PRELIMINARY SITE ASSESSMENT

NC 268 FROM MULTI-LANES EAST OF NC 18
TO SR 1966 (AIRPORT ROAD)
PARCEL 44 DOUGLAS HINCHER
CAROLINA AUTO SALES
516-600 ELKIN HIGHWAY
WILKESBORO, WILKES COUNTY, NORTH CAROLINA

NCDOT WBS ELEMENT 36001.1.2
STATE PROJECT R-2603

July 12, 2013

Prepared for:

Gordon H. Box, L.G.
North Carolina Department of Transportation
Geotechnical Engineering Unit
GeoEnvironmental Section
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

Prepared by:

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Kleinfelder Project No. 134245

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July 12, 2013
134245| CLT13R0317

Gordon H. Box, L.G.
North Carolina Department of Transportation
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

Subject: **Preliminary Site Assessment**
WBS Element No. 36001.1.2, State Project R-2603
Parcel 44 Douglas Hincher
Carolina Auto Sales
516-600 Elkin Highway
Wilkesboro, North Carolina

Dear Mr. Box:

Please find the enclosed report summarizing the sampling activities for the preliminary site assessment conducted at the referenced site. Field analysis of five soil samples collected at the site detected contaminant at concentrations exceeding the state action levels in one of the soil samples. This report summarizes our field activities, field analytical report, conclusions, and recommendations.

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

Sincerely,

KLEINFELDER SOUTHEAST, INC.

Travis L. O'Quinn
Staff Professional I

Craig D. Neil, P.G.
Senior Professional

PRELIMINARY SITE ASSESSMENT

Site Name and Location:	Parcel 44 Douglas Hincher Carolina Auto Sales 516-600 Elkin Highway Wilkesboro, Wilkes County, North Carolina
Latitude and Longitude:	36° 11' 00.97" N, 81° 07' 50.05" W
Facility ID Number:	0-026715
NCDOT Project No.:	NCDOT WBS Element 36001.1.2 State Project R-2603
Date of Report:	July 12, 2013
Consultant:	Kleinfelder Southeast, Inc. 6200 Harris Technology Blvd. Charlotte, North Carolina 28269 Attn: Mr. Craig D. Neil Phone: 704.598.1049 X457

Seal and Signature of Certifying Licensed Geologist

I, Craig D. Neil, a Licensed Geologist for Kleinfelder Southeast, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

July 12, 2013

Craig D. Neil, P.G.
NC License No. 1882

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D Field Analytical Report

1.0 INTRODUCTION

Kleinfelder Southeast, Inc. (Kleinfelder) has prepared this Preliminary Site Assessment (PSA) report documenting assessment activities performed at the Parcel 44 Douglas Hincher Property located at 516-600 Elkin Highway in Wilkesboro, Wilkes County, North Carolina (Figure 1). The site is currently developed with the Carolina Auto Sales which was a former gas station. This assessment was conducted on behalf of the North Carolina Department of Transportation (NCDOT) in accordance with Kleinfelder's May 3, 2013 proposal.

NCDOT is proposing to widen NC 268 (Elkin Highway) east of NC 18 to SR 1966 (Airport Road). The proposed right-of-way includes a portion of Parcel 44 (Figure 2). Based on information provided by NCDOT, the site was a former gasoline station with two probable underground storage tanks (USTs). Therefore, there is concern that contaminated soils could be encountered during the construction activities at this site.

The purpose of this assessment was to determine the presence or absence of impacted soil at the subject property in proposed right-of-way construction areas related to the widening of Elkin Highway east of NC 18 to SR 1966 (Airport Road).

1.1 Site Description

The proposed right-of-way includes the construction areas related to the widening of Elkin Highway east of NC 18 to SR 1966. At the time of our site reconnaissance, the site contained a former gas station, now car dealership, Carolina Auto Sales. Kleinfelder reviewed Google aerials from 1993 to 2012 and the site appeared to be relatively unchanged since 1993. Based on information provided by NCDOT, the site is a former gasoline station with two known USTs at the site. The geophysical investigation located four probable USTs outside the proposed right-of-way. No unidentified anomalies were located during the geophysical investigation within the proposed right-of-way. Site photographs are shown in Appendix A.

1.2 Site Location

The facility is located at 516-600 Elkin Highway in Wilkesboro, North Carolina. The property is bound to the north by Elkin Highway, east by wooded land, west by a commercial building and south by wooded land and an unnamed tributary of Mulberry Creek.

2.0 SITE ASSESSMENT

2.1 Geophysical Investigation

Pyramid Environmental & Engineering, P.C (Pyramid) conducted a geophysical investigation of the property on May 15, 2013. Pyramid utilized ground penetrating radar (GPR) and electromagnetic (EM) induction technology to locate potential geophysical anomalies and potential USTs at the site. The geophysical investigation located the four known USTs outside the proposed right-of-way. No unidentified anomalies were located during the geophysical investigation within the proposed right-of-way. A copy of the Pyramid Geophysical Investigation Report is included in Appendix B.

2.2 Soil Sampling

To determine if contaminated soil may be encountered during the proposed construction activities, five soil samples were collected along the NCDOT proposed easement. Prior to conducting soil borings, utilities were marked by NC One Call and Taylor Wiseman & Taylor (TWT). Kleinfelder met Probe Technology at the site on May 28, 2013. Probe Technology advanced five soil borings (SS-0 to SS-4) by direct push technology (DPT). The approximate location of the borings is shown on Figure 3.

Soil borings were advanced to a depth of ten feet below the ground surface (bgs) at each location. Soil borings SS-0 through SS-4 were located on the northern portion of the property and along the proposed right-of-way. Soil samples were collected by driving a macrocore sampler in five foot intervals in each boring. Each five foot sample sleeve was divided in half and screened for volatile organic compounds in the field using a MiniRae 2000 photo-ionization detector (PID). In each boring, the soil interval with the highest PID reading was collected for field analysis. If no organic vapors were detected, the sample from depth of four feet below ground surface (bgs) was collected for field analysis. Four feet bgs was selected because the maximum depth of excavation for proposed structures at the site is approximately three feet bgs. The PID readings are summarized in Table 1. Copies of the boring logs are included in Appendix C.

Prior to the initial boring and after each subsequent boring, the sampling equipment was decontaminated with a pressure washer. The soil samples collected for analysis were analyzed

in the field by a QED for total benzene, toluene, ethylbenzene, and xylenes (BTEX); total petroleum hydrocarbons (TPH); TPH diesel range organics (DRO); TPH gasoline range organics (GRO); total Aromatics (C10-C35); 16 EPA PAHs; and benzo(a)pyrene. All soil samples were placed into laboratory provided containers, labeled, and were analyzed by the QED for chemical analysis.

3.0 RESULTS

3.1 Geophysical Investigation

Pyramid concluded that the GPR and EM investigation located the four known USTs outside the proposed right-of-way. No unidentified anomalies were located during the geophysical investigation within the proposed right-of-way. Pyramid's report is included in Appendix B.

3.2 Soil Sampling

TPH-DRO were detected in SS-3 (58.8 milligrams per kilogram (mg/kg)) above the North Carolina action level (10 mg/kg) at 2 to 3 feet below ground surface (bgs). Targeted constituent were also identified in SS-0 at concentrations above the method detection limits, however, below the North Carolina action level. The field analytical results are summarized in Table 2 and on Figure 3. The field analytical report is included in Appendix D.

Based on field analytical results and PID readings, petroleum impacted soils were identified in the vicinity of SS-3. Kleinfelder was unable to identify a source for the impacted soils identified during the investigation. The estimated extent of contaminated oil was extrapolated based on the limited soil borings and the concentrations of the impacts. Kleinfelder estimates that the contaminated soil covers an area approximately 1,000 square feet in size. The contaminated soil vertical extent is estimated to be approximately five feet bgs, which is two feet deeper than the maximum depth of proposed future excavation activities to install a drainage pipe. Based on these dimensions Kleinfelder, estimates that there are approximately 185 cubic yards of impacted soil at the site. The area of soil contamination is depicted on Figure 4.

4.0 CONCLUSIONS AND RECOMMENDATION

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

- The GPR and EM investigation located the four probable USTs outside the proposed right-of-way. No unidentified anomalies were located during the geophysical investigation within the proposed right-of-way.
- Groundwater was not encountered in the soil borings.
- DRO was detected above the North Carolina action level in boring SS-3.
- Based upon the analytical results, petroleum impacted soil is located in the vicinity of SS-3 between the surface and five feet bgs.
- Approximately 185 cubic yards of contaminated soil was identified at the site.
- No existing groundwater monitoring wells were observed within the survey area

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

- Kleinfelder recommends that the petroleum impacted soil in the vicinity of soil boring SS-3 be removed and disposed of at an approved disposal facility prior to the start of construction activities.

5.0 LIMITATIONS

Our work has been performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services were provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

The information included on graphic representations in the report has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or

rights to the use of such information. These documents are not intended for use as a land survey product, nor are they designed or intended as a construction design document. The use or misuse of the information contained on these graphic representations is at the sole risk of the party using or misusing the information.

