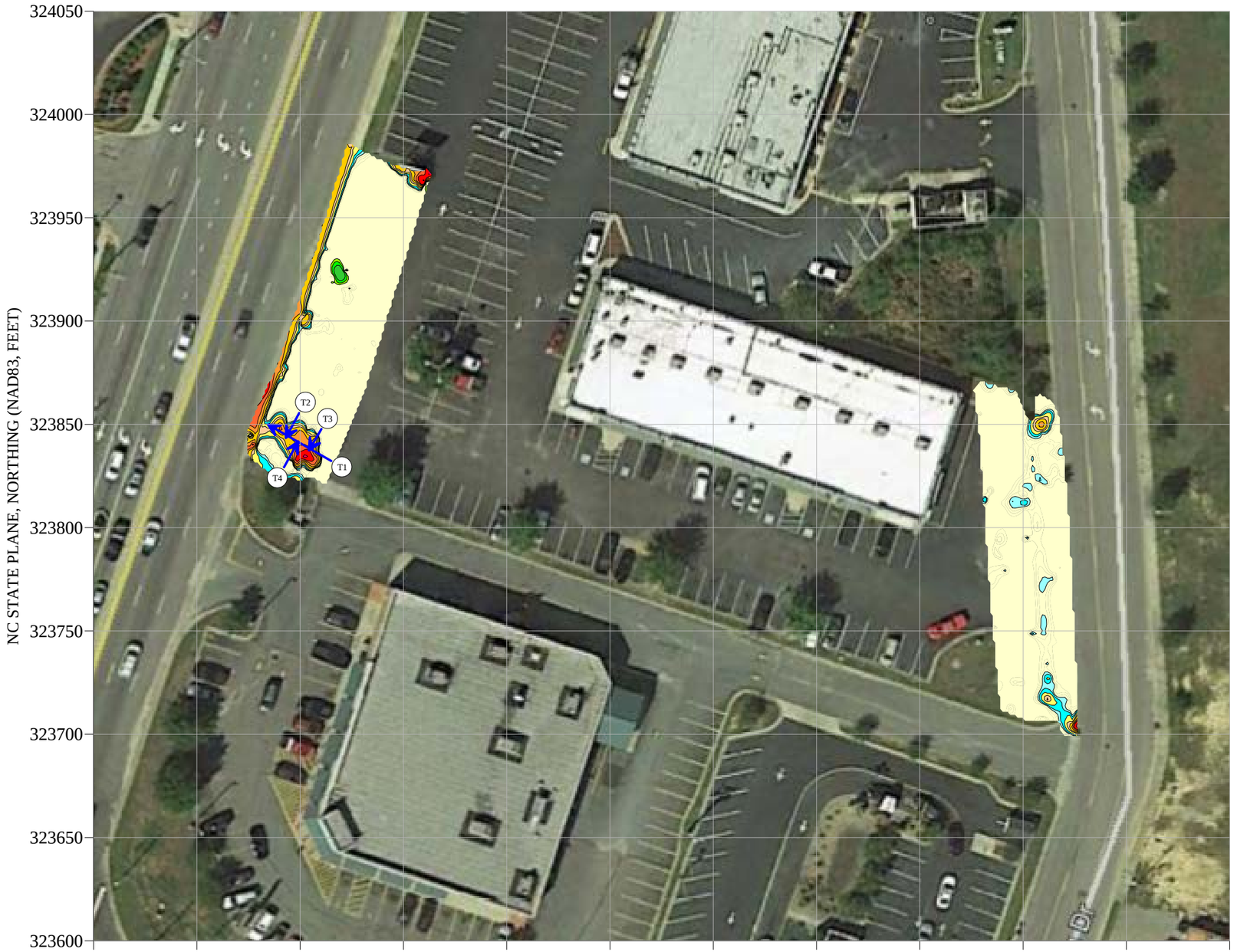
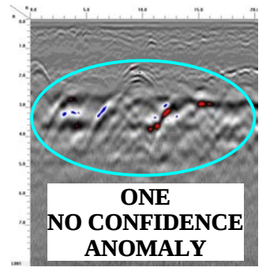
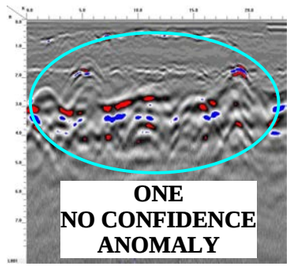
PROJECT	PARCEL 26 LUMBERTON, NORTH CAROLINA NCDOT PROJECT U-5797
TITLE	PARCEL 26 - EM61 METAL DETECTION CONTOUR MAP
DATE	3/27/2019
PYRAMID PROJECT #:	2019-091
CLIENT	FALCON ENGINEERS
	FIGURE 2

LOCATIONS OF GPR TRANSECTS

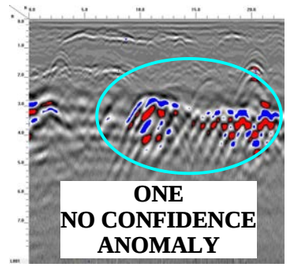




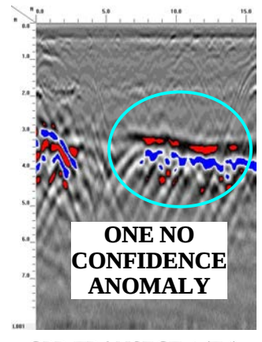
GPR TRANSECT 1 (T1)



GPR TRANSECT 2 (T2)



GPR TRANSECT 3 (T3)



GPR TRANSECT 4 (T4)

N

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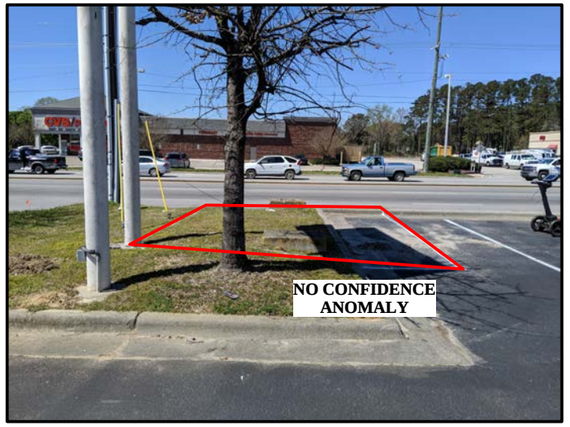
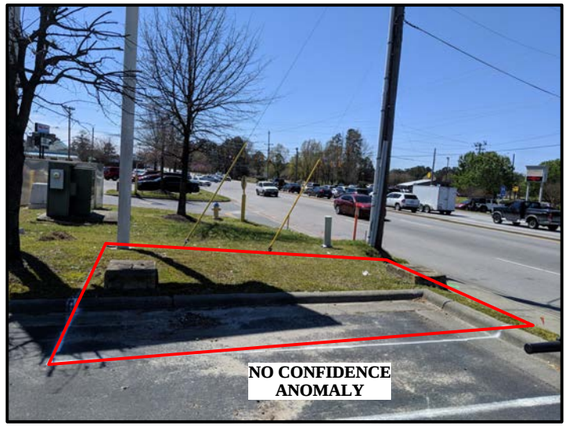
PROJECT: PARCEL 26 LUMBERTON, NORTH CAROLINA NCDOT PROJECT U-5797	TITLE: PARCEL 26 - GPR TRANSECT LOCATIONS AND IMAGES	DATE: 3/27/2019	CLIENT: FALCON ENGINEERS
		PYRAMID PROJECT #: 2019-091	**FIGURE 3**

LOCATION OF ONE NO CONFIDENCE ANOMALY



View of One No Confidence Anomaly Facing Approximately West



View of One No Confidence Anomaly Facing Approximately South

N

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

PROJECT: PARCEL 26 LUMBERTON, NORTH CAROLINA NCDOT PROJECT U-5797	TITLE: PARCEL 26 - LOCATION AND SIZE OF ONE NO CONFIDENCE ANOMALY	DATE: 3/27/2019 PYRAMID PROJECT #: 2019-091	CLIENT: FALCON ENGINEERS **FIGURE 4**

ONE NO CONFIDENCE ANOMALY

EM61 METAL DETECTION CONTOURS (SEE FIGURE 2 FOR ANOMALY LABELS)

LEGEND

- EXISTING ROW
- EXISTING PROPERTY BOUNDARY
- PROPOSED ROW LINE
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED PERMANENT UTILITY EASEMENT
- PROPOSED SS CUT LINE
- PROPOSED SS FILL LINE
- NO CONFIDENCE ANOMALY

