PRELIMINARY SITE ASSESSMENT

PARCEL 94, ROBERT WYATT
2372 ELKIN HIGHWAY (NC 268)
NORTH WILKESBORO, WILKES COUNTY, NORTH CAROLINA
STATE PROJECT: R-2603
WBS ELEMENT: 36001.1.2
July 22, 2013

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C-257 –Geology
C-1251 - Engineering

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PARCEL 94, ROBERT WYATT
2372 ELKIN HIGHWAY (NC 286)
NORTH WILKESBORO, WILKES COUNTY, NORTH CAROLINA

EXECUTIVE SUMMARY OF RESULTS

Pyramid Environmental & Engineering P.C. (Pyramid) has prepared this Preliminary Site Assessment (PSA) report documenting background information, field activities, assessment activities, findings, conclusions, and recommendations for the Parcel 94, Robert Wyatt. The purpose of this assessment was to determine the presence or absence of underground storage tanks (USTs) and impacted soils at the subject property within the proposed easement and between the existing right-of-way (ROW) and edge of pavement with emphasis on the areas of proposed drainage structures (State Project R-2603). This preliminary site assessment was conducted on behalf of the North Carolina Department of Transportation (NC DOT) in accordance with Pyramid's May 7, 2013, technical proposal.

The following statements summarize the results of the PSA:

- **Site History:** A review of the North Carolina Department of Environment and Natural Resources (NC DENR) registered UST database indicated that four gasoline USTs were installed at the property (Facility ID 0-006041) on May 4th, 1971. According to the NC DENR UST database and NC DENR file review, the USTs were permanently closed by removal on March 18th, 1997. The file review indicated soil and groundwater contamination remains at the site and regulatory incident #17623 is still open. The Calvin Wyatt's Service incident has a risk classification of intermediate and a ranking of 145 (I145). The UST Closure Report (April 25, 1997) indicated gasoline range organics (GRO) ranging from not detected to 6,875 parts-per-million (PPM). The Limited Site Assessment (LSA) indicated a depth to water of approximately 29 feet below land surface (BLS), and groundwater analytical results from monitoring wells MW-1 and MW-2 detected concentrations of volatile organic compounds (VOCs) from gasoline in the groundwater at the former tank basin and product lines. The former UST system is located outside of the current and proposed NCDOT right of way and easements.

- **Geophysical Survey:** The geophysical investigation suggests that one probable metallic UST is located within the proposed ROW and/or easement.

- **Limited Soil Assessment:** A total of seven borings were performed across the property and one soil sample from each boring was analyzed with the QED UVF HC-1 Analyzer system from QROS-US for total petroleum hydrocarbon (TPH) petroleum contamination. The QED results for soil samples 94-1(5), 94-2(10),

94-4(10), 94-5(10), and 94-6(10) did not detect TPH-GRO or TPH-DRO concentrations above detection limits. Soil sample 94-3(2.5) detected TPH-DRO concentration above detection limits, but below 10 mg/kg. The QED results for soil sample 94-7 detected TPH-DRO at 21.9 milligram-per-kilogram (mg/kg). The NCDENR action levels for TPH-GRO and TPH-DRO is 10 mg/kg. A duplicate of soil sample 94-3(2.5) was shipped to Pace Analytical for laboratory analysis. The laboratory results for soil sample 94-3(2.5) detected a concentration of DRO at 10.5 mg/kg and GRO of <6.3 mg/kg. It should be noted that this DRO concentration was higher than the concentration generated by the QED analysis. To maintain consistency, the QED results are utilized in this report to determine the presence and level of potential contamination.

- **Limited Groundwater Assessment:** The depth to groundwater at boring 94-1(TW) on the Robert Wyatt property was approximately 18 feet BLS. One groundwater sample was obtained for laboratory analysis for volatile organic compounds (VOCs) by EPA Method 6200B. No VOCs were detected above laboratory detection limits in the 94-1(TW) groundwater sample.

- **Contaminated Soil Volumes:** Soils with GRO or DRO above detection limits but below 10 mg/kg were observed at the location of boring 94-3. Pyramid reviewed the NCDOT Microstation computer-aided design and drafting (CADD) files to determine proposed excavation/earthwork plans at the locations of the impacted soils. The NCDOT Microstation cross section file that was the closest to boring 94-3 (Cross Section -L- Sta. 167+50.00) indicates that the NCDOT plans to excavate approximately 1.5 feet below the existing ground surface in this area. Pyramid's PSA investigation resulted in an estimated area of **548 square feet of impacted soil in the vicinity of boring 94-3**. The 1.5-foot excavation depth results in an approximate volume of 822 cubic feet, or **30.4 cubic yards of impacted soils at the location of boring 94-3.** A more conservative estimate using an excavation depth of 5 feet below the ground surface results in approximately **2,740 cubic feet, or 102 cubic yards of impacted soil between 0 to 5 feet** at the location of 94-3.

  Soils with GRO or DRO above 10mg/kg were observed at the location of boring 94-7. The NCDOT Microstation cross section file that was closest to boring 94-7 (Cross Section -L- Sta. 165+00.00) indicates this area is not directly within a zone of proposed earthwork/excavation, other than the installation of the proposed drainage feature. For this reason, our volume calculations are based on a conservative estimate of excavating 5 feet below the ground surface in this area. Pyramid's PSA investigation resulted in an estimated area of **794 square feet of impacted soil in the vicinity of boring 94-7**. Using an excavation depth of 5 feet, Pyramid estimates approximately 3,970 cubic feet, or **150 cubic yards of petroleum impacted soil between 0 to 5 feet bls at the location of soil boring 94-7.** The estimates of soil volumes above are based on applying conservative areas of contaminated soil surrounding the location of each boring. Due to the

limited amount of soil data collected at this time, more refined areas were not assessed.

1.0 Introduction

Pyramid Environmental & Engineering P.C. (Pyramid) has prepared this Preliminary Site Assessment (PSA) report documenting background information, field activities, assessment activities, findings, conclusions, and recommendations for the parcel of Robert Wyatt. The Robert Wyatt property is currently, an auto service station (Calvin Wyatt's Service Station), located at 2372 Elkin Highway (NC 268) in North Wilkesboro, NC. This preliminary site assessment was conducted on behalf of the North Carolina Department of Transportation (NCDOT) in accordance with Pyramid's May 7, 2013, technical proposal.

The purpose of this assessment was to determine the presence or absence of underground storage tanks (USTs) and impacted soils at the subject properties in the proposed easement and existing right of way and edge of pavement (State Project R-2603). The location of the subject site is shown on **Figure 1,** and the parcel boundaries and owner information are shown in **Figure 2** (the parcel extends slightly further to the south outside of the construction zone than is shown in CADD Figure).

1.1 Background Information

Based on the NCDOT's March 22, 2013, *Request for Technical and Cost Proposal*, the PSA was conducted in the proposed easement and the area between the existing NCDOT right of way and the edge of pavement with emphasis on the areas of proposed drainage features, in accordance with the CADD files provided to Pyramid by the NCDOT. The PSA included the following:

- Research the properties for past uses and possible releases.
- Conduct a preliminary geophysical site assessment and limited soil assessment in the proposed easement and the area between the existing ROW and the edge of pavement with emphasis on the proposed drainage features.
- Report the depth to groundwater for each site and attempt to obtain one groundwater sample for each site for laboratory analysis by installing temporary monitoring wells.

1.2 Project Information

Prior to field activities, a Health and Safety Plan was prepared. Prior to drilling activities, the public underground utilities were located and marked by the North Carolina One-Call Service. A private utility locator, Northstate Utility Locating Incorporated of Colfax, North Carolina was used to mark the on-site private, buried utilities.

2.0 Site History

Pyramid completed a records review of the NC DENR file, interviewed NC DENR personnel, interviewed property owners, and reviewed aerial photographs to assess past uses of the property. It should be noted that the NCDOT directed Pyramid to not obtain a First Search radius report detailing the history of the site and surrounding area. For this reason, Pyramid reviewed historical aerial photographs dating back to 1958 available from Wilkes Soil and Water Conservation office in Wilkesboro and on Google Earth for past uses. The 1958, 1966, 1993, 2006, 2008, and 2012 aerial photographs are included in **Appendix A**. Historical information reviewed as part of the PSA indicated that the Robert Wyatt property was first developed for commercial use between 1966 and 1993. The earliest aerial to show the building was the 1993 aerial. The 1958 air photo shows the property to be undeveloped wooded land. The 1966 air photo shows the woods were partially cleared.

Interviews with Mr. Robert Wyatt (Robert C. Wyatt, Jr.) indicated that the underground storage tanks (USTs) at Calvin Wyatt's Service Station had been removed and two monitoring wells were installed near the former UST system. Pyramid was unable to locate these monitoring wells. Mr. Wyatt stated later he scraped the cover off the monitoring well installed near the former product lines, and the monitoring well installed near the former USTs in the landscape area never had a concrete pad.

As stated above, the Robert Wyatt property (Calvin Wyatt's Service Station) was utilized as both an auto service station and gas station. A review of the NCDENR registered UST database indicated that four gasoline USTs were installed at the property (Facility ID 0-006041) on May 4th, 1971. According to the NCDENR UST database the USTs were permanently closed by removal on March 18th, 1997.

On May 22, 2013, Pyramid emailed the Wilkes County parcel addresses to Ms. Carin Kromm, the Winston-Salem Regional Office Supervisor for the NC DENR UST Section, with a request to investigate any incidents associated with the parcels. On June 6th, Ms. Kromm responded to the email and stated that a UST release had occurred at the Calvin Wyatt's Service Station (Incident #17623). Pyramid requested a NCDENR file review from the Winston-Salem Regional Office.

On June 7, 2013, Pyramid completed the NC DENR file review for the Robert Wyatt property (Parcel 94). The file review indicated that four (4) 4,000-gallon gasoline USTs were closed by excavation and removal on March 18, 1997. The file review indicated soil and groundwater contamination remains at the site and regulatory incident #17623 is still open. The Calvin Wyatt's Service incident has a risk classification of intermediate and a ranking of 145 (I145). The UST Closure Report (April 25, 1997) indicated gasoline range organics (GRO) ranging from not detected to 6,875 parts-per-million (PPM). The Limited Site Assessment (LSA) indicated a depth to water of approximately 29 feet, and groundwater results from monitoring wells MW-1 and MW-2 detected concentrations of volatile organic compounds (VOCs) from gasoline in the groundwater at the former tank basin and product lines. The former UST system is located outside of

the current and proposed NCDOT right of way and easements. A copy of the UST Closure Report and LSA Report are included as **Appendix B**.

3.0 Geophysical Investigation

Pyramid performed electromagnetic (EM) and ground penetrating radar (GPR) surveys across the accessible portions of the Parcel. The majority of the EM61 anomalies detected by the initial survey could be attributed to reinforced concrete, however, one anomaly was characteristic of a UST. The GPR surveys performed across the anomaly at X=80, Y=30 (see full report) provided evidence of a probable metallic UST at that location.

The geophysical investigation suggests that one probable metallic UST is located within the proposed ROW and/or easement.

Global positioning system (GPS) coordinates were taken at the center of the probable UST in North Carolina State Plane, US Survey Feet (**1380923.984E, 897496.822N**).

The full details of the geophysical investigation are included in the Geophysical Investigation Report as **Appendix C**.

4.0 Soil Sampling Activities & Results

4.1 Soil Assessment Field Activities

On June 11 and 12, 2013, Pyramid mobilized to the site and drilled soil borings, installed one temporary monitoring well, and collected the proposed soil samples and groundwater sample for the PSA. The soil borings and temporary well were completed using a track mounted Geoprobe® Direct-Push rig and hand-auger. Seven (7) soil borings (94-1, 94-2, 94-3, 94-4, 94-5, 94-6, and 94-7) were advanced on the subject property between the NCDOT proposed easement, existing ROW and edge of pavement. The selected locations were chosen to avoid public utilities along Elkin Highway, and private utilities associated with the business while remaining in the proposed right of way area. Soil borings 94-1 and 94-7 were installed at or near drainage feature 1504, and soil borings 94-2 and 94-4 were installed at or near proposed drainage features 1505 and 1508, respectively. Soil boring 94-3 was installed near the probable UST identified by the geophysical investigation. Soil borings 94-5 and 94-6 were installed along the proposed right of way in proximity to the former UST basin and former pump island. The locations of the borings are shown on **Figure 3**.

Soil samples were continuously collected in five foot long disposable sleeves from each boring for geologic description, and visual examination for signs of contamination. Soil recovered from each sleeve was screened in the field using an Organic Vapor Analyzer (OVA) every 2 to 2.5 feet depending on the soil recovery of each sleeve. In general, the soil sample with the highest OVA reading was selected from each boring for laboratory analysis. The soil boring logs with the soil descriptions, visual examination, and OVA screening results are included in **Appendix D**. The OVA field screening results are summarized in **Table 1**. In order to prevent cross contamination, new disposable nitrile gloves were worn by the sampling technician during the sampling activities, and were changed between samples.

The soil samples selected for Total Petroleum Hydrocarbon (TPH) analyses were analyzed utilizing the QED UVF HC-1 Analyzer system from QROS-US. The NCDOT has indicated that this instrument is an acceptable method to provide total petroleum hydrocarbon (TPH) results for soil analysis for the PSA projects. Pyramid's QED-certified technician worked with Pyramid's on-site staff geologist to perform soil contaminant analyses. The soil samples selected for analysis using the QED Analyzer were analyzed for TPH as diesel range organics (DRO) and TPH as gasoline range organics (GRO). The soil samples selected for analysis using the QED were preserved in the field with methanol and were analyzed at the end of each day using the QED. Additionally, 10% of soil samples collected were submitted to a laboratory for analysis to verify the QED results.

The duplicate soil samples selected for laboratory analyses were placed in laboratory prepared containers and shipped to Pace Analytical in Huntersville, NC, to be analyzed under the direction of Pace Analytical Project Manager Kevin Godwin. The selected soil samples were analyzed for TPH as gasoline range organics GRO by EPA Method 8015C/5035 and DRO by EPA Method 8015C/3541.

4.2 Soil Sample Analytical Results

The QED results for soil samples 94-1(5), 94-2(10), 94-4(10), 94-5(10), and 94-6(10) did not detect TPH-GRO or TPH-DRO concentrations above detection limits. Soil sample 94-3(2.5) detected TPH-DRO concentration above detection limits, but below 10 mg/kg. The QED results for soil sample 94-7 detected TPH-DRO at 21.9 mg/kg. The NCDENR action levels for TPH-GRO and TPH-DRO is 10 mg/kg. The soil sample QED results are summarized in **Table 2**. A copy of the QED analysis report is included in **Appendix E**.

A duplicate of soil sample 94-3(2.5) was shipped to Pace Analytical for laboratory analysis. The laboratory results for soil sample 94-3(2.5) detected a concentration of DRO at 10.5 mg/kg and GRO of <6.3 mg/kg. The NCDENR action levels for TPH-GRO and TPH-DRO is 10 mg/kg. It should be noted that this DRO concentration was higher than the concentration generated by the QED analysis. To maintain consistency, the QED results are utilized in this report to determine the presence and level of potential

contamination. The soil sample laboratory results are summarized in **Table 2**. A copy of the laboratory report and chain-of-custody is included in **Appendix F**.

4.3 Temporary Monitoring Well Installation

On June 11, 2013, Pyramid converted soil boring 94-1 into a 1-inch diameter temporary monitoring well. Soil boring 94-1(TW) was completed to a total depth of 25 feet below land surface (bls). The temporary well at 94-1 was constructed with 15 feet of 1-inch diameter of schedule 80 PVC casing and 10 feet of 1-inch diameter of schedule 80 PVC slotted screen. The temporary well was set in the boring with 10 feet of slotted screen at the bottom of the well.

On June 11, 2013, the temporary monitoring well 94-1(TW) was gauged using a properly decontaminated electric water level probe. The depth-to-groundwater was gauged to be at 18 feet bls. The temporary monitoring well was sampled using new 0.5-inch disposable bailers. Upon completion of the gauging and sampling, the temporary monitoring well was properly abandoned by the drillers by removing the casing, and filling the borehole with bentonite chips and portland cement.

4.4 Groundwater Analytical Results

The groundwater sample 94-1(TW) was placed in laboratory prepared containers for analysis of volatile organic compounds (VOCs) by EPA Method 6200B, and the sample was shipped to Pace Analytical in Huntersville, NC. The laboratory analysis did not detect any volatile organic compounds above laboratory detection limits in the groundwater sample. The groundwater results for sample 94-1(TW) is summarized in **Table 3**. A copy of the laboratory report and chain-of-custody is included in **Appendix F**.

5.0 Conclusions and Recommendations

As requested by NCDOT, Pyramid has completed a PSA at the Robert Wyatt property located 2372 Elkin Highway, North Wilkesboro, NC. The following is a summary of the assessment activities and results.

5.1 Geophysical Investigation

The geophysical investigation suggests that one probable metallic UST is located within the proposed ROW and/or easement. GPS coordinates were taken at the center of the probable UST in North Carolina State Plane, US Survey Feet (**1380923.984E, 897496.822N**).

5.2 Limited Soil Assessment

The QED results for soil sample 94-7(2.5) detected TPH-DRO at 21.9 mg/kg, which is above the NCDENR action level of 10 mg/kg. Soil sample 94-3(2.5) detected TPH-DRO above the QED limits, but below the NCDENR action level of 10 mg/kg. The Pace laboratory results for soil sample 94-3(2.5) detect TPH-DRO at 10.5 mg/kg. The QED results for the remaining soil samples for Parcel 94 were below detection limits.

5.3 Limited Groundwater Assessment

Soil boring 94-1 was converted into a 1-inch diameter temporary monitoring well to a total depth of 25 feet bls. The depth-to-groundwater was measured at 18 feet BLS. The laboratory results did not detected any volatile organic compounds above laboratory detection limits in the groundwater sample.

5.4 Recommendations

During road construction activities, it is possible the NCDOT may encounter petroleum impacted soil near soil borings 94-3 and 94-7. The direct source of this petroleum was not evident in the field, however, Boring 94-3 was located near a probable UST and soil boring 94-7 was located in a drainage feature.

Soils with GRO or DRO above detection limits but below 10 mg/kg were observed at the location of boring 94-3. Pyramid reviewed the NCDOT Microstation CADD files to determine proposed excavation/earthwork plans at the locations of the impacted soils. The NCDOT Microstation cross section file that was the closest to boring 94-3 (Cross Section -L- Sta. 167+50.00) indicates that the NCDOT plans to excavate approximately 1.5 feet below the existing ground surface in this area. Pyramid's PSA investigation resulted in an estimated area of 548 square feet of impacted soil in the vicinity of boring 94-3. The 1.5-foot excavation depth results in an approximate volume of 822 cubic feet, or 30.4 cubic yards of impacted soils at the location of boring 94-3. A more conservative estimate using an excavation depth of 5 feet below the ground surface results in approximately 2,740 cubic feet, or 102 cubic yards of impacted soil between 0 to 5 feet at the location of 94-3.

Soils with GRO or DRO above 10mg/kg were observed at the location of boring 94-7. The NCDOT Microstation cross section file that was closest to boring 94-7 (Cross Section -L- Sta. 165+00.00) indicates this area is not directly within a zone of proposed earthwork/excavation, other than the installation of the proposed drainage feature. For this reason, our volume calculations are based on a conservative estimate of excavating 5 feet below the ground surface in this area. Pyramid's PSA investigation resulted in an estimated area of 794 square feet of impacted soil in the vicinity of boring 94-7. Using an excavation depth of 5 feet, Pyramid estimates approximately 3,970 cubic feet, or 150 cubic yards of petroleum impacted soil between 0 to 5 feet bls at the location of soil boring 94-7. The estimates of soil volumes above are based on applying conservative areas of contaminated soil surrounding the location of each boring. Due to the limited amount of soil data collected at this time, more refined areas were not assessed.

If impacted soil is removed at the location of these soil borings, the impacted soil should be managed according to NC DENR Division of Waste Management (DWM) UST Section Guidelines and disposed of at a permitted facility.

6.0 Limitations

The results of this preliminary investigation are limited to the boring locations completed during this limited assessment and presented in this report. The laboratory results only reflect the current conditions at the locations sampled on the date this Preliminary Site Assessment was performed.

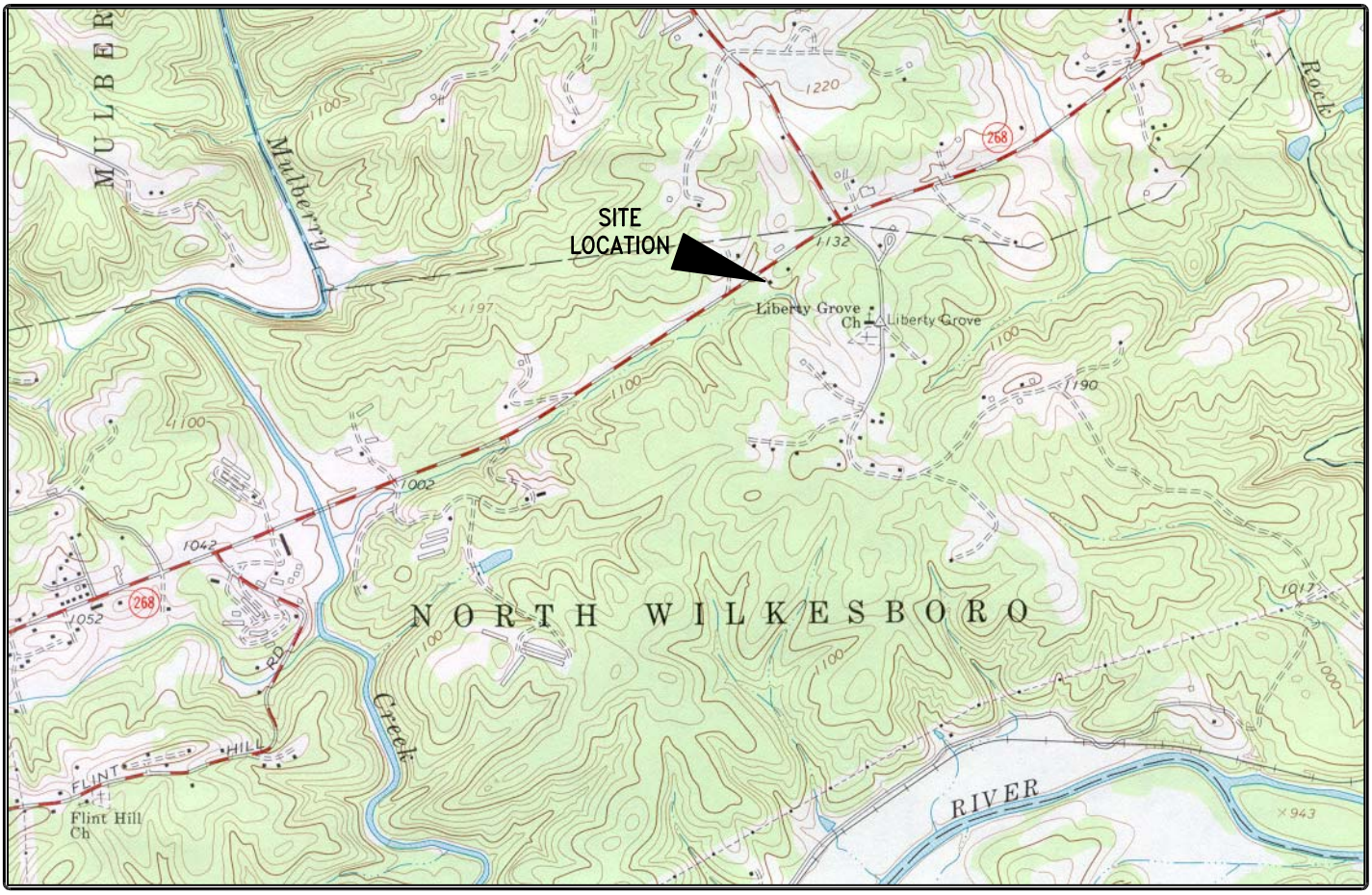
7.0 Closure

This report was prepared for, and is available solely for use by NCDOT and their designees. The contents thereof may not be used or relied upon by any other person without the express written consent and authorization of Pyramid Environmental & Engineering, P.C. (Pyramid). The observations, conclusions, and recommendations documented in this report are based on site conditions and information reviewed at the time of Pyramid's investigation. Pyramid appreciates the opportunity to provide this environmental service.