TABLES

TABLE 1: SOIL SAMPLE PID RESULTS

SAMPLE LOCATION	DEPTH (feet bgs)	PID READINGS
SS-1	0.0-2.0	0.0
	7.0-13.0	0.0
	14.0-15.0	**1.5**
	15.0-20.0	0.0
SS-2	5.0-7.0	0.0
	7.0-9.0	0.0
	9.0-10.0	0.0
	10.0-15.0	0.0
SS-3	5.0-7.0	0.0
	9.0-10.0	0.0
	12.0-13.0	0.0
	14.0-15.0	0.0
SS-4	5.0-7.0	0.0
	9.0-10.0	0.0
	12.0-13.0	0.0
	14.0-15.0	0.0
SS-5	5.0-7.0	0.0
	9.0-10.0	0.0
	12.0-13.0	0.0
	14.0-15.0	0.0
SS-6	11.0-12.0	0.0
	12.0-13.0	0.0
	13.0-14.0	0.0
	14.0-15.0	0.0

Notes:
Samples were collected on May 28, 2013.
Readings reported in parts per million
feet bgs = feet below ground surface
Shaded = Selected for field analysis
Bold and Shaded = Selected for laboratory analysis

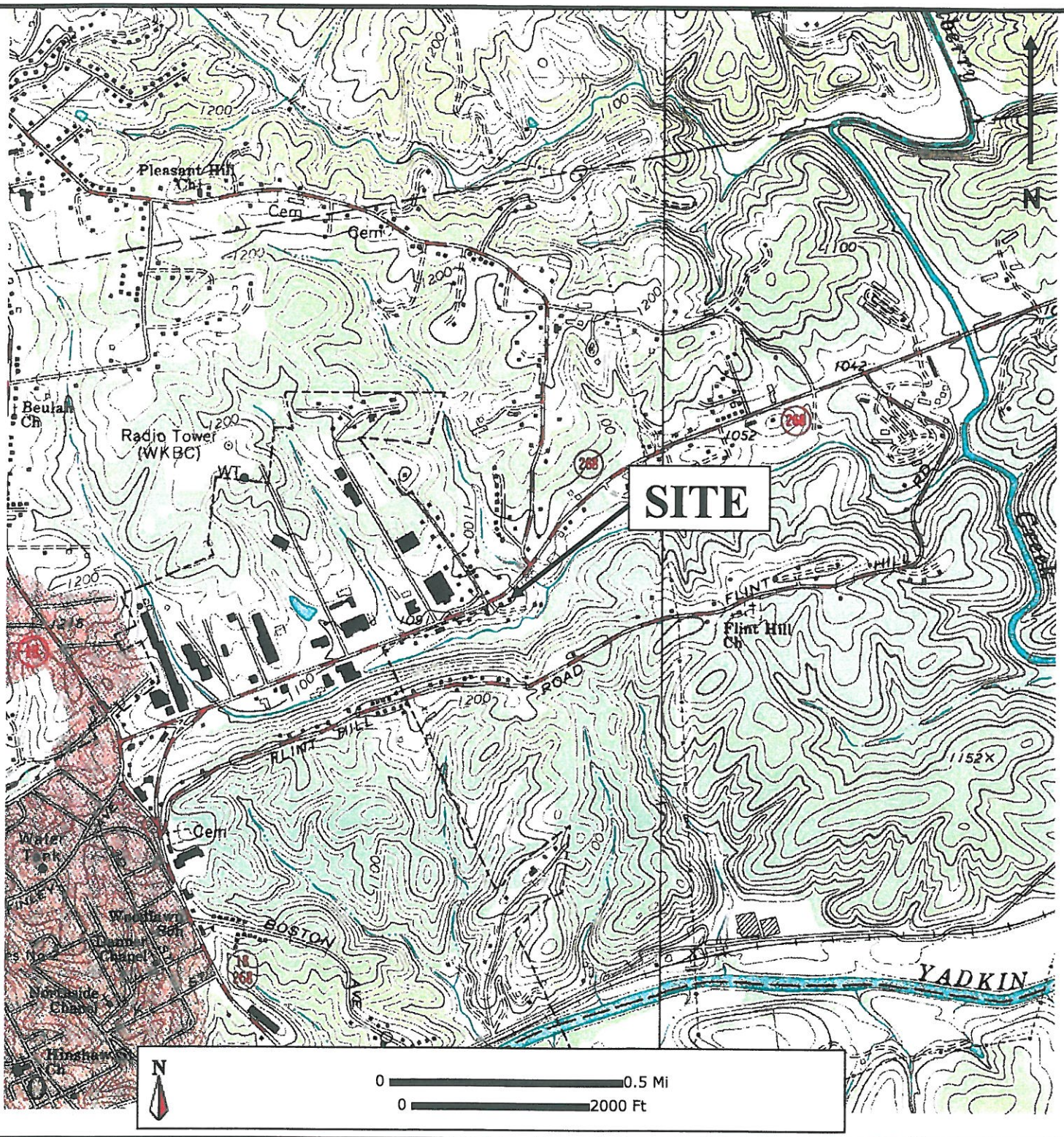
TABLE 2: SOIL SAMPLE FIELD ANALYTICAL SUMMARY

SAMPLE ID	DEPTH	COLLECTION DATE	BTEX	GRO (C5-C10)	DRO (C10-C35)	TPH (C5-C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP
SS-0	4.0-5.0	5/28/2013	<1.2	<1.2	1.7	1.7	1.72	0.18	<0.058
SS-1	4.0-5.0	5/28/2013	<0.6	<0.6	<0.6	<0.6	<0.6	<0.06	<0.03
SS-2	2.0-3.0	5/28/2013	<0.9	<0.9	<0.9	<0.9	<0.87	<0.09	<0.044
SS-3	2.0-3.0	5/28/2013	<2.4	<2.4	**58.8**	58.8	41.12	1.59	<0.121
SS-4	7.0-8.0	5/28/2013	<0.6	<0.6	<0.6	<0.6	<0.55	<0.06	<0.028
State Action Level (Petroleum UST)			NA	10	10	NA	NA	NA	NA

Notes:

Results presented in milligrams per kilogram, analogous to parts per million
BTEX = Benzene, Toluene, Ethylbenzene, and xylenes
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
TPH = Total Petroleum Hydrocarbons
PAH = Polycyclic Aromatic Hydrocarbons
BaP = Benzo(a)pyrene
Bold denotes concentration exceeds the State Action Level for Petroleum USTs

FIGURES



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6200 HARRIS TECHNOLOGY BOULEVARD
CHARLOTTE, NORTH CAROLINA
PHONE: 704.598.1049

FIGURE 1
SITE LOCATION MAP

PARCEL 44 DOUGLAS HINCHER
CAROLINA AUTO SALES
516-600 ELKIN HIGHWAY
WILKESBORO, NORTH CAROLINA

DATE: 6/4/2013	APPROVED BY: CDW	SCALE: As Shown
SOURCE: USGS Topographic Orthophoto Map, Wilkesboro, NC 1966		PROJECT NO: 134245