MILLIVOLTS (mV)

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

0 25 50
FEET

N

TITLE: OVERLAY OF METAL DETECTION RESULTS AND ONE NO CONFIDENCE ANOMALY ON NCDOT ENGINEERING PLANS

PROJECT: PARCEL 026
LUMBERTON, NORTH CAROLINA
NCDOT PROJECT U-5797

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

DATE: 04-11-2019 | REVISION NO. 0

PYRAMID PROJECT NO. 2019-091 | FIGURE NO. 5

PRELIMINARY SITE ASSESSMENT

SR 1997 (FAYETTEVILLE ROAD) WIDENING
TIP NO. U-5797, WBS NO. 44367.1.1

NCDOT PARCEL NO. 27
OWNER: LUMBERTON SQUARE LLC
3211 FAYETTEVILLE STREET
LUMBERTON, ROBESON COUNTY, NORTH CAROLINA

PREPARED FOR:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
C/O STV ENGINEERS, INC.
1600 PERIMETER PARK DRIVE, SUITE 225
MORRISVILLE, NC 2756002

PREPARED BY:
FALCON ENGINEERING, INC.
1210 TRINITY ROAD, SUITE 110
CARY, NC 27513

PROJECT NUMBER: G19011.00
JUNE 9, 2020

June 9, 2020

Mr. Patrick Livingston, PE
STV Engineers, Inc.
900 W. Trade St, Suite 715
Charlotte, NC 28202

Re: **Preliminary Site Assessment**
SR 1997 (Fayetteville Road) Widening
TIP No. U-5797, WBS No. 44367.1.1
Parcel No. 27
Owner: Lumberton Square LLC
3211 Fayetteville Street
Lumberton, Robeson County, North Carolina

Dear: Mr. Livingston:

Falcon is pleased to present the following Preliminary Site Assessment in support of the above-mentioned Project. Specifically, Falcon sampled soil in proximity to the project limits on this parcel in general accordance with the approved scope of work. Soils requiring remediation or special handling during construction were not identified.

Falcon recommends if drums, USTs, above ground storage tanks (ASTs), petroleum odors or sheen are observed during any excavation associated with any property involved in the project that all work in the vicinity stop until further assessment takes place. Further assessment can include but is not limited to; sampling the soil and groundwater, excavation, and proper handling and disposal of contaminated soils and groundwater.

Please review this report and advise us if you have any questions or concerns. We appreciate this opportunity to provide services to you and look forward to partnering with you on future projects. If you have any questions, please give Falcon a call at (919) 871-0800.

Sincerely,
FALCON ENGINEERING, INC.

Christopher J. Burkhardt
Environmental Services Manager

Jeremy R. Hamm, PE
Geotechnical Services Manager

TABLE OF CONTENTS

LIST OF FIGURES AND ATTACHMENTS

SECTION 1: INTRODUCTION

1.1 DESCRIPTION

Falcon Engineering, Inc. (Falcon) has completed a Preliminary Site Assessment of NCDOT TIP Project U-5797 Parcel No. 27. Parcel No. 27 is addressed as 3211 Fayetteville Road, Lumberton Robeson County, North Carolina. NCDOT is proposing to widen Fayetteville Road (SR 1997) from Farringdom Street to 22nd Street. The limits of the assessment are between the existing edge of NCDOT maintained pavement (within the existing NCDOT ROW) where accessible, and the proposed NCDOT ROW and/or easement (whichever boundary represents the largest area). Boring locations were placed in the vicinity of proposed excavations for drainage features, utilities, and roadway/ditch cuts to determine if soils requiring remediation or special handling were present where excavation was planned to take place.

1.2 SCOPE OF WORK

Falcon's scope of work included coordination of; public and private utility location near the proposed borings, geophysical surveys, collecting soil samples using direct push technology, and laboratory analysis. Samples were analyzed for petroleum hydrocarbons via UVF technology.

SECTION 2: HISTORY

2.1 PARCEL USAGE

Falcon performed a Phase I Environmental Site Assessment (ESA) for U-5797 under Project No. G17057 dated April 2018. The ESA identified this parcel as a Recognized Environmental Condition (REC) based on the history of the parcel and adjoining parcels. Falcon contacted Mr. Joe Oliver the County Fire Marshal during the ESA to inquire about known USTs along Fayetteville Road in the general area of Parcel No. 27. Mr. Oliver sent documents pertaining to USTs that had been installed and/or removed from Nichols addressed as 3100 Fayetteville Road, Baxley's addressed as Highway 211 East, and Taco Bell addressed as Fayetteville Road and Roberts Ave.

Falcon also contacted Mr. Brandon Love, City of Lumberton Director of Planning & Neighborhood Services, to request information on permits for USTs, wells, or septic systems. Mr. Love remembered the former Nichols Grocery Store being in the general area of Parcel No. 27. Historic air photographs dated 1976 through 2000 show the majority of Parcel No. 27 as a parking lot with a portion of a large commercial building along the eastern parcel line. The exact location of USTs associated with the above listed facilities is unknown. UST closure documentation including soil sampling results were not available for review.

2.2 FACILITY IDENTIFICATION NUMBER

Facility Identification Number 00-0-0000018350 is associated with the former Nichols Grocery Store which may have been located on this parcel.

2.3 GROUNDWATER INCIDENT NUMBER

A Groundwater Incident Number was not identified for this parcel.

SECTION 3: SITE OBSERVATIONS

3.1 GROUNDWATER MONITORING WELLS

Groundwater monitoring wells (MWs) were not observed on this parcel.

3.2 ACTIVE USTS

Active USTs were not observed within the project limits or registered at this parcel.

3.3 FEATURES APPARENT BEYOND ROW/EASEMENT

USTs, monitoring wells, remediation systems, or hydraulic lifts were not observed.

SECTION 4: METHODOLOGY

4.1 GEOPHYSICS

Pyramid Geophysical Services (Pyramid) was subcontracted to perform a geophysical survey of the assessment area. The assessment area is between the existing edge of NCDOT maintained pavement (within the existing NCDOT ROW) where accessible, and the proposed NCDOT ROW and/or easement (whichever boundary represents the largest area). The survey was used to locate private utility lines, as well as possible indications of USTs, and/or their pits.

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 georeferenced and can be overlain on aerial photographs and CADD drawings.

GPR data was acquired across select EM anomalies (where identified), using a Geophysical Survey Systems, Inc. (GSSI) UtilityScan DF unit equipped with a dual frequency 300/800 MHz antenna. Pyramid marked their findings on the surface with paint. 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 to obtain adequate coverage. A copy of the full Geophysical Report is included in the Attachments.

4.2 BORINGS

Regional Probing was subcontracted to advance soil borings using direct push technology. Regional Probing used a truck-mounted Geoprobe® 5410 unit mounted on an off-road modified Ford F350 Diesel 4x4. The unit has auger-capabilities and is equipped with a GH-42 soil-probing hammer, with 21,700 pounds of down force and 28,900 pounds of retraction force. The unit has an on-board tank for decontaminating the geoprobe rods before advancing the probe at each sample location.

4.3 SAMPLE PROTOCOL

Prior to initiating sample collection Falcon contacted NC One Call and requested public utility locations be marked around the proposed sample locations. Sampling was in general accordance with the NC Department of Environmental Quality (DEQ) Division of Waste Management's (DWM) "Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases" (March 1, 2007 Version Change 9 – February 1, 2019) guidance document. Sampling strategy was derived based upon the project scope and objectives as outlined above. Red Lab, LLC was selected to perform the UVF laboratory analytical analysis. Appropriate sterile containers were received by Falcon from Red Lab prior to beginning the fieldwork. The containers were labeled appropriately.

A Minirae 3000 photoionization detector (PID) was used to field screen samples for volatile organics to determine if a release had occurred. The instrument was calibrated per manufacturer instructions prior to use. Falcon staff bagged composite soil samples of each boring in approximately two-foot sections. Representative samples were placed in a sealed plastic bag for approximately 10 minutes to allow soil hydrocarbons to reach equilibrium within the headspace prior to scanning with the PID. One sample per boring was collected from the depth of the proposed cut or from the section above the depth of cut with the highest PID reading.

To avoid cross contamination, a new unused pair of non-powdered nitrile gloves was worn while extracting each sample. Samples were placed in the appropriate laboratory provided containers. The labels on each container were then completed so that each provided the date and time of sampling, method of analysis, sample collector, preservative used and sampling location identification. Samples were placed in an ice filled cooler and transported to the lab. Appropriate chain-of-custody procedures, including the completion of necessary forms, were followed.