FIGURES

USGS TOPOGRAPHIC MAP

SITE: 2372 ELKIN HIGHWAY LOCATION: N. WILKESBORO, NORTH CAROLINA



USGS IDENTIFICATION

USGS 7.5 MINUTE MAP	ROARING RIVER, N.C.
ORIGINAL DATE:	1966
PHOTOREVISION DATE:	NA
———	PRIMARY HIGHWAY, HARD SURFACE
———	SECONDARY HIGHWAY, HARD SURFACE
———	LIGHT-DUTY ROAD HARD OR IMPROVED SURFACE
— — —	UNIMPROVED ROAD
○	STATE ROAD
⬠	U.S. ROUTE
⬠	INTERSTATE ROUTE

SCALES

MILES: 1/2 0 1

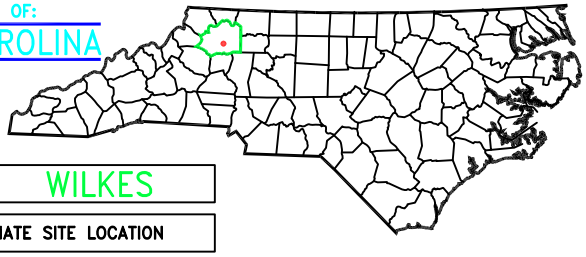
FEET: 1000 0 2000 4000 6000

1" = 2000'

NOTES: ▶ TOPOGRAPHICAL CONTOUR INTERVAL = 20 FEET
▶ PHOTOREVISIONS DENOTED IN PURPLE

MAGNETIC NORTH

COUNTY MAP OF: NORTH CAROLINA



COUNTY: WILKES

APPROXIMATE SITE LOCATION

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT: NCDOT R-2603
PROPERTY NAME: PARCEL 94, ROBERT WYATT
CITY: N. WILKESBORO STATE: NORTH CAROLINA
TITLE: TOPOGRAPHIC MAP

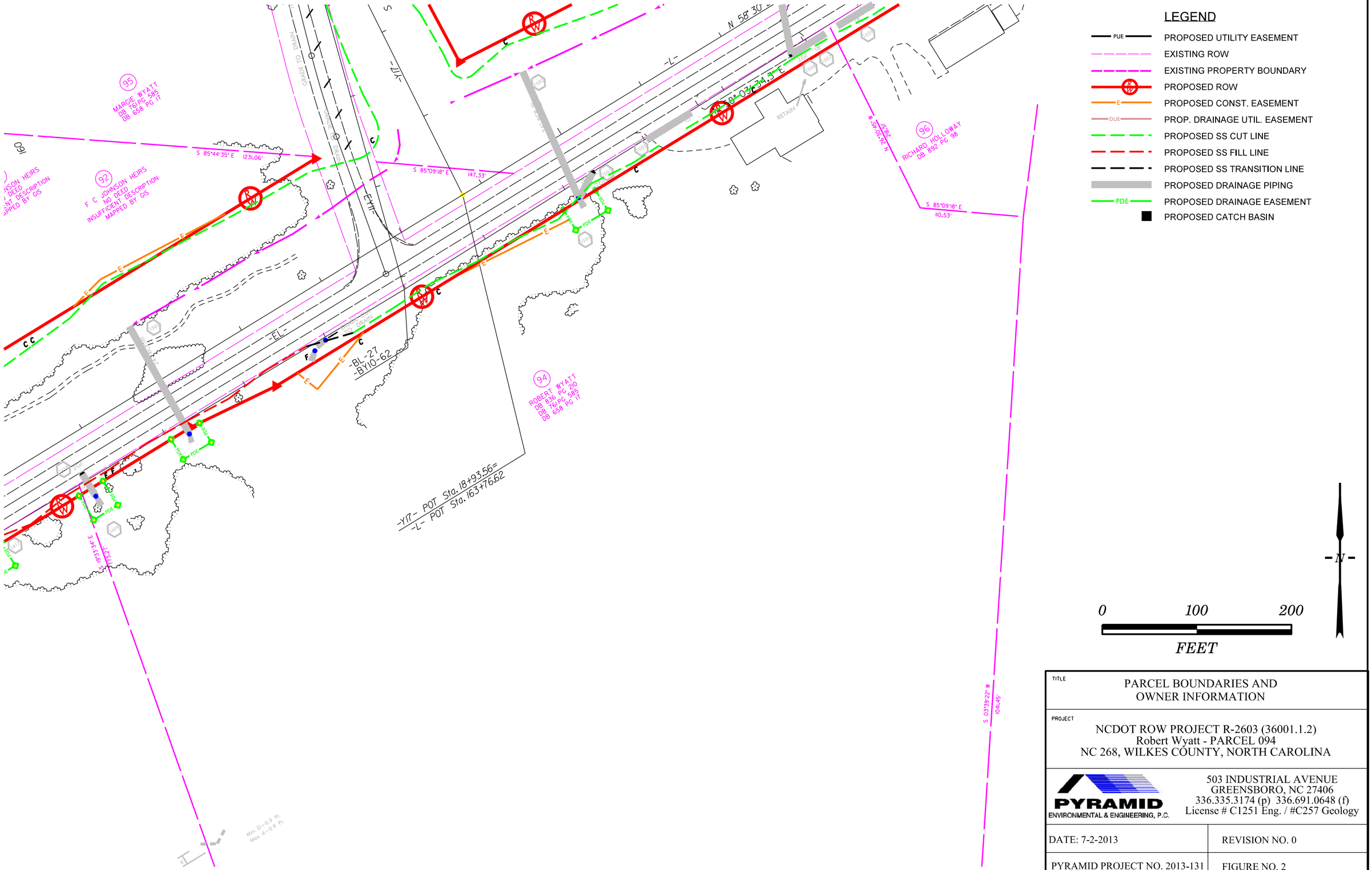
SCALE: 1"=2000'
DATE: 7/9/13
DRAWING NAME: USGSTOPO

DRAWN BY: KAM
CHECK BY: TDL
JOB NO.: 2013-131
TYPE: PSA
FIGURE NUMBER: 1

NOTES

TOPOGRAPHIC MAP USED IN THIS GRAPHIC IS MAPPED, EDITED, AND PUBLISHED BY THE UNITED STATES GEOLOGIC SURVEY, DEPARTMENT OF THE INTERIOR, RESTON VIRGINIA.

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS.



TITLE

PARCEL BOUNDARIES AND
OWNER INFORMATION

PROJECT

NCDOT ROW PROJECT R-2603 (36001.1.2)
Robert Wyatt - PARCEL 094
NC 268, WILKES COUNTY, NORTH CAROLINA

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DATE: 7-2-2013	REVISION NO. 0
PYRAMID PROJECT NO. 2013-131	FIGURE NO. 2

-L- POT Sta. 166+00.00

Probable UST
(~6'x7')

B94-3;0-2.5'
(<0.7)
[2.6]

B94-4: 7.5-10'
(<0.6)
[<0.6]

B94-5: 7.5-10'
(<0.7)
[<0.7]

B94-6
(<0.7)
[<0.7]

B94-2: 7.5-10'
(<0.6)
[<0.6]

B94-1: 2.5-5'
(<0.7)
[<0.7]

B94-7: 2-5'
(<0.7)
[21.9]

LEGEND

- PUE — PROPOSED UTILITY EASEMENT
- EXISTING ROW
- EXISTING PROPERTY BOUNDARY
- PROPOSED ROW
- E — PROPOSED CONST. EASEMENT
- DUE — PROP. DRAINAGE UTIL. EASEMENT
- PROPOSED SS CUT LINE
- PROPOSED SS FILL LINE
- PROPOSED SS TRANSITION LINE
- PROPOSED DRAINAGE PIPING
- PDE — PROPOSED DRAINAGE EASEMENT
- PROPOSED CATCH BASIN
- SOIL SAMPLE BORING LOCATION
- BORING CONVERTED TO MW
- AREA OF CONTAMINATION (>BDL, <10 PPM)
- AREA OF CONTAMINATION (>10 PPM)
- UST — PROBABLE UST

(<6.1) TPH-DRO concentration (mg/kg)

[<6.1] TPH-GRO concentration (mg/kg)

(Analytical data obtained by the method of QROS, QED Analyzer)

0 50 100

FEET

N

TITLE
SOIL BORING LOCATIONS AND
ESTIMATED AREA OF CONTAMINATION

PROJECT
NCDOT ROW PROJECT R-2603 (36001.1.2)
Robert Wyatt - PARCEL 094
NC 268, WILKES COUNTY, NORTH CAROLINA

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DATE: 7-2-2013	REVISION NO. 0
PYRAMID PROJECT NO. 2013-131	FIGURE NO. 3

TABLES

TABLE 1
Summary of Soil Field Screening Results
NCDOT Project R-2603
2372 Elkin Highway (NC268) - Parcel 94
North Wilkesboro, Wilkes County, North Carolina

SOIL BORING	SAMPLE ID	DEPTH (feet bgs)	OVA/FID READINGS (PPM)
94-1	94-1(2.5)	0 to 2.5	<1
	94-1(5.0)	2.5 to 5	1.0
	94-1(7.5)	5 to 7.5	<1
	94-1(10)	7.5 to 10	<1
94-2	94-2(2-5)	2 to 5	<1
	94-2(5.0)	2.5 to 5	<1
	94-2(7.5)	5 to 7.5	<1
	94-2(10)	7.5 to 10	0.5
94-3	94-3(2.5)	0 to 2.5	11
	94-3(5.0)	2.5 to 5	1.0
	94-3(7.5)	5 to 7.5	<1
	94-3(10)	7.5 to 10	<1
94-4	94-4(2.5)	0 to 2.5	<1
	94-4(5.0)	2.5 to 5	<1
	94-4(7.5)	5 to 7.5	<1
	94-4(10)	7.5 to 10	1.0
94-5	94-5(2.5)	0 to 2.5	<1
	94-5(5.0)	2.5 to 5	<1
	94-5(7.5)	5 to 7.5	<1
	94-5(10)	7.5 to 10	<1
94-6	94-6(2.5)	0 to 2.5	<1
	94-6(5.0)	2.5 to 5	<1
	94-6(7.5)	5 to 7.5	<1
	94-6(10)	7.5 to 10	<1
94-7	94-7(2.5)	0 to 2.5	<1
	94-7(5.0)	2.5 to 5	<1

bgs= below ground surface
FID= flame-ionization detector
PPM= parts-per-million
= sampled for lab analysis &/or QROS-QED analysis
OVA= Organic Vapor Analyzer

TABLE 2

Summary of Soil Sample Analytical Results

NCDOT State Project R-2603

2372 Elkin Highway (NC 268) - Parcel 94

North Wilkesboro, Wilkes County, North Carolina

				QROS - QED Analysis			Laboratory Analysis (Pace)	
SAMPLE ID	**DATE**	**DEPTH (feet)**	**FID/OVA (ppm)**	**GRO (mg/kg) (C5-C10)**	**DRO (mg/kg) (C10-C35)**	**TPH (mg/kg) (C5-C35)**	**EPA Method 3550 DRO (mg/kg)**	**EPA Method 5035 GRO (mg/kg)**
94-1(5.0)	6/11/2013	2.5 to 5	1.0	<0.7	<0.7	<0.7	------	------
94-2(10)	6/11/2013	7.5 to 10	0.5	<0.6	<0.6	<0.6	------	------
94-3(2.5)	6/11/2013	0 to 2.5	11.0	<0.7	2.6	2.6	**10.5**	<6.3
94-4(10)	6/11/2013	7.5 to 10	1.0	<0.6	<0.6	<0.6	------	------
94-5(10)	6/11/2013	7.5 to 10	<1	<0.7	<0.7	<0.7	------	------
94-6(10)	6/11/2013	7.5 to 10	<1	<0.7	<0.7	<0.7	------	------
94-7(2.5)	6/12/2013	0 to 2.5	<1	<0.7	**21.9**	**21.9**	------	------
NC Initial Action Level - UST Section for 5035/5030-GRO; 3550-DRO				10	10	NA	10	10

FID= flame-ionizaton detector
PPM= parts-per-million
GRO= Gasoline Range Organics
DRO= Diesel Range Organics
mg/kg= milligrams-per-kilogram
TPH= Total Petroleum Hydrocarbons (GRO + DRO)
NA= Not Applicable
"------" = No Laboratory Analysis

* Bold values indicate concentrations above initial action levels

TABLE 3

Summary of Groundwater Analytical Results

NCDOT State Project R-2603
2372 Elkin Highway (NC 268) - Parcel 94
North Wilkesboro, Wilkes County, North Carolina

PARAMETER	UNITS	SAMPLE ID	NCAC 2L GROUNDWATER STANDARD
		94-1(TW)	
EPA Method 6200B; Sample Collection Date: 6/11/13			
Benzene	ug/L	ND	1
Chloroform	ug/L	ND	70
Diisopropyl Ether (IPE)	ug/L	ND	70
Ethyl Benzene	ug/L	ND	600
Isopropylbenzene (Cumene)	ug/L	ND	70
Naphthalene	ug/L	ND	6
Styrene	ug/L	ND	70
Toluene	ug/L	ND	600
Total Xylenes	ug/L	ND	500
n-Propylbenzene	ug/L	ND	70
sec-Butylbenzene	ug/L	ND	70
tert-Butyl methyl ether (MTBE)	ug/L	ND	20
tert-Butylbenzene	ug/L	ND	70
1,2,4-Trimethylbenzene	ug/L	ND	400
1,2-Dichloroethane	ug/L	ND	0.4
1,3,5-Trimethylbenzene	ug/L	ND	400
4-Isopropyltoluene	ug/L	ND	25
All Other Parameters	ug/L	ND	NA

ug/L= micrograms-per-liter
ND= Not Detected
NA= Not Applicable

APPENDIX A

Google earth

feet 900

meters 200

Google earth

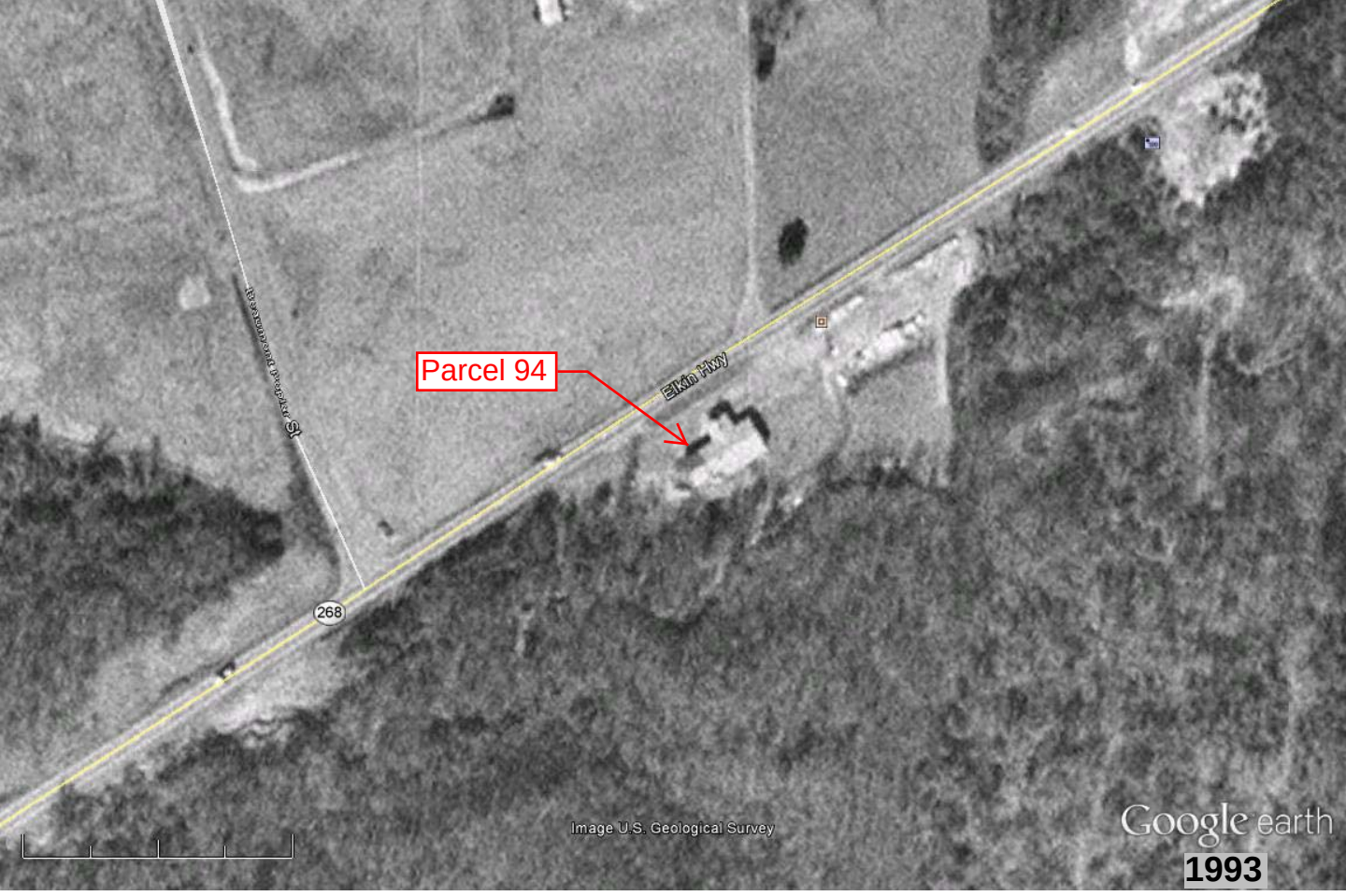
feet 800

meters 200

Google earth

feet 1000

meters 300



Google earth

feet 1000

meters 300


Parcel 94
1966


229
EZ
NC-268
Parcel 94
1958

APPENDIX B

GEONETICS CORPORATION
Colony Place, State Farm Rd., Suite B1
P.O. Box 1577
Boone, North Carolina 28607

April 25, 1997

Division of Water Quality-Groundwater Section
North Carolina DEHNR
585 Waughtown Street
Winston-Salem, NC27107-2241

Re: UST Closure Report
Calvin Wyatt's Service Station
2372 Elkin Road
North Wilkesboro, NC 28659
Facility I.D. #0-006041

Dear Groundwater Section:

On behalf of Calvin Wyatt's Service Station, Geonetics is submitting a copy of the UST Closure Report for the closure of four 4,000-gallon gasoline USTs. If you have any questions regarding this project, please contact me or Ned Taylor at 704-265-1577.

Sincerely,

Keith C. Seramur, P.G.
Senior Geologist

cc: Mr. Calvin Wyatt, Jr.
Mr. Fred Reeves

UNDERGROUND STORAGE TANK CLOSURE REPORT

at

CALVIN WYATT's SERVICE STATION

2372 Elkin Road
North Wilkesboro, North Carolina 28659

Prepared for

Mr. Calvin Wyatt, Jr.
2374 Elkin Road
North Wilkesboro, North Carolina 28659

by

GEONETICS CORPORATION
P.O. Box 1577
305 State Farm Road
Suite B1, Colony Place
Boone, North Carolina 28607

April 25, 1997
Geonetics Job No. 97530

UNDERGROUND STORAGE TANK CLOSURE REPORT

at

CALVIN WYATT's SERVICE STATION

2372 Elkin Road
North Wilkesboro, North Carolina 28659

Prepared for

Mr. Calvin Wyatt, Jr.
2374 Elkin Road
North Wilkesboro, North Carolina 28659

by

GEONETICS CORPORATION
P.O. Box 1577
805 State Farm Road
Suite B1, Colony Place
Boone, North Carolina 28607

April 25, 1997
Geonetics Job No. 97530

Table of Contents

I. General Information

A. Ownership of UST

1. Name of UST owner: Mr. Calvin Wyatt, Sr.

2. Owner address and telephone number: UST Owner/operator is deceased.

B. Facility Information

1. Facility name: Calvin Wyatt's Service Station

2. Facility I.D. #: 0-006041

3. Facility address: 2372 Elkin Road
North Wilkesboro, NC 28659
Facility closed, no telephone
Wilkes County

C. Contacts

1. Primary contact: Mr. Calvin Wyatt, Jr.
Heir, son of UST owner/operator
237 4 Elkin Road
North Wilkesboro, NC, 28659
910-667-6889

2. Closure contractor: Fred Reeves Construction
820 Elkin Road
North Wilkesboro, NC 28659
910-838-2881

3. Primary consultant: Geonetics Corporation
Mr. Ned Taylor
P.O. Box 1577
Boone, NC 28607
704-265-1577

4. Laboratory: Blue Ridge Labs, NC Lab Certification No. 275
P.O. Box 2940
Lenoir, NC 28645
704-728-0149

D. UST Information

Tank no.	Installation date	Size in Gallons	Tank Dimensions	Last Contents	Previous Contents
1	5/4/71	4000	64"x 24'9"	Gasoline	same
2	5/4/71	4000	64"x 24'9"	Gasoline	same
3	5/4/71	4000	64"x 24'9"	Gasoline	same
4	5/4/71	4000	64"x 24'9"	Gasoline	same

E. Site Characteristics

1. Past Releases at the Site: Geonetics is not aware of any past releases at this site. Geonetics does not know when the USTs were last in operation, but the closure contractor indicated that it could have been two years since they were last used.

2. Facility Status: Calvin Wyatt's Service Station is no longer in business, the owner/operator is deceased. It is our understanding that the subject site is presently operated as a retail facility selling automobile tires. Gasoline is no longer sold at the facility.

3. Surrounding Property Use: The subject property is located in a rural area of North Wilkesboro (Figure 1). The surrounding properties are used for farming and residential purposes. This part of North Wilkesboro is served with public water by Blue Ridge Water Association. Ms. Brenda Welch of Blue Ridge Water Association stated (in a telephone interview) that there could be some private wells in the area but she thought homes in the vicinity of the site were connected to city water. Geonetics did not conduct a surrounding well survey as part of this assessment.

4. Site Geology/Hydrogeology: The site is located in the Brevard fault zone along the boundary between the Inner Piedmont and Blue Ridge Geologic Belts of western North Carolina. Bedrock at the site is mapped as the Ashe Formation consisting of a "biotite muscovite gneiss interlayered with varying amounts of mica schist and minor amphibolite and hornblende gneiss" (Geologic Map of the West Half of the Winston-Salem Quadrangle, NC, VA and TN, 1972, Rankin, D.W. et al., USGS Misc. Invst. Map I-709-A).

The soil samples from the excavation consisted of saprolite that varied from dark yellowish orange (10YR 6/6), micaceous, slightly (fine) sandy silt to moderate brown (5YR 4/4), micaceous, (fine-medium) sandy silt.

Groundwater was not encountered during the UST closures. The hydrogeology of the site was not investigated.

II. Closure Procedures

A. Preparations for Closure: It is our understanding that a "Notice of Intent" (GW/UST-3 form) was received by the NC DWQ on February 21, 1997 (see Appendix B). Geonetics was not involved in the preparation for the UST closures. We were contacted by the closure contractor after evidence of a release was discovered during closure.

B. Amount of Residual Material Pumped from the Tank: The closure contractor informed Geonetics that the USTs were empty and that it was not necessary to pump residuals from the USTs.

C. Storage, sampling, and disposal of the residual material: Residual materials were not handled during the UST closure activities.

D. UST Excavation

1. Excavation Procedures: The excavation and removal of the USTs were conducted by Mr. Fred Reeves of Reeves Construction Company. It is our understanding that the USTs were uncovered by removing as little soil from the excavation as possible. Mr. Reeves first uncovered and removed the UST on the eastern end of the pit (Figure 3). The soil excavated in order to remove this UST was not contaminated. It was not necessary to excavate any additional soil to remove the other three USTs.

The final excavation was 33 feet in length and 35 feet in width. The depth of the excavation varied from 8-12 feet. The location of the USTs, dispensers, and product lines, and the size of the excavation are shown on Figures 2 & 3 (Appendix A).

2. Depth of Tank Burial: The depth to the top of the UST was about 2 feet.

3. Quantity of Soil Removed: The volume of soil removed from the excavation was limited to a couple of yards. This soil was not suspected to be contaminated and was used in part to backfill the excavation.

4. Soil Type: The soil samples collected from the excavation consisted of saprolite that varied from dark yellowish orange (10YR 6/6), micaceous, slightly

(fine) sandy silt to moderate brown (5YR 4/4), micaceous, (fine-medium) sandy silt.

5. Type and Source of Backfill: The backfill consisted of clean soil material provided by the closure contractor.

E. Contaminated Soil

1. Extent of Soil Excavation: The closure contractor only excavated enough soil to remove the UST on the eastern end of the tank pit. Contaminated soil was not removed from the excavation.

2. Temporary Storage, Sampling and Treatment/Disposal of Soil: Contaminated soil was not removed from the excavation.

III. Site Investigation

A. Field Screening

Geonetics arrived at the site after the USTs had been removed from the excavation and did perform field screening during the closure activities.

B. Soil Sampling Points and Sampling Procedures

The UST closure was performed by Reeves Construction Company. When Mr. Reeves encountered evidence of contaminated soil, he called Geonetics to assist with the assessment phase of the closure. Soil samples were initially collected by Reeves Construction Company. Mr. Michael Amsbaugh of the NC DEHNR WSRO requested that the soil samples collected for reporting purposes be collected by Geonetics personnel.

On March 18, 1997, Geonetics personnel collected 16 soil samples from the site. Soil samples S-1 through S-12 were collected from below the former USTs (Figure 3). Soil sample S 13 was collected below the product lines from a depth of 2.5 feet. Soil samples S-14, 15, and 16 were collected from below the product dispensers from a depth of 2.5 feet. All of the soil samples were collected with the backhoe bucket. Soil sampling depths are listed in Table 1 and sample locations are shown on the Soil Sampling Plan (Figure 3).

The soil samples were transported to Blue Ridge Labs of Lenoir, NC for analyses. All samples were analyzed for Volatile Total Petroleum as Hydrocarbons using EPA Method 5030. The laboratory results are summarized

in Table 1 and shown in Figure 3. The laboratory reports and Chain of Custody are included in Appendix C.

C. Surface Water and Groundwater Sampling: Groundwater was not encountered and water samples were not collected during closure operations.

D. Quality Control Measures

To minimize the potential for cross contamination, Geonetics personnel wore disposable latex gloves while collecting the soil samples. The samples were placed in laboratory-cleaned glass jars, sealed with Teflon-lined lids, labeled, and a Chain of Custody was initiated. The samples were placed on ice in a cooler and transported to Blue Ridge Labs for analyses. The Chain of Custody includes the time and date of sample collection and the date samples were delivered to the laboratory. Neither duplicate samples nor field blanks were used in this assessment.

E. Investigation Results

A Site Sensitivity Evaluation (SSE) was completed for this site and is included in Appendix D. Based on our understanding of site conditions, the SSE Total Site Characteristics Score is 125. Geonetics did not perform a surrounding well survey however, based on conversations with the Blue Ridge Water Association it appears that this site could be a Code-C site. The Initial Cleanup Level for high boiling point hydrocarbons is 20 ppm. Since this site could be a Code-C site, the Final Cleanup Levels for high boiling point hydrocarbons at this site could be 60 ppm (Appendix D).

Sixteen soil samples, S-1 through S-16, were analyzed for Volatile Total Petroleum as Hydrocarbons (TPH), EPA Method 5030. Analytical results are listed in Table 1.

Soil samples collected below the two USTs in the western end of the excavation, below the product lines, and below the product dispensers contained petroleum constituents in excess of DWQ action levels, the initial cleanup level and the final cleanup level for this site.