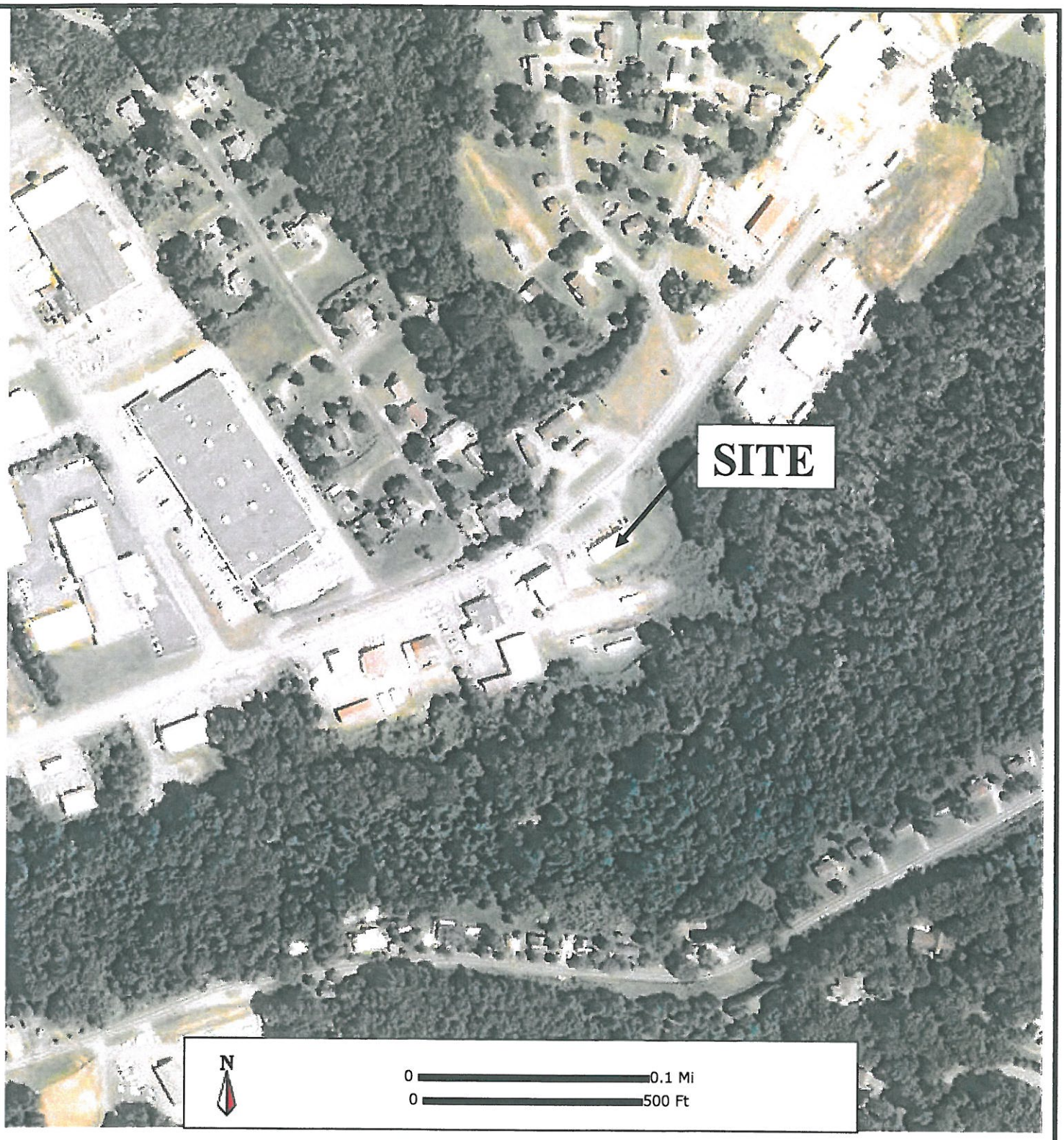

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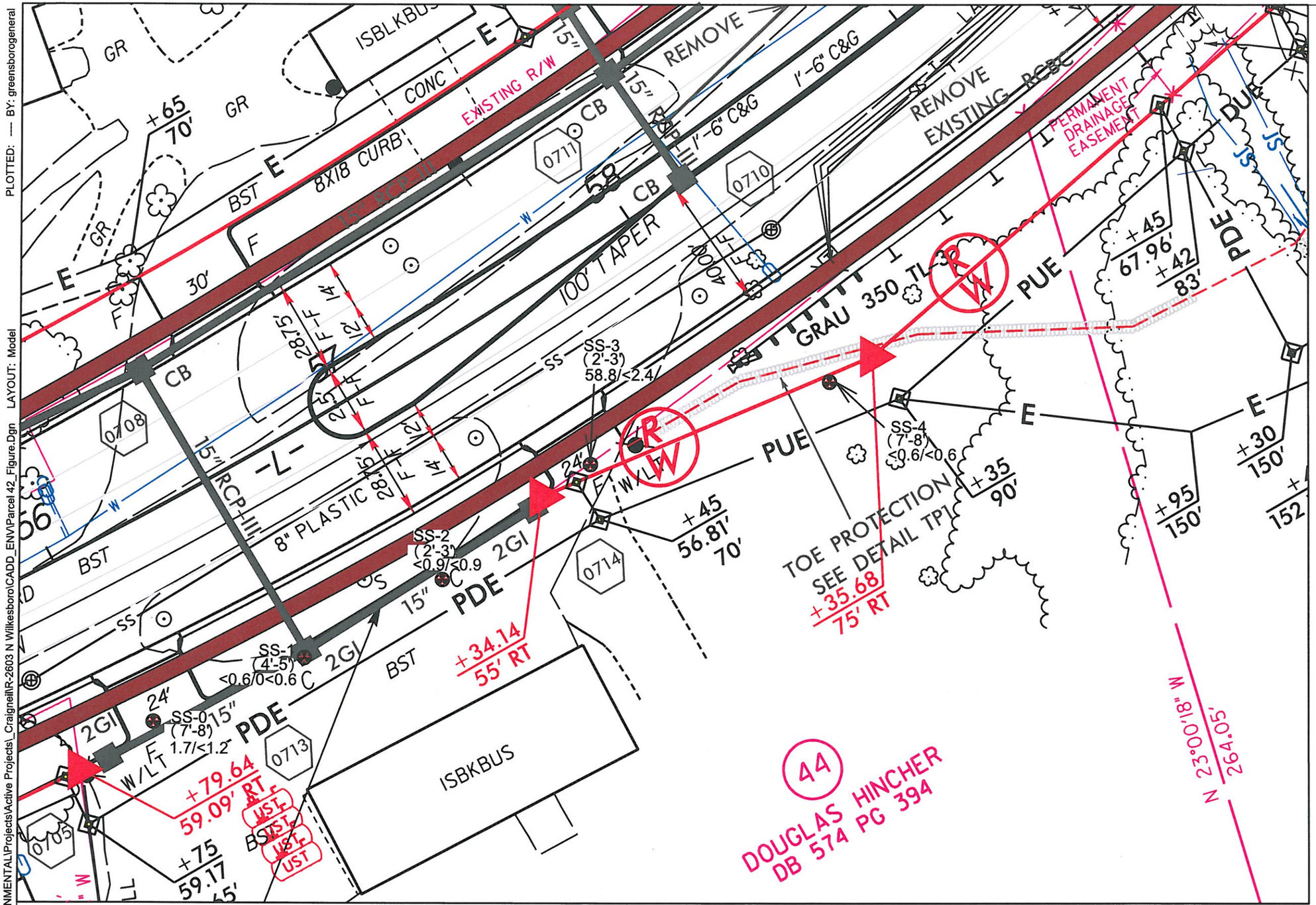
FIGURE 2
SITE MAP

PARCEL 44 DOUGLAS HINCHER
CAROLINA AUTO SALES
516-600 ELKIN HIGHWAY
WILKESBORO, NORTH CAROLINA

DATE: 6/4/2013	APPROVED BY: CDN	SCALE: As Shown
SOURCE: MyTopo.com		PROJECT NO. 134245



LEGEND

- Existing Right of Way
- Proposed Right of Way
- Proposed Construction Easement
- Proposed Cut Line
- Proposed Transition Line
- Proposed Fill Line
- Existing Utilities Water UG Line SUE
- Existing Utilities Telephone UG Line SUE
- Exist Utilities Sanitary Sewer UG Line
- Exist Utilities Power UG Cable SUE
- Approximate Boring Location
- UST — Probable USTs
- (7'-8') — Sample Depth location
- <0.6/<0.6 — Concentration of TPH-DRO/TPH-GRO mg/kg (QROS-QED data)

0 30 60

SCALE: 1" = SCALE IN FEET

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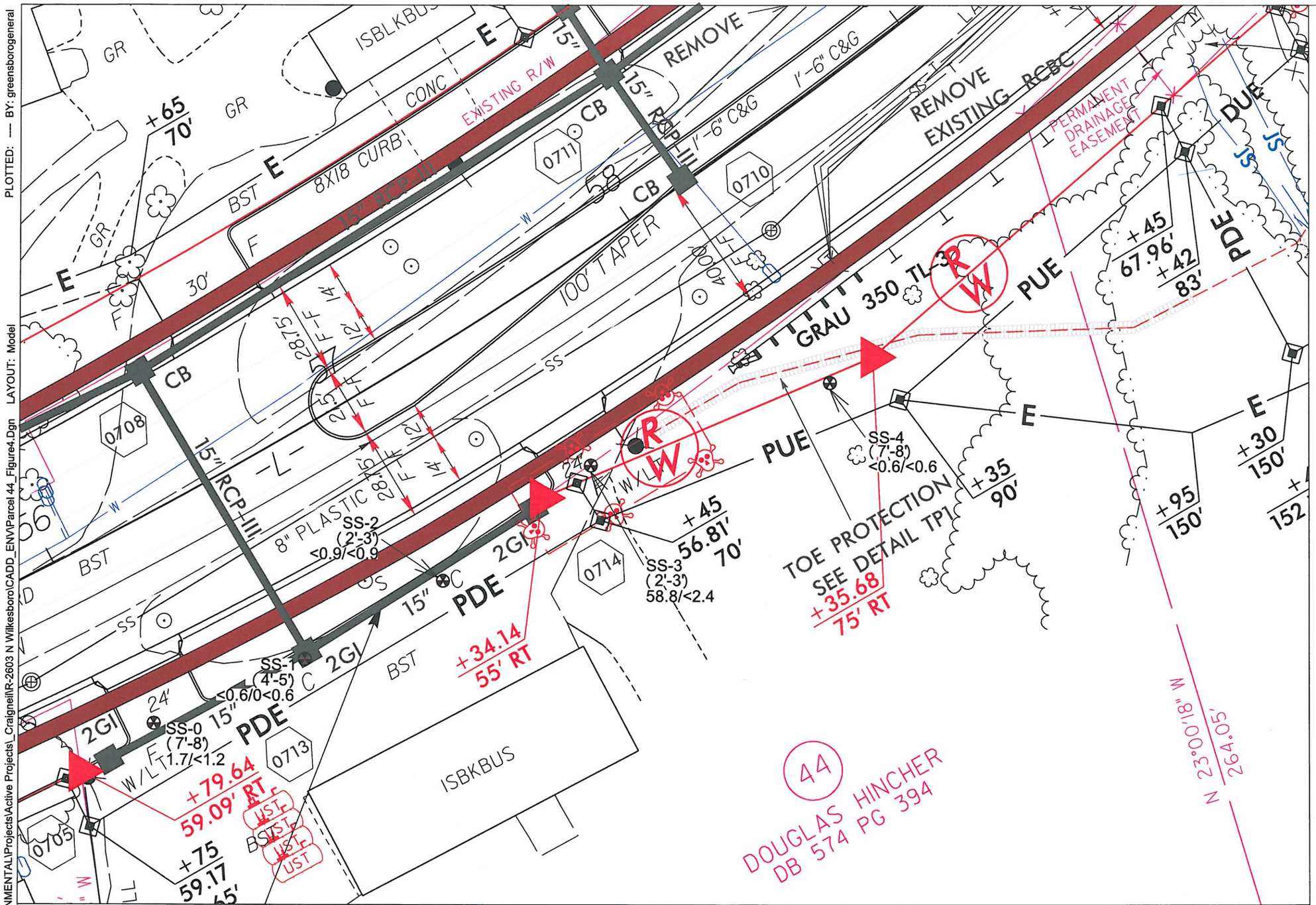
PROJECT NO.	134245
DRAWN BY	WJF
CHECKED BY	TO
DATE:	6/6/13

BORING LOCATION MAP
PARCEL 44

NC DEPARTMENT OF TRANSPORATION
TIP#: R-2603
WILKESBORO, NORTH CAROLINA

Figure 3



PLOTTED: --- BY: greensborogeneral

CAD FILE: W:\Share_ENVIRONMENTAL\Projects\Active Projects_Craigneil\R-2603 N Wilkesboro\CADD_ENV\Parcel 44_Figure4.Dgn LAYOUT: Model

LEGEND

- Existing Right of Way
- Proposed Right of Way
- Proposed Construction Easement
- Proposed Cut Line
- Proposed Transition Line
- Proposed Fill Line
- Existing Utilities Water UG Line SUE
- Existing Utilities Telephone UG Line SUE
- Exist Utilities Sanitary Sewer UG Line
- Exist Utilities Power UG Cable SUE
- Approximate Boring Location
- Probable USTs
- (7'-8') Sample Depth location
- <0.6/<0.6 Concentration of TPH-DRO/TPH-GRO mg/kg (QROS-QED data)
- Approximate Location of Soil Contamination