SECTION 5: RESULTS

5.1 GEOPHYSICS

The geophysical investigation was performed on March 19 through 27, 2019 to investigate for metallic underground storage tanks (USTs) beneath the survey area. The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. A total of sixteen EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. One EM anomaly was associated with interference from a car and was further investigated with GPR. The GPR transects did not record any evidence of buried structures, such as USTs.

5.2 SAMPLE DATA

Falcon and our subcontractor advanced six borings (B-42 through B-47) to the proposed excavation depth of the drainage features, utilities, or roadway/ditch cut being assessed. Groundwater was not observed. Please see the boring Layout Plan in the attachments for a visual depiction of the sample locations. The coordinates (latitude and longitude) that correspond to the sample locations are shown below in Table No. 1 Boring Coordinates.

TABLE NO. 1 BORING COORDINATES

Boring	Latitude	Longitude
B-42	34.6404085	-79.0004311
B-43	34.6406113	-79.0003512
B-44	34.6408538	-79.0001934
B-45	34.6408191	-78.9999011
B-46	34.6406929	-78.9996821
B-47	34.6404792	-78.9995567

Borings were field screened with a PID in sections for evidence of volatile organics. The PID screening results are presented in Table No. 2 PID Readings. Falcon selected soil samples based on the field screening results and the needs of the project. Red Lab analyzed the selected samples and their full analytical report is attached. The results of the laboratory analysis are shown in Table No. 3 Summary of UVF Soil Sampling Results.

Petroleum hydrocarbons above State Action Levels were not detected in the samples.

TABLE NO. 2 PID READINGS

Boring	Depth BGS*	PID**
B-42	0-2.0	0.3
	2.0-4.0	0.4
	4.0-6.0	1
	6.0-8.0	**1.1**
B-43	0-2.5	0.5
	2.5-5.0	**0.3**
B-44	0-2.5	0.6
	2.5-5.0	**0.5**
B-45	0-2.0	0.7
	2.0-4.0	**0.8**
B-46	0-2.0	0.4
	2.0-4.0	**0.5**
B-47	0-1.5	1.1
	1.5-3.0	**0.8**

*BGS = Depth below ground surface in feet
**PID readings are in parts per million
Samples shown in **bold** were selected for analysis

TABLE NO. 3 SUMMARY OF UVF SOIL SAMPLING RESULTS

Sample ID	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	
B-42	<0.57	<0.57	1.1	1.1	0.48	<0.18	<0.023	0	88.1	11.9	Road Tar 85.1%,(FCM)
B-43	<0.48	0.7	9.7	10.4	4.6	0.53	<0.019	15.4	74	10.6	Road Tar 96.8%,(FCM)
B-44	<0.28	0.38	0.28	0.66	0.16	<0.09	<0.011	71.6	22	6.4	Deg.PHC 91.3%,(FCM)
B-45	<0.51	0.97	24	25	11.6	1.3	0.033	9	81.6	9.4	Road Tar 96.4%,(FCM)
B-46	<0.47	<0.47	15.2	15.2	7.3	0.82	0.025	0	86.2	13.8	Road Tar 94.5%,(FCM)
B-47	<0.55	<0.55	<0.55	<0.55	<0.11	<0.18	<0.022	0	100	0	PHC not detected

Results reported in mg/kg (milligrams per kilogram)

5.3 SAMPLE OBSERVATIONS

Obvious visual indications of a release (stained soils, odors, or oily sheen) were not observed. Table No. 4 Soil Observations lists visual soil observations of color and texture.

TABLE NO. 4 SOIL OBSERVATIONS

Sample ID	Depth	Color	Soil Type
B-42	0-2.0	Tan Orange	Silty Clayey Sand (A-2-6)
	2.0-4.0	Brown Tan	Silty Clayey Sand (A-2-6)
	4.0-6.0	Brown Orange	Silty Clayey Sand (A-2-6)
	6.0-8.0	Gray & Tan (mottled)	Sandy Clay (A-6)
B-43	0-2.5	Tan Brown	Clayey Sand (A-2-6)
	2.5-5.0	Brown Tan	Slightly Clayey Silty Sand (A-2-4)
B-44	0-2.5	Brown Orange	Slightly Clayey Silty Sand (A-2-4)
	2.5-5.0	Gray Brown	Sandy Clay (A-6)
B-45	0-2.0	Gray Tan	Silty Clayey Sand (A-2-6)
	2.0-4.0	Gray Brown	Slightly Clayey Silty Sand (A-2-4)
B-46	0-2.0	Brown Tan	Slightly Clayey Silty Sand (A-2-4)
	2.0-4.0	Dark Gray to Brown	Silty Sandy Clay (A-6)
B-47	0-1.5	Brown Tan	Silty Clayey Sand (A-2-6)
	1.5-3.0	Brown Orange	Silty Clayey Sand (A-2-6)

Depth is in feet below ground surface

5.4 QUANTITIES CALCULATIONS

Soils requiring quantity calculations were not identified.

SECTION 6: CONCLUSIONS

6.1 INTERPRETATION OF RESULTS

This Preliminary Site Assessment was performed to evaluate the soils in proximity to the project limits on this parcel for the presence of petroleum hydrocarbons. The findings are as follows:

- Soil sampling completed on the parcel did not identify contaminants in the soil at levels requiring remediation.

6.2 GEOPHYSICS

The geophysical data did not record any evidence of unknown metallic USTs within the geophysical survey area at Parcel 27. Falcon does not anticipate USTs will be encountered within the project limits on this parcel during construction.

6.3 SAMPLING

Sampling results did not identify contaminates in the soil which require remediation in the areas sampled. Based on past project experience, Falcon does not anticipate soil remediation or special handling and disposal will be required during construction on this parcel.

6.4 QUANTITIES

Soils requiring quantities calculations were not identified.

SECTION 7: RECOMMENDATIONS

7.1 ADDITIONAL SAMPLING

Contaminants above the Industrial / Commercial Soil Cleanup Levels were not identified; therefore, additional assessment is not warranted at this time. Falcon recommends if drums, USTs, above ground storage tanks (ASTs), petroleum odors or sheen are observed during any excavation associated with any property involved in the project that all work in the vicinity stop until further assessment takes place. Further assessment can include but is not limited to; sampling the soil and groundwater, excavation, and proper handling and disposal of contaminated soils and groundwater.

7.2 SPECIAL HANDLING OF IMPACTED SOIL

Soils requiring special handling were not identified. If suspect contaminated soils are encountered during construction Falcon and the NCDOT GeoEnvironmental Group should be contacted for proper handling instructions.