IV. Conclusions and Recommendations

A release from the USTs at Wyatt's Service Station was detected during the closure. Laboratory analyses of soil samples collected during the closure activities confirmed petroleum contamination.

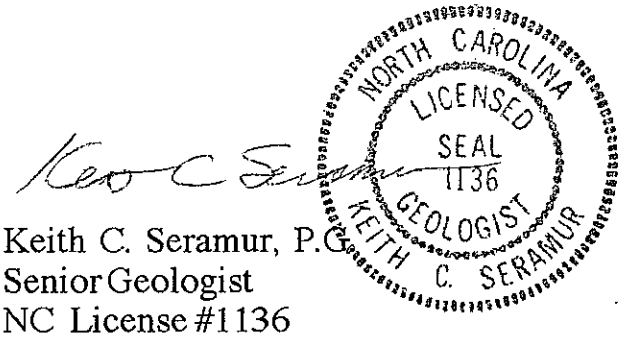
The closure contractor suspected that the release originated in a product line used to manifold together the two tanks in the western end of the excavation. The analytical results of the soil samples collected below the product lines and dispensers indicate that there were probably other locations within the UST system where releases occurred.

Since the owner/operator has past away, Geonetics recommends that the NC DWQ consider this site for the "State Lead Program". A surrounding well survey should be performed to determine if there are any potential receptors in the vicinity of the subject site.

V. Licensed Geologist Certification

The activities and evaluative approaches used in the assessment of soil quality during closure of the four 4,000 gallon gasoline USTs at Wyatt's Service Station are generally consistent with those normally employed in an assessment of this type. The evaluation of site conditions is based on our understanding of the site, project information provided to us, and data obtained during site exploration activities.

This report is intended to be responsive to the NC DEHNR requirements for Assessing the Site at Closure (15A NCAC 2N.0803) and the Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater (March, 17, 1997). This report was prepared in accordance with the format outlined in the GW/UST-12 form dated (10/94).



Keith C. Seramur, P.G.
Senior Geologist
NC License #1136

APPENDIX A

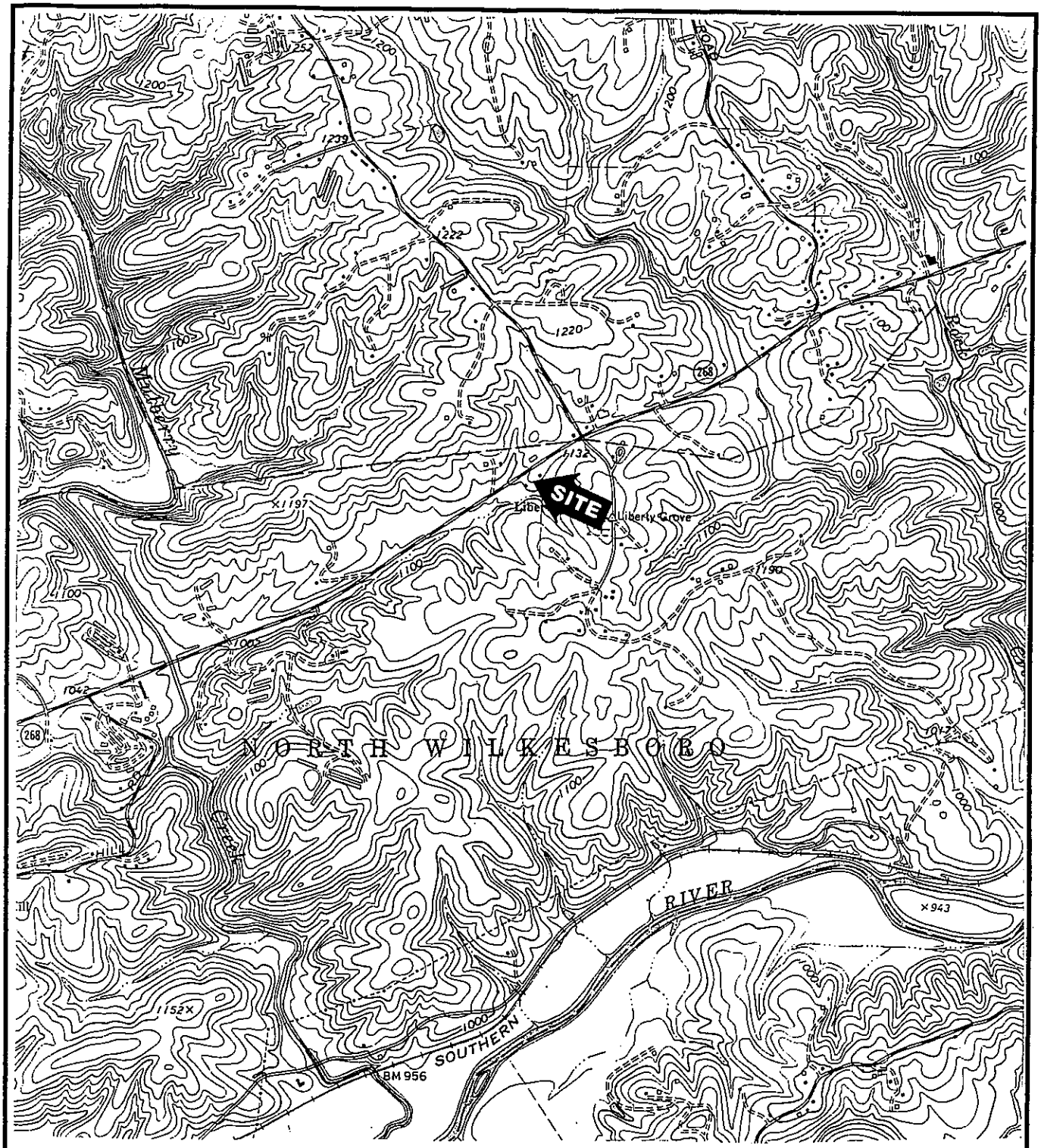
Table and Figures

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS

Calvin Wyatt's Service Station
North Wilkesboro, North Carolina

SAMPLE NUMBER	COLLECTION DATE	COLLECTION METHOD	SAMPLE DEPTH (Feet)	TPH VOLATILE EPA METHOD 5030 (ppm)
S-1	3-18-97	Backhoe	12.0	6,875
S-2	3-18-97	Backhoe	11.0	31.6
S-3	3-18-97	Backhoe	8.0	3.5
S-4	3-18-97	Backhoe	11.0	5,037
S-5	3-18-97	Backhoe	10.0	ND
S-6	3-18-97	Backhoe	8.0	307
S-7	3-18-97	Backhoe	11.5	1.2
S-8	3-18-97	Backhoe	9.0	ND
S-9	3-18-97	Backhoe	8.0	ND
S-10	3-18-97	Backhoe	12.0	ND
S-11	3-18-97	Backhoe	9.0	ND
S-12	3-18-97	Backhoe	8.0	ND
S-13	3-18-97	Backhoe	2.5	2,647
S-14	3-18-97	Backhoe	2.5	9.1
S-15	3-18-97	Backhoe	2.5	246
S-16	3-18-97	Backhoe	2.5	110

NOTES: 1) ND = Not detected at or above minimum qualification limits.
2) Laboratory reports have the designation "CW" after the sample number. This designation was not used in the report text or figures.



APPROX. NORTH

0 2000

FEET

Ref.:U.S.G.S 7.5 Minute Topographic Quadrangle, Roaring River, NC Photoinspected 1963, Field Checked 1966.

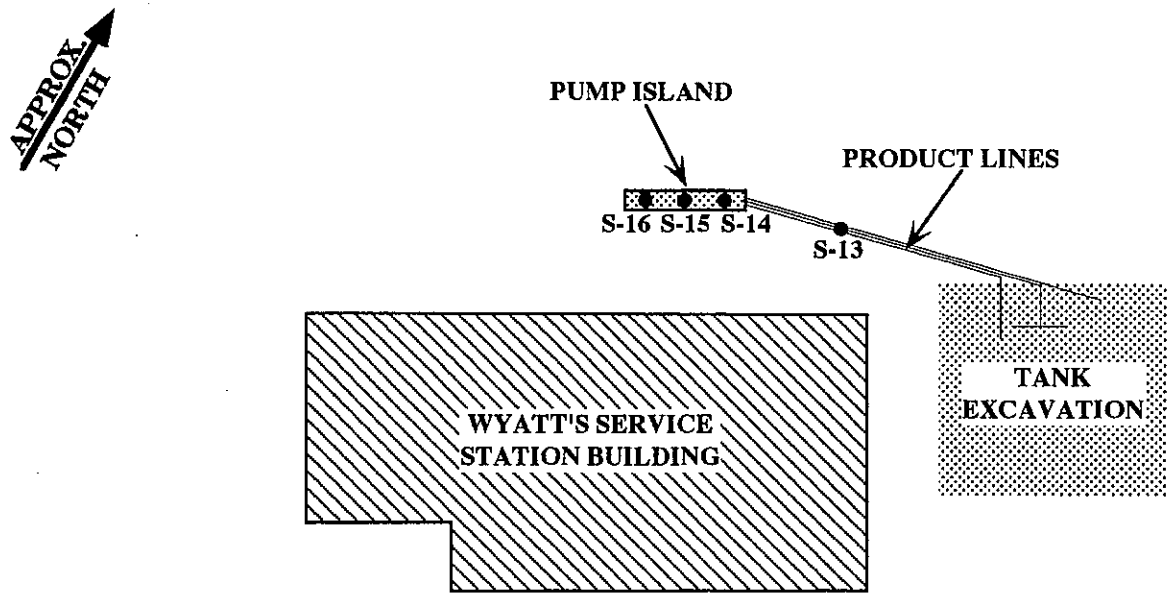
CAK 4/16/97

GEONETICS CORPORATION
P.O. Box 1577 Boone, North Carolina 28607
704/265-1577

WYATT'S SERVICE
WILKESBORO, NORTH CAROLINA

JOB NO. 97530	**SITE LOCATION MAP**	FIGURE 1

NC HWY 268



EXPLANATION

● - APPROX. LOCATION OF SOIL SAMPLE

0 30

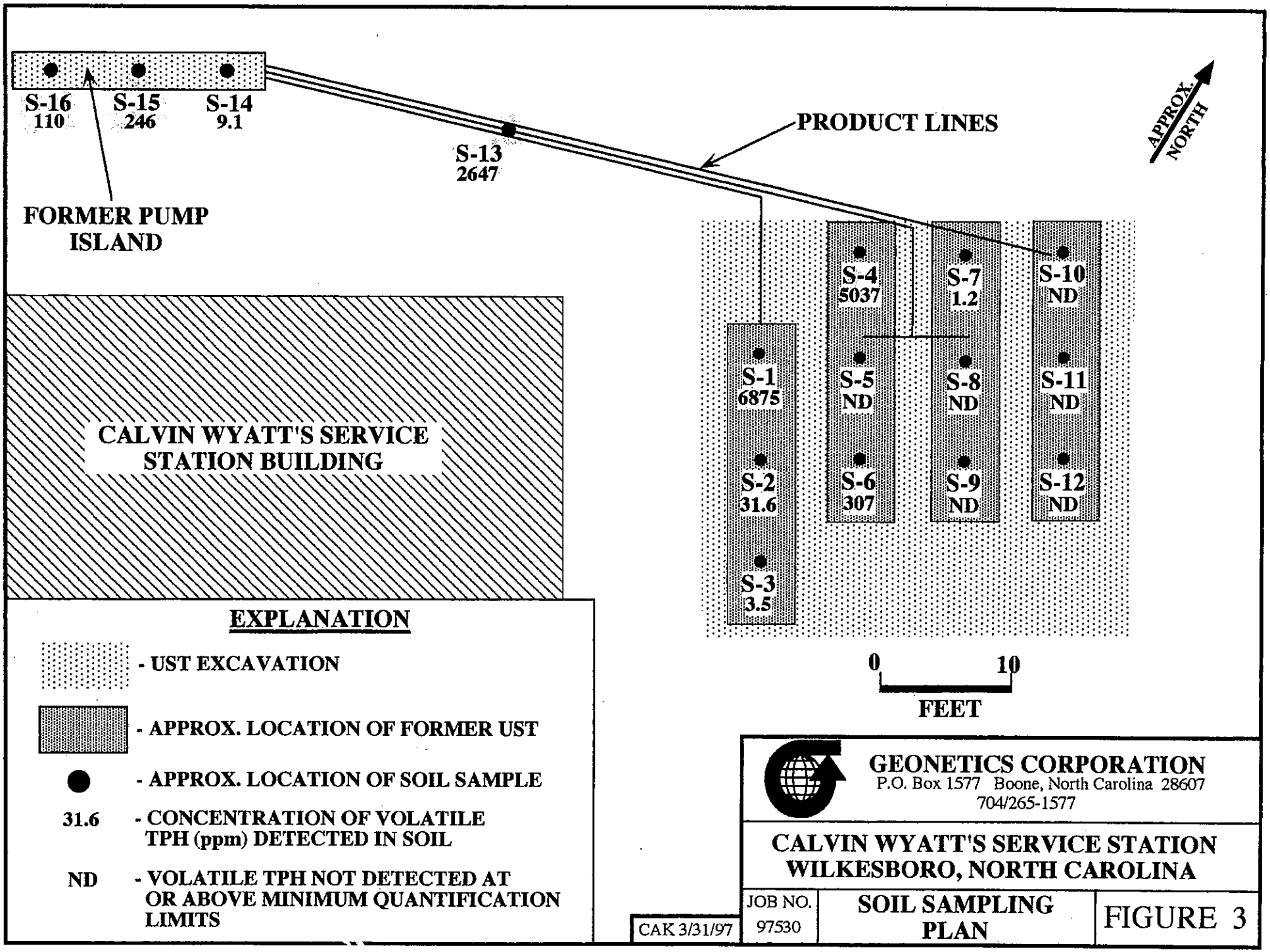
FEET

CREEK

GEONETICS CORPORATION
P.O. Box 1577 Boone, North Carolina 28607
704/265-1577

CALVIN WYATT'S SERVICE STATION
WILKESBORO, NORTH CAROLINA

CAK 4/1/97	JOB NO. 97530	SITE PLAN	FIGURE 2



GEONETICS CORPORATION
P.O. Box 1577 Boone, North Carolina 28607
704/265-1577

CALVIN WYATT'S SERVICE STATION
WILKESBORO, NORTH CAROLINA

CAK 3/31/97	JOB NO. 97530	SOIL SAMPLING PLAN	FIGURE 3

NCDENR
North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor
William G. Ross Jr., Secretary

Division of Waste Management
Underground Storage Tank Section

Dexter R. Matthews, Director

April 18, 2007

Calvin Wyatt, Jr.
2374 Elkin Road
North Wilkesboro, NC 28659

Re: Notice of Regulatory Requirements
15A NCAC 2L .0407(c)
Risk-based Assessment and Corrective Action for
Petroleum Underground Storage Tanks

Calvin Wyatt's Service
2372 Elkin Road, North Wilkesboro
Wilkes County
Incident Number: 17623
Risk Classification: Intermediate
Ranking: 145

Dear Mr. Wyatt:

In accordance with North Carolina General Statute (NCGS) 143-215.94E(e4), the Department shall establish the degree of risk to human health and the environment posed by a discharge or release of petroleum from a commercial or noncommercial underground storage tank and shall determine a schedule for further assessment and cleanup that is based on the degree of risk to human health and the environment posed by the discharge or release and that gives priority to the assessment and cleanup of discharges and releases that pose the greatest risk. At this time your release does not meet the requirements for further assessment or corrective action, and, therefore, you are not directed to proceed.

It should be noted that NCGS 143-215.94E(e4) does not relieve you of your requirements for further assessment and cleanup. The Department will notify you, through a Notice of Regulatory Requirements, when additional assessment or corrective action is required.

NCGS 143-215.94E(e4) does not prohibit you from conducting assessment or cleanup activities. However, State Trust Fund preapproval is required for non-directed work, and you must agree in writing on the "Non Directed Tasks" preapproval/claim authorization forms designated by the Department that any claims for payment or reimbursement of costs for the non-directed tasks will not be paid until after the Department has paid all claims for payment or reimbursement of costs for directed tasks.

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor
William G. Ross Jr., Secretary

Division of Waste Management
Underground Storage Tank Section

Dexter R. Matthews, Director

November 20, 2006

Calvin Wyatt, Jr.
2374 Elkin Road
North Wilkesboro, NC 28659

Subject: Calvin Wyatt's Service Station, 2372 Elkin Road, North Wilkesboro, Wilkes County, Incident 17623, Risk Classification Unknown

Dear Mr. Wyatt:

Your November 9, 2006 request for an extension for the submittal of the Limited Site Assessment has been reviewed and found to be acceptable. The Limited Site Assessment report is due on or before January 19, 2007.

If you have any questions regarding the actions that must be taken, please contact me at the address or telephone number listed below.

Sincerely,

Stephen Williams

Stephen Williams
Hydrogeologist

cc: WSRO files
Brandon Moore, Paragon Environmental Consultants

UST Regional Office

Winston-Salem (WS) – 585 Waughtown Street, Winston-Salem, NC 27107 (336) 771-5348

If you have questions regarding the information contained in this letter, please contact me at the address or telephone number listed below. If you have questions regarding trust fund eligibility or reimbursement, please contact the UST Section Trust Fund Branch at (919) 733-8486.

Sincerely,

Stephen Williams

Stephen Williams
Hydrogeologist
Winston-Salem Regional Office

cc: WSRO files

UST Regional Office

Winston-Salem (WS) – 585 Waughtown Street, Winston-Salem, NC 27107 **(336) 771-5348**

RECOMMENDATION OF SITE FOR STATE LEAD CLEANUP

Incident Name: Calvin Wyatt's Service **Site Priority Risk/Rank** U
Incident #: 17623 **County:** Wilkes **City:** North Wilkesboro
Site Address: 2372 Elkin Road
Current Landowner Calvin Wyatt, Jr. **Address** 2374 Elkin Road
Recommended by: Stephen Williams **Regional Office:** W-S
Date of Last Site Visit Unknown

RECEIVED
MAY 19 2006
NC DEPT. OF ENVIRONMENT AND NATURAL RESOURCES
MOORESVILLE REGIONAL OFFICE

Step 1: **Private/public water supply well within 1000'**
Has a water supply been contaminated?
Has alternate water been provided?

☐ yes ☐ no
☐ yes ☐ no
☐ yes ☐ no

Step 2: **This incident is recommended for State Lead Cleanup because (check All that apply)**

- ☐ The RO has not been able to positively identify the source(s) of contamination
- ☐ The RO has not been able to positively identify the RP
- ☐ The RO has positively identified the source(s) but RP cannot be located, or is deceased
- ☑ The RP has been identified but refuses to comply with investigative requirements
- ☐ The RP has been identified but claims financial hardship or bankruptcy
- ☐ The RO is continuing its investigation of sources and RPs, but **immediate action** is necessary to protect human health and the environment. See comments.

Step 3: **Attach a statement documenting or supporting the site risk determination (RRA Form) based upon a confirmed UST release of petroleum to soil and/or groundwater.**

Step 4: **Attach a cover memo with a complete summary of site history and chronology of events, including RO actions taken to date.**

Step 5: **Attach the entire original Regional Office file, and be sure it includes:**

- ☑ 24-Hour Release and UST Leak Reporting Form (Form 61) and ranking forms
- ☑ Topographic map with site location clearly identified
- ☑ NORRs, NOVs, and any other correspondence issued and received
- ☐ Alternate water requests and any information on available water sources
- ☑ Telephone logs, any supplemental information

Step 6: **Check all that apply for any UST located at the site:**

- ☐ UST is a heating oil tank 1100 gallons or less
- ☐ UST is a heating oil tank greater than 1100 gallons for four or fewer households
- ☐ UST is farm or residential, 1100 gallons or less of motor fuel for non-commercial purposes
- ☐ The UST is a non-regulated, commercial UST
- ☑ The UST is a regulated UST

Comments: Enforcement file has been attached.

Cindy Rintoul
Regional Supervisor

Cindy Rintoul
Signature

5/15/2006
Date

Attachment: Incident File ☑

(revision 5/1/06)

07/18/02 INFORMATION FOR FACILITY: CALVIN WYATT'S SERVICE STATION FS-2

FACILITY INFORMATION: INV MAIL: PERMIT MAIL: STATUS:
ID : 0-006041 ADDRESS: 239 ELKIN HIGHWAY
CITY : NORTH WILKESBORO STATE : NC ZIP: 28659
COUNTY : WILKES PHONE : (336) 667-3403 OPER ID:
MANAGER: CALVIN WYATT TITLE : NOTAR'D:
OWNER INFORMATION: STATUS :
NAME : CALVIN WYATT DATE TRANSF: LESSEE :
ID : 8579 ADDRESS: 2431 ELKIN HWY
CITY : NORTH WILKESBORO STATE : NC ZIP: 28659
COUNTY : WILKES PHONE : (336) 667-6889 CLERK : JCC
DATE RECEIVED: 19860506 DATE SIGNED : 19860430 BILL TYPE: A OWNER TYPE : 3
DATE ENTERED : 19861208 DATE UPDATED: 20010405 BILL QTR : 4 FILE STATUS: A

TANK INFORMATION FOR: 0-006041 CALVIN WYATT'S SERVICE STATION EXE FS-3

ID	STAT	INSTALL	REMOVE	SIZE	PROD	TYPE	COM	MPT
1	P	19710504	19970318	4000	3	NON	N	N
2	P	19710504	19970318	4000	3	NON	N	N
3	P	19710504	19970318	4000	3	NON	N	N
4	P	19710504	19970318	4000	3	NON	N	N

DIVISION OF WASTE MANAGEMENT
UST SECTION

SITE NAME: Calvin Wyatt's Service

INCIDENT NUMBER: 17623

SITE PRIORITY RANKING: I 145

DATE RELEASE DISCOVERED: 3 / 18 / 97

UNDERGROUND STORAGE TANK: YES: ✓ NO: ____

UNDERGROUND STORAGE TANK(S) REMOVED: YES: ✓ NO: ____

REGULATED: ✓ NON-REGULATED: ____

COMMERCIAL: ✓ NON-COMMERCIAL: ____

MANAGER: SSW

RESPONSIBLE PARTY:

CONTACT: Calvin Wyatt, Jr.