0 30 60

SCALE: 1" = SCALE IN FEET

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DATE:	6/6/13

SOIL CONTAMINATION LOCATION MAP
PARCEL 44

NC DEPARTMENT OF TRANSPORATION
TIP#: R-2603
WILKESBORO, NORTH CAROLINA

Figure 4

APPENDIX A

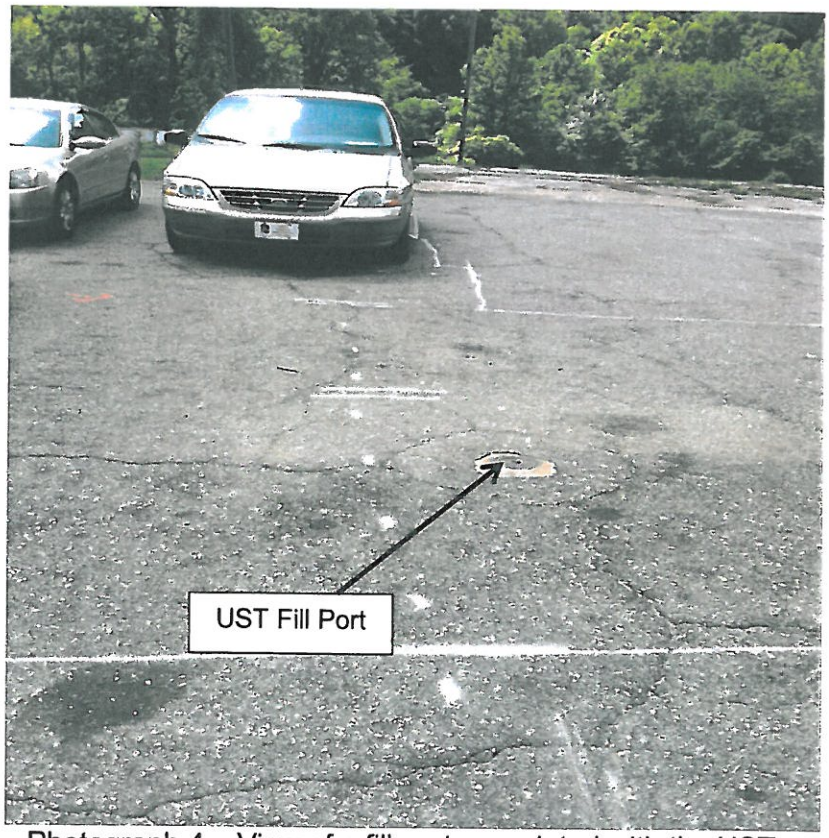
SITE PHOTOGRAPHS
KLEINFELDER PROJECT NO. 134245
PARCEL NO. 44

Photograph 1 – View of front of Carolina Auto Sales from across Elkin Highway.

Photograph 2 – Front view of Carolina Auto Sales.

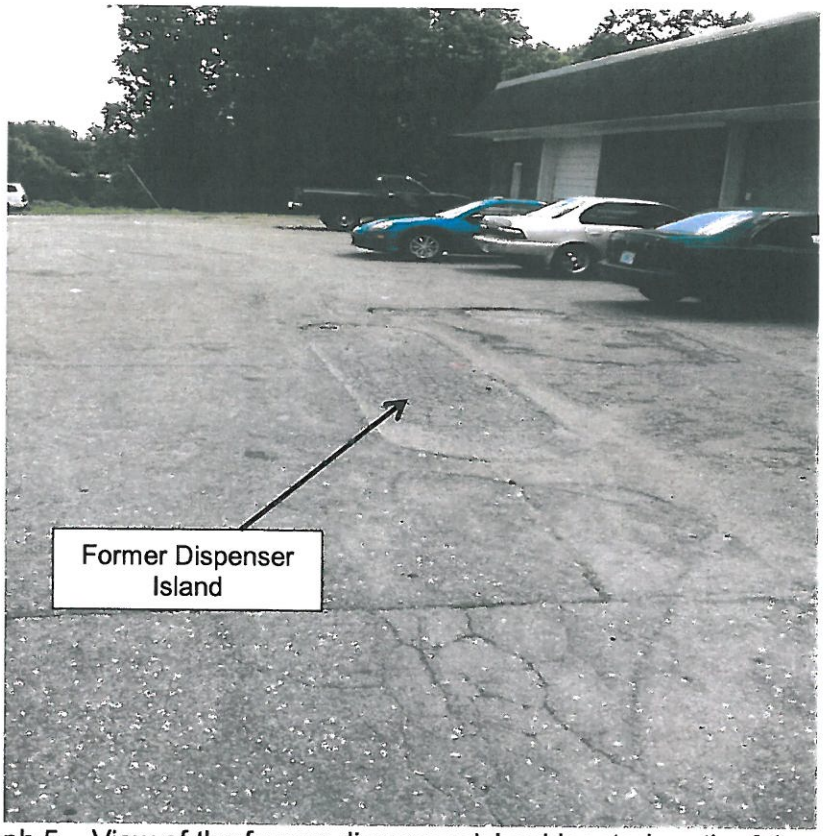
SITE PHOTOGRAPHS
KLEINFELDER PROJECT NO. 134245
PARCEL NO. 44

Photograph 3 – View of the USTs located on the western portion of the property.



Photograph 4 – View of a fill port associated with the USTs.

SITE PHOTOGRAPHS
KLEINFELDER PROJECT NO. 134245
PARCEL NO. 44



Photograph 5 – View of the former dispenser island located north of the structure.

Photograph 6 – View of the eastern portion of the property.

APPENDIX B

Pyramid Project # 2013-124

GEOPHYSICAL INVESTIGATION REPORT

EM61 & GPR SURVEYS

KLEINFELDER – NCDOT ROW GEOPHYSICAL SURVEY
PARCEL 44 – NC HWY 268
Wilkes County, North Carolina

June 7, 2013

Report prepared for: **Travis O'Quinn**
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NC Board of Examiners for Engineers & Surveyors C-1251

GEOPHYSICAL INVESTIGATION REPORT
KLEINFELDER – NCDOT ROW GEOPHYSICAL SURVEY
PARCEL 44 – NC HWY 268
Wilkes County, North Carolina

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3.0 DISCUSSION OF RESULTS.....2

4.0 SUMMARY & CONCLUSIONS.....4

5.0 LIMITATIONS.....5

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Figure 1 Site Photographs
Figure 2 EM61 Metal Detection Results – Bottom Coil & Differential
Figure 3 Locations of GPR Transects and Known USTs
Figure 4 GPR Transect Images

1.0 INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Kleinfelder as part of the North Carolina Department of Transportation's (NCDOT) proposed right-of way (ROW) and easement areas for Parcel 44, NC Hwy. 268, North Wilkesboro, NC. The survey area extended across the entire north property boundary along NC 268, spanning a distance of approximately 240 feet from east to west. The geophysical survey area extended approximately 60 feet from the roadway south into the property. Conducted on May 16, 2013, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the proposed ROW/easement areas of the site.

In addition to the proposed ROW survey areas, Kleinfelder requested that Pyramid utilize geophysics to delineate the general boundaries of four (4) known USTs at the property. The USTs were located on the west side of the car sales building. Fill ports for all four tanks were noted during our site visit.

The site was relatively open, and consisted primarily of an asphalt parking lot. Aerial photographs showing the survey area boundaries, the boundaries of the known USTs, and ground-level photographs are shown in **Figure 1**.

2.0 FIELD METHODOLOGY

Prior to conducting the geophysical investigation, a 20-foot by 10-foot survey grid was established across the geophysical survey area using measuring tapes and water-based marking paint. These grid marks were used as X-Y coordinates for location control when collecting the geophysical data and establishing base maps for the geophysical results.

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. The EM survey was performed on May 16, 2013, using a Geonics EM6 metal detection instrument. According to the instrument specifications, the EM61 can

detect a metal drum down to a maximum depth of approximately 8 feet. Smaller objects (1-foot or less in size) can be detected to a maximum depth of 4 to 5 feet. All of the EM61 data were digitally collected at approximately 0.8 foot intervals along north-south trending (west survey area) or east-west trending (north/east survey area), parallel survey lines spaced five feet apart. All of the data were downloaded to a computer and reviewed in the field and office using the Geonics DAT61 and Surfer for Windows Version 7.0 software programs.

GPR data were acquired on May 16, 2013, across the area containing the four known USTs as well as selected EM61 differential anomalies using a GSSI SIR-2000 unit equipped with a 400 MHz antenna. Data were collected generally from east to west and north to south across specific EM61 anomalies and the known USTs. All of 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 8 feet, based on an estimated two-way travel time of 8 nanoseconds per foot. GPR transect and image files for the area containing the known USTs were saved to the hard drive of the SIR unit. Due to the lack of any significant GPR response that could be associated with possible USTs within the proposed ROW area, only real time data were used to investigate the survey area.

3.0 DISCUSSION OF RESULTS

Contour plots of the EM61 bottom coil and differential results obtained across the proposed ROW/easement areas at the property are presented in **Figure 2**. The bottom coil results represent the most sensitive component of the EM61 instrument and detect metal objects regardless of size. The bottom coil response can be used to delineate metal conduits or utility lines, small, isolated metal objects, and areas containing insignificant metal debris. The differential results are obtained from the difference between the top and bottom coils of the EM61 instrument. The differential results focus on the larger metal objects such as drum and UST-size objects and ignore the smaller insignificant metal objects.

Discussion of EM anomalies: Due to the fact that the property was utilized as a used car dealership, several vehicles were present at the time of the survey that could not be relocated. An inaccessible

area of vehicles is noted on **Figure 2**, and the EM response surrounding this area of inaccessibility was the result of the metal cars. Additionally, vehicles were present at the following coordinates: X=105, X=135, X=150, and X=240 at the south edge of the survey area (Y=80). Each of these vehicles created an EM response anomaly, as noted on **Figure 2**. The EM anomaly at X=45, Y=20 was the result of a metal post. The EM anomaly at X=80, Y=60 was the result of a metal sign post base, and the anomaly extending from this feature to the southeast was the result of metal guy wires across this area. The EM anomalies at X=120, Y=25 and at X=225, Y=30 were the result of a metal posts. The EM response centered at X=190, Y=70 was not attributed to any visible objects at the ground surface, and was likely the result of buried metallic debris.