SECTION 7: RECOMMENDATIONS

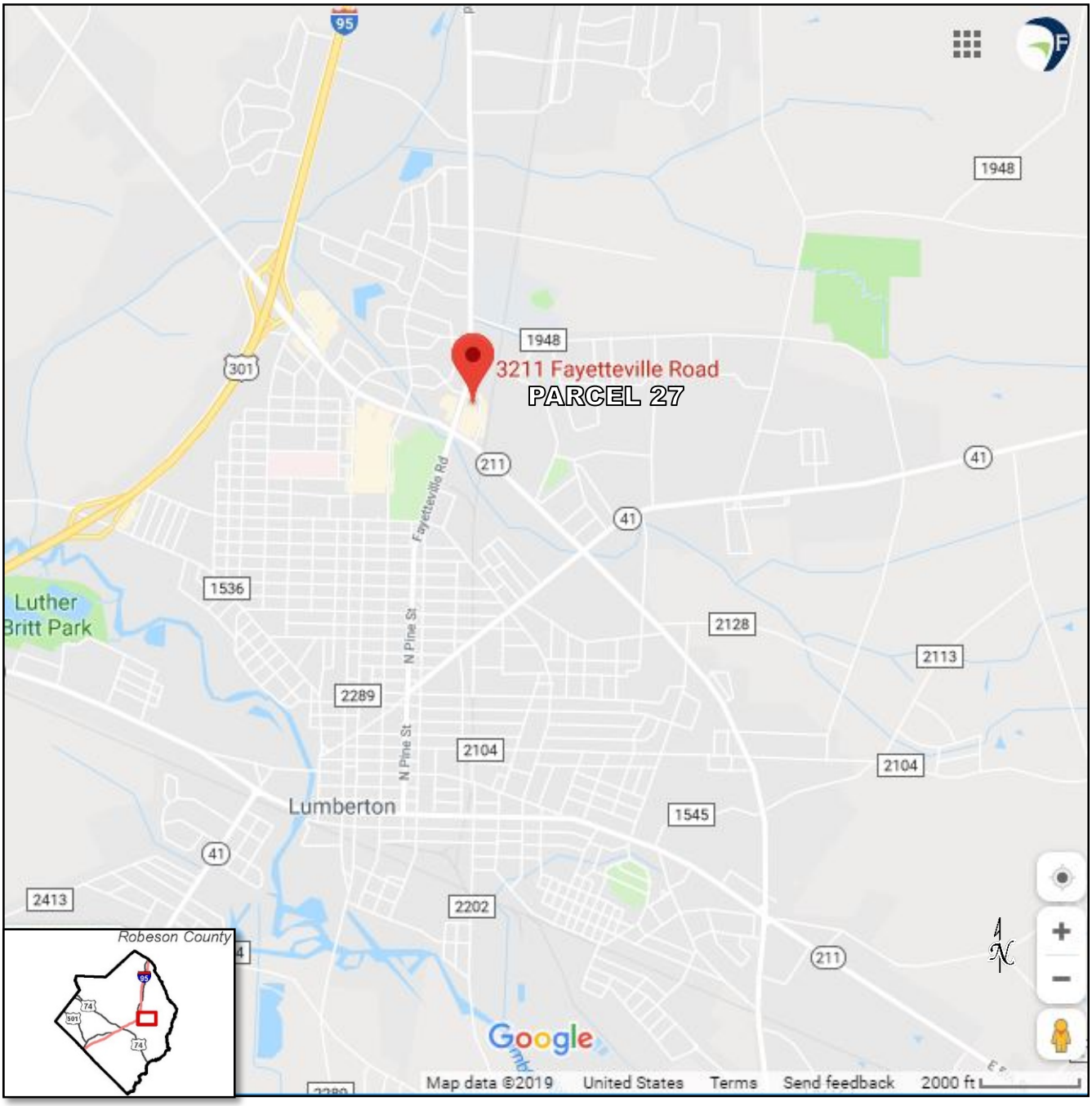
7.1 ADDITIONAL SAMPLING

Contaminants above the Industrial / Commercial Soil Cleanup Levels were not identified; therefore, additional assessment is not warranted at this time. Falcon recommends if drums, USTs, above ground storage tanks (ASTs), petroleum odors or sheen are observed during any excavation associated with any property involved in the project that all work in the vicinity stop until further assessment takes place. Further assessment can include but is not limited to; sampling the soil and groundwater, excavation, and proper handling and disposal of contaminated soils and groundwater.

7.2 SPECIAL HANDLING OF IMPACTED SOIL

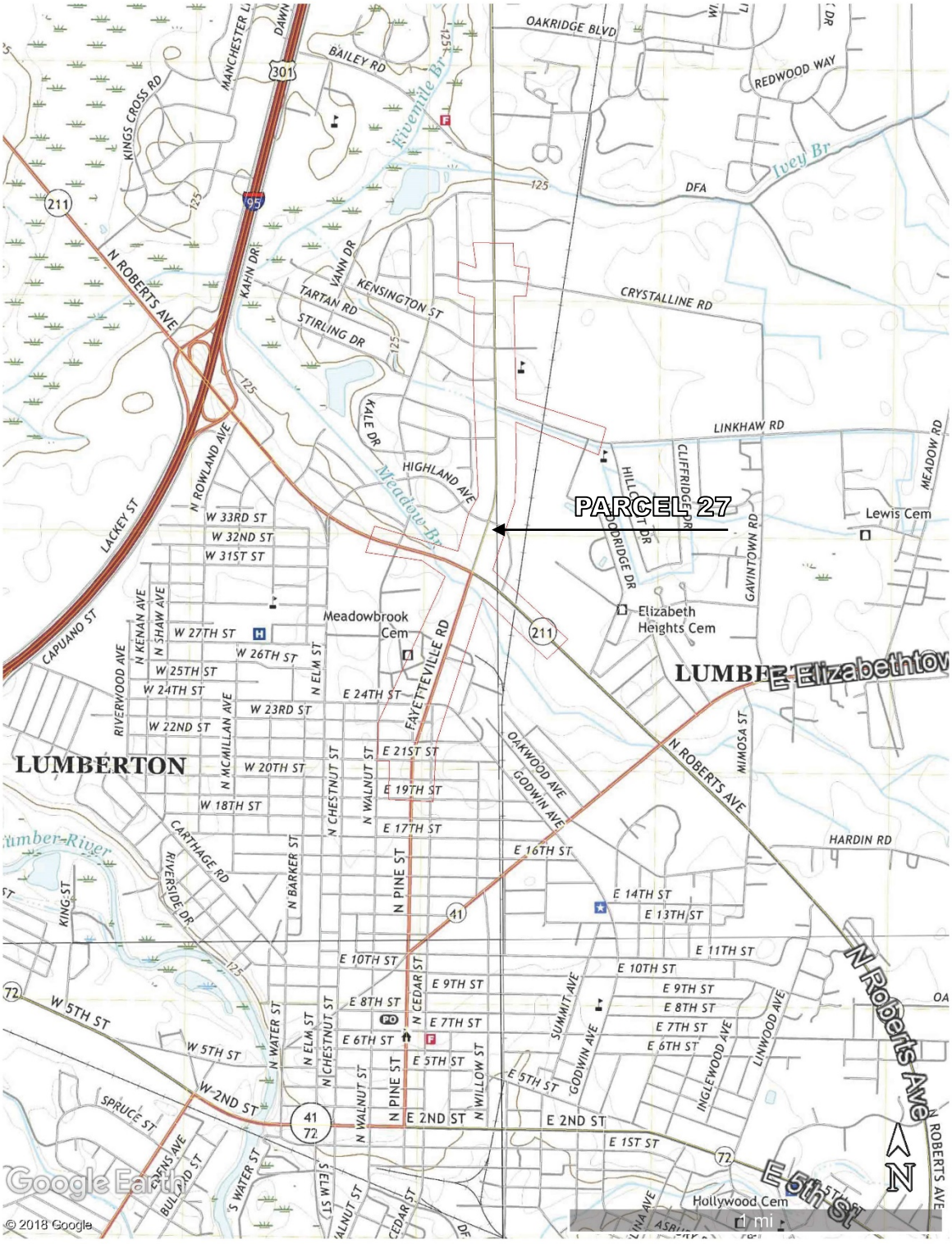
Soils requiring special handling were not identified. If suspect contaminated soils are encountered during construction Falcon and the NCDOT GeoEnvironmental Group should be contacted for proper handling instructions.

NCDOT U-5797 (SR 1997 Widening) Parcel 27
Preliminary Site Assessment
Vicinity Map



Project No.: G19011.00
Date: September 2019
Source: Google Maps

NCDOT U-5797 (SR 1997 Widening) Parcel 27
Preliminary Site Assessment
USGS Topographic Maps



Project No.: G19011.00
Date: September 2019
Source: "NW, NE, SW, and SE Lumberton, NC" 2019

NCDOT U-5797 (SR 1997 Widening) Parcel 27
Preliminary Site Assessment
Parcel Location Map