COMPANY: ____

ADDRESS: 2374 Elbin Road
North Wilkesboro, NC 28659

TELEPHONE: (336) 667 - 6889

COMMENTS: ____

Calvin Wyatt Service Station Incident 17623 WI

1/2/03 Recommendation for Civil Penalties prepared and submitted to C.O.
3/6/03 Assessment of Civil Penalties $9,193.62 ($8,750.00 + $443.62)
3/10/03 Received Penalty Matrix for penalty assessment

File Information

2/21/97 received UST-3 on Permanent Closure of UST2
owner listed as Calvin Wyatt Service = 3 - 4,000 gallon gasoline USTs
3/24/97 24 Hour Notice filed w/ WSRO
1/10/01 NORR issued to Calvin Wyatt, Jr.
8/28/01 NOV issued to Calvin Wyatt, Jr. failure to submit LSIA report
2/28/02 Recommendation for Enforcement Action issued to Calvin Wyatt, Jr.
10/9/02 NORR issued to Douglas Winslow * Mr. Winslow died 8/25/02
10/21/02 received response from Mr. Winslow's Law office to NORR
assistant regards that Mr. Winslow never owned or was in partnership
w/ Calvin Wyatt & also informed WSRO that Mr Winslow died in 8/25/02
10/18/02 Telephone call w/ William Eller who purchased property for home not bus
10/23/02 Telephone call w/ Almeda Eller who built on land adjoined to subject
property. Mrs Wyatt bought land back from Kirb Walker leases from C. Wyatt Jr.
11/15/02 NOV issued to Calvin Wyatt, Jr. for failing to submit SCR
12/16/02 Telephone conversation with Calvin Wyatt - contamination id on surface
soil brought in grassed over
12/19/02 Recommendation of Enforcement Action issued to Calvin Wyatt, Jr.
8/25/03 received copy of Final Decision, Order of Dismissal (contesting UST 03-002
2/10/04 received copy of Collection of Civil Penalties

UST Closure Report

received on 4/28/97 facility O-006041 Calvin Wyatts' Service Station
Calvin Wyatt, Sr. deceased 4-4000 gal gasoline USTs removed on 3/18/97
soil contamination identified beneath UST2 TPH (5030) 6875 ppm & 5037 ppm

12/21/06 Received LSA report

No potable wells w/in 1,000 feet of site, no wells w/in 250' from site & other uses

* Surface water w/in 500', gw contamination exceeds surface water quality standards by a factor of 10 [15A NCAC 2B .0200]

GW contamination exceeds Gross Contaminant Levels

Commercial/Residential zoning of area. Facility zoned commercial

Public water by City of North Wilkesboro

* intermittent stream 300 feet from site flows to/ends Mulberry Creek 6800' from site

No wellhead protection areas w/in area of release

Soil samples do not exceed Residential Standards (MSCCs)

2L violations noted [Benzene @ 6000ppb & EDB @ 114 ppb exceed GCL]

NORTH CAROLINA
UNDERGROUND STORAGE TANK SECTION
RISK, RANK AND ABATEMENT RATING FORM

Incident Name: Wyatts Service Station
Incident Number: 17623
Date: 4/18/07
Region: W-S
County: WI
Ranking Performed by: SBN
SCORE: 1450

Note: a new ranking form must be completed whenever site conditions may have changed

SECTION I. Risk Classification (Check all that apply)

1. High Risk

A. An existing water supply well, including one used for non-drinking purposes, has been contaminated by the release; _____

B. A water supply well used for drinking water is located within 1,000 feet of the source area of a confirmed release; _____

C. A water supply well not used for drinking water is located within 250 feet of the source area of a confirmed release; _____

D. The groundwater within 500 feet of the source area of a confirmed release has the potential for future use in that there is no source of water supply other than the groundwater; _____

E. There exists a serious threat of explosion due to the accumulation of vapors in a confined space, as a result of the release; or _____

F. There exists an imminent danger to public health, public safety or the environment, as a result of the release. _____

2. Intermediate Risk _____

A. Surface water is located within 500 feet of the source area of a confirmed release and the maximum groundwater contaminant concentration exceeds the applicable surface water quality standard and criteria found in 15A NCAC 2B .0200 by a factor of 10; _____

B. In the Coastal Plain Physiographic Province (as designated on a map entitled Geologic Map of North Carolina published by the Department in 1985), the source area of a confirmed release is located where there is recharge to an unconfined or semi-confined deeper aquifer which the Department determines is being used or may be used as a source of drinking water; _____

C. The source area of a confirmed release is located within a designated wellhead protection area, as defined in 42 USC 300h-7(e); _____

D. The levels of groundwater contamination for any contaminant (except ethylene dibromide, benzene and the aliphatic and aromatic carbon fraction classes) exceed 50 percent of the solubility of the contaminant at 25 degrees Celsius or 1,000 times the groundwater quality standard or interim standard established in 15A NCAC 2L .0202, whichever is lower (these levels have been termed "gross contamination levels"); or _____

E. The levels of groundwater contamination for ethylene dibromide or benzene exceed 1,000 times the federal drinking water standard set out in 40 CFR 141(these levels have also been termed "gross contamination levels"). ✓

3. Low Risk

A. A low risk classification means that the risk posed by a release does not meet any of the high or intermediate risk criteria or, based on site-specific information received by the Department, the release does not pose a significant risk. _____

SECTION I. Risk Classification: 1

SECTION II. Release Ranking (Assign points as applicable)

1. EMERGENCY HAZARD ASSESSMENT

POINTS

An emergency situation exists whenever the Department determines that the release poses an imminent danger to public health, public safety, or the environment. EMERGENCY

Complete entire form and assign letter E to final rating in Section III, Once Emergency is abated a new rating must be performed

2. EXPOSURE ASSESSMENT

Groundwater

A. Impacted Water Supplies

Public Supply Wells (each well can only be counted once)

1. Public or institutional water supply well containing substances in concentrations exceeding 15A NCAC 2L groundwater quality standards; award 600 points per well _____

Private Supply Wells (each well can only be counted once)

2. Private domestic drinking water supply well containing substances in concentrations exceeding 15A NCAC 2L groundwater quality standards; award 200 points per well _____

3. Private well, not used for drinking, containing contamination in detectable concentrations; award 75 points per well _____

Public or Private Wells Below 2L .0202 Standards (each well can only be counted once)

4. Public or private drinking water supply contains substances that are below the 15A NCAC 2L groundwater quality standards; award 100 points per well _____

B. Threat to Uncontaminated Drinking Water Supplies

Public Supply Wells *(each well can only be counted once)*

1. Public or institutional water supply well within 500 ft of plume edge, plume edge is within radius of influence of public well, or threat currently unknown; award 40 points per well _____

2. Public or institutional water supply well between 500 and 1000 ft of plume edge or threat is reasonably known; award 10 points per well _____

Private Supply Wells *(each well can only be counted once)*

3. Private water supply, including non-drinking well, located within 250 feet of plume edge, wells threatened or the threat is currently unknown; award 20.points per well _____

4. Private water supply, not including non-drinking well, located between 251 and 500 feet of the plume edge, wells threatened or the threat is currently unknown; award 10 points per well _____

5. Private water supply, not including non-drinking well, located between 501 and 1000 feet of plume edge or wells located within 1000 feet but threat to wells is reasonably known or alternate water source is available; award 5 points per well _____

6. Private non-drinking well, located between 251 and 1000 feet of plume edge; award 2 points per well _____

Surface Water

1. Violation of Class HQW,ORW,WS-I, WS-II or SA surface water quality standards as a result of groundwater discharge; award 10 points _____

2. Free product or sheen discovered on surface waters as a result of groundwater discharge; award 5 points _____

Soil

A Land Use — Choose required soil clean-up level then apply points only if soil contamination exceeds requirement

No Risk Data	Soil to GW	Residential	Industrial/Commercial
☐	☐	☐	☑

1. Maximum soil contaminant concentration exceeds "Soil to Groundwater" but below "Residential" exposure concentration; award 5 points total

OR

2. Maximum soil contaminant concentration exceeds "Residential" but is below the "Industrial/Commercial" exposure concentration; award 10 points total

OR

3. Maximum soil contaminant concentration exceeds the "Industrial/Commercial" exposure concentration or no risk-based data available; award 15 points total

Air

A. Vapor Phase Exposure

1. Contaminant vapors detected in inhabitable building(s), but levels are below 20% of the lower explosive limit and health concern levels; award 20 points total

2. Contaminant vapors detected in other confined areas (uninhabitable buildings, sewer lines, utility vaults, etc.) but levels are below 20% of the lower explosive limit; award 5 points total

3. HYDROGEOLOGY AND LITHOLOGY

A. Bedrock - contamination is located in, on or within five feet of bedrock; award 20 points — 20

B. Vertical Contaminant Migration -Literature or well logs indicate that no confining layer is present above bedrock or within twenty feet of land surface; award 10 points — 10

C. Horizontal Contaminant Migration -Data or observations indicate that no discharge points or aquifer discontinuities exist between the discharge, release or known extent of contamination and the nearest down gradient drinking water supply; award 5 points total — 5

4. ENVIRONMENTAL VULNERABILITY ASSESSMENT

Contamination Concentrations

A. Existing Groundwater Quality -The worst case monitor or supply well, assign only one

1. At less than 10 times the 2L groundwater standards; award 5 points

OR

2. Between 10 and 100 times the 2L groundwater standards; award 20 points

OR

3. Greater than 100 times the 2L groundwater standards; award 40 points — 40

OR

4. Free Product; award 80 points

Contaminant Types

A. Predominant Contamination Type

1. Low boiling point petroleum products (gasoline, aviation fuel); award 20 points — 20

2. High boiling point petroleum products (fuel oil, kerosene, diesel fuel or similar products); award 0 points

SECTION II. Release Ranking — 95

SECTION III. Source Abatement Assignment (Award Points and Assign Letter)

A. Abated or Unabated Contaminant Source

1. Emergency Situation, Assign Letter E (from Section II.1.)

OR

2. UST remains in active use and continues to discharge into the environment; Award 100 points and assign Letter A

OR

3. UST release has been abated. However, contaminated soil continues to release product or contaminants into the environment; Award 50 points and assign Letter D

50D

OR

4. UST release has been abated. Contaminated soil has been removed or remediated; Award 0 points and assign Letter R

SECTION III. Source Abatement Assignment 50D

SECTION IV. Risk, Rank and Abatement Score

Total: Risk, Rank and Abatement Score I145D

(Insert risk letter from Section I, total all points from Section II and III, and insert abatement letter from Section III)

(e.g H750D)

Upon completion transfer final score to box on page 1.

POLLUTION INCIDENT/U.S.T. LEAK REPORTING FORM

Department of Environment, Health, Natural Resources
Division of Environmental Management
GROUNDWATER SECTION

Confirm. GW Contamination (Y/N) ____
Major Soil Contamination (Y/N) ✓
Minor Soil Contaminatin (Y/N) ____

Incident # 17623

Date Incident Occurred or Leak Detected 3-18-97

INCIDENT DESCRIPTION

Incident Location/Name: Calvin Wyatt Service Station
Address: 2372 Elkin Road
City/Town: N. Wilkesboro | County: Wilkes | Region: WSRO
Briefly Describe Incident:
After removal of regulated tanks, subsequent sampling indicates soil contamination above state allowable limits remains in ground.

POTENTIAL SOURCE OWNER-OPERATOR

Potential Source Owner-Operator: Calvin Wyatt, Jr | Telephone:
Company: | Street Address: 2374 Elkin Road
City: N. Wilkesboro | County: Wi | State: NC | Zip Code: 28659

OWNERSHIP
0. N/A 1. Municipal 2. Military 3. Unknown (4.Private) 5.Federal 6. County 7. State

OPERATION TYPE
0. N/A 1. Public Service 2. Agricultrural 3. Residential 4. Educational/Relig. 5. Industrial (6. Commercial) 7. Mining

POLLUTANTS INVOLVED

MATERIALS INVOLVED	AMOUNT LOST	AMOUNT RECOVERED
gasoline		

SOURCE OF POLLUTION

PRIMARY SOURCE OF POLLUTION (Select one)
1. Intentional dump
2. Pit, pond, lagoon
3. Leak-underground
4. Spray irrigation
5. Land application
6. Animal feedlot
7. Source unknown
8. Septic tank
9. Sewer line
10. Stockpile
11. Landfill
12. Spill-surface
13. Well
14. Above-ground Storage Tank
15. Nonpoint source

PRIMARY POLLUTANT TYPE (Select one)
1. Pesticide/herbicide
2. Radioactive waste
3. Gasoline/diesel
4. Heating oil
5. Other petroleum prod.
6. Sewage/septage
7. Fertilizers
8. Sludge
9. Solid waste leachate
10. Metals
11. Other inorganics
12. Other organics

LOCATION
1. Facility
2. Railroad
3. Waterway
4. Pipeline
5. Dumpsite
6. Highway
7. Residence
8. Other

SETTING
1. Residential
2. Industrial
3. Urban
4. Rural

Site Priority Ranking: 45/C

D.E.M. Regional Contact: Rintoul
Signature: Cindy Rintoul
Date: 7/29/97

GW-61 Revised 2/95

IMPACT ON DRINKING WATER SUPPLIES

WELLS AFFECTED 1. YES (2. NO)

NUMBER OF WELLS AFFECTED _____

Well(s) Contaminated: (Users Name)

1.

2.

3.

4.

5.

Circle Appropriate Responses

Lab Samples Taken By: 1. DEM 2. DHS (3. Responsible Party) 4. Other 5. None

Samples Taken Include: 1. Groundwater (2. Soil)

LOCATION OF INCIDENT

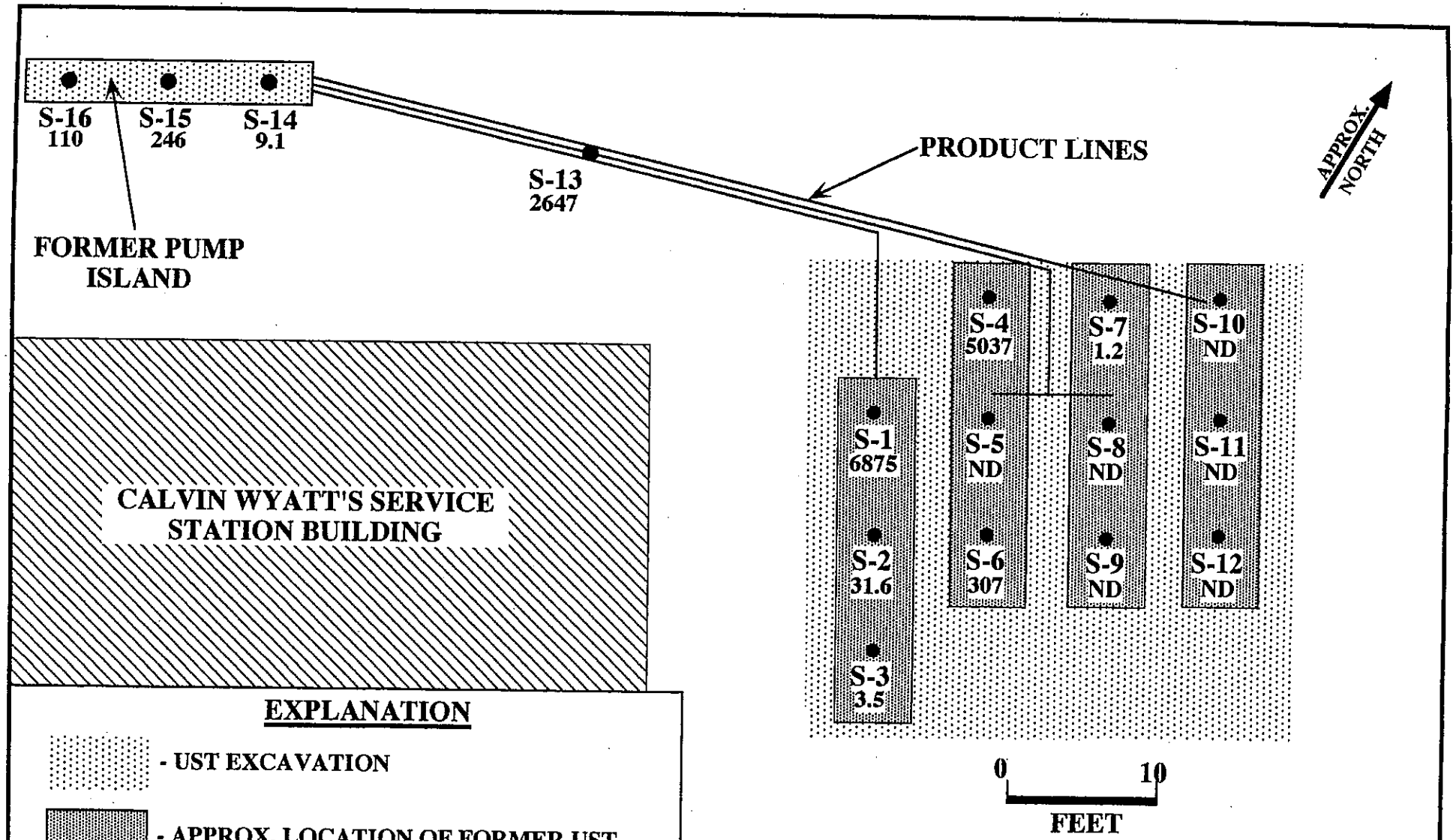
7 1/2 Min. Quad Name: Roaring River, NC

5 Min. Quad Number: F-69

Lat. : Deg : Min : Sec : 36. 11. 55

Long. : Deg : Min : Sec : 81. 05. 47

Draw Sketch of Area or Attach Additional Maps



GEONETICS CORPORATION
P.O. Box 1577 Boone, North Carolina 28607
704/265-1577

CALVIN WYATT'S SERVICE STATION
WILKESBORO, NORTH CAROLINA

CAK 3/31/97 | JOB NO. 97530 | SOIL SAMPLING PLAN | FIGURE 3

LIMITED SITE ASSESSMENT

WYATT'S SERVICE STATION
2372 ELKIN ROAD
NORTH WILKESBORO, NORTH CAROLINA
GROUNDWATER INCIDENT: 17623
FACILITY ID: UNKNOWN

DECEMBER 20, 2006

UST OWNER:
Calvin Wyatt, Jr.
2374 Elkin Road
North Wilkesboro, NC 28659
Phone Number: (336) 667-6889

PROPERTY OWNER:
Same as UST owner

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

RELEASE INFORMATION:
Date Discovered: 04/23/97
Estimated Quantity of Release: Unknown
Cause of Release: Unknown
Source of Release: USTs, Piping, and Dispensers
Size and Contents: (4) 4,000 Gallon Gasoline USTs
Latitude: N 36° 11'54" Longitude: W 81° 5'47"

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

NORTH CAROLINA LICENSED SEAL 1666 GEOLOGIST BRANDON MOORE

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

SBU
4/18/07

PARAGON
Environmental Consultants, Inc.

December 20, 2006

Calvin Wyatt, Jr.
2374 Elkin Road
North Wilkesboro, NC 28659

Reference: Limited Site Assessment
Wyatt's Service Station
2372 Elkin Road
North Wilkesboro, NC

Dear Mr. Wyatt:

In accordance with the requirements of a correspondence from the North Carolina Department of Environment and Natural Resources (NCDENR) dated August 22, 2006, contained herein is a Limited Site Assessment for the release which occurred at the above referenced facility. These activities have been conducted following the release of petroleum which occurred in the vicinity of four (4) 4,000 gallon gasoline underground storage tanks (USTs). All activities were conducted in accordance with NCDENR guidelines and the requirements of 15A NCAC 2L .0115.

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

Sincerely,

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

R06-680A

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

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LIMITED SITE ASSESSMENT REPORT

Wyatt's Service Station
2372 Elkin Road
North Wilkesboro, North Carolina

1.0. - SITE HISTORY AND SOURCE CHARACTERIZATION

Calvin Wyatt, Jr. owns a facility at 2372 Elkin Road in North Wilkesboro, NC, which was formerly referred to as Wyatt's Service Station. This property contains one permanent structure which is used as an auto repair business. Figure 1 illustrates the location of this facility on the Roaring River Quadrangle U.S.G.S. Topographic Map. The site formerly contained four (4) 4,000 gallon gasoline underground storage tanks (USTs) which were used for the retail sale of petroleum. Figure 2 illustrates the site layout of this facility and the former location of the USTs. Information regarding the ownership of the regulated USTs which were formerly located at this facility is contained in Table 1. Soil contamination at a maximum concentration of 6,875 milligrams per kilogram (mg/kg) by EPA Method 5030 was confirmed beneath the former USTs by soil samples collected during the UST Closure activities in 1997 performed by Geonetics Corporation.

2.0 - RISK CHARACTERIZATION AND LAND USE FORM

Part I Groundwater/Surface water/Vapor impact
High Risk

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

   NO

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

   NO

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

   NO

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

   NO

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

   NO

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

   NONE KNOWN

Intermediate Risk

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

   YES

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

   YES

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

   NO

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

   NO

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

   N/A

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

    YES

Part II-Land Use

Property containing Source Area of Discharge or Release

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

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

   NO

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

   NO

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

   YES, THE PROPERTY CONTAINS AN AUTO REPAIR SHOP AND AN ACCOUNTING OFFICE

4. Do children visit the property?

   UNKNOWN

   Explain. CHILDREN MAY VISIT THE STORE

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

   YES

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

   YES, BUT ONLY IN THE AREA OF THE PIPING AND DISPENSER ISLAND

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

   THE ASHPHALT AND CONCRETE PAVING WILL REMAIN IN PLACE

7. What is the zoning status of the property?

   COMMERCIAL

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

NO

Property Surrounding Source Area of Discharge or Release.

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

400 FEET TO THE NORTH

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

A CHURCH IS LOCATED APPROXIMATELY 1,500 FEET TO THE SOUTHEAST

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

COMMERCIAL / RESIDENTIAL

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

COMMERCIAL / RESIDENTIAL

3.0 - RECEPTOR INFORMATION

3.1 Water Supply Wells

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

3.2 Public Water Supplies

Public water supplies as provided by the City of North Wilkesboro are available within a radius of 1,500 feet from 2372 Elkin Road.

3.3 Surface Water

The partial U.S.G.S. map included as Figure 1 indicates that surface waters in the vicinity of the release area generally drain towards an intermittent stream which is located approximately 300 feet to the south of the release area. This creek flows into Mulberry Creek which is located approximately 6,800 feet to the southwest of the site. This creek is located within the Yadkin / Pee Dee River Drainage Basin.

3.4 Wellhead Protection Areas

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

3.5 Deep Aquifers in the Coastal Plain Physiographic Region

This release is not located in the coastal plain.

3.6 Subsurface Structures

No subsurface utility lines are located within the petroleum affected area at this facility. The building located on the impacted property does have a basement, and a subsurface utility is present in the form of a water line. The water line exists within the DOT right-of-way along Elkin Road as well as between the street and the building. Figure 3 illustrates the locations of all known subsurface utilities.

3.7 Land Use

The possibility of human exposure to soil contamination at Wyatt's Service Station is minimal. The marginally impacted soil which remains in place is covered with an asphalt and concrete parking area. The facility lies within a commercial and residential area.

3.8 Property Owners and Occupants

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

4.0 - SITE GEOLOGY AND HYDROGEOLOGY

4.1 Site Geology

The site is situated in the Inner Piedmont Belt according to the Geological Map of North Carolina. Local bedrock geology of the region consists of Late Proterozoic to Cambrian aged metamorphic bedrock. Competent bedrock was not encountered to a depth of 35 feet below land surface which was the maximum depth explored during the subsurface investigation.

4.2 Soils Investigation

The soils at the project site consist of silt with varying amounts of clay. A soil boring log for the boring advanced for monitor well installation at the site is contained as Appendix A. Soil samples collected by a previous consultant during the UST Closure activities showed a maximum Method 5030 TPH level of 6,875 mg/kg.

A total of three "Risk-Based" soil samples were collected for laboratory analyses from the monitor well borings advanced in the source areas. The soil samples obtained from the monitor well boring for MW-1 were taken from depths of 10 feet and 20 feet below land surface and were labeled as MW1-10 and MW1-20 to represent both the location and depth. The soil sample obtained from the monitor well boring for MW-2 was taken from a depth of 20 feet below land surface. This sample was labeled as MW2-20 to represent its location and depth. The monitor well soil samples were analyzed according to EPA Method 8260 plus MTBE and IPE as well as MADEP methods for Volatile Petroleum Hydrocarbons (VPH).

According to the analytical report the soil sample labeled as MW1-10 showed seven compounds above the laboratory detection limits by Method 8260. All seven of the reported compounds were below the Residential Standards. The soil samples labeled as MW1-20 and MW2-20 indicated levels of MTBE above the laboratory detection limit but below the Residential Standard. No other compounds were reported above the laboratory detection limits by EPA Method 8260 in samples MW1-20 and MW2-20. All three of the soil samples from the monitor well borings were below the laboratory detection limits by MADEP methods for VPH.

Table 3 summarizes the analytical results of the "Risk-Based" soil samples, and Figure 5 illustrates the locations of the soil samples collected at 2372 Elkin Road. A copy of the laboratory analytical report and the chain of custody records for the soil samples collected by Paragon at the site is contained as Appendix B.

5.0 - SAMPLING RESULTS

5.1 Monitor Well Installation

Two North Carolina Type II groundwater monitoring wells have been installed at the site. Figure 6 illustrates the site layout and the location of the monitor wells, labeled as MW-1 and MW-2. The monitoring wells were constructed of 2-inch Schedule 40 PVC pipe with 30 feet of 0.010 inch slotted screen. Based on the assumption that the contaminants being addressed were primarily hydrocarbon constituents with specific gravities of less than 1.0, the groundwater monitoring wells were installed so that the screened interval intersected the shallow groundwater table at the time of installation. Table 4 summarizes the monitoring well information and groundwater elevations as measured on November 29, 2006, and Appendix C contains copies of the well construction records for the monitor wells installed at the project site.

5.2 Groundwater Analyses

Following installation the monitoring wells were developed and sampled in accordance with Paragon's Standard Operating Procedures which are contained as Appendix D. The groundwater samples were submitted to Meritech, Inc. for laboratory analyses according to EPA Method 6210D plus MTBE and IPE, EPA Method 3030C for Lead, and MADEP methods for VPH. According to the laboratory analytical results for EPA Method 6210D, BTEX, EDB, Naphthalene, n-Propylbenzene, 1,2,4-Trimethylbenzene, IPE, and MTBE were reported at concentrations above the 2L Standards.

Benzene was shown in MW-1 at a concentration of 6,000 micrograms per liter (ug/L), which is above the current listed 2L Standard of 1 ug/L. Toluene was listed in this well at 12,200 ug/L which is in excess of its 2L Standard of 1,000 ug/L. Ethylbenzene, which has a 2L Standard of 550 ug/L, was reported at 1,040 ug/L. Xylenes were listed at a total concentration of 5,310 ug/L as compared to the 2L Standard of 530 ug/L. MTBE was reported at 38,300 ug/L in MW-1 which is above the 2L Standard of 200 ug/L. EDB was detected at a concentration of 114 ug/L, and IPE was reported at 183 ug/L. These two compounds have 2L Standards of 0.0004 ug/L and 70 ug/L, respectively.

The analytical results for MW-1 also reported three other Method 6210D compounds at levels above the 2L Standards. In addition three carbon fraction classes were above the 2L Standards by MADEP for VPH. C5-C8 Aliphatics was reported at 48,400 ug/L, C9-C18 Aliphatics was detected at 13,900 ug/L, and C9-C22 Aromatics was listed at 2,470 ug/L. These fraction classes have 2L Standards of 420 ug/L, 4,200 ug/L, and 210 ug/L, respectively. Monitor well MW-2 also showed the same compounds by EPA Method 6210D with the exception of EDB and all three carbon fraction classes above the 2L Standards, but all of these constituents were below the levels reported in MW-1. Lead was below the 2L Standard in both of the monitor wells according to EPA Method 3030C.

Monitor well MW-1 also indicated concentrations of Benzene and EDB which exceed the Gross Contaminant Levels (GCLs). Table 5 summarizes the groundwater analytical results, and Appendix E contains a copy of the laboratory analytical report and the chain of custody record for the groundwater samples.

6.0 - CONCLUSIONS AND RECOMMENDATIONS

6.1 General Summary

Limited Site Assessment activities at Wyatt's Service Station have been completed. From a review of all information gathered during this project, Paragon Environmental Consultants, Inc. makes the following conclusions:

- A petroleum release of unknown quantity has occurred at this site. No contaminated soils in excess of the Residential Standards were detected in the source areas at 2372 Elkin Road.

- Two shallow groundwater monitoring wells were constructed at the site during this investigation. Free product was not observed in either monitor well on October 2, 2006.

- The analytical results for the groundwater sample from MW-1 indicated Benzene and EDB at levels above the GCLs at this facility. Eight other petroleum constituents and three VPH fraction classes are present above the 2L Standards in this well.

- Groundwater sample results for MW-2 indicated seven Method 6210D compounds and VPH carbon fractions at concentrations above the 2L Standards. None of the compounds reported in monitor well MW-2 are at levels which exceed the GCLs.

6.2 Recommendations

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

- Since groundwater concentrations exceed the GCLs, the project site does not currently qualify for a notice of No Further Action. However, due to the implementation of NC Session Law 2004-124 the subject site should not be of sufficient priority to require additional assessment and/or remediation.