GPR scans were performed across all EM61 anomalies that could not be directly attributed to visible objects at the ground surface. The GPR data were viewed in real time as the equipment was surveyed across the anomalies. No significant features were recorded by the GPR that would be indicative of any large objects below the ground surface, such as metallic USTs. The lack of any response suggests that the EM61 anomalies investigated by the GPR were the result of isolated areas of minor buried metallic debris or reinforcement within select areas of the concrete.

The geophysical investigation suggests that the area of the proposed ROW/easement at Parcel 44 in North Wilkesboro, NC, does not contain metallic USTs.

GPR Survey of Known USTs: Pyramid performed a reconnaissance GPR survey across the area containing the four known USTs at the property in order to delineate their general locations. GPR scans were performed generally from north to south and east to west across the entire area to locate the tanks. All four tanks were observed during the survey. **Figure 3** presents an aerial photograph showing the approximate locations of the tanks, as well as ground-level photographs of the outline of the tanks established by Pyramid during our survey. The tanks were generically labeled Tanks A-D, from south to north. All tanks were observed to be approximately 2.5 to 3 feet below the ground surface.

Once the tanks were located, GPR transects were performed across the width and length of the tanks and saved to the hard drive. Transect 1 was oriented from north to south across the width of all four tanks, and Transects 2-5 were performed across the length of each tank. The GPR images obtained from all of the transects are presented in **Figure 4**.

4.0 SUMMARY & CONCLUSIONS

Our evaluation of the EM61 and GPR data collected across the proposed ROW/easement area at Parcel 44, North Wilkesboro, North Carolina provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the geophysical survey area.

- The majority of the EM61 anomalies detected could be attributed to visible objects at the ground surface such as signs and metal posts. The GPR surveys across remaining areas at the property indicated that non-cultural anomalies were likely due to buried metallic debris or utilities. No evidence was observed to indicate the presence of metallic USTs within the proposed ROW/easement.

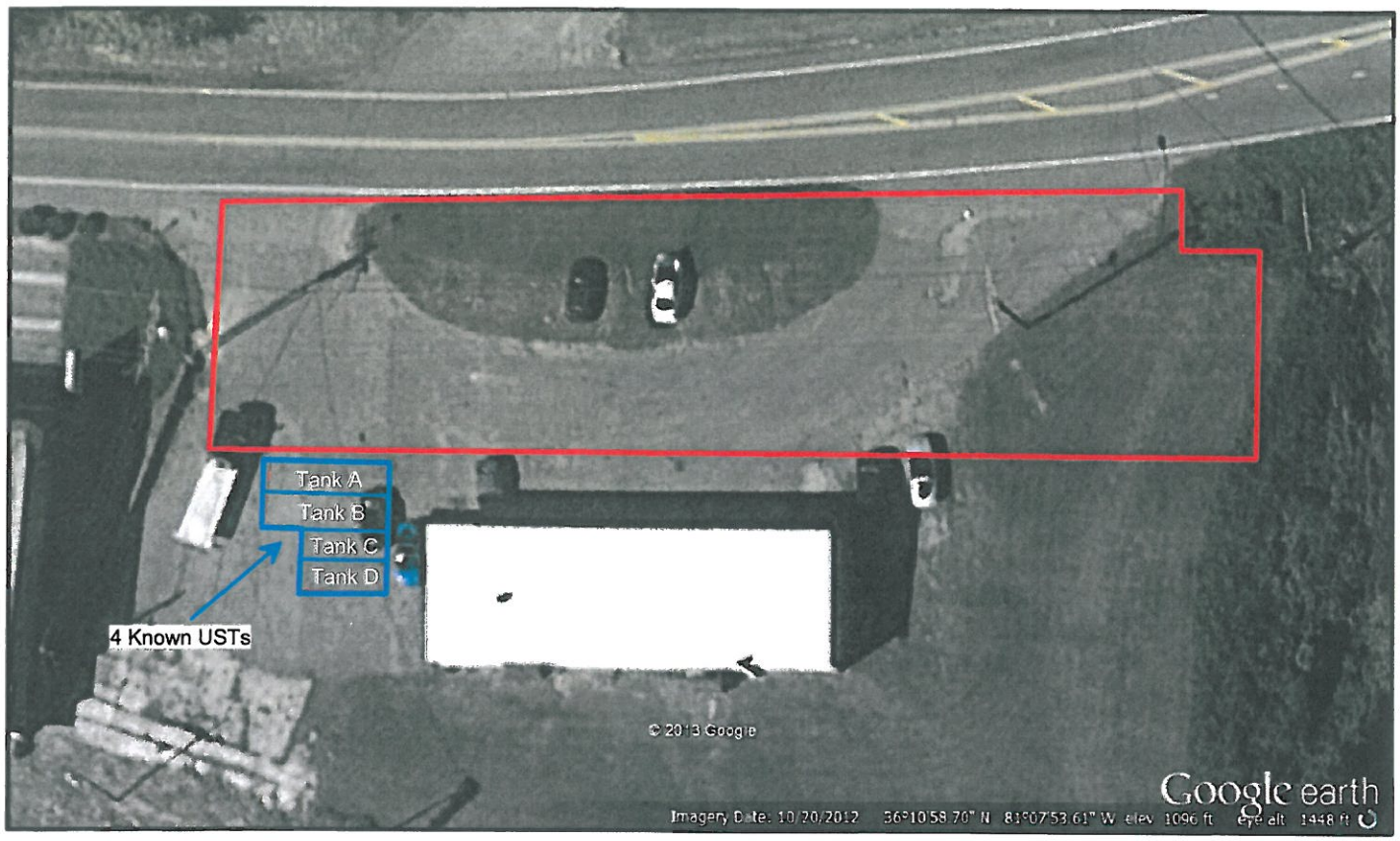
- The geophysical investigation suggests that the proposed ROW/easement area at the property does not contain metallic USTs.

- A GPR survey was also performed across the area containing the known USTs at the property. A total of four (4) metallic USTs were identified by the GPR survey. All tanks were observed to be at a depth of approximately 2.5 to 3 feet below the ground surface. The boundary of the UST pit was marked in the field for Kleinfelder during our geophysical investigation. No evidence of additional USTs was found within the area containing these four known tanks.

5.0 LIMITATIONS

Geophysical surveys have been performed and this report prepared for Kleinfelder in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR surveys are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained for this project have not conclusively determined that metallic USTs do not lie within the proposed ROW/easement area of the Wilkes County property, but that none were detected. Additionally, it should be understood that areas containing vehicles or other restrictions to the accessibility of the geophysical instruments could not be investigated.

FIGURES



Aerial Photograph Showing Approximate Geophysical Survey Boundaries
and the Approximate Outline of the Known UST Tank Field

Existing Auto Sales Building
(Photograph Facing Approximately Southeast)

View of Geophysical Survey Area
(Photograph Facing Approximately West)

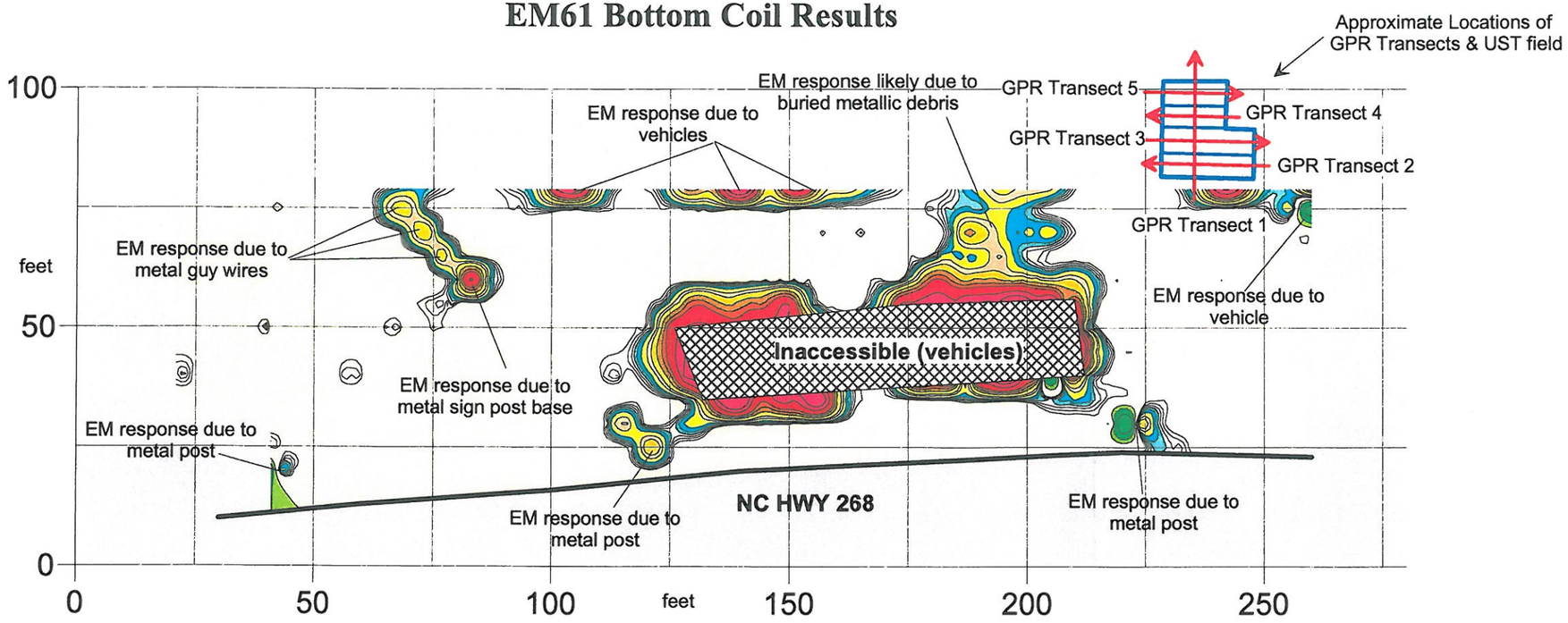
PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	KLEINFELDER		DATE	05/16/13	DRWN ECC
SITE	PARCEL 44, WILKES COUNTY (NCDOT ROW PROJECT)		LAY		CHKD
CITY	NORTH WILKESBORO	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		JOB	2013-131	FIGURE