September 5, 2019

County Line
City Limits
Streets
Parcels

1:2,138

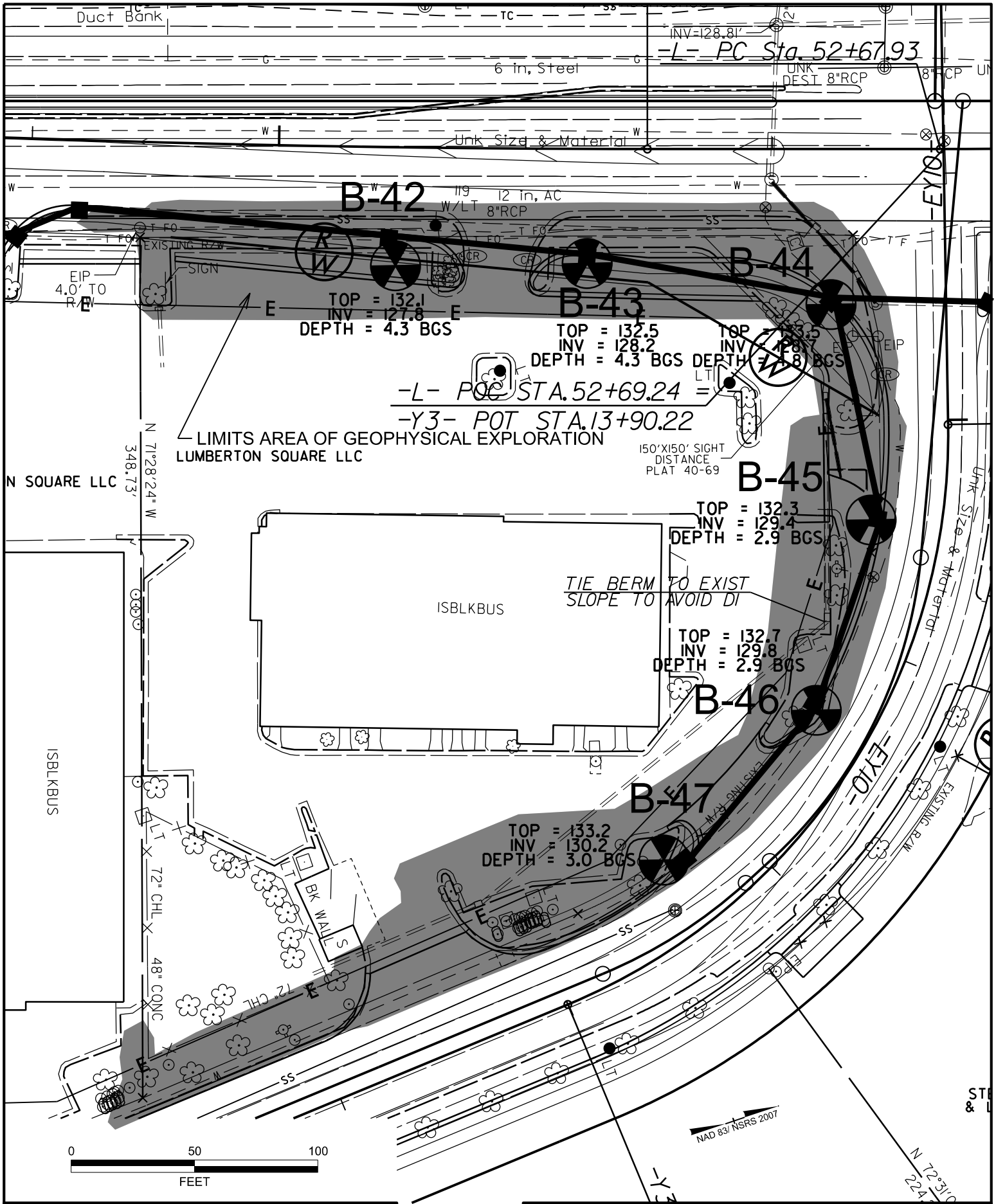
0 0.0175 0.035 0.07 mi

0 0.0275 0.055 0.11 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

2019

Project No.: G19011.00
Date: September 2019
Source: Robeson County GIS



NOTES:

- BGS = BELOW GROUND SURFACE

FALCON ENGINEERING

FALCON ENGINEERING, INC.
1210 TRINITY ROAD, SUITE 110
RALEIGH, NC 27607

PHONE: 919.871.0800
FAX: 919.871.0803

BORING LOCATION PLAN

NCDOT U-5797 (SR 1997 WIDENING)
PARCEL 27 - LUMBERTON SQUARE LLC
ROBESON / LUMBERTON, NC
WBS NO.: 44367.1.1 & TIP NO.: U-5797
FALCON PROJECT NO. G19011.00

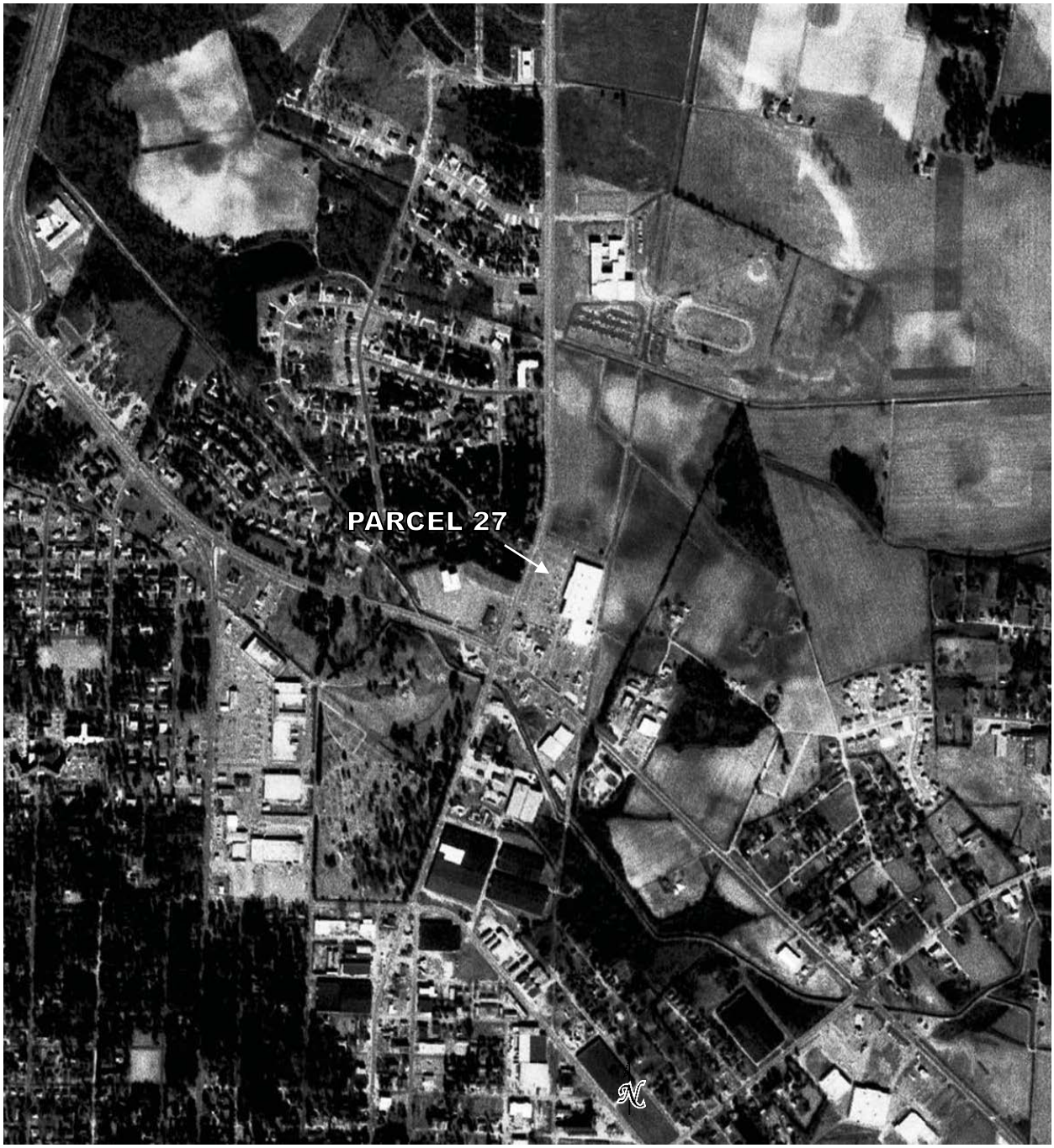
NCDOT U-5797 (SR 1997 Widening) Parcel 27
Preliminary Site Assessment
1990 Aerial Photograph

Project No.: G19011.00
Date: September 2019
Source: NCDOT Historical Aerial Imagery Index

NCDOT U-5797 (SR 1997 Widening) Parcel 27
Preliminary Site Assessment
1985 Aerial Photograph

Project No.: G19011.00
Date: September 2019
Source: NCDOT Historical Aerial Imagery Index

NCDOT U-5797 (SR 1997 Widening) Parcel 27
Preliminary Site Assessment
1976 Aerial Photograph



Project No.: G19011.00
Date: September 2019
Source: ERIS Aerial Photographs

NCDOT U-5797 (SR 1997 Widening) Parcel 27
Preliminary Site Assessment
Site Photographs

Photograph No. 1: General view of Boring B-42.

Photograph No. 2: General view of Boring B-43.

NCDOT U-5797 (SR 1997 Widening) Parcel 27
Preliminary Site Assessment
Site Photographs

Photograph No. 3: General view of Boring B-44.

Photograph No. 4: General view of Boring B-45.

NCDOT U-5797 (SR 1997 Widening) Parcel 27
Preliminary Site Assessment
Site Photographs

Photograph No. 5: General view of Boring B-46.

Photograph No. 6: General view of Boring B-47.

