Solutions-IES
Industrial & Environmental Services

1101 Nowell Rd. ■ Raleigh, NC 27607
(919) 873-1060 ■ Fax (919) 873-1074
www.solutions-ies.com

December 20, 2016

Mr. Terry Fox, L.G.
North Carolina Department of Transportation
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

Reference: **Preliminary Site Assessment**
RREF II BB-NC LLC Property (Parcel #220)
4299 Raeford Road
Fayetteville, Cumberland County, North Carolina
State Project: U-4405
WBS Element 39049.1.1
SIES Project No. 2016.0054.NDOT

Dear Mr. Fox:

Solutions-IES, Inc., (SIES) has completed the Preliminary Site Assessment conducted at the above-referenced property. The work was performed in accordance with the Technical and Cost proposal dated September 26, 2016, and the North Carolina Department of Transportation's (NCDOT's) Notice to Proceed dated September 26, 2016. Activities associated with the assessment consisted of conducting a geophysical investigation, collecting soil samples for analysis, and reviewing applicable North Carolina Department of Environmental Quality (NCDEQ) records. The purpose of this report is to document the field activities, present the laboratory analyses, and provide recommendations regarding the property.

Location and Description

The RREF II BB-NC LLC Property (Parcel #220) is located at 4299 Raeford Road in Fayetteville, Cumberland County, North Carolina. The property is situated on the south side of Raeford Road at the intersection of Raeford Road and Montclair Road (**Figure 1**). The property is the location of a former gas station and convenience store (Raeford Road Kwik Mart) that is now occupied by New Addiction Tattoos. Based on a review of on-line UST registry information, four gasoline underground storage tanks (USTs) were closed at the property in 1993.

An asphalt parking area is located in front of the building and extends almost to the property boundaries on the east and west sides (**Figure 2**). A concrete pad in front of the building on its west side suggests a former dispenser area, and an asphalt patch adjacent to the east side of the concrete may indicate the former UST locations. The proposed easement was not marked at the site on the date of the field work, but NCDOT plan sheets show that the easement will not affect the property structures. The NCDOT requested a Preliminary Site Assessment for the right-of-way/proposed easement because the site was a

former gas station. The scope of work as defined in the Request for Technical and Cost Proposal was to evaluate the site with respect to the presence of known and unknown USTs and assess where contamination exists on the right-of-way/proposed easement. An estimate of the quantity of impacted soil was to be provided, should impacted soils be encountered.

SIES reviewed the on-line NCDEQ Incident Management database and Incident Number 10468 was assigned to the site. A further review of files regarding the incident from the NCDEQ Fayetteville Regional Office indicated that in April 1993, four USTs were closed at the site. A UST Closure Report[1], dated May 3,1993, described the closure of three 8,000-gallon and one 12,000-gallon gasoline USTs. The former UST locations shown in the closure report are consistent with the site asphalt patching and confirm the USTs were east of the building. During the UST closure, confirmation soil samples were collected from below the dispensers, product lines, and USTs and analyzed for total petroleum hydrocarbons gasoline range organics (TPH GRO).

Soil samples collected from beneath the 12,000-gallon UST, the product lines, and the dispenser islands were located within the currently proposed NCDOT right-of-way/easement. The UST closure soil sample analytical results indicated no GRO concentrations were reported in soil samples collected from below the 12,000-gallon UST above the applicable action level. The results also indicated that the GRO concentrations in soil samples collected from below the product lines and dispensers ranged from 14.7 to 63.6 milligrams per kilogram (mg/kg), which were above the 1993 action level of 10 milligrams per kilogram (mg/kg).

Soil samples collected from beneath the 8,000-gallon USTs contained GRO concentrations ranging from < 10 to 3892 mg/kg. The location of these USTs is south of the proposed NCDOT right-of-way/easement.

A groundwater sampling letter[2] was submitted to NCDEQ on July 15, 1994. UTTS Environmental installed four groundwater monitoring wells and collected samples from each. Sample analysis included volatile and semivolatile organic compounds. Three of the four wells contained BTEX concentrations above the 15A NCAC 2L groundwater quality standards. No other subsequent reports were noted in the NCDEQ files, but a No Further Action letter was issued dated June 11, 1996. As a convenience to the reader, relevant excerpts from the file documents are presented in **Attachment A** and the complete file reports are added to the end of this report.