- A copy of this report should be forwarded to the following address:

  Winston-Salem Regional Office – NCDENR
  585 Waughtown Street
  Winston-Salem, NC 27107

6.3 Limitations

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

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

FIGURES

FIGURE 1

SCALE: 1"=2000'	TITLE: PROJECT LOCATION U.S.G.S. TOPO MAP ROARING RIVER QUADRANGLE	PROJECT: LSA 2372 ELKIN ROAD NORTH WILKESBORO, NC	CLIENT: CALVIN WYATT, JR. NORTH WILKESBORO, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA
DATE: 12/20/06				
DWN. BY: KBM				
DWG. NO. L06-171Z				

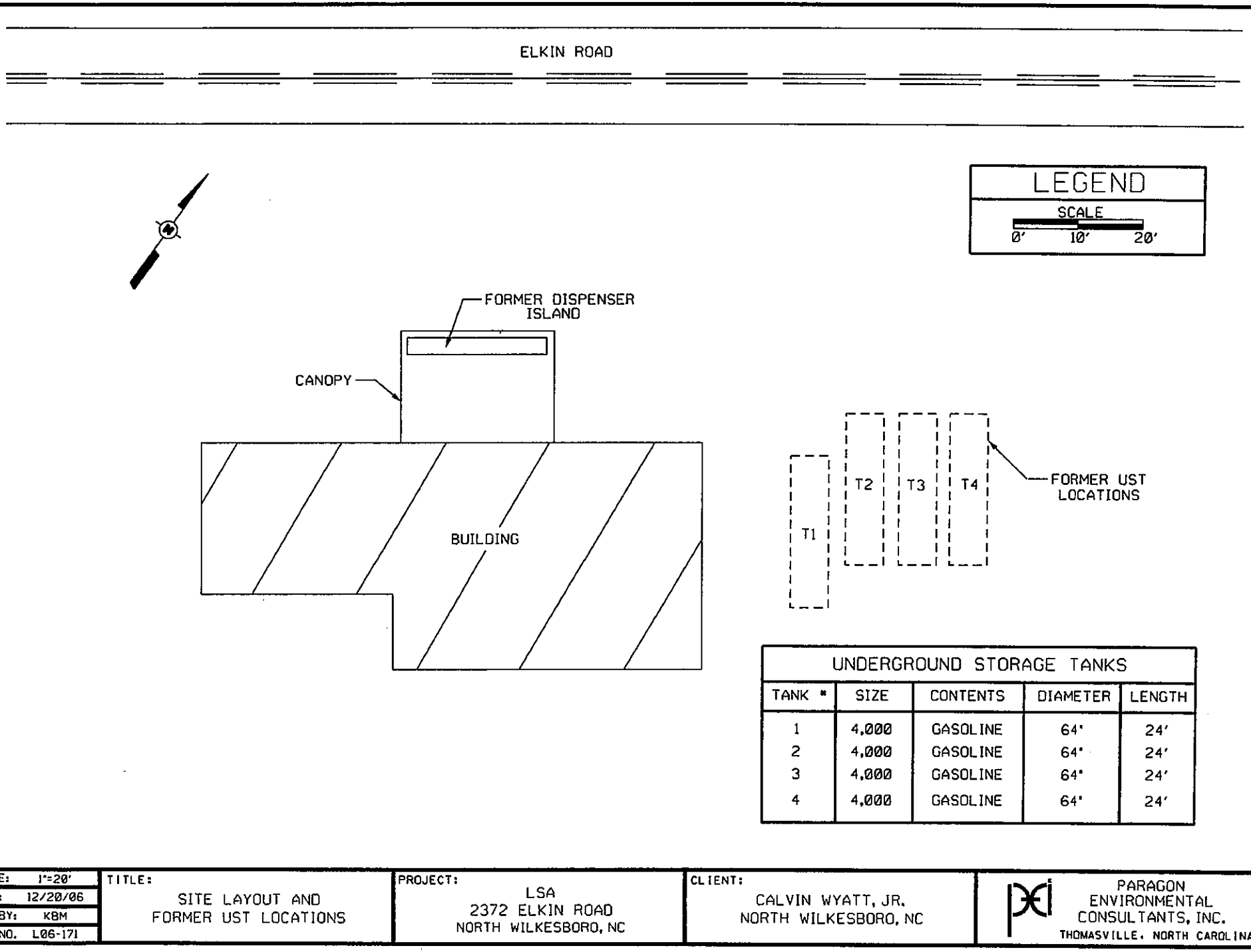


FIGURE 2

UNDERGROUND STORAGE TANKS				
TANK *	SIZE	CONTENTS	DIAMETER	LENGTH
1	4,000	GASOLINE	64"	24'
2	4,000	GASOLINE	64"	24'
3	4,000	GASOLINE	64"	24'
4	4,000	GASOLINE	64"	24'

SCALE: 1"=20'	TITLE:	PROJECT:	CLIENT:	PARAGON ENVIRONMENTAL CONSULTANTS, INC.
DATE: 12/20/06	SITE LAYOUT AND FORMER UST LOCATIONS	LSA 2372 ELKIN ROAD NORTH WILKESBORO, NC	CALVIN WYATT, JR. NORTH WILKESBORO, NC	THOMASVILLE, NORTH CAROLINA
DWN. BY: KBM				
DWG. NO. L06-171				

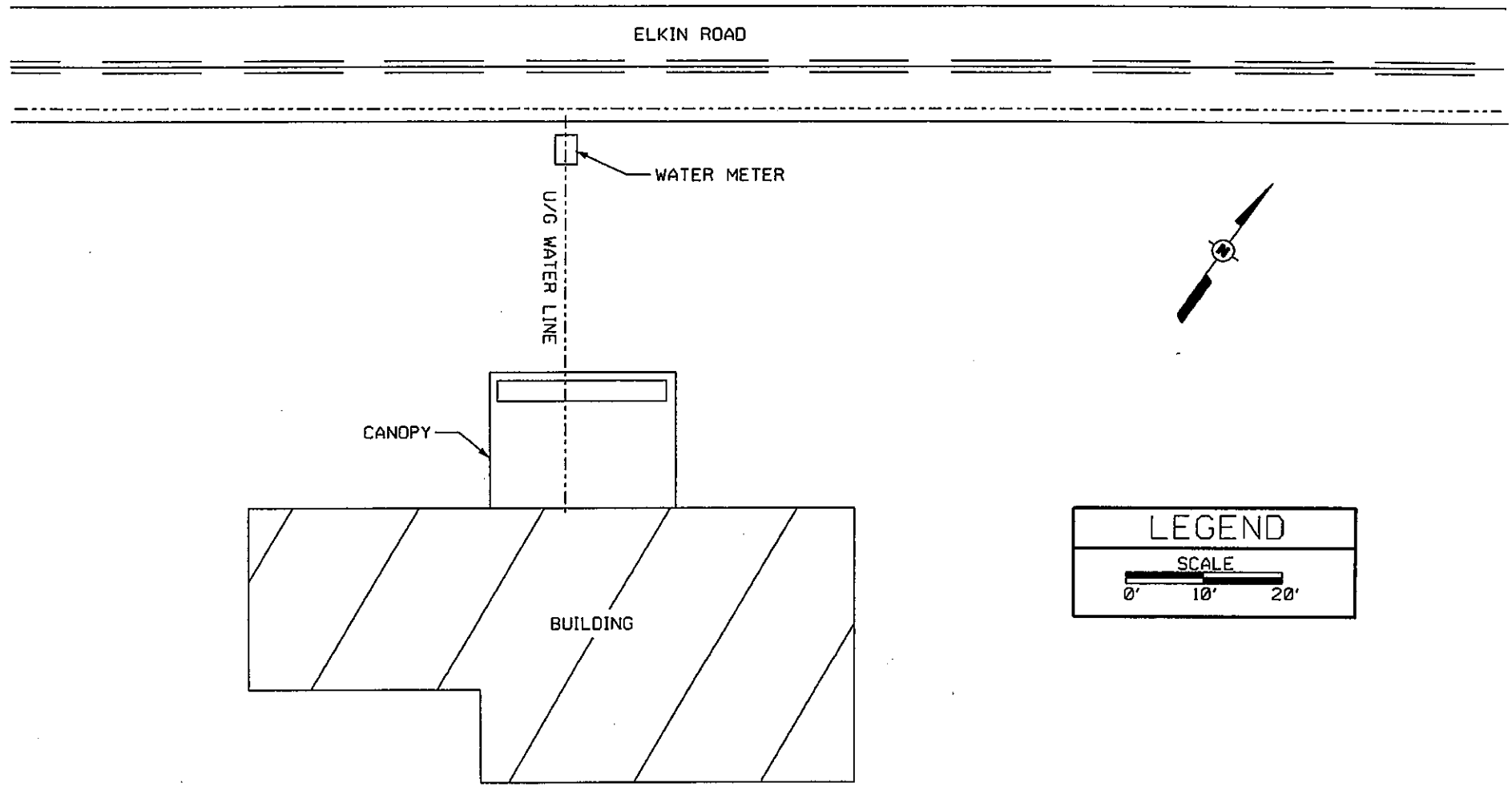


FIGURE 3

SCALE: 1"=20' DATE: 12/20/06 DWN. BY: KBM DWG. NO. L06-171B	TITLE: SUBSURFACE UTILITIES MAP	PROJECT: LSA 2372 ELKIN ROAD NORTH WILKESBORO, NC	CLIENT: CALVIN WYATT, JR. NORTH WILKESBORO, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA

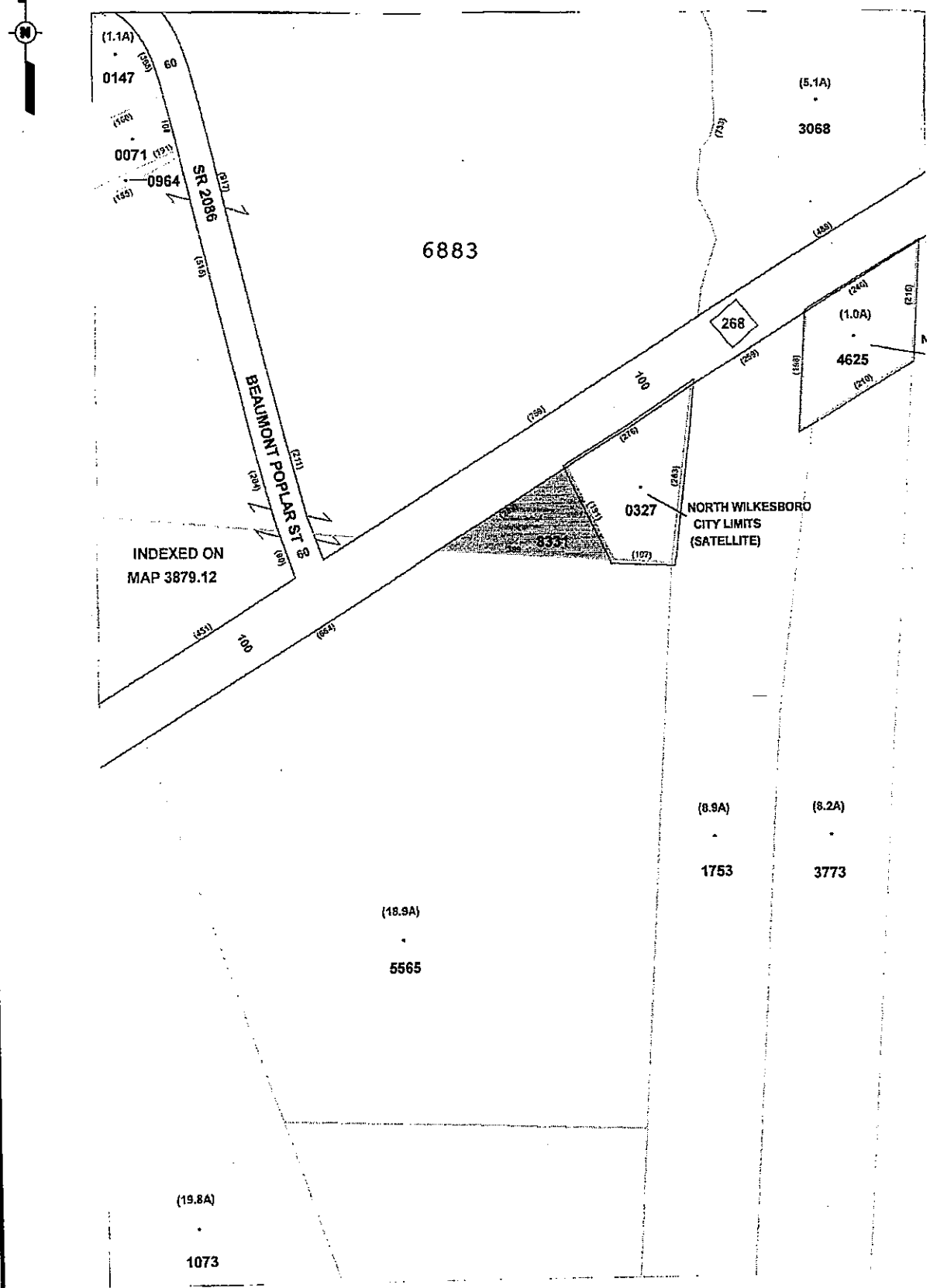


FIGURE 4

PARAGON ENVIRONMENTAL CONSULTANTS, INC.
THOMASVILLE, NORTH CAROLINA

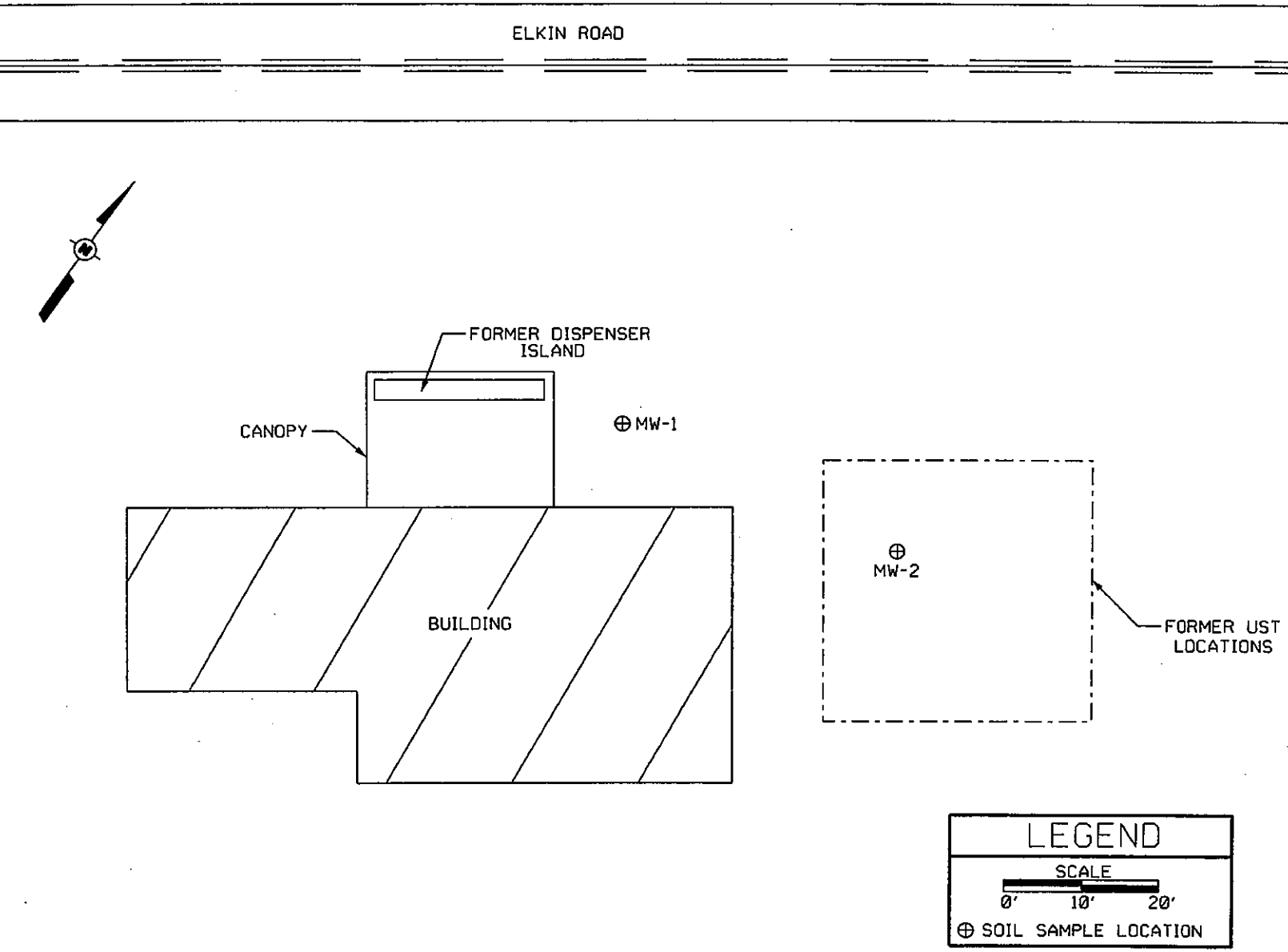
CLIENT: CALVIN WYATT, JR.
NORTH WILKESBORO, NC

PROJECT: LSA
2372 ELKIN ROAD
NORTH WILKESBORO, NC

TITLE: ADJACENT PROPERTIES MAP

SCALE: 1"=276'
DATE: 12/20/06
DWN. BY: KBM
DWG. NO. L06-171Y

FIGURE 5



SCALE: 1"=20' DATE: 12/20/06 DWN. BY: KBM DWG. NO. L06-171A	TITLE: SITE LAYOUT AND SOIL SAMPLE LOCATIONS	PROJECT: LSA 2372 ELKIN ROAD NORTH WILKESBORO, NC	CLIENT: CALVIN WYATT, JR. NORTH WILKESBORO, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA

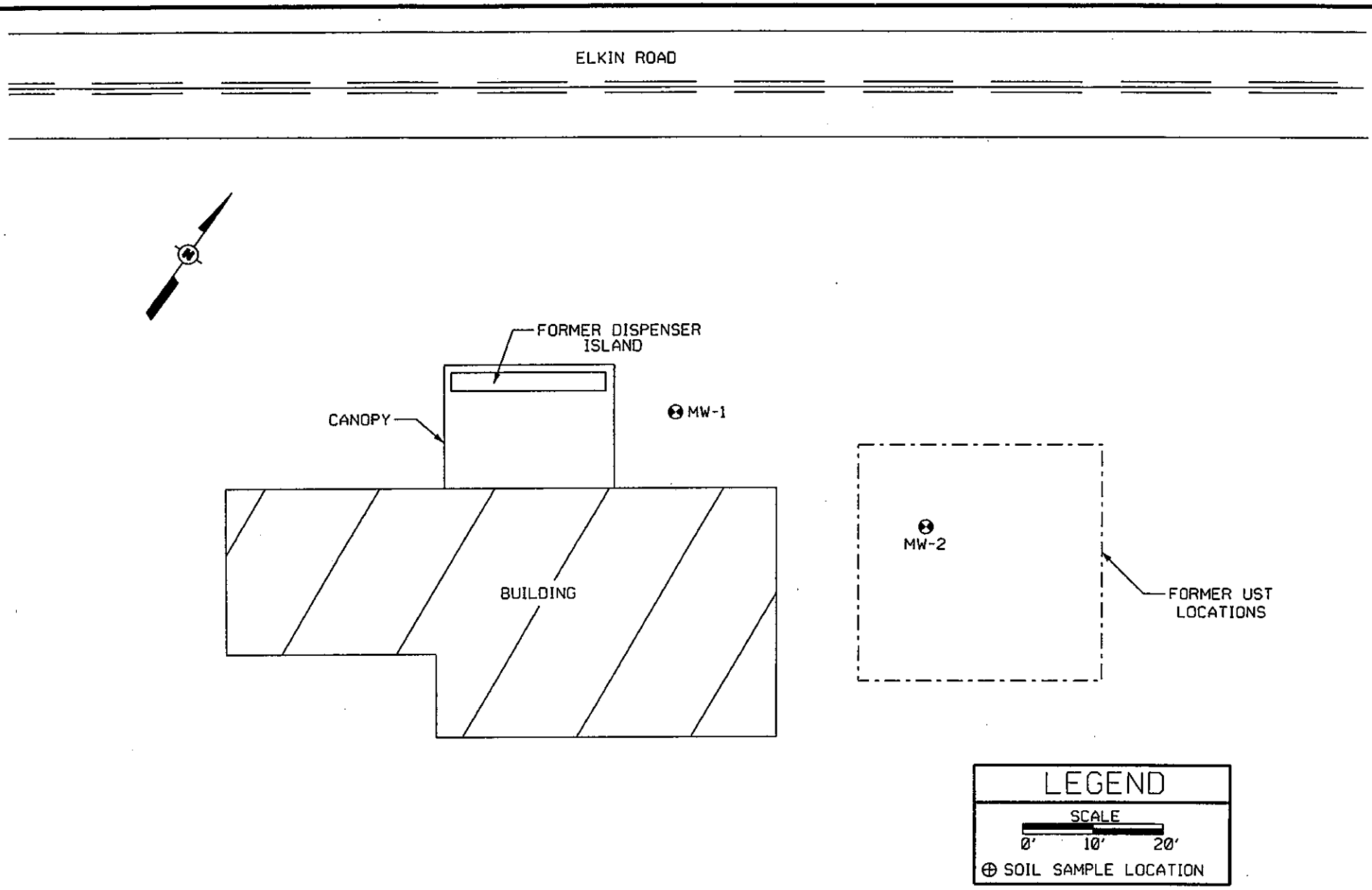


FIGURE 6

SCALE: 1"=20'	TITLE: SITE LAYOUT AND MONITOR WELL LOCATIONS	PROJECT: LSA 2372 ELKIN ROAD NORTH WILKESBORO, NC	CLIENT: CALVIN WYATT, JR. NORTH WILKESBORO, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA
DATE: 12/20/06				
DWN. BY: KBM				
DWG. NO. L06-1718				

TABLES

TABLE 1: SITE HISTORY

WYATT'S SERVICE STATION
2372 ELKIN ROAD
NORTH WILKESBORO, NORTH CAROLINA

Property Ownership:

Calvin Wyatt, Jr.
2374 Elkin Road
North Wilkesboro, NC 28659

UST Ownership:

Last tank owner/operator:

Same as property owner

UST Information:

Tank No	Installation Date	Size (Gal)	Closure Date	UST Status	Tank Contents
T1	Unknown	4,000	1997	Removed	Gasoline
T2	Unknown	4,000	1997	Removed	Gasoline
T3	Unknown	4,000	1997	Removed	Gasoline
T4	Unknown	4,000	1997	Removed	Gasoline

TABLE 3

Summary of Soil Laboratory Analytical Results

Wyatt's Service Station

North Wilkesboro, North Carolina

Constituent	MW1-10	MW1-20	MW2-20	Residential Standards
Date	*11/7/2006*	*11/7/2006*	*11/7/2006*	
Method 8260 (mg/kg)				
Benzene	BDL	BDL	BDL	22
n-Butylbenzene	BDL	BDL	BDL	156
sec-Butylbenzene	BDL	BDL	BDL	156
Ethylbenzene	0.008	BDL	BDL	1,560
Isopropylbenzene	BDL	BDL	BDL	1,564
p-Isopropyltoluene	BDL	BDL	BDL	NSE
Naphthalene	0.023	BDL	BDL	63
n-Propylbenzene	BDL	BDL	BDL	156
1,2,4-Trimethylbenzene	0.05	BDL	BDL	782
1,3,5-Trimethylbenzene	0.016	BDL	BDL	782
Toluene	0.028	BDL	BDL	3,200
Xylenes (total)	0.079	BDL	BDL	32,000
MTBE	0.35	2.16	2.89	213
IPE	BDL	BDL	BDL	156
Aliphatic Fraction Classes (mg/kg)				
C5-C8 Volatile Aliphatics	BDL	BDL	BDL	72
C9-C12 Volatile Aliphatics	BDL	BDL	BDL	NSE
C9-C18 Extractable Aliphatics	N/A	N/A	N/A	NSE
C9-C18 Aliphatics (total)	BDL	BDL	BDL	3,255
C19-C36 Extractable Aliphatics	N/A	N/A	N/A	93,860
Aromatic Fraction Classes (mg/kg)				
C9-C10 Volatile Aromatics	BDL	BDL	BDL	NSE
C11-C22 Extractable Aromatics	N/A	N/A	N/A	NSE
C9-C22 Aromatics (total)	BDL	BDL	BDL	34

NSE = No Standard Established

X06-680

TABLE 4

Monitoring Well Information and Groundwater Elevations

Wyatt's Service Station
North Wilkesboro, North Carolina

Well Number	Top of Casing Elevation	Top of Screen Elevation	Bottom of Screen Elevation	Depth to Water	Groundwater Elevation
MW-1	100.00	85.00	65.00	29.81	70.19
MW-2	100.00	85.00	65.00	29.13	70.87

Note: All measurements taken in feet and based on an arbitrary benchmarks of 100.00 feet at each wellhead; groundwater levels measured on November 29, 2006.