PA-2787

DIVISION OF ENVIRONMENTAL MANAGEMENT

June 26, 1991

Mr. Sam Everett
1203 East 11th Street
Lumberton, NC 28358

SUBJECT: Review of Lab Results
UST Soil Assessment
Oscar Baxley Grocery
Highway 211 - East
Lumberton, Robeson County

Dear Mr. Everett:

This is to acknowledge receipt of the above mentioned soil assessment dated June 14, 1991.

Based on review of the lab results, no additional soil excavation and removal is required. Should new information become available concerning this matter, we reserve the right to reverse this finding.

Should you have any questions or need clarification, please contact Mrs. Cindy Hegg of this office at (919) 486-1541.

Sincerely,

original signed by
M. J. Noland

M. J. Noland, P.E.
Regional Supervisor

CH
MJN/CH/gc

Site Investigation Report For Permanent Closure of U.S.T.

FOR TANKS IN NC

Return Completed Form To:
The appropriate DEM Regional Office according to the county of the facility's location. [SEE MAP ON REVERSE SIDE OF OWNER'S COPY (BLUE) FOR REGIONAL OFFICE ADDRESS].

Sate Use Only
I.D. Number _____
Date Received _____

INSTRUCTIONS

Please complete and return within (30) days following completion of site investigation.

I. Ownership of Tank(s)

Owner Name (Corporation, Individual, Public Agency, or Other Entity): Pauline Barley Everett
Street Address: 1203 East 11th Street
County: Robeson
City: Lumberton State: NC Zip Code: 28358
Area Code: 919 Telephone Number: 738-5863

II. Location of Tank(s)

Facility Name or Company: Oscar Barley Grocery
Facility ID # (if available): None
Street Address or State Road: Highway 211 East
County: Robeson City: Lumberton Zip Code: 28358
Area Code: 919 Telephone Number: None

III. Contact Person

Name: Sam Everett Job Title: Husband of Owner Telephone Number: (919) 738-5863
Closure Contractor (Name): Floyd Grading Co (Address): PO Box 3107 Lumberton NC 28359
Lab (Name): Oxford Laboratories Inc (Address): 1316 South 5th Street Wilmington, NC 28401

IV. U.S.T. Information

Tank No.	Size in Gallons	Tank Dimensions	Last Contents
1	550	42" X 7'.6"	GAS
2	550	42" X 7'.6"	GAS

V. Excavation Condition

Tank No.	Water in Excavation Yes	Water in Excavation No	Free Product Yes	Free Product No	Notable Odor or Visible Soil Contamination Yes	Notable Odor or Visible Soil Contamination No
1		✓		✓		✓
2		✓		✓		✓

VI. Additional Information Required

See reverse side of blue copy (owner's copy) for additional information required by N.C. - DEM in the written report and sketch.

VII. Check List

Check the activities completed.

- ✓ Contact local fire marshall
- ✓ Notify DEM Regional Office before abandonment.
- ✓ Drain & flush piping into tank.
- ✓ Remove all product and residuals from tank
- ✓ Excavate down to tank.
- ✓ Clean and inspect tank.
- ✓ Remove drop tube, fill pipe, gauge pipe, vapor recovery tank connections, submersible pumps and other tank fixtures.
- ✓ Cap or plug all lines except the vent and fill lines.
- ✓ Purge tank of all product & flammable vapors.
- ✓ Cut one or more large holes in the tanks.
- ✓ Backfill the area.

Date Tank Permanently closed: 5/23/91

ABANDONMENT IN PLACE
- ☐ Fill tank until material overflows tank opening;
- ☐ Plug or cap all openings;.
- ☐ Disconnect and cap or remove vent line
- ☐ Solid inert material used - please specify: _____

REMOVAL
- ✓ Create vent hole
- ✓ Label tank
- ✓ Dispose of tank in approved manner

Final tank destination: Floyd Grading Co

VIII. Certification (Read and Sign)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Print name and official title of owner or owner's authorized representative	Signature	Date Signed
Sam Everett	Sam Everett	5/23/91

GW/UST-2 White Copy - Regional Office Yellow Copy - Central Office Blue Copy - Owner

Notice of Intent: UST Permanent Closure or Change-In-Service

FOR TANKS IN **NC**

Return Completed Form To:
The appropriate DEM Regional Office according to the county of the facility's location. [SEE REVERSE SIDE OF OWNER'S COPY (BLUE) FOR REGIONAL OFFICE ADDRESS].

State Use Only
I. D. Number _____
Date Received _____

INSTRUCTIONS
Complete and return thirty (30) days prior to closure or change-in-service.

I. OWNERSHIP OF TANK(S)

Tank Owner Name: Pauline Barkley Everett
(Corporation, Individual, Public Agency, or Other Entity)
Street Address: 1203 East 11th Street
County: Robeson
City: Lumberton State: NC Zip Code 28358
Tele. No. (Area Code): 919-738-5863

II. LOCATION OF TANK(S)

Facility Name or Company Oscar Barkley Grocery
Facility ID # (if available) None
Street Address or State Road: Hwy 211 - East
County: Robeson City: Lumberton Zip Code 28358
Tele. No. (Area Code): None

III. CONTACT PERSON

Name: Sam Everett Job Title: Husband Telephone Number: 919) 738-5863

IV. TANK REMOVAL, CLOSURE IN PLACE, CHANGE-IN-SERVICE

1. Contact Local Fire Marshall.
2. Plan the entire closure event.
3. Conduct Site Soil Assessments.
4. If Removing Tanks or Closing in Place refer to API Publications. 2015 "Cleaning Petroleum Storage Tanks" & 1604 "Removal & Disposal of Used Underground Petroleum Storage Tanks".
5. Provide a sketch locating piping, tanks and soil sampling locations.
6. Fill out form GW/UST-2 "Site Investigation Report for Permanent Closure" and return within 30 days following the site investigation.
7. Keep records for 3 years.

V. WORK TO BE PERFORMED BY:

(Contractor) Name: Floyd Grading Co.
Address: P.O Box 3197 Lumberton State: N.C. Zip Code: 28359
Contact: Calvin F. Floyd Phone: Office 671-1177

VI. TANK(S) SCHEDULED FOR CLOSURE OR CHANGE-IN-SERVICE

TANK ID#	TANK CAPACITY	LAST CONTENTS	PROPOSED ACTIVITY: CLOSURE – Removal	CLOSURE – Abandonment In Place	CHANGE-IN-SERVICE – New Contents Stored
1	550	GAS	✓		
2	550	GAS	✓		

VII. OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

Print name and official title: Sam Everett - Owner
*Scheduled Removal Date: 5/23/91
Signature: Sam Everett
Date Submitted: 5/23/91

*If scheduled work date changes, notify your appropriate DEM Regional Office 48 hours prior to originally scheduled date.

GW/UST-3 White Copy - Regional Office Yellow Copy - Central Office Blue Copy - Owner

Fire Prevention Form 1.

APPLICATION TO USE, INSTALL, CONDUCT PROCESSES OR CARRY ON OPERATIONS INVOLVING OR CREATING CONDITIONS DEEMED HAZARDOUS TO LIFE OR PROPERTY

10-14-83
Date

To Chief of Fire Department, City of Lumberton, N. C.

Application is hereby made by the undersigned for a Permit to { Use / Install / Operate / Conduct }

in or on the premises known as TACO-BELL / FAYETTEVILLE ROAD ROBERTS ~~Street or~~ Avenue

the following materials, processes or operations.

(Describe briefly what is to be done and state what hazardous materials are to be used.)

FOR THE REMOVAL OF 4 - 4000 GALLON UNDERGROUND GASOLINE STORAGE TANKS.

#12-83

Conditions, surroundings and arrangements to be in accordance with the Fire Prevention Ordinance.

This application is / is not approved insofar as Zoning and Building Ordinances are concerned.

Inspector of Buildings

C. M. Lewis Jr.
Name of Applicant

P.O. Box 1887
Lumberton N.C.
Address of Applicant

Complete plans and construction details must be filed on all major projects and when requested by the chief of the fire department.

FREEMAN PRINTING CO., LUMBERTON, N. C., 500-2/68

550 gal.

Fire Prevention Form 1.

APPLICATION TO USE, INSTALL, CONDUCT PROCESSES OR CARRY ON OPERATIONS INVOLVING OR CREATING CONDITIONS DEEMED HAZARDOUS TO LIFE OR PROPERTY

6-1-92
Date

To Chief of Fire Department, City of Lumberton, N. C.