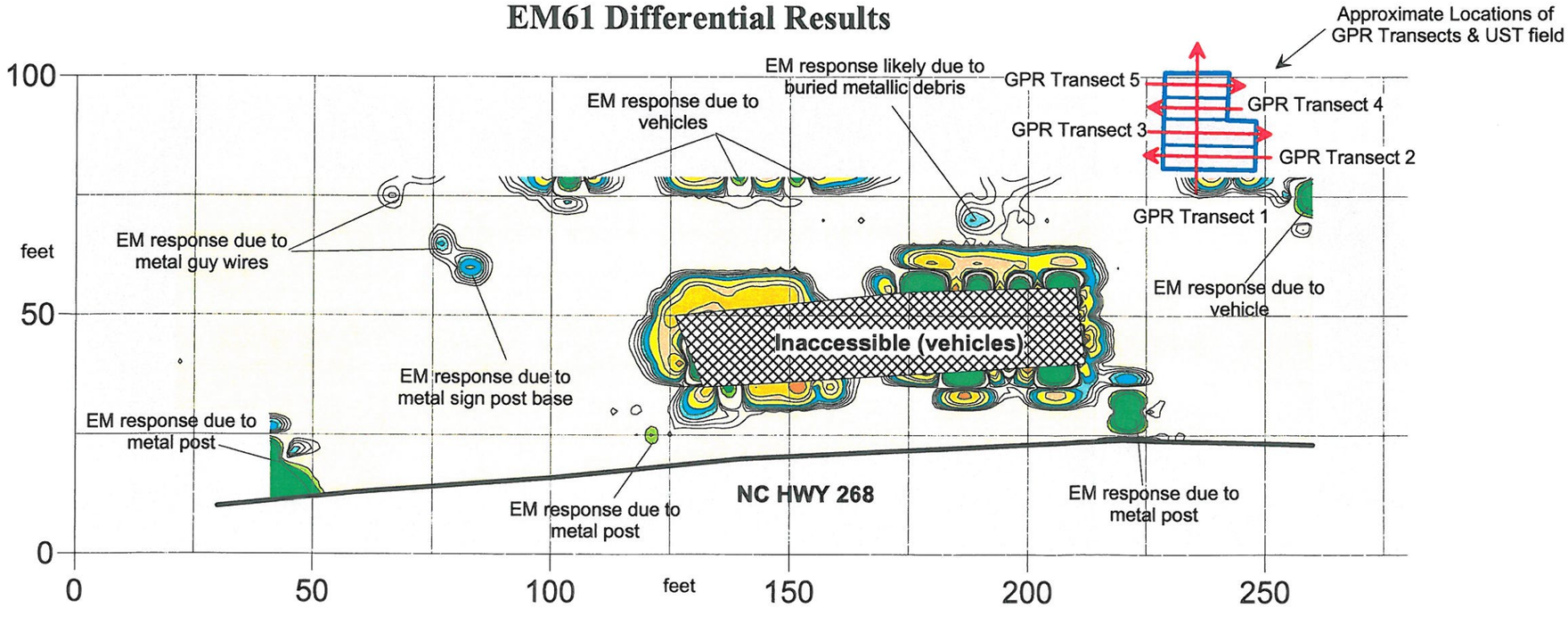
SURVEY BOUNDARIES &
SITE PHOTOGRAPHS

FIGURE 1

EM61 Bottom Coil Results



EM61 Differential Results

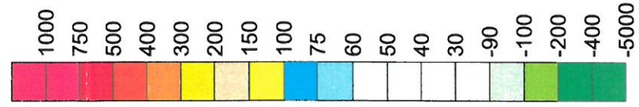


NO EVIDENCE OF METALLIC USTs OBSERVED WITHIN MAIN SURVEY AREA (4 KNOWN USTs ON WEST SIDE OF BUILDING)

The contour plots show the bottom coil (most sensitive) and differential results of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous buried, metal debris.The EM61 data were collected on May 16, 2013 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were collected on May 16, 2013, using a GSSI SIR 200 coupled to a 400MHz antennae.

Note: All EM responses surrounding the area of inaccessibilityare the result of the vehicles parked in this area.

EM61 Metal Detection Response (millivolts)

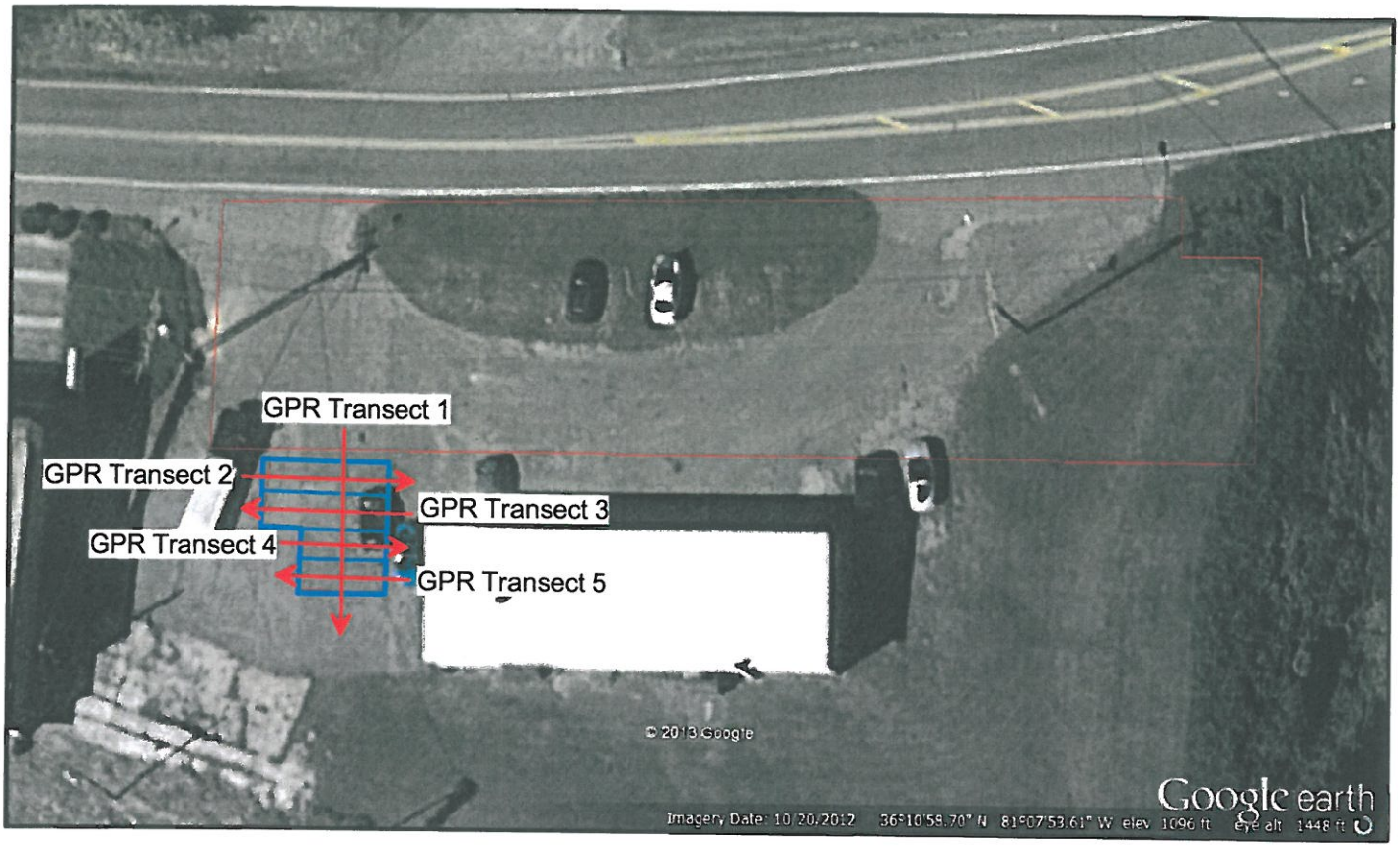


N

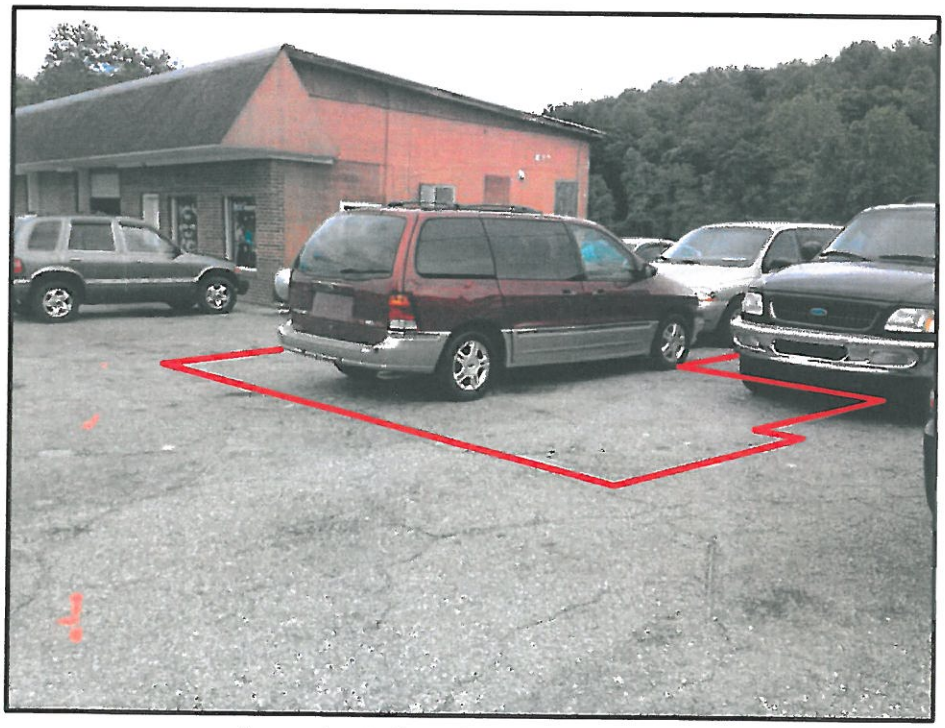
TITLE	PARCEL 44 - EM61 BOTTOM COIL & DIFFERENTIAL RESULTS CONTOUR MAP
PROJECT	NC DEPARTMENT OF TRANSPORTATION ROW IMPROVEMENT PROJECT NORTH WILKESBORO, WILKES COUNTY, NC

PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27460
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

DATE	06/05/2013	CLIENT	KLEINFELDER
PYRAMID PROJECT #:	2013-124		**FIGURE 2**

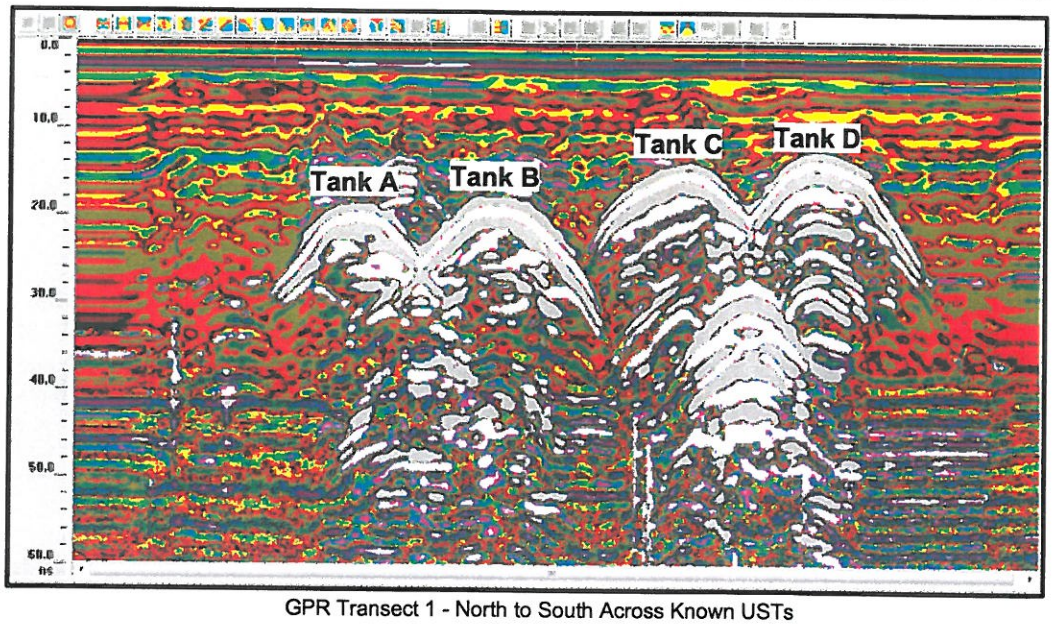


Aerial Photograph Showing the Approximate Outlines of the Known USTs and the Locations of the GPR Transects

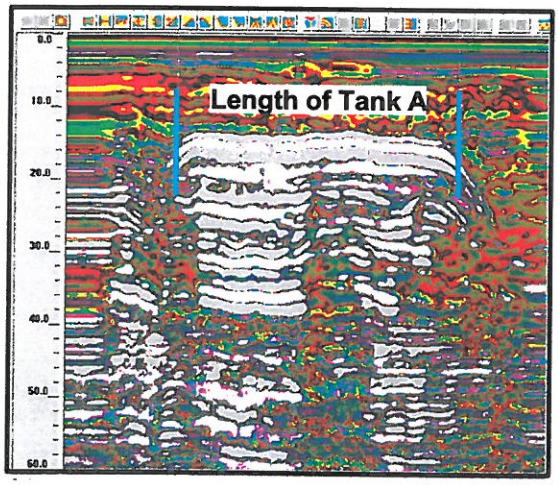


Approximate Boundary of Known USTs

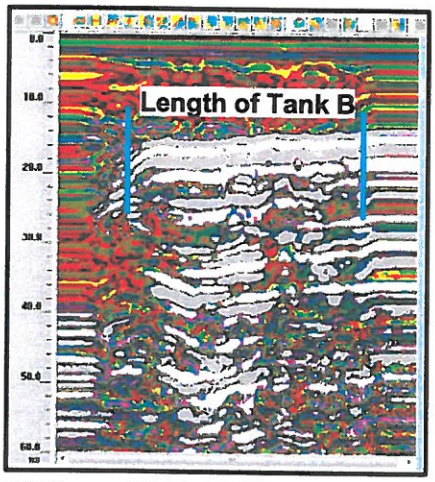
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.	CLIENT	KLEINFELDER	DATE 05/16/13	DRWN ECC	Known UST Locations, GPR Transect Locations and Boundary of UST Pit
	SITE	PARCEL 44, WILKES COUNTY (NCDOT ROW PROJECT)	LAY	CHKD	
	CITY	NORTH WILKESBORO STATE NORTH CAROLINA	DWG		
	TITLE	GEOPHYSICAL RESULTS	JOB 2013-131	FIGURE	FIGURE 3



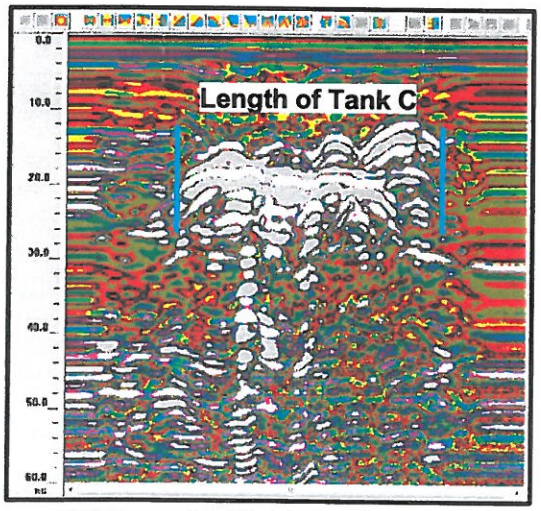
GPR Transect 1 - North to South Across Known USTs



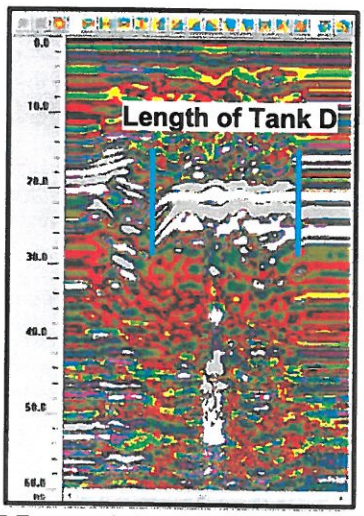
GPR Transect 2 - West to East Across Tank A



GPR Transect 2 - East to West Across Tank B



GPR Transect 3 - West to East Across Tank C



GPR Transect 4 - East to West Across Tank D

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	KLEINFELDER	DATE	05/16/13	DRWN	ECC
SITE	PARCEL 44, WILKES COUNTY (NCDOT ROW PROJECT)	LAY		CHKD	
CITY	NORTH WILKESBORO	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	JOB	2013-131	FIGURE	

GPR Transect Images

FIGURE 4

APPENDIX C

Date Begin - End:	5/28/2013	**Drill Company:**	Probe Technology
Logged By:	Peter Pozzo	**Drill Crew:**	John Allen
Hor.-Vert. Datum:	Not Available	**Drill Equipment:**	6610DT Geoprobe
Angle from Vert.:	0 degrees	**Exploration Method:**	Geoprobe
Weather:	Sunny 70's	**Auger Diameter:**	2.25 in. O.D.

BORING LOG P44_SS-0

FIELD EXPLORATION

No Coordinates Available
No Elevation Available

Depth (feet)	Sample Type	Sample Number	Recovery (NR=No Recovery)	blows/6 in.	PID / FID (ppmv)	Graphical Log	
					2.2		**SAND with Silt**: white and tan, dry
5					0.7		**SAND with Silt**: tan, dry
					2.6		**SILT with Sand**: reddish tan, dry
10		SS-0			1.5		**SILT with Sand**: red, dry
15							
20							
25							
30							

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

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	134245
DRAWN BY:	WJF
CHECKED BY:	PFP
DATE:	
REVISED:	

BORING LOG P44_SS-0

Parcel 44 - Douglas Hincher
Carolina Auto Sales
516-600 Elkin Highway
Wilkesboro, NC

PLATE 1

PAGE: 1 of 1

Date Begin - End:	5/28/2013	**Drill Company:**	Probe Technology
Logged By:	Peter Pozzo	**Drill Crew:**	John Allen
Hor.-Vert. Datum:	Not Available	**Drill Equipment:**	6610DT Geoprobe
Angle from Vert.:	0 degrees	**Exploration Method:**	Geoprobe
Weather:	Sunny 70's	**Auger Diameter:**	2.25 in. O.D.

BORING LOG P44_SS-1

FIELD EXPLORATION

Depth (feet)	Sample Type	Sample Number	Recovery (NR=No Recovery)	blows/6 in.	PID / FID (ppmv)	Graphical Log	No Coordinates Available No Elevation Available
0					2.0		**SILT with Sand**: reddish tan, dry, Fill Material
5					2.3		**SILT with Sand**: tannish white, dry
		SS-1			1.2		
10					0.7		

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

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:

15
20
25
30

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	134245
DRAWN BY:	WJF
CHECKED BY:	PFP
DATE:	
REVISED:	

BORING LOG P44_SS-1

Parcel 44 - Douglas Hincher
Carolina Auto Sales
516-600 Elkin Highway
Wilkesboro, NC

PLATE 2

PAGE: 1 of 1

Date Begin - End:	5/28/2013	**Drill Company:**	Probe Technology
Logged By:	Peter Pozzo	**Drill Crew:**	John Allen
Hor.-Vert. Datum:	Not Available	**Drill Equipment:**	6610DT Geoprobe
Angle from Vert.:	0 degrees	**Exploration Method:**	Geoprobe
Weather:	Sunny 70's	**Auger Diameter:**	2.25 in. O.D.