X06-680B

TABLE 5

Summary of Groundwater Analytical Results

Wyatt's Service Station
North Wilkesboro, North Carolina

Constituent	MW-1	MW-2	2L Standard
Date	*11/29/2006*	*11/29/2006*	GCL
Method 6210D (ug/L)			
Benzene	**6,000**	**4,090**	1 5000
Toluene	**12,200**	**4,540**	1,000
Ethylbenzene	**1,040**	432	550
Xylenes (total)	**5,310**	**4,260**	530
BTEX (total)	24,550	13,322	NSE
n-Butylbenzene	5.09	6.76	70
sec-Butylbenzene	BDL	8.85	70
1,2-Dibromoroethane (EDB)	**114**	BDL	0.0004 50
1,2-Dichloroethane	78.2	BDL	0.38
Isopropylbenzene	36.9	42.4	70
p-Isopropyltoluene	BDL	3.18	NSE
Naphthalene	**196**	**71.8**	21
n-Propylbenzene	**93.6**	**72.6**	70
1,2,4-Trimethylbenzene	**749**	**566**	350
1,3,5-Trimethylbenzene	182	188	350
IPE	**183**	25.5	70
MTBE	**38,300**	**2,160**	200
Method 3030C (ug/L)			
Lead	BDL	BDL	15
Aliphatic Fraction Classes (ug/L)			
C5-C8 Volatile Aliphatics	**48,400**	**14,200**	420
C9-C12 Volatile Aliphatics	13,900	8,070	NSE
C9-C18 Extractable Aliphatics	N/A	N/A	4,200
C9-C18 Aliphatics (total)	**13,900**	**8,070**	4,200
C19-C36 Extractable Aliphatics	N/A	N/A	42,000
Aromatic Fraction Classes (ug/L)			
C9-C10 Volatile Aromatics	2,470	2,110	NSE
C11-C22 Extractable Aromatics	N/A	N/A	NSE
C9-C22 Aromatics (total)	**2,470**	**2,110**	210

BDL = Below Detection Limits
NSE = No Standard Established

X06-680A

APPENDIX A

SOIL BORING LOG

SOIL BORING LOG

Paragon Environmental Consultants, Inc.

Job Name: Wyatts Service Station
Address: 2372 Elkin Road North Wilkesboro, NC
Job No: P-680
Start Date: 11/3/2006
Driller: Brandon J. Welch
Reg. No.: 3390
Boring No.: Monitor Wells MW-1 and MW-2
Comments:

Sample Number	Depth (ft.)	Soil Decription (color, soil type, moisture)	Blow Counts	OVA (ppm)
MW-1	10	brown-red, SILT with clay, moist		N/A
	20	brown-tan, SILT with clay, moist		N/A
	30	dark brown, SILT with clay, damp		N/A
		Boring terminated at 35 ft.		
MW-2	10	backfill		N/A
	20	tan-brown, SILT with clay, moist		N/A
	30	dark brown, SILT with clay, damp		N/A
		Boring terminated at 35 ft.		
P-680				

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3390

1. WELL CONTRACTOR:

Brandon J. Welch
Well Contractor (Individual) Name

Environmental Drilling Services, LLC
Well Contractor Company Name

STREET ADDRESS P. O. Box 36497

Greensboro | NC | 27416
City or Town | State | Zip Code

(336) 442-1753
Area code- Phone number

2. WELL INFORMATION:

SITE WELL ID #(if applicable) MW-1

STATE WELL PERMIT#(if applicable)

DWQ or OTHER PERMIT #(if applicable)

WELL USE (Check Applicable Box) Monitoring ☒ Municipal/Public ☐

Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐

Irrigation ☐ Other ☐ (list use)

DATE DRILLED 11/3/06

TIME COMPLETED 11:45 AM ☒ PM ☐

3. WELL LOCATION:

CITY: North Wilkesboro COUNTY Wilkes

2372 Elkin Road North Wilkesboro, NC 28659
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☒ Slope ☒ Valley ☐ Flat ☐ Ridge ☐ Other
(check appropriate box)

LATITUDE 3 N 36 deg. 11'54"

LONGITUDE W 81deg. 5'47"

May be in degrees, minutes, seconds or in a decimal format

Latitude/longitude source: ☐ GPS ☒ Topographic map

(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

4. FACILITY- is the name of the business where the well is located.

FACILITY ID #(if applicable) Unknown

NAME OF FACILITY Wyatt's Service Station

STREET ADDRESS 2372 Elkin Road

North Wilkesboro | NC | 28659
City or Town | State | Zip Code

CONTACT PERSON Calvin Wyatt, Jr.

MAILING ADDRESS 2374 Elkin Road

North Wilkesboro | NC | 28659
City or Town | State | Zip Code

(336) 667-6889
Area code - Phone number

5. WELL DETAILS:

a. **TOTAL DEPTH:** 35'

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☒

c. **WATER LEVEL** Below Top of Casing: 31.81 FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** N/A **METHOD OF TEST** N/A

f. **DISINFECTION: Type** N/A **Amount**

g. **WATER ZONES** (depth):

From ___ To ___ From ___ To ___
From ___ To ___ From ___ To ___
From ___ To ___ From ___ To ___

6. CASING:

	Depth		Diameter	Thickness/ Weight	Material
From 0	To 15	Ft. 2"		Sch 40	PVC
From	To	Ft.			
From	To	Ft.			

7. GROUT:

	Depth		Material	Method
From 0	To 11	Ft.	Portland	Pour
From 11	To 13	Ft.	Bentonite	Pour
From	To	Ft.		

8. SCREEN:

	Depth		Diameter	Slot Size	Material
From 15	To 35	Ft. 2	in.	0.01 in.	PVC
From	To	Ft.	in.	in.	
From	To	Ft.	in.	in.	

9. SAND/GRAVEL PACK:

	Depth		Size	Material
From 13	To 35	Ft.	#2	Filter Sand
From	To	Ft.		
From	To	Ft.		

10. DRILLING LOG

From	To	Formation Description
0	10	brown, SILT with clay, moist
10	20	tan-brown, SILT with clay, moist
20	30	brown, SILT with clay, damp

11. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Brandon Welch — 12/15/06
SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE

Brandon Welch
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1b
Rev. 7/05

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3390

1. WELL CONTRACTOR:

Brandon J. Welch
Well Contractor (Individual) Name

Environmental Drilling Services, LLC
Well Contractor Company Name

STREET ADDRESS P. O. Box 36497

Greensboro NC 27416
City or Town State Zip Code

(336)- 442-1753
Area code- Phone number

2. WELL INFORMATION:

SITE WELL ID #(if applicable) MW-2

STATE WELL PERMIT#(if applicable)

DWQ or OTHER PERMIT #(if applicable)

WELL USE (Check Applicable Box) Monitoring ☒ Municipal/Public ☐

Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐

Irrigation ☐ Other ☐ (list use)

DATE DRILLED 11/3/06

TIME COMPLETED 3:30 AM ☐ PM ☒

3. WELL LOCATION:

CITY: North Wilkesboro COUNTY Wilkes

2372 Elkin Road North Wilkesboro, NC 28659
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☐ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other
(check appropriate box)

LATITUDE 36 N 36 deg. 11'54"

LONGITUDE 81 W 81deg. 5'47"

May be in degrees, minutes, seconds or in a decimal format

Latitude/longitude source: ☐ GPS ☒ Topographic map

(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

4. FACILITY- is the name of the business where the well is located.

FACILITY ID #(if applicable) Unknown

NAME OF FACILITY Wyatt's Service Station

STREET ADDRESS 2372 Elkin Road

North Wilkesboro NC 28659
City or Town State Zip Code

CONTACT PERSON Calvin Wyatt, Jr.

MAILING ADDRESS 2374 Elkin Road

North Wilkesboro NC 28659
City or Town State Zip Code

(336)- 667-6889
Area code - Phone number

5. WELL DETAILS:

a. **TOTAL DEPTH:** 35'

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☒

c. **WATER LEVEL** Below Top of Casing: 31.13 FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** N/A **METHOD OF TEST** N/A

f. **DISINFECTION: Type** N/A **Amount**

g. **WATER ZONES** (depth):

From To From To
From To From To
From To From To

6. CASING:

	Depth		Diameter	Thickness/ Weight	Material
From 0	To 15	Ft.	2"	Sch 40	PVC
From	To	Ft.			
From	To	Ft.			

7. GROUT:

	Depth		Material	Method
From 0	To 11	Ft.	Portland	Pour
From 11	To 13	Ft.	Bentonite	Pour
From	To	Ft.		

8. SCREEN:

	Depth		Diameter		Slot Size		Material
From 15	To 35	Ft.	2	in.	0.01	in.	PVC
From	To	Ft.		in.		in.	
From	To	Ft.		in.		in.	

9. SAND/GRAVEL PACK:

	Depth		Size	Material
From 13	To 35	Ft.	#2	Filter Sand
From	To	Ft.		
From	To	Ft.		

10. DRILLING LOG

From	To	Formation Description
0	10	backfill
10	20	tan-brown, SILT with clay, moist
20	30	dark brown SILT with clay, moist

11. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Brandon J Welch — 12/15/06
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Brandon Welch
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1b
Rev. 7/05

APPENDIX C

PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

PYRAMID ENVIRONMENTAL & ENGINEERING
(PROJECT 2013-131)

NCDOT PROJECT R-2603 (WBS 36000.1.1)

GEOPHYSICAL SURVEYS OF PARCEL 94 – UNDERGROUND STORAGE TANK INVESTIGATION

NORTH WILKESBORO, WILKES COUNTY, NC

JULY 10, 2013

Report prepared for:

Mr. Gordon Box
GeoEnvironmental Project Manager
GeoEnvironmental Section
Geotechnical Engineering Unit
North Carolina Department of Transportation
1020 Birch Ridge Drive
Raleigh, NC 27610

Prepared by: _____

Eric C. Cross, L.G.
NC License #2181

Reviewed by: _____

Douglas A. Canavello, L.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
NCDOT PRELIMINARY SITE ASSESSMENT
PARCEL 94 – 2372 ELKIN HIGHWAY
North Wilkesboro, Wilkes County, North Carolina

Table of Contents

Figures

EXECUTIVE SUMMARY

- Electromagnetic (EM) and Ground Penetrating Radar (GPR) surveys were performed across the accessible portions of the Parcel.
- The majority of the EM61 anomalies detected could be attributed to reinforced concrete, however, one anomaly was characteristic of a UST. The GPR surveys performed across the anomaly at X=80, Y=30 provided evidence of a probable metallic UST at that location.
- GPS coordinates were taken at the center of the probable UST in North Carolina State Plane, US Survey Feet (**1380923.984E, 897496.822N)**.
- The geophysical investigation suggests that one probable metallic UST is located within the proposed ROW and/or easement.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for the North Carolina Department of Transportation (NCDOT) at Parcel 94 (Robert Wyatt, Auto Shop), located at 2372 Elkin Highway, North Wilkesboro, NC. The geophysical investigation was performed as part of the Preliminary Site Assessment (PSA) conducted by Pyramid at nine separate parcels along NC 268, and focused on the area between the current edge of pavement along NC 268 and the proposed right of way (ROW) and/or easement, whichever was greater. The survey area extended across the northern portion of the parcel, spanning a distance of approximately 300 feet along NC 268, and extending approximately 40 feet at its maximum north/south distance from NC 268 south into the property. Conducted on May 23 and June 3, 2013, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

The site consisted of a combination of gravel parking space and grassy open areas, as well as heavily vegetated woods to the west of the survey boundaries. Aerial photographs showing the geophysical survey area boundaries and ground-level photographs are shown in **Figure 1**.

FIELD METHODOLOGY

Prior to conducting the geophysical investigation, a 20-foot by 10-foot survey grid was established across the geophysical survey areas 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 23, 2013, using a Geonics EM61 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. The EM61 data were digitally collected at approximately 0.8 foot intervals along north-south trending or east-west trending, parallel survey lines spaced five feet apart. The data were downloaded to a computer and reviewed in the field and office using the Geonics DAT61 and Surfer for Windows Version 11.0 software programs.

GPR data were acquired on June 3, 2013, across selected EM61 differential anomalies using a Geophysical Survey Systems, Inc. (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. 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 were saved to the hard drive of the SIR unit.

DISCUSSION OF RESULTS

Contour plots of the EM61 bottom coil and differential results obtained across the survey 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: The east/west oriented anomaly between X=60 and X=190 at Y=30 was predominantly the result of reinforcement within the concrete median surrounding this grass island area. However, the high amplitude anomaly at X=80, Y=30 was characteristic of a

possible UST, and was investigated further with the GPR. The EM anomalies at X=110 and X=120, Y=55 were the result of metal posts in the ground. The EM feature directly to the west of these metal posts was the result of a reinforced concrete pad in front of the building. No other EM anomalies were recorded.

The GPR data were viewed in real time as the equipment was surveyed across the anomaly. Transects across EM anomalies were saved to the hard drive for post-processing in the office. **Figure 3** presents an aerial photograph showing the location of the GPR transects performed across the anomaly as well as the GPR images that were collected.

GPR Transects 1 and 2 were performed from east to west and north to south, respectively, across the anomaly at X=80, Y=30. The transects recorded a large feature that was characteristic of a probable UST. The probable UST was observed to be approximately 7 feet in length (east/west) and 6 feet in width (north/south) at a depth of approximately 4.5 feet below the ground surface. The outline of the probable UST was marked in the field using white spray paint (photo included on **Figure 3**), and a GPS coordinate was taken at the approximate center of the tank.

Location of Probable UST (NC State Plane, US Feet): 1380923.984E, 897496.822N

The geophysical investigation recorded evidence of one probable metallic UST within the proposed ROW and/or easement in the accessible areas of the parcel property. It should be noted that the parcel boundaries extended further to the west, outside of the survey grid area. However, this portion of the parcel was heavily wooded, and not accessible by the geophysical instruments.

SUMMARY & CONCLUSIONS

Our evaluation of the EM61 and GPR data collected across Parcel 94, 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 reinforced concrete, however, one anomaly was characteristic of a UST. The GPR surveys performed across the anomaly at X=80, Y=30 provided evidence of a probable metallic UST at that location

- GPS coordinates were taken at the center of the probable UST in North Carolina State Plane, US Survey Feet (**1380923.984E, 897496.822N)**.
- The geophysical investigation suggests that one probable metallic UST is located within the proposed ROW and/or easement.

LIMITATIONS

Geophysical surveys have been performed and this report prepared for the NCDOT 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 survey 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.

Aerial Photograph Showing Approximate Geophysical Survey Boundaries

Photograph of On-Site Building
(Facing Approximately Southeast)

Geophysical Survey Area
(Facing Approximately West)

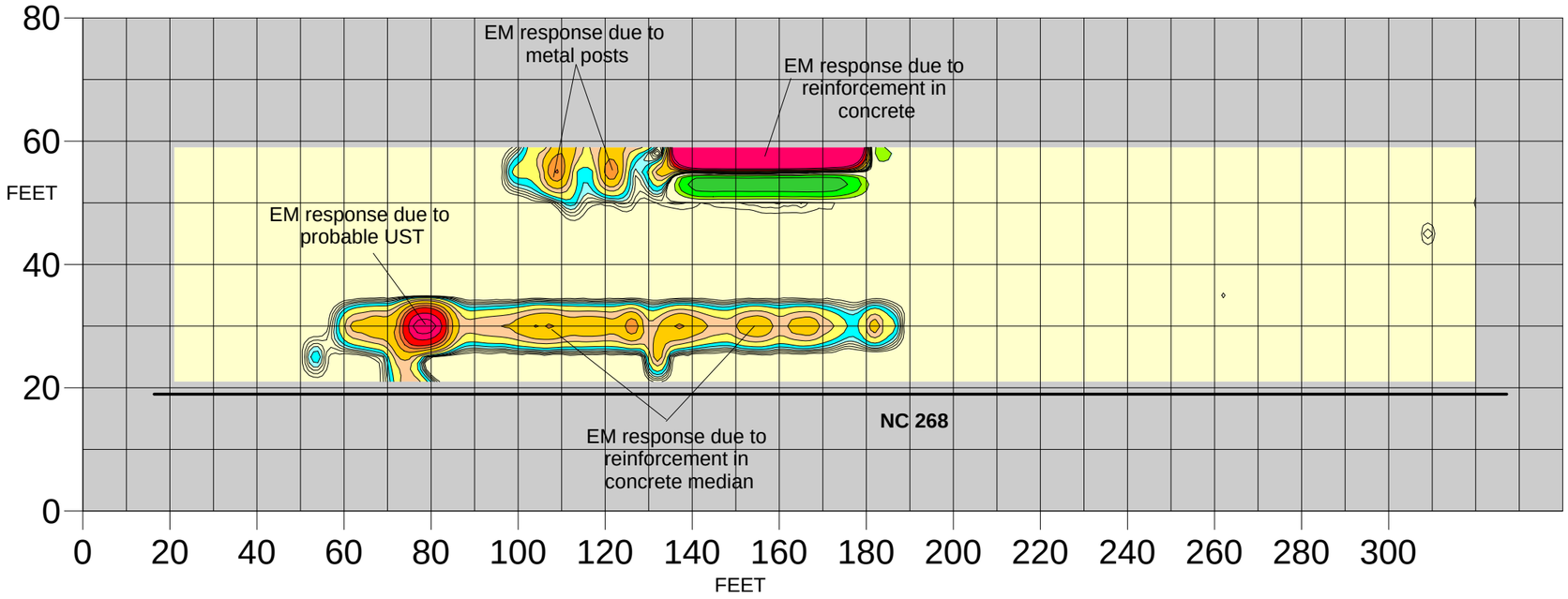
PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	NC DEPARTMENT OF TRANSPORTATION	DATE	07/04/13	DRWN	ECC
SITE	PARCEL 94, WILKES COUNTY (DOT ROW PROJECT)	LAY		CHKD	
CITY	N. WILKESBORO	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	JAD	2013-131	FIGURE	

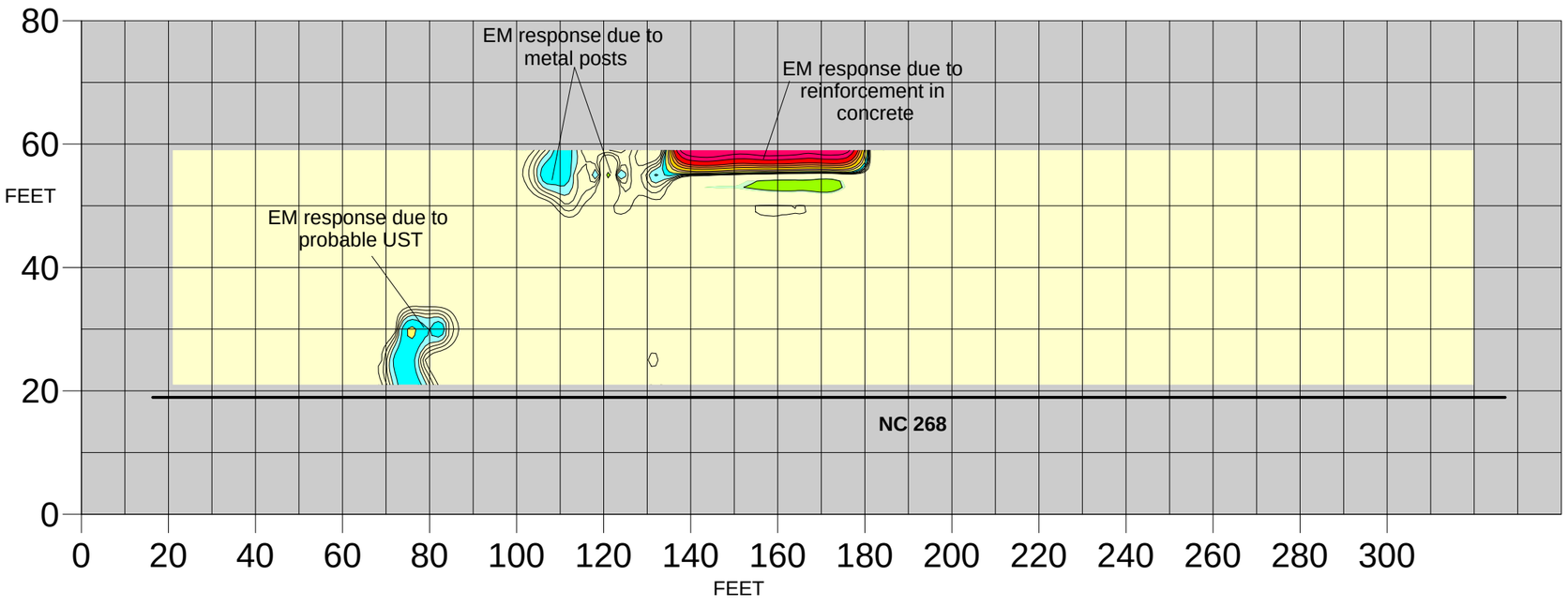
GEOPHYSICAL
SURVEY BOUNDARIES &
SITE PHOTOGRAPHS

FIGURE 1

EM61 Bottom Coil Results



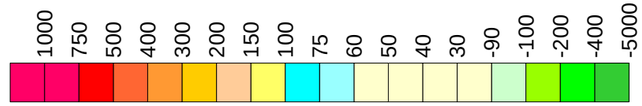
EM61 Differential Results



EVIDENCE OF ONE PROBABLE METALLIC UST OBSERVED

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 23, 2013 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were collected on June 3, 2013, using a GSSI SIR 2000 unit coupled to a 400MHz antennae.

EM61 Metal Detection Response (millivolts)



N

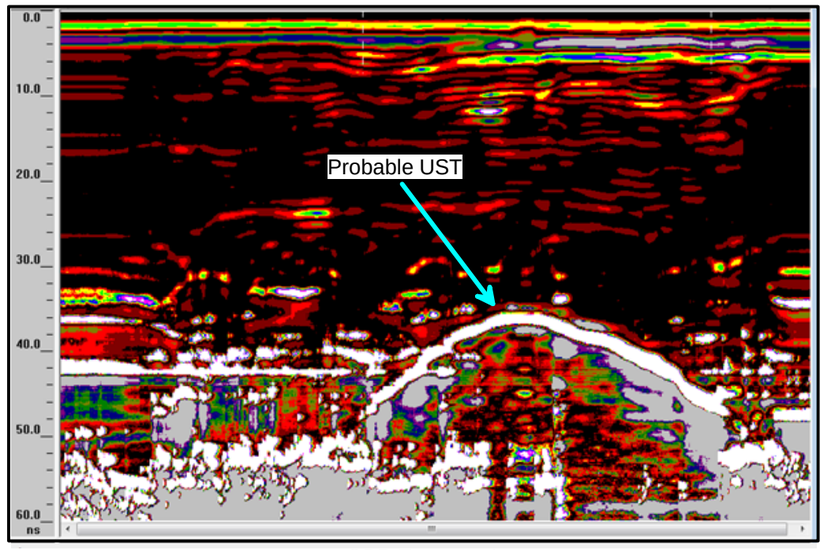
TITLE
PARCEL 94 - EM61 BOTTOM COIL & DIFFERENTIAL RESULTS CONTOUR MAP

PROJECT
NC DEPARTMENT OF TRANSPORTATION
ROW IMPROVEMENT PROJECT
N. WILKESBORO, WILKES COUNTY, NC

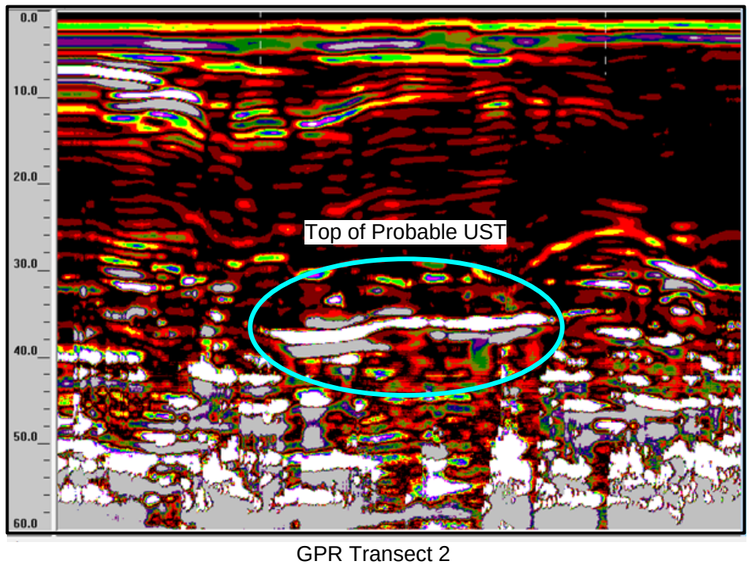
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27460
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

DATE	CLIENT
07/04/2013	NCDOT
PYRAMID PROJECT #: 2013-131	**FIGURE 2**

GPR Transects 1 and 2 were performed across the EM anomaly located at X=75, Y=30. The anomaly was consistent with a possible UST. The GPR data provided evidence that was also consistent with a UST, resulting in this feature being classified as a Probable UST. The probable UST was observed to be approximately 7 feet in length (east/west) and 6 feet in width (north/south), at a depth of approximately 4.5 feet below the ground surface. The remaining anomalies were attributed to visible objects at the ground surface or utilities.



GPR Transect 1
(across center of probable UST)



GPR Transect 2
(along length of probable UST)

N

TITLE

PARCEL 94 - GPR TRANSECT LOCATIONS AND IMAGES

PROJECT

NC DEPARTMENT OF TRANSPORTATION
ROW IMPROVEMENT PROJECT
N. WILKESBORO, WILKES COUNTY, NC

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

DATE	CLIENT
07/04/2013	NCDOT
PYRAMID PROJECT #: 2013-131	**FIGURE 3**

APPENDIX D

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: **PROJECT NUMBER:**	NC DOT R-2603 Parcel 94, Robert Wyatt N. Wilkesboro, NC / 2013-131	**BORING/WELL NO:**	94-1(TW)
SITE LOCATION:	2372 Elkin Highway Wilkes County, NC	**BORING/WELL LOCATION:**	Parcel 94, Robert Wyatt Property, West Side Near Woods
START DATE:	6/11/13	**COMPLETED:**	6/11/13
GEOLOGIST:	R. Kramer	**DRILLER:**	Geologic Exploration
DRILL METHOD:	Geoprobe	**SAMPLE METHOD:**	Macro-core
BORING DIA:	2-inch	**CASING DIA:**	1-inch
TOTAL DEPTH:	25 feet	**CASING DEPTH:**	25-feet

DEPTH (ft.)	**VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.**	**OVA RESULTS PERCENT RECOVERY BLOW COUNTS**
	Depths correspond to soil type transitions	Core Sample Depths
0-6.5'	Brown, clayey-silt with mica (MH), dry, no odor	OVA=94-1(0-2.5): <1 PPM
6.5-12'	Reddish brown, clayey-silt with large quartz pebbles (CL), dry, no odor	OVA=94-1(2.5-5): <1 PPM
12-14'	Tan, clayey-silt (ML), moist, no odor	OVA=94-1(5-7.5): <1 PPM
14-25'	Reddish brown, clayey-silt (ML), dry, no odor	OVA=94-1(7.5-10): <1 PPM
	Set 1-inch diameter temporary well at 25 feet with bottom 10 feet of	
	screen.	
	Depth to groundwater = 18 feet below land surface.	