Application is hereby made by the undersigned for a Permit to { Use / Install / Operate / Conduct ✓ }

in or on the premises known as NICHOLS / 3100 FAYETTEVILLE ROAD ~~Street or Avenue~~

the following materials, processes or operations.

(Describe briefly what is to be done and state what hazardous materials are to be used.)

TO REMOVE ONE 550 GALLON UNDERGROUND STORAGE TANK, FOR USED MOTOR OIL, FROM PREMISES.

#20-92

Conditions, surroundings and arrangements to be in accordance with the Fire Prevention Ordinance.

This application is / is not approved insofar as Zoning and Building Ordinances are concerned.

Inspector of Buildings

Name of Applicant

3041 Stantonsburg Rd.
Address of Applicant
Wilson NC 27893

Complete plans and construction details must be filed on all major projects and when requested by the chief of the fire department.

FREEMAN PRINTING CO., LUMBERTON, N. C., 300-2/66

QED

REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS

AQROS

Hydrocarbon Analysis Results

Client: FALCON
Address: 1210 TRINITY RD SUITE 110
CARY, NC 28513

Contact: CHRISTOPHER BURKHARDT

Project: G19011 U5797

Samples taken Tuesday, April 9, 2019
Samples extracted Tuesday, April 9, 2019
Samples analysed Monday, April 15, 2019

Operator CAROLINE STEVENS

U00902

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	% Ratios			HC Fingerprint Match
										C5 - C10	C10 - C18	C18	
s	B42	22.6	<0.57	<0.57	1.1	1.1	0.48	<0.18	<0.023	0	88.1	11.9	Road Tar 85.1%,(FCM)
s	B43	19.1	<0.48	0.7	9.7	10.4	4.6	0.53	<0.019	15.4	74	10.6	Road Tar 96.8%,(FCM)
s	B44	11.4	<0.28	0.38	0.28	0.66	0.16	<0.09	<0.011	71.6	22	6.4	Deg.PHC 91.3%,(FCM)
s	B45	20.5	<0.51	0.97	24	25	11.6	1.3	0.033	9	81.6	9.4	Road Tar 96.4%,(FCM)
s	B46	19.0	<0.47	<0.47	15.2	15.2	7.3	0.82	0.025	0	86.2	13.8	Road Tar 94.5%,(FCM)
s	B47	22.0	<0.55	<0.55	<0.55	<0.55	<0.11	<0.18	<0.022	0	100	0	PHC not detected

Initial Calibrator QC check OK

Final FCM QC Check OK

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

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

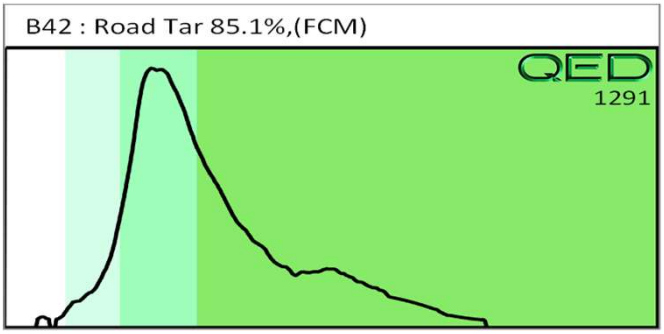
B = Blank Drift : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : (OCR) = Outside cal range : (M) = Modifed Result.

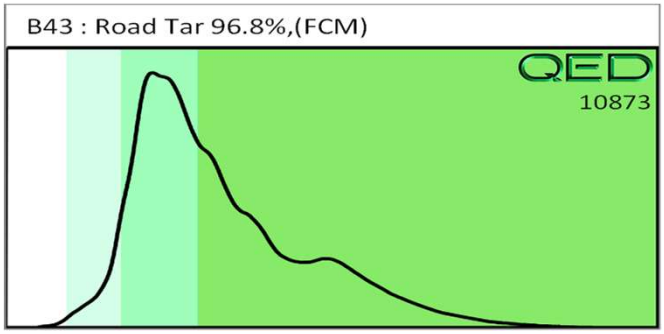
% Ratios estimated aromatic carbon number proportions : HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only. **Data generated by HC-1 Analyser**

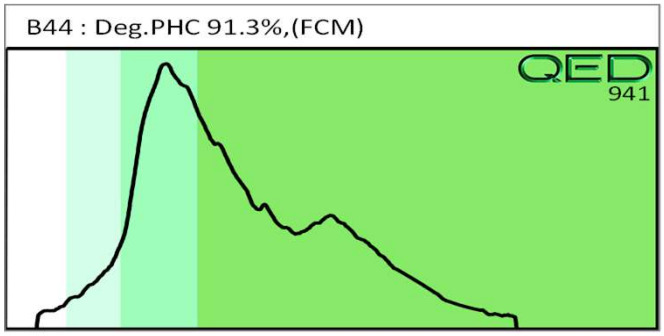
QED Hydrocarbon Fingerprints

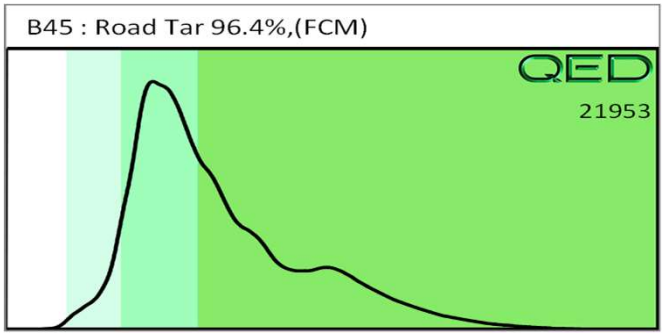
Project: G19011 U5797

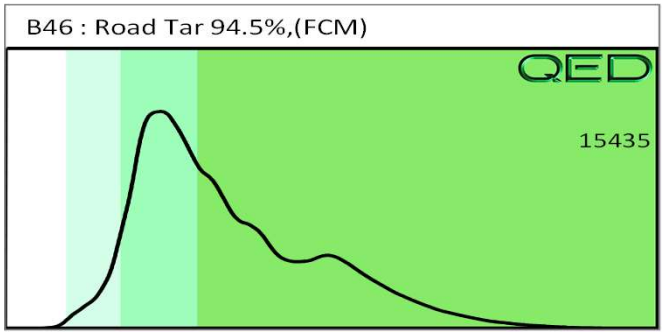
Monday, April 15, 2019

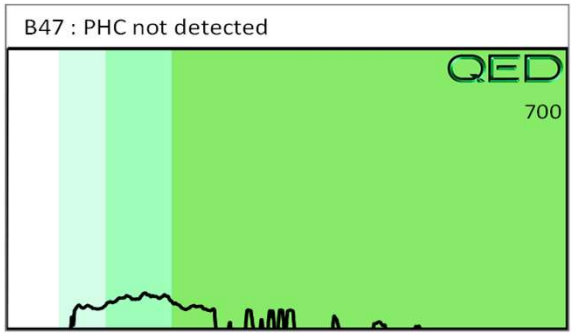












PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2019-091)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCEL 27
NCDOT PROJECT U-5797

3002 FAYETTEVILLE RD., LUMBERTON, NC

APRIL 24, 2019

Report prepared for: **Christopher J. Burkhardt, PWS**
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GEOPHYSICAL INVESTIGATION REPORT
Parcel 27 - 3002 Fayetteville Rd.
Lumberton, Robeson 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 Falcon Engineers at Parcel 27, located at 3002 Fayetteville Rd. in Lumberton, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5797). 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 March 19-27, 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 sixteen EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. One EM anomaly was associated with interference from a car and was further investigated with GPR. The GPR transects did not record any evidence of buried structures, such as USTs. Collectively, the geophysical data did not record any evidence of unknown metallic USTs within the geophysical survey area at Parcel 27.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Falcon Engineers at Parcel 27, located at 3002 Fayetteville Rd. in Lumberton, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-5797). 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 March 19-27, 2019, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

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

FIELD METHODOLOGY

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

According to the instrument specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. Smaller objects (1-foot or less in size) can be detected to a maximum depth of 4 to 5 feet. The EM61 data were digitally collected at approximately 0.8-foot intervals along north-south trending or east-west trending, generally parallel survey lines, spaced five feet apart. The data were downloaded to a

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

GPR data were acquired across select EM anomalies on March 27, 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	Sign	
2	Car	☑
3	Metal Post	
4	Utility	
5	Drop Inlet	
6	Bollard	
7	Drop Inlets	
8	Storm Sewer	
9	Utility	
10	Hydrant	
11	Storm Sewer	
12	Utility	
13	Storm Sewer	
14	Drop Inlet	
15	Fence	
16	Utility	

The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface, including a sign, a metal post, utilities, drop inlets, a bollard, storm sewers, a hydrant, and a fence. EM Anomaly 2 was associated with interference from a car and was further investigated with GPR to verify that the interference did not obscure buried structures such as USTs.