BORING LOG P44_SS-2

FIELD EXPLORATION

No Coordinates Available
No Elevation Available

Depth (feet)	Sample Type	Sample Number	Recovery (NR=No Recovery)	blows/6 in.	PID / FID (ppmv)	Graphical Log	
0		SS-2			3.3		**SILT with Clay and Sand**: reddish tan, dry, Fill Material
5					2.4		**SILT with Sand and Clay**: black managanese staining with reddish tan, dry
					0.9		**SAND with Silt and Clay**: tan, dry
10					1.9		**SAND with Silt and Clay**: tan and white, dry
15							
20							
25							
30							

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

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	134245
DRAWN BY:	WJF
CHECKED BY:	PFP
DATE:	
REVISED:	

BORING LOG P44_SS-2

Parcel 44 - Douglas Hincher
Carolina Auto Sales
516-600 Elkin Highway
Wilkesboro, NC

PLATE 3

PAGE: 1 of 1

Date Begin - End:	5/28/2013	**Drill Company:**	Probe Technology
Logged By:	Peter Pozzo	**Drill Crew:**	John Allen
Hor.-Vert. Datum:	Not Available	**Drill Equipment:**	6610DT Geoprobe
Angle from Vert.:	0 degrees	**Exploration Method:**	Geoprobe
Weather:	Sunny 70's	**Auger Diameter:**	2.25 in. O.D.

BORING LOG P44_SS-3

FIELD EXPLORATION

Depth (feet)	Sample Type	Sample Number	Recovery (NR=No Recovery)	blows/6 in.	PID / FID (ppmv)	Graphical Log	No Coordinates Available No Elevation Available
							SILT with Sand: tan and white, dry
		SS-3			2.1		
					0.9		**SILT with Sand**: white, dry
5							**SILT with Clay and Sand**: reddish tan, dry
					0.6		
							SILT with Sand: white, dry
					1.5		
10							

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

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:

15
20
25
30

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	134245
DRAWN BY:	WJF
CHECKED BY:	PFP
DATE:	
REVISED:	

BORING LOG P44_SS-3

Parcel 44 - Douglas Hincher
Carolina Auto Sales
516-600 Elkin Highway
Wilkesboro, NC

PLATE 4

PAGE: 1 of 1

Date Begin - End:	5/28/2013	**Drill Company:**	Probe Technology
Logged By:	Peter Pozzo	**Drill Crew:**	John Allen
Hor.-Vert. Datum:	Not Available	**Drill Equipment:**	6610DT Geoprobe
Angle from Vert.:	0 degrees	**Exploration Method:**	Geoprobe
Weather:	Sunny 70's	**Auger Diameter:**	2.25 in. O.D.

BORING LOG P44_SS-4

FIELD EXPLORATION

Depth (feet)	Sample Type	Sample Number	Recovery (NR=No Recovery)	blows/6 in.	PID / FID (ppmv)	Graphical Log
0					1.2	
5					0.1	
		SS-4			2.4	
10					1.9	

No Coordinates Available
No Elevation Available

SILT with Clay: reddish tan, dry, Fill Material

SILT with Clay and Mica: reddish tan, dry, Fill Material

SILT with Clay: tan, dry

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

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	134245
DRAWN BY:	WJF
CHECKED BY:	PFP
DATE:	
REVISED:	

BORING LOG P44_SS-4

Parcel 44 - Douglas Hincher
Carolina Auto Sales
516-600 Elkin Highway
Wilkesboro, NC

PLATE 5

PAGE: 1 of 1

GINT FILE: W:\shared_environmental\projects\active Projects\134245_ncdot_wilkesboro\134245.gpj R:\KLF_STANDARD_GINT_LIBRARY_SR.1.1.GLB [KLF_ENVIRONMENTAL LOG]

APPENDIX D

QED

AQROS

Hydrocarbon Analysis Results

Client: NCDOT
Address: Wilkesboro, NC

Samples taken Tuesday, May 28, 2013
Samples extracted Tuesday, May 28, 2013
Samples analysed Tuesday, May 28, 2013

Contact: Craig Neil

Operator Travis O'Quinn

Project: Parcel 44

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	Ratios			HC Fingerprint Match
										% light	% mid	% heavy	
s	P44 SS-1 4-5'	12.0	<0.6	<0.6	<0.6	<0.6	< 0.6	< 0.06	< 0.03	0	100	0	Match not possible
s	P44 SS-0 7-8'	23.0	<1.2	<1.2	1.7	1.7	1.72	0.18	< 0.058	51.3	37	11.7	Match not possible
s	P44 SS-2 2-3'	17.4	<0.9	<0.9	<0.9	<0.9	< 0.87	< 0.09	< 0.044	0	0	100	Match not possible
s	P44 SS-3 2-3'	48.4	<2.4	<2.4	58.8	58.8	41.12	1.59	< 0.121	66.3	28.1	5.6	V.Deg.PHC 88.7%
s	P44 SS-4 7-8'	11.0	<0.6	<0.6	<0.6	<0.6	< 0.55	< 0.06	< 0.028	0	0	100	Match not possible

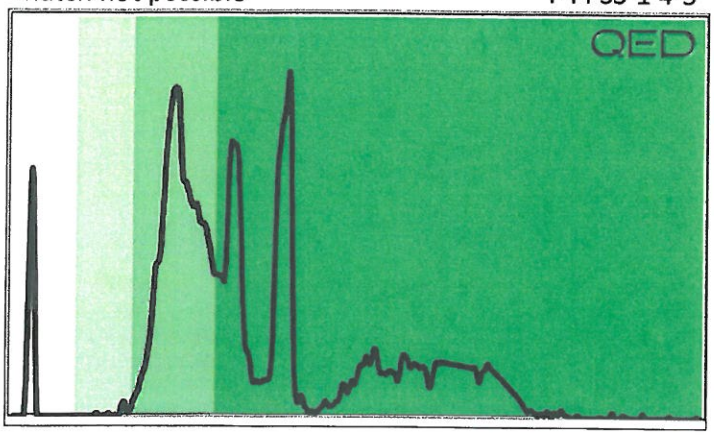
Initial Calibrator QC check Screening

Low Range Calibrator Final check
High Range Calibrator Final check

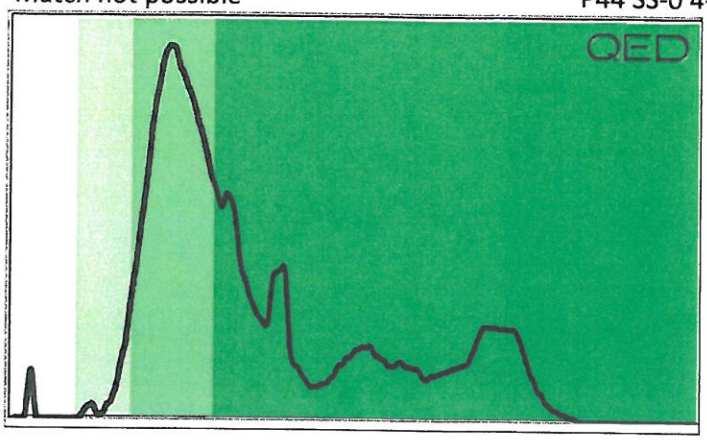
Results generated by a QED HC-1 analyser
Concentration values in mg/kg for soil samples and mg/L for water samples.
Soil values are not corrected for moisture or stone content

Fingerprints provide a tentative hydrocarbon identification based on operator selected library matches
Fingerprint match abbreviations Est = Specific calibrator not used, result estimated (PFM)= Poor library fingerprint match
(SBS)= site specific background subracted (LBS)= Library background subtracted % = match confidence

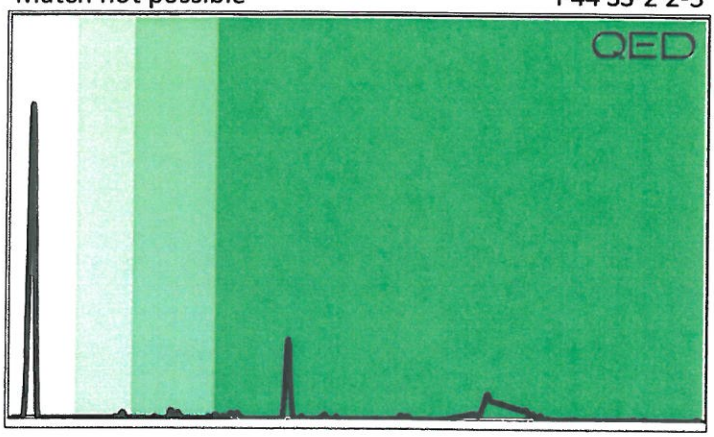
Match not possible P44 SS-1 4-5'



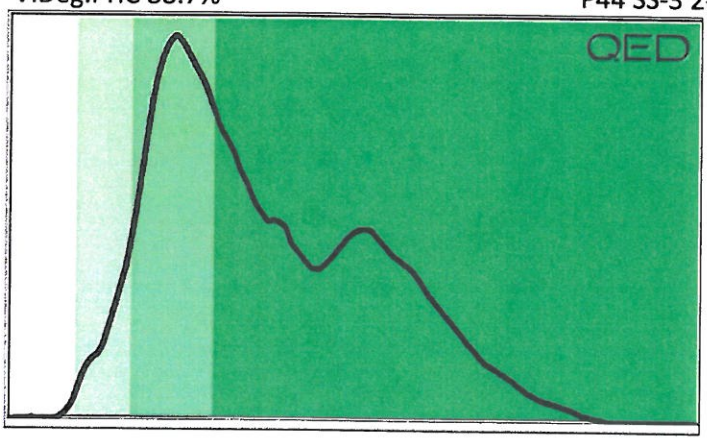
Match not possible P44 SS-0 4-5'



Match not possible P44 SS-2 2-3



V.Deg.PHC 88.7% P44 SS-3 2-3'



Match not possible P44 SS-4 7-8'