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) 15 DEPTH (ft) 0-15 DIAMETER (in) 1 MATERIAL PVC.
SCREEN LENGTH (ft) 10 DEPTH (ft) 15-25 DIAMETER (in) 1 MATERIAL PVC.
DEPTH TO TOP OF SAND 13 BAGS OF SAND 0.5.
DEPTH TO TOP SEAL 10 BENTONITE USED 0.25 BAGS OF CEMENT USED 0.

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: **PROJECT NUMBER:**	NC DOT R-2603 Parcel 94, Robert Wyatt N. Wilkesboro, NC / 2013-131	**BORING/WELL NO:**	94-2
SITE LOCATION:	2372 Elkin Highway Wilkes County, NC	**BORING/WELL LOCATION:**	Parcel 94, Robert Wyatt Property, West Entrance
START DATE:	6/11/13	**COMPLETED:**	6/11/13
GEOLOGIST:	R. Kramer	**DRILLER:**	Geologic Exploration
DRILL METHOD:	Geoprobe	**SAMPLE METHOD:**	Macro-core
BORING DIA:	2-inch	**CASING DIA:**	None
TOTAL DEPTH:	10 feet	**CASING DEPTH:**	None

DEPTH (ft.)	**VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.**	**OVA RESULTS PERCENT RECOVERY BLOW COUNTS**
	Depths correspond to soil type transitions	Core Sample Depths
0-1'	Gravel/Stone (GP)	OVA=94-2(0-2.5): <1 PPM
1-5'	Brown, clayey-silt (MH) with mica, no odor	OVA=94-2(2.5-5): <1 PPM
4.5-6.5'	White to tan, silt with large quartz pebbles (ML), dry, no odor	OVA=94-2(5-7.5): <1 PPM
6.5-7'	Reddish brown, clayey-silt (ML), dry, no odor	OVA=94-2(7.5-10): 0.5 PPM
7-9'	White to tan, silt with large quartz crystals (ML), moist, no odor	
9-10'	Brown, clayey-silt (ML), moist, no odor	

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: **PROJECT NUMBER:**	NC DOT R-2603 Parcel 94, Robert Wyatt N. Wilkesboro, NC / 2013-131	**BORING/WELL NO:**	94-3
SITE LOCATION:	2372 Elkin Highway Wilkes County, NC	**BORING/WELL LOCATION:**	Parcel 94, Robert Wyatt Property, East Side
START DATE:	6/11/13	**COMPLETED:**	6/11/13
GEOLOGIST:	R. Kramer	**DRILLER:**	Geologic Exploration
DRILL METHOD:	Geoprobe	**SAMPLE METHOD:**	Macro-core
BORING DIA:	2-inch	**CASING DIA:**	None
TOTAL DEPTH:	10 feet	**CASING DEPTH:**	None

DEPTH (ft.)	**VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.**	**OVA RESULTS PERCENT RECOVERY BLOW COUNTS**
	Depths correspond to soil type transitions	Core Sample Depths
0-1'	Gravel/Stone (GP)	OVA=94-3(0-2.5): 11 PPM
1-5'	Brown, clayey-silt (ML), dry, slight organic odor	OVA=94-3(2.5-5): 1.0 PPM
5-10'	Reddish brown, clayey-silt with large quartz pebbles (SM),	OVA=94-3(5-7.5): <1 PPM
	dry, no odor	OVA=94-3(7.5-10): <1 PPM

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: **PROJECT NUMBER:**	NC DOT R-2603 Parcel 94, Robert Wyatt N. Wilkesboro, NC / 2013-131	**BORING/WELL NO:**	94-4
SITE LOCATION:	2372 Elkin Highway Wilkes County, NC	**BORING/WELL LOCATION:**	Parcel 94, Robert Wyatt Property, East Side
START DATE:	6/11/13	**COMPLETED:**	6/11/13
GEOLOGIST:	R. Kramer	**DRILLER:**	Geologic Exploration
DRILL METHOD:	Geoprobe	**SAMPLE METHOD:**	Macro-core
BORING DIA:	2-inch	**CASING DIA:**	None
TOTAL DEPTH:	10 feet	**CASING DEPTH:**	None

DEPTH (ft.)	**VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.**	**OVA RESULTS PERCENT RECOVERY BLOW COUNTS**
	Depths correspond to soil type transitions	Core Sample Depths
0-1'	Gravel/Stone (GP)	OVA=94-4(0-2.5): <1 PPM
1-4'	Brown, clayey-silt (ML), dry, no odor	OVA=94-4(2.5-5): <1 PPM
4-10'	Reddish brown, clayey-silt (MH) with mica, dry, no odor	OVA=94-4(5-7.5): <1 PPM
		OVA=94-4(7.5-10): 1.0 PPM

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: **PROJECT NUMBER:**	NC DOT R-2603 Parcel 94, Robert Wyatt N. Wilkesboro, NC / 2013-131	**BORING/WELL NO:**	94-5
SITE LOCATION:	2372 Elkin Highway Wilkes County, NC	**BORING/WELL LOCATION:**	Parcel 94, Robert Wyatt Property, East Side
START DATE:	6/11/13	**COMPLETED:**	6/11/13
GEOLOGIST:	R. Kramer	**DRILLER:**	Geologic Exploration
DRILL METHOD:	Geoprobe	**SAMPLE METHOD:**	Macro-core
BORING DIA:	2-inch	**CASING DIA:**	None
TOTAL DEPTH:	10 feet	**CASING DEPTH:**	None

DEPTH (ft.)	**VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.**	**OVA RESULTS PERCENT RECOVERY BLOW COUNTS**
	Depths correspond to soil type transitions	Core Sample Depths
0-1'	Gravel/Stone (GP)	OVA=94-5(0-2.5): <1 PPM
1-4'	Brown, clayey-silt (ML), dry, no odor	OVA=94-5(2.5-5): <1 PPM
4-10'	Reddish brown, clayey-silt (MH) with mica, dry, no odor	OVA=94-5(5-7.5): <1 PPM
		OVA=94-5(7.5-10): <1 PPM

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: **PROJECT NUMBER:**	NC DOT R-2603 Parcel 94, Robert Wyatt N. Wilkesboro, NC / 2013-131	**BORING/WELL NO:**	94-6
SITE LOCATION:	2372 Elkin Highway Wilkes County, NC	**BORING/WELL LOCATION:**	Parcel 94, Robert Wyatt Property, In-front of Building
START DATE:	6/11/13	**COMPLETED:**	6/11/13
GEOLOGIST:	R. Kramer	**DRILLER:**	Geologic Exploration
DRILL METHOD:	Geoprobe	**SAMPLE METHOD:**	Macro-core
BORING DIA:	2-inch	**CASING DIA:**	None
TOTAL DEPTH:	10 feet	**CASING DEPTH:**	None

DEPTH (ft.)	**VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.**	**OVA RESULTS PERCENT RECOVERY BLOW COUNTS**
	Depths correspond to soil type transitions	Core Sample Depths
0-1'	Gravel/Stone (GP)	OVA=94-6(0-2.5): <1 PPM
1-4'	Brown, clayey-silt (ML), dry, no odor	OVA=94-6(2.5-5): <1 PPM
4-10'	Reddish brown, clayey-silt (MH) with pebbles & mica, dry, no odor	OVA=94-6(5-7.5): <1 PPM
		OVA=94-6(7.5-10): <1 PPM

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: **PROJECT NUMBER:**	NC DOT R-2603 Parcel 94, Robert Wyatt N. Wilkesboro, NC / 2013-131	**BORING/WELL NO:**	94-7
SITE LOCATION:	2372 Elkin Highway Wilkes County, NC	**BORING/WELL LOCATION:**	Parcel 94, Robert Wyatt Property, West End in Woods
START DATE:	6/12/13	**COMPLETED:**	6/12/13
GEOLOGIST:	R. Kramer	**DRILLER:**	Geologic Exploration
DRILL METHOD:	Hand-Auger	**SAMPLE METHOD:**	Hand-Auger Bucket
BORING DIA:	3.75-inch	**CASING DIA:**	None
TOTAL DEPTH:	5 feet	**CASING DEPTH:**	None

DEPTH (ft.)	**VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.**	**OVA RESULTS PERCENT RECOVERY BLOW COUNTS**
	Depths correspond to soil type transitions	Core Sample Depths
0-2.5'	Reddish-brown, micaceous clayey-silt (MH), moist, no odor	OVA=94-7(0-2.5): <1 PPM
2.5-5'	Reddish-brown, micaceous clayey-silt (MH), moist, no odor	OVA=94-7(2.5-5): <1 PPM

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

APPENDIX E

QED

AQROS

Hydrocarbon Analysis Results

Client: NC Department of Transportation
Address: 2372 Elkin Highway

6 **Samples analysed**

Contact:

Operator Tim Leatherman

Project: NCDOT R-2603

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	94-1(5.0)	14.1	<0.7	<0.7	<0.7	<0.7	< 0.71	0.09	< 0.035	0	52.5	47.5	PAH
s	94-2(10.0)	12.6	<0.6	<0.6	<0.6	<0.6	< 0.63	< 0.06	< 0.032	0	0	100	Match not possible
s	94-4(10.0)	12.1	<0.6	<0.6	<0.6	<0.6	< 0.6	< 0.06	< 0.03	0	0	100	Match not possible
s	94-5(10.0)	13.2	<0.7	<0.7	<0.7	<0.7	< 0.66	< 0.07	< 0.033	0	0	100	Match not possible
s	94-6(10.0)	13.6	<0.7	<0.7	<0.7	<0.7	< 0.68	< 0.07	< 0.034	0	0	100	Match not possible
s	94-3(2.5)	14.0	<0.7	<0.7	2.6	2.6	1.57	< 0.07	< 0.035	74.2	22.5	3.3	Degraded Fuel (est) (PFM)

Initial Calibrator QC check

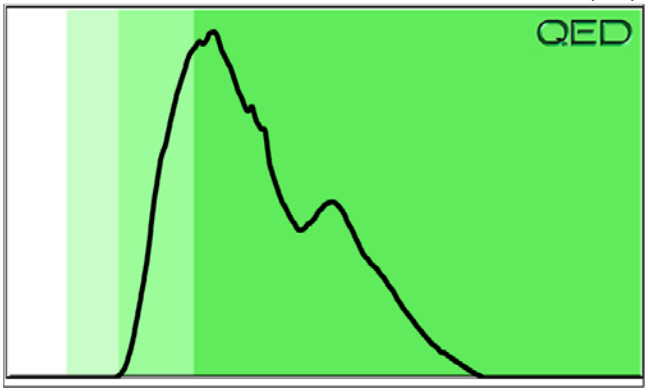
Low Range Calibrator Final check
High Range Calibrator Final check

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

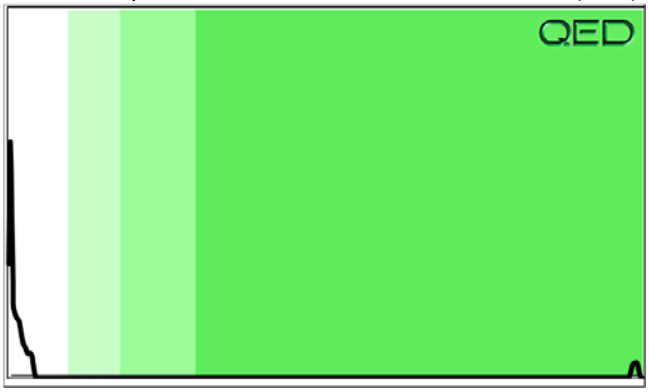
Fingerprints provide a tentative hydrocarbon identification based on operator selected library matches
Fingerprint match abbreviations Est = Specific calibrator not used, result estimated (PFM)= Poor library fingerprint match
(SBS)= site specific background subracted (LBS)= Library background subtracted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

Project NCDOT R-2603

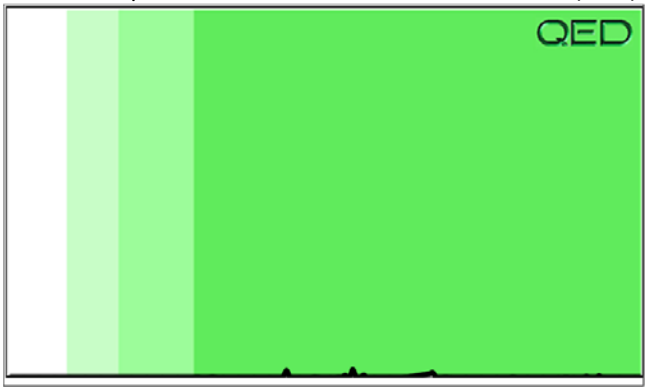
PAH 94-1(5.0)



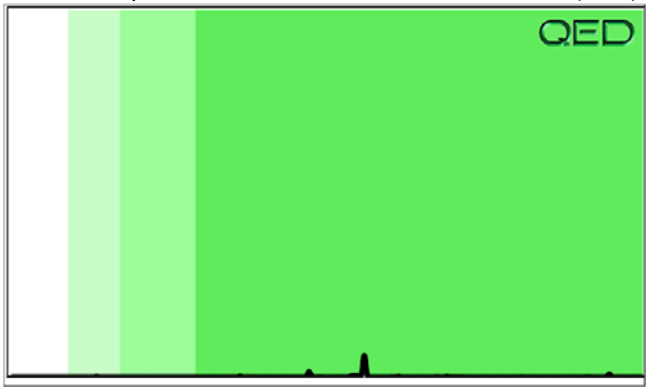
Match not possible 94-2(10.0)



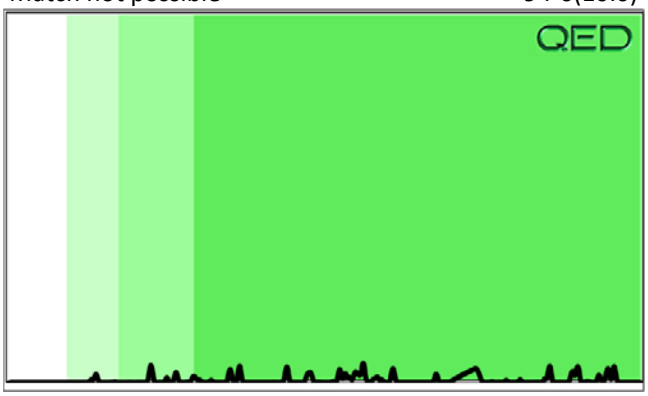
Match not possible 94-4(10.0)



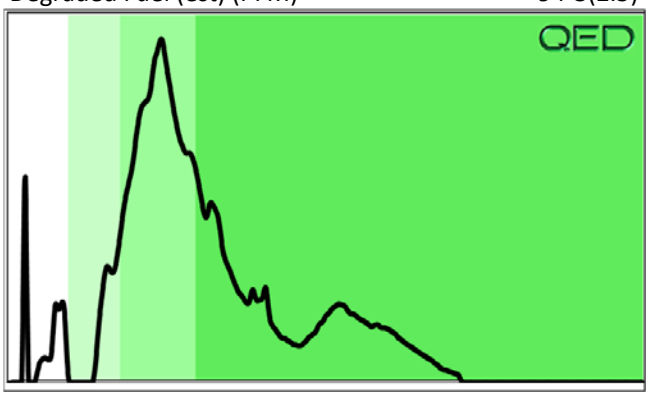
Match not possible 94-5(10.0)



Match not possible 94-6(10.0)



Degraded Fuel (est) (PFM) 94-3(2.5)



QED

AQROS

Hydrocarbon Analysis Results

Client: NC Department of Transportation
Address: Parcels 78 & 94

2 **Samples analysed**

Contact:

Operator Tim Leatherman

Project: NCDOT R-2603

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	78-4(5.0)	11.8	<0.6	<0.6	<0.6	<0.6	< 0.59	< 0.06	< 0.029	0	100	0	Particulate
s	78-4(5.0) REP	11.8	<0.6	<0.6	<0.6	<0.6	< 0.59	< 0.06	< 0.029	0	0	100	Particulate
s	78-4(5.0) REP2	11.8	<0.6	<0.6	<0.6	<0.6	< 0.59	< 0.06	< 0.029	0	100	0	Particulate
s	94-7(2.5)	14.3	<0.7	<0.7	21.9	21.9	21.86	3.54	< 0.036	21.7	21.6	56.7	PAH

Initial Calibrator QC check

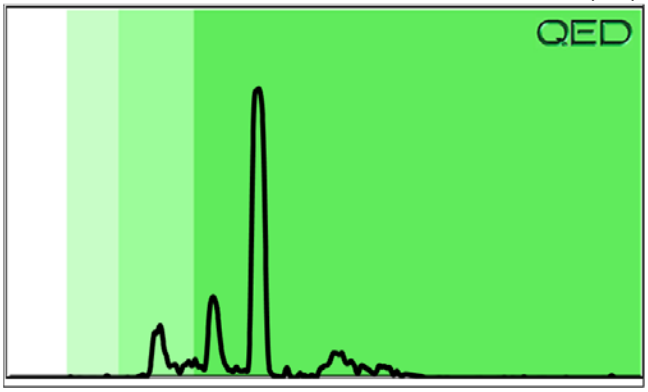
Low Range Calibrator Final check
High Range Calibrator Final check

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

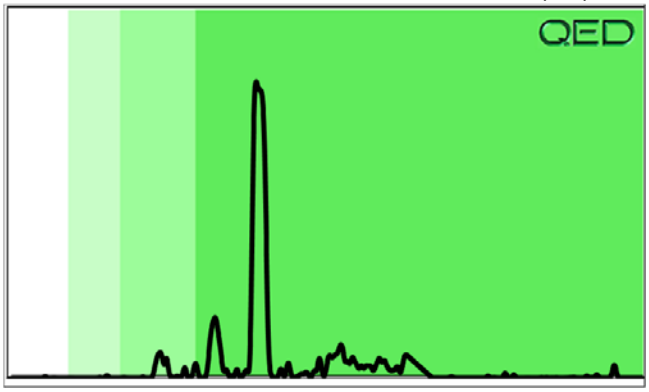
Fingerprints provide a tentative hydrocarbon identification based on operator selected library matches
Fingerprint match abbreviations Est = Specific calibrator not used, result estimated (PFM)= Poor library fingerprint match
(SBS)= site specific background subracted (LBS)= Library background subtracted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

Project NCDOT R-2603

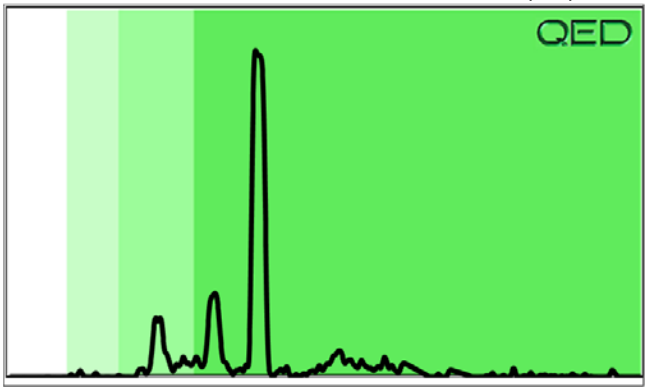
Particulate 78-4(5.0)



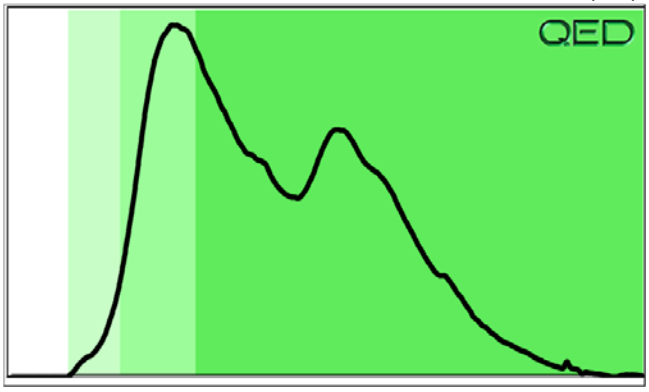
Particulate 78-4(5.0) REP



Particulate 78-4(5.0) REP2



PAH 94-7(2.5)



APPENDIX F

Pace Analytical Services, Inc.
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Pace Analytical Services, Inc.
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Huntersville, NC 28078
(704)875-9092

June 24, 2013

Chemical Testing Engineer
NCDOT
Materials & Tests Unit
1801 Blue Ridge Road
Raleigh, NC 27607

RE: Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Dear Chemical Engineer:
Enclosed are the analytical results for sample(s) received by the laboratory on June 12, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Tim Leatherman, Pyramid

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CERTIFICATIONS

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92161355001	**94-1 (TW)**	SM 6200B	CAH	64	PASI-C
92161355002	**94-3 (2.5')**	EPA 8015 Modified	EJK	2	PASI-C
		EPA 8015 Modified	GAW	2	PASI-C
		ASTM D2974-87	JEA	1	PASI-C

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Method: **EPA 8015 Modified**
Description: 8015 GCS THC-Diesel
Client: NCDOT West Central
Date: June 24, 2013

General Information:
1 sample was analyzed for EPA 8015 Modified. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Method: **EPA 8015 Modified**
Description: Gasoline Range Organics
Client: NCDOT West Central
Date: June 24, 2013

General Information:
1 sample was analyzed for EPA 8015 Modified. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 5035A/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Method: **SM 6200B**
Description: 6200B MSV
Client: NCDOT West Central
Date: June 24, 2013

General Information:
1 sample was analyzed for SM 6200B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/23350

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92161461003

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 995346)
  - 1,1-Dichloropropene
  - Carbon tetrachloride
  - Methylene Chloride
- MSD (Lab ID: 995347)
  - 1,1,1-Trichloroethane
  - 1,1-Dichloroethene
  - 1,1-Dichloropropene
  - 1,3-Dichloropropane
  - Carbon tetrachloride
  - Chloroform
  - Methylene Chloride
  - Vinyl chloride
  - trans-1,3-Dichloropropene

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PROJECT NARRATIVE

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Method: **SM 6200B**
Description: 6200B MSV
Client: NCDOT West Central
Date: June 24, 2013

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Sample: 94-1 (TW) **Lab ID: 92161355001** Collected: 06/11/13 17:00 Received: 06/12/13 15:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		06/20/13 20:13	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		06/20/13 20:13	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		06/20/13 20:13	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		06/20/13 20:13	75-27-4	
Bromoform	ND	ug/L	0.50	1		06/20/13 20:13	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/20/13 20:13	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		06/20/13 20:13	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		06/20/13 20:13	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		06/20/13 20:13	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		06/20/13 20:13	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		06/20/13 20:13	108-90-7	
Chloroethane	ND	ug/L	1.0	1		06/20/13 20:13	75-00-3	
Chloroform	ND	ug/L	0.50	1		06/20/13 20:13	67-66-3	
Chloromethane	ND	ug/L	1.0	1		06/20/13 20:13	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		06/20/13 20:13	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		06/20/13 20:13	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		06/20/13 20:13	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		06/20/13 20:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		06/20/13 20:13	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		06/20/13 20:13	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		06/20/13 20:13	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		06/20/13 20:13	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		06/20/13 20:13	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		06/20/13 20:13	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		06/20/13 20:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		06/20/13 20:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		06/20/13 20:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		06/20/13 20:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		06/20/13 20:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		06/20/13 20:13	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		06/20/13 20:13	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		06/20/13 20:13	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		06/20/13 20:13	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		06/20/13 20:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		06/20/13 20:13	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		06/20/13 20:13	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		06/20/13 20:13	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		06/20/13 20:13	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		06/20/13 20:13	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		06/20/13 20:13	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		06/20/13 20:13	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		06/20/13 20:13	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		06/20/13 20:13	103-65-1	
Styrene	ND	ug/L	0.50	1		06/20/13 20:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		06/20/13 20:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		06/20/13 20:13	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		06/20/13 20:13	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Sample: 94-1 (TW) **Lab ID: 92161355001** Collected: 06/11/13 17:00 Received: 06/12/13 15:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		06/20/13 20:13	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		06/20/13 20:13	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		06/20/13 20:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		06/20/13 20:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		06/20/13 20:13	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		06/20/13 20:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		06/20/13 20:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		06/20/13 20:13	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		06/20/13 20:13	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		06/20/13 20:13	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		06/20/13 20:13	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		06/20/13 20:13	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		06/20/13 20:13	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		06/20/13 20:13	17060-07-0	
Dibromofluoromethane (S)	100	%	70-130	1		06/20/13 20:13	1868-53-7	
4-Bromofluorobenzene (S)	100	%	70-130	1		06/20/13 20:13	460-00-4	
Toluene-d8 (S)	102	%	70-130	1		06/20/13 20:13	2037-26-5	

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ANALYTICAL RESULTS

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Sample: 94-3 (2.5') **Lab ID: 92161355002** Collected: 06/11/13 16:00 Received: 06/12/13 15:42 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	**10.5**	mg/kg	6.1	1	06/12/13 17:30	06/15/13 00:56	68334-30-5	
Surrogates								
n-Pentacosane (S)	81	%	41-119	1	06/12/13 17:30	06/15/13 00:56	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	6.3	1	06/13/13 13:09	06/14/13 15:29	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	81	%	70-167	1	06/13/13 13:09	06/14/13 15:29	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.8**	%	0.10	1		06/19/13 13:44		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

QC Batch: GCV/6988
QC Batch Method: EPA 5035A/5030B
Analysis Method: EPA 8015 Modified
Analysis Description: Gasoline Range Organics
Associated Lab Samples: 92161355002