Discussion of GPR Results

Figure 3 presents the locations of the formal GPR transects performed at the property as well as the transect images. A total of three formal GPR transects were performed at the site. GPR Transects 1-3 were performed across EM Anomaly 2. These transects recorded no evidence of buried structures, such as USTs.

Collectively, the geophysical data did not record any evidence of unknown metallic USTs within the geophysical survey area at Parcel 27. **Figure 4** provides an overlay of the EM61

metal detection contour map onto the NCDOT MicroStation engineering plans for reference.

SUMMARY & CONCLUSIONS

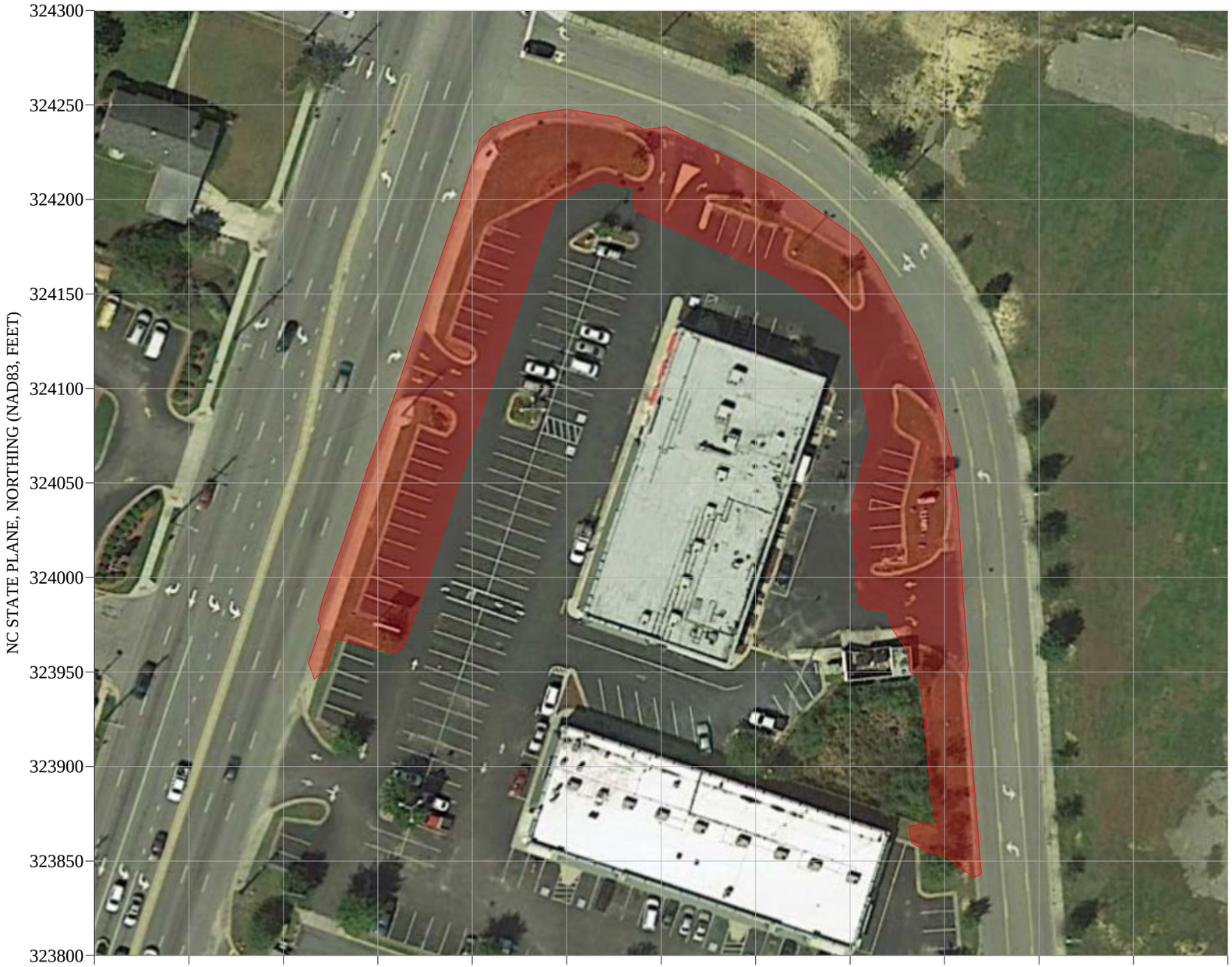
Pyramid's evaluation of the EM61 and GPR data collected at Parcel 27 in Lumberton, North Carolina, provides the following summary and conclusions:

- 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.
- One EM anomaly associated with interference from a car and was further investigated with GPR. The GPR transects did not record any evidence of buried structures, such as USTs.
- Collectively, the geophysical data did not record any evidence of unknown metallic USTs within the geophysical survey area at Parcel 27.

LIMITATIONS

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

APPROXIMATE BOUNDARIES OF GEOPHYSICAL SURVEY AREA



View of Survey Area
(Facing Approximately South)

View of Survey Area
(Facing Approximately South)

N

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PROJECT: PARCEL 27 LUMBERTON, NORTH CAROLINA NCDOT PROJECT U-5797	TITLE: PARCEL 27 - GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS	DATE: 3/27/2019 PYRAMID PROJECT #: 2019-091	CLIENT: FALCON ENGINEERS **FIGURE 1**

EM61 METAL DETECTION RESULTS

NO EVIDENCE OF METALLIC USTs 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 March 19, 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 March 27, 2019.

EM61 Metal Detection Response (millivolts)

N

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PROJECT
PARCEL 27
LUMBERTON, NORTH CAROLINA
NCDOT PROJECT U-5797

TITLE
PARCEL 27 -
EM61 METAL DETECTION CONTOUR MAP

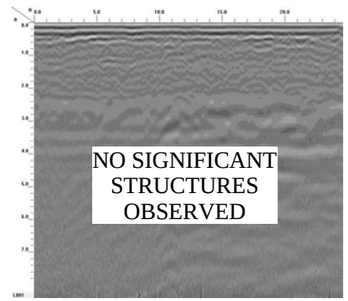
DATE 3/27/2019

PYRAMID PROJECT #: 2019-091

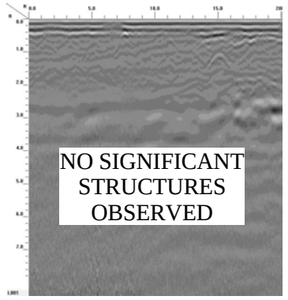
CLIENT FALCON ENGINEERS

FIGURE 2

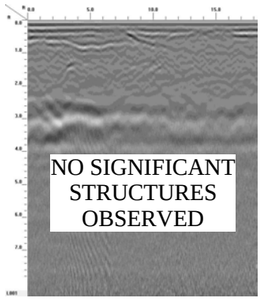
LOCATIONS OF GPR TRANSECTS



GPR TRANSECT 1 (T1)



GPR TRANSECT 2 (T2)



GPR TRANSECT 3 (T3)

N

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PROJECT	PARCEL 27 LUMBERTON, NORTH CAROLINA NCDOT PROJECT U-5797	TITLE	PARCEL 27 - GPR TRANSECT LOCATIONS AND IMAGES	DATE 3/27/2019 PYRAMID PROJECT #: 2019-091
CLIENT	FALCON ENGINEERS			**FIGURE 3**

EM61 METAL DETECTION CONTOURS (SEE FIGURE 2 FOR ANOMALY LABELS)

LEGEND

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

MILLIVOLTS (mV)

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

0 20 40
FEET

N

TITLE	OVERLAY OF METAL DETECTION RESULTS ON NCDOT ENGINEERING PLANS
PROJECT	PARCEL 027 LUMBERTON, NORTH CAROLINA NCDOT PROJECT U-5797
PYRAMID GEOPHYSICS	503 INDUSTRIAL AVENUE GREENSBORO, NC 27406 336.335.3174 (p) 336.691.0648 (f) License # C1251 Eng. / #C257 Geology
DATE: 04-11-2019	REVISION NO. 0
PYRAMID PROJECT NO. 2019-091	FIGURE NO. 4