METHOD BLANK: 992052 Matrix: Solid
Associated Lab Samples: 92161355002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	6.0	06/14/13 09:23	
4-Bromofluorobenzene (S)	%	82	70-167	06/14/13 09:23	

LABORATORY CONTROL SAMPLE: 992053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	49.9	47.4	95	70-165	
4-Bromofluorobenzene (S)	%			90	70-167	

MATRIX SPIKE SAMPLE: 992897

Parameter	Units	92161404002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	ND	55.8	65.9	118	47-187	
4-Bromofluorobenzene (S)	%				90	70-167	

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QUALITY CONTROL DATA

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

QC Batch: MSV/23350
QC Batch Method: SM 6200B
Analysis Method: SM 6200B
Analysis Description: 6200B MSV
Associated Lab Samples: 92161355001

METHOD BLANK: 995344
Matrix: Water
Associated Lab Samples: 92161355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	06/20/13 13:58	
1,1,1-Trichloroethane	ug/L	ND	0.50	06/20/13 13:58	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	06/20/13 13:58	
1,1,2-Trichloroethane	ug/L	ND	0.50	06/20/13 13:58	
1,1-Dichloroethane	ug/L	ND	0.50	06/20/13 13:58	
1,1-Dichloroethene	ug/L	ND	0.50	06/20/13 13:58	
1,1-Dichloropropene	ug/L	ND	0.50	06/20/13 13:58	
1,2,3-Trichlorobenzene	ug/L	ND	2.0	06/20/13 13:58	
1,2,3-Trichloropropane	ug/L	ND	0.50	06/20/13 13:58	
1,2,4-Trichlorobenzene	ug/L	ND	2.0	06/20/13 13:58	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	06/20/13 13:58	
1,2-Dibromo-3-chloropropane	ug/L	ND	1.0	06/20/13 13:58	
1,2-Dibromoethane (EDB)	ug/L	ND	0.50	06/20/13 13:58	
1,2-Dichlorobenzene	ug/L	ND	0.50	06/20/13 13:58	
1,2-Dichloroethane	ug/L	ND	0.50	06/20/13 13:58	
1,2-Dichloropropane	ug/L	ND	0.50	06/20/13 13:58	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	06/20/13 13:58	
1,3-Dichlorobenzene	ug/L	ND	0.50	06/20/13 13:58	
1,3-Dichloropropane	ug/L	ND	0.50	06/20/13 13:58	
1,4-Dichlorobenzene	ug/L	ND	0.50	06/20/13 13:58	
2,2-Dichloropropane	ug/L	ND	0.50	06/20/13 13:58	
2-Chlorotoluene	ug/L	ND	0.50	06/20/13 13:58	
4-Chlorotoluene	ug/L	ND	0.50	06/20/13 13:58	
Benzene	ug/L	ND	0.50	06/20/13 13:58	
Bromobenzene	ug/L	ND	0.50	06/20/13 13:58	
Bromochloromethane	ug/L	ND	0.50	06/20/13 13:58	
Bromodichloromethane	ug/L	ND	0.50	06/20/13 13:58	
Bromoform	ug/L	ND	0.50	06/20/13 13:58	
Bromomethane	ug/L	ND	5.0	06/20/13 13:58	
Carbon tetrachloride	ug/L	ND	0.50	06/20/13 13:58	
Chlorobenzene	ug/L	ND	0.50	06/20/13 13:58	
Chloroethane	ug/L	ND	1.0	06/20/13 13:58	
Chloroform	ug/L	ND	0.50	06/20/13 13:58	
Chloromethane	ug/L	ND	1.0	06/20/13 13:58	
cis-1,2-Dichloroethene	ug/L	ND	0.50	06/20/13 13:58	
cis-1,3-Dichloropropene	ug/L	ND	0.50	06/20/13 13:58	
Dibromochloromethane	ug/L	ND	0.50	06/20/13 13:58	
Dibromomethane	ug/L	ND	0.50	06/20/13 13:58	
Dichlorodifluoromethane	ug/L	ND	0.50	06/20/13 13:58	
Diisopropyl ether	ug/L	ND	0.50	06/20/13 13:58	
Ethylbenzene	ug/L	ND	0.50	06/20/13 13:58	
Hexachloro-1,3-butadiene	ug/L	ND	2.0	06/20/13 13:58	
Isopropylbenzene (Cumene)	ug/L	ND	0.50	06/20/13 13:58	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

METHOD BLANK: 995344 Matrix: Water

Associated Lab Samples: 92161355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
m&p-Xylene	ug/L	ND	1.0	06/20/13 13:58	
Methyl-tert-butyl ether	ug/L	ND	0.50	06/20/13 13:58	
Methylene Chloride	ug/L	ND	2.0	06/20/13 13:58	
n-Butylbenzene	ug/L	ND	0.50	06/20/13 13:58	
n-Propylbenzene	ug/L	ND	0.50	06/20/13 13:58	
Naphthalene	ug/L	ND	2.0	06/20/13 13:58	
o-Xylene	ug/L	ND	0.50	06/20/13 13:58	
sec-Butylbenzene	ug/L	ND	0.50	06/20/13 13:58	
Styrene	ug/L	ND	0.50	06/20/13 13:58	
tert-Butylbenzene	ug/L	ND	0.50	06/20/13 13:58	
Tetrachloroethene	ug/L	ND	0.50	06/20/13 13:58	
Toluene	ug/L	ND	0.50	06/20/13 13:58	
trans-1,2-Dichloroethene	ug/L	ND	0.50	06/20/13 13:58	
trans-1,3-Dichloropropene	ug/L	ND	0.50	06/20/13 13:58	
Trichloroethene	ug/L	ND	0.50	06/20/13 13:58	
Trichlorofluoromethane	ug/L	ND	1.0	06/20/13 13:58	
Vinyl chloride	ug/L	ND	1.0	06/20/13 13:58	
1,2-Dichloroethane-d4 (S)	%	98	70-130	06/20/13 13:58	
4-Bromofluorobenzene (S)	%	98	70-130	06/20/13 13:58	
Dibromofluoromethane (S)	%	103	70-130	06/20/13 13:58	
Toluene-d8 (S)	%	101	70-130	06/20/13 13:58	

LABORATORY CONTROL SAMPLE: 995345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	48.8	98	60-140	
1,1,1-Trichloroethane	ug/L	50	49.4	99	60-140	
1,1,2,2-Tetrachloroethane	ug/L	50	49.4	99	60-140	
1,1,2-Trichloroethane	ug/L	50	50.5	101	60-140	
1,1-Dichloroethane	ug/L	50	48.2	96	60-140	
1,1-Dichloroethene	ug/L	50	48.3	97	60-140	
1,1-Dichloropropene	ug/L	50	60.3	121	60-140	
1,2,3-Trichlorobenzene	ug/L	50	52.9	106	60-140	
1,2,3-Trichloropropane	ug/L	50	54.1	108	60-140	
1,2,4-Trichlorobenzene	ug/L	50	52.6	105	60-140	
1,2,4-Trimethylbenzene	ug/L	50	49.0	98	60-140	
1,2-Dibromo-3-chloropropane	ug/L	50	48.7	97	60-140	
1,2-Dibromoethane (EDB)	ug/L	50	56.4	113	60-140	CU
1,2-Dichlorobenzene	ug/L	50	50.5	101	60-140	
1,2-Dichloroethane	ug/L	50	46.4	93	60-140	
1,2-Dichloropropane	ug/L	50	50.1	100	60-140	
1,3,5-Trimethylbenzene	ug/L	50	48.0	96	60-140	
1,3-Dichlorobenzene	ug/L	50	47.7	95	60-140	
1,3-Dichloropropane	ug/L	50	53.3	107	60-140	
1,4-Dichlorobenzene	ug/L	50	52.6	105	60-140	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

LABORATORY CONTROL SAMPLE: 995345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	47.4	95	60-140	
2-Chlorotoluene	ug/L	50	50.5	101	60-140	
4-Chlorotoluene	ug/L	50	46.6	93	60-140	
Benzene	ug/L	50	48.4	97	60-140	
Bromobenzene	ug/L	50	48.9	98	60-140	
Bromochloromethane	ug/L	50	50.8	102	60-140	
Bromodichloromethane	ug/L	50	49.9	100	60-140	
Bromoform	ug/L	50	52.8	106	60-140	
Bromomethane	ug/L	50	47.2	94	60-140	
Carbon tetrachloride	ug/L	50	54.8	110	60-140	
Chlorobenzene	ug/L	50	51.5	103	60-140	
Chloroethane	ug/L	50	45.6	91	60-140	
Chloroform	ug/L	50	49.1	98	60-140	
Chloromethane	ug/L	50	49.3	99	60-140	
cis-1,2-Dichloroethene	ug/L	50	46.9	94	60-140	
cis-1,3-Dichloropropene	ug/L	50	52.6	105	60-140	
Dibromochloromethane	ug/L	50	52.8	106	60-140	
Dibromomethane	ug/L	50	46.4	93	60-140	
Dichlorodifluoromethane	ug/L	50	36.9	74	60-140	
Diisopropyl ether	ug/L	50	50.2	100	60-140	
Ethylbenzene	ug/L	50	51.5	103	60-140	
Hexachloro-1,3-butadiene	ug/L	50	49.5	99	60-140	
Isopropylbenzene (Cumene)	ug/L	50	50.1	100	60-140	
m&p-Xylene	ug/L	100	100	100	60-140	
Methyl-tert-butyl ether	ug/L	50	51.2	102	60-140	
Methylene Chloride	ug/L	50	55.2	110	60-140	
n-Butylbenzene	ug/L	50	49.0	98	60-140	
n-Propylbenzene	ug/L	50	47.7	95	60-140	
Naphthalene	ug/L	50	53.1	106	60-140	
o-Xylene	ug/L	50	47.7	95	60-140	
sec-Butylbenzene	ug/L	50	45.7	91	60-140	
Styrene	ug/L	50	52.7	105	60-140	
tert-Butylbenzene	ug/L	50	45.9	92	60-140	
Tetrachloroethene	ug/L	50	51.1	102	60-140	
Toluene	ug/L	50	45.4	91	60-140	
trans-1,2-Dichloroethene	ug/L	50	49.2	98	60-140	
trans-1,3-Dichloropropene	ug/L	50	56.7	113	60-140	
Trichloroethene	ug/L	50	49.7	99	60-140	
Trichlorofluoromethane	ug/L	50	44.5	89	60-140	
Vinyl chloride	ug/L	50	45.7	91	60-140	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			99	70-130	

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QUALITY CONTROL DATA

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 995346 995347

Parameter	Units	92161461003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	23.2	25.0	116	125	60-140	7	
1,1,1-Trichloroethane	ug/L	ND	20	20	25.9	28.7	129	143	60-140	10	M0
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	24.1	25.4	121	127	60-140	5	
1,1,2-Trichloroethane	ug/L	ND	20	20	24.1	26.4	120	132	60-140	9	
1,1-Dichloroethane	ug/L	ND	20	20	26.1	26.7	130	134	60-140	2	
1,1-Dichloroethene	ug/L	ND	20	20	26.8	29.9	134	150	60-140	11	M0
1,1-Dichloropropene	ug/L	ND	20	20	30.9	33.3	155	167	60-140	7	M0
1,2,3-Trichlorobenzene	ug/L	ND	20	20	24.2	25.8	118	126	60-140	6	
1,2,3-Trichloropropane	ug/L	ND	20	20	26.7	27.6	133	138	60-140	4	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	25.8	26.5	127	130	60-140	3	
1,2,4-Trimethylbenzene	ug/L	ND	20	20	24.9	26.4	125	132	60-140	6	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	25.4	26.0	127	130	60-140	2	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	27.0	27.2	135	136	60-140	1	
1,2-Dichlorobenzene	ug/L	ND	20	20	25.0	26.3	125	131	60-140	5	
1,2-Dichloroethane	ug/L	ND	20	20	22.0	22.1	110	111	60-140	0	
1,2-Dichloropropane	ug/L	ND	20	20	24.6	28.1	123	140	60-140	13	
1,3,5-Trimethylbenzene	ug/L	ND	20	20	24.4	26.6	122	133	60-140	9	
1,3-Dichlorobenzene	ug/L	ND	20	20	23.9	25.2	120	126	60-140	5	
1,3-Dichloropropane	ug/L	ND	20	20	27.4	28.2	137	141	60-140	3	M0
1,4-Dichlorobenzene	ug/L	ND	20	20	25.4	27.9	127	140	60-140	10	
2,2-Dichloropropane	ug/L	ND	20	20	24.5	25.3	122	126	60-140	3	
2-Chlorotoluene	ug/L	ND	20	20	26.4	27.8	132	139	60-140	5	
4-Chlorotoluene	ug/L	ND	20	20	23.0	24.6	115	123	60-140	7	
Benzene	ug/L	ND	20	20	24.0	25.8	120	129	60-140	7	
Bromobenzene	ug/L	ND	20	20	25.9	26.9	130	134	60-140	4	
Bromochloromethane	ug/L	ND	20	20	24.2	27.3	121	137	60-140	12	
Bromodichloromethane	ug/L	ND	20	20	24.1	25.7	121	128	60-140	6	
Bromoform	ug/L	ND	20	20	24.8	25.6	124	128	60-140	3	
Bromomethane	ug/L	ND	20	20	21.5	24.4	107	122	60-140	13	
Carbon tetrachloride	ug/L	ND	20	20	28.7	31.5	144	158	60-140	9	M0
Chlorobenzene	ug/L	ND	20	20	25.5	27.0	128	135	60-140	6	
Chloroethane	ug/L	ND	20	20	27.3	28.1	137	140	60-140	3	
Chloroform	ug/L	ND	20	20	27.0	28.4	135	142	60-140	5	M0
Chloromethane	ug/L	ND	20	20	23.8	24.6	119	123	60-140	3	
cis-1,2-Dichloroethene	ug/L	ND	20	20	25.6	26.5	128	132	60-140	3	
cis-1,3-Dichloropropene	ug/L	ND	20	20	25.9	26.7	129	133	60-140	3	
Dibromochloromethane	ug/L	ND	20	20	25.0	27.2	125	136	60-140	8	
Dibromomethane	ug/L	ND	20	20	22.8	22.6	114	113	60-140	1	
Dichlorodifluoromethane	ug/L	ND	20	20	20.0	21.6	100	108	60-140	7	
Diisopropyl ether	ug/L	ND	20	20	26.0	27.8	130	139	60-140	7	
Ethylbenzene	ug/L	ND	20	20	25.9	27.1	130	135	60-140	4	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	24.2	25.6	121	128	60-140	6	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	24.7	25.1	123	126	60-140	2	
m&p-Xylene	ug/L	ND	40	40	49.8	52.5	124	131	60-140	5	
Methyl-tert-butyl ether	ug/L	1.9	20	20	28.7	29.3	134	137	60-140	2	
Methylene Chloride	ug/L	ND	20	20	28.1	30.0	141	150	60-140	7	M0
n-Butylbenzene	ug/L	ND	20	20	25.5	26.5	127	133	60-140	4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 995346 995347

Parameter	Units	92161461003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
n-Propylbenzene	ug/L	ND	20	20	24.9	26.6	124	132	60-140	7	
Naphthalene	ug/L	ND	20	20	24.3	26.4	118	129	60-140	8	
o-Xylene	ug/L	ND	20	20	24.3	25.0	121	125	60-140	3	
sec-Butylbenzene	ug/L	ND	20	20	24.2	25.4	120	126	60-140	5	
Styrene	ug/L	ND	20	20	25.1	25.6	126	128	60-140	2	
tert-Butylbenzene	ug/L	ND	20	20	23.9	26.1	119	131	60-140	9	
Tetrachloroethene	ug/L	ND	20	20	25.6	27.6	126	136	60-140	8	
Toluene	ug/L	ND	20	20	23.2	24.4	116	122	60-140	5	
trans-1,2-Dichloroethene	ug/L	ND	20	20	25.7	28.0	128	140	60-140	9	
trans-1,3-Dichloropropene	ug/L	ND	20	20	26.7	29.0	133	145	60-140	8	M0
Trichloroethene	ug/L	ND	20	20	24.2	26.2	121	131	60-140	8	
Trichlorofluoromethane	ug/L	ND	20	20	25.9	26.9	130	134	60-140	4	
Vinyl chloride	ug/L	ND	20	20	25.2	28.4	126	142	60-140	12	M0
1,2-Dichloroethane-d4 (S)	%						99	99	70-130		
4-Bromofluorobenzene (S)	%						100	98	70-130		
Dibromofluoromethane (S)	%						100	99	70-130		
Toluene-d8 (S)	%						96	98	70-130		

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QUALITY CONTROL DATA

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

QC Batch: OEXT/22536
QC Batch Method: EPA 3546
Analysis Method: EPA 8015 Modified
Analysis Description: 8015 Solid GCSV
Associated Lab Samples: 92161355002

METHOD BLANK: 990888 Matrix: Solid
Associated Lab Samples: 92161355002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Components	mg/kg	ND	5.0	06/12/13 12:13	
n-Pentacosane (S)	%	94	41-119	06/12/13 12:13	

LABORATORY CONTROL SAMPLE: 990889

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Components	mg/kg	66.7	53.5	80	49-113	
n-Pentacosane (S)	%			82	41-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 990890 990891

Parameter	Units	92161133002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Diesel Components	mg/kg	ND	77.3	77.3	66.9	58.5	84	73	10-146	13	
n-Pentacosane (S)	%						101	87	41-119		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

QC Batch: PMST/5615
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 92161355002

SAMPLE DUPLICATE: 994365

Parameter	Units	92161399004 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	34.1	35.3	3	

SAMPLE DUPLICATE: 994366

Parameter	Units	92161618001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	0.14	0.16	14	

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QUALIFIERS

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

CU	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: R-2603 Parcel 94 36001.1.2
Pace Project No.: 92161355

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92161355002	**94-3 (2.5')**	EPA 3546	OEXT/22536	EPA 8015 Modified	GCSV/14847
92161355002	**94-3 (2.5')**	EPA 5035A/5030B	GCV/6988	EPA 8015 Modified	GCV/6990
92161355001	**94-1 (TW)**	SM 6200B	MSV/23350		
92161355002	**94-3 (2.5')**	ASTM D2974-87	PMST/5615		

Pace Analytical	Sample Condition Upon Receipt (SCUR)	Page 1 of 2
	Document Number: F-CHR-CS-03-rev.11	Issuing Authority: Pace Huntersville Quality Office

Client Name: Pyramid

Where Received: ☐ Huntersville ☐ Asheville ☐ Eden ☐ Raleigh

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 T1301 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 1.4 C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Comments:

Optional
Proj. Due Date:
Proj. Name:

Date and Initials of person examining contents: 6/12

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☑No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review: JG **Date:** 6/12/13

SRF Review: JG **Date:** 6/13/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1667308

Section A Required Client Information:

Company: Pyramid Environmental
Address: 503 Industrial Ave. Greensboro, NC 27406
Email To: tim@pyramidenvironmental.com
Phone: 336-335-3174 Fax:
Requested Due Date/TAT: Normal

Section B Required Project Information:

Report To: Tim Leatherman
Copy To:
Purchase Order No.: WBS 36001.1.2
Project Name: NCDOT R-2603 Parcel 94
Project Number: WBS 36001.1.2

Section C Invoice Information:

Attention:
Company Name: NCDOT
Address:
Pace Quote Reference: Kevin Godwin
Pace Project Manager: WBS 36001.1.2 NCDOT
Pace Profile #: 5500-1,2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: 6200 B	DRO (3550) & GRO (5035)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	94-1 (TW)	WT	G			6/11/13	1700		4				X					X			01
2																					
3	94-3 (2.5')	SL	G			6/11/13	1600		4	X						X		X	X		02
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
PARCEL #94	Ryan Kramer / Pyramid	6/12/13	0850	[signature]	6/12/13	1131
	[signature]	6/12/13	1542	[signature] Pace	6-12	1542

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.4	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ryan Kramer
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 6/12/13

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

APPENDIX G

FIELD PERSONNEL LOG

PROJECT NAME: NCDOT Wilkes County ROW PARCELS 71, 72, 73, 74, 78, 94, 97/99, AND 102 **PROJECT NO.:** R-2603

Name: Eric Cross, Ryan Kramer **Date:** 5/22/13 **Mon Tue Wed Th Fri Sat Sun**

TASKS PERFORMED:

E. Cross & R. Kramer:
On site: 8AM
Mobilize to site. Performed geophysical surveys using EM61 magnetometer and/or GPR.
Performed geophysical data analysis/processing in field and in evening.
Leave site: 6PM
Associated mileage – 84 miles

T. Leatherman:
Travel to Soil & Water offices in Wilkesboro, NC to review maps/aerials
Hours associated with trip - 7
Associated mileage – 191 miles

FIELD PERSONNEL LOG

PROJECT NAME: NCDOT Wilkes County ROW PARCELS 71, 72, 73, 74, 78, 94, 97/99, AND 102 **PROJECT NO.:** R-2603

Name: Eric Cross, Ryan Kramer, Tim Leatherman **Date:** 5/23/13 **Mon Tue Wed Th Fri Sat**

TASKS PERFORMED:

E. Cross & R. Kramer
On site: 8AM
Performed geophysical surveys using EM61 magnetometer and/or GPR. Performed geophysical data analysis/processing in field and in evening.
Leave site: 6PM

T. Leatherman
Site Reconnaissance
Hours associated with recon – 7
Mileage for recon – 185

FIELD PERSONNEL LOG

PROJECT NAME: NCDOT Wilkes County ROW PARCELS 71, 72, 73, 74, 78, 94, 97/99, AND 102 **PROJECT NO.:** R-2603

Name: Eric Cross, Ryan Kramer **Date:** 5/24/13 **Mon Tue Wed Th Fri Sat Sun**

TASKS PERFORMED:

On site: 8AM
Performed geophysical surveys using EM61 magnetometer and/or GPR. Performed geophysical data analysis/processing in field and in evening.
Leave site: 6PM

Demobilization Mileage - 150

FIELD PERSONNEL LOG

PROJECT NAME: NCDOT Wilkes County ROW PARCELS 71, 72, 73, 74, 78, 94, 97/99, AND 102 **PROJECT NO.:** R-2603

Name: Eric Cross, Time Leatherman **Date:** 6/3/13 **Mon** **Tue Wed Th Fri Sat Sun**

TASKS PERFORMED:

E. Cross
On site: 8AM
Mobilize to site. Performed geophysical surveys using EM61 magnetometer and/or GPR.
Performed geophysical data analysis/processing in field and in evening.
Leave site: 6PM
Mobilization mileage – 150 miles

T. Leatherman
Mobilize to site, assist with geophysics.
Hours – 5
Mileage for mobilization/demobilization – 203

FIELD PERSONNEL LOG

PROJECT NAME: NCDOT Wilkes County ROW PARCELS 71, 72, 73, 74, 78, 94, 97/99, AND 102 **PROJECT NO.:** R-2603

Name: Eric Cross, Time Leatherman **Date:** 6/4/13 **Mon Tue Wed Th Fri Sat Sun**

TASKS PERFORMED:

E. Cross & T. Leatherman
On site: 8AM
Performed geophysical surveys using EM61 magnetometer and/or GPR. Performed geophysical data analysis/processing in field. Investigated proposed boring locations. Supervised utility locating.
Leave site: 4PM

E. Cross demobilization mileage: 150

FIELD PERSONNEL LOG

PROJECT NAME: NCDOT Wilkes County ROW PARCELS 71, 72, 73, 74, 78, 94, 97/99, AND 102 **PROJECT NO.:** R-2603

Name: Tim Leatherman **Date:** 6/7/13 **MonTue Wed Th Fri Sat Sun**

TASKS PERFORMED:

Travel to NCDENR Regional Office to perform file review
Hours associated with file review – 4.75
Mileage to travel to regional office – 58

FIELD PERSONNEL LOG

PROJECT NAME: NCDOT Wilkes County ROW PARCELS 71, 72, 73, 74, 78, 94, 97/99, AND 102 **PROJECT NO.:** R-2603

Name: Tim Leatherman, Ryan Kramer **Date:** 6/10/13 **Mon** **Tue Wed Th Fri Sat Sun**

TASKS PERFORMED:

Mobilize to job site from Greensboro. Performed geoprobe boring supervision, soil and groundwater sampling, QED analysis. Hours for personnel vary, see timesheets.

Mileage associated with mobilization/demobilization for all vehicles, week of June 10th = 542

FIELD PERSONNEL LOG

PROJECT NAME: NCDOT Wilkes County ROW PARCELS 71, 72, 73, 74, 78, 94, 97/99, AND 102 **PROJECT NO.:** R-2603

Name: Tim Leatherman, Ryan Kramer **Date:** 6/11/13 **Mon Tue Wed Th Fri Sat Sun**

TASKS PERFORMED:

Performed geoprobe boring supervision, soil and groundwater sampling, QED analysis. Hours for personnel vary, see timesheets.

FIELD PERSONNEL LOG

PROJECT NAME: NCDOT Wilkes County ROW PARCELS 71, 72, 73, 74, 78, 94, 97/99, AND 102 **PROJECT NO.:** R-2603

Name: Tim Leatherman, Ryan Kramer, Brett Higgins **Date:** 6/12/13 **Mon Tue Wed Th Fri**

TASKS PERFORMED:

Performed geoprobe boring supervision, soil and groundwater sampling, QED analysis. Hours for personnel vary, see timesheets.

FIELD PERSONNEL LOG

PROJECT NAME: NCDOT Wilkes County ROW PARCELS 71, 72, 73, 74, 78, 94, 97/99, AND 102 **PROJECT NO.:** R-2603

Name: Tim Leatherman, Brett Higgins **Date:** 6/13/13 **Mon Tue Wed Th Fri**

TASKS PERFORMED:

Performed geoprobe boring supervision, soil and groundwater sampling, QED analysis. Travel to Greensboro from job site. Hours for personnel vary, see timesheets.