[1] Hollowell Testing, UST Closure 4299 Raeford Road, May 3, 1993.
[2] UTTS Environmental, Dianne's Tanning Salon, July 15, 1994.

SIES also examined the UST registration database to obtain UST ownership information. According to the database, four USTs were closed at the property and were operated under Facility Number 00-0-0000012637. The owner and operator of the former UST system are listed as follows:

Owner
Express Stop Stores
PO Box 53557
Fayetteville, NC 28305

Operator
Raeford Road Kwik Mart
4299 Raeford Road
Fayetteville, NC 28304

Geophysical Survey

Prior to SIES' mobilization to the site, Pyramid Environmental & Engineering of Greensboro, NC (Pyramid) conducted a geophysical survey to determine if unknown USTs were present in the right-of-way/proposed easement. The geophysical survey consisted of an electromagnetic (EM) survey using a Geonics EM61 time-domain electromagnetic induction meter to locate buried metallic objects, and ground penetrating radar (GPR) using a Geophysical Survey Systems Inc. Utility Scan DF with a dual frequency 300/800 MHz antenna. The instruments were used specifically to locate USTs.

A survey grid was laid out along the right-of-way/proposed easement with the X-axis oriented approximately parallel to Raeford Road and the Y-axis oriented approximately perpendicular to Raeford Road. The grid was positioned to cover the entire right-of-way/proposed easement, as shown on **Figure 2** of the geophysical survey report in **Attachment B**.

The survey lines were spaced five feet apart and EM data were collected continuously along each survey line with a data logger. After collection, the data were reviewed in the field with graphical computer software. Following the EM survey, a GPR survey was conducted to further evaluate any significant metallic anomalies.

Access was available to all areas of the right-of-way/proposed easement. Several anomalies were detected with the geophysical survey that were mostly attributed to visual cultural features at the ground surface. The data did not show evidence of metallic USTs within the right-of-way/proposed easement. Pyramid's detailed report of findings and interpretations is presented in **Attachment B**.

Site Assessment Activities

On October 27, 2016, SIES mobilized to the site to conduct a Geoprobe® direct-push investigation to evaluate subsurface soil conditions on the property. Five direct-push borings (220-SB-1 through 220-SB-5) were advanced throughout the right-of-way/proposed easement (**Figure 2).** As directed by the NCDOT, the Geoprobe® borings were terminated at 10 feet below ground surface (ft bgs). The soil boring

logs are included as **Attachment C**. Borings 220-SB-1, 220-SB-2, and 220-SB-4 were located to evaluate the subsurface conditions near proposed drop inlets. Borings 220-SB-3 and 220-SB-5 were placed to assess the remainder of the right-of-way/proposed easement (see photos in **Attachment D**).

Continuous sampling using a Geoprobe® resulted in generally good recovery of soil samples from the direct-push holes. Soil samples were collected and contained in four-foot long acetate sleeves inside the direct-push Macro-Core® sampler. Each of the sleeves was divided into two-foot long sections for soil sample screening. Soil from each two-foot interval was placed in a resealable plastic bag and the bag was set aside for volatilization of organic compounds from the soil to the bag headspace. A photoionization detector (PID) probe was inserted into the bag and the reading was recorded.

The PID concentrations were consistently low in the borings and one sample from the bottom interval of each boring was selected for analysis. A second sample was collected from boring 220-SB-1 to evaluate a stained interval between six and eight ft bgs. The PID results are summarized in **Table 1**.

The selected soil samples were submitted to an on-site mobile laboratory for analysis of TPH diesel range organics (DRO) and GRO using ultraviolet fluorescence (UVF) methodology. Each boring was backfilled with bentonite and drill cuttings to the surface after completion.

The lithology encountered by the direct-push samples was generally consistent throughout the site. The ground surface was covered with about 0.5 feet of asphalt. Below this surface cover to a depth of about two to four feet was a tan clayey sand. Underlying the sand was a mottled light brown and red sandy clay. Mild hydrocarbon odors were observed in boring 220-SB-3 at a depth of eight to ten ft bgs. No groundwater or bedrock was noted in any of the borings.

According to the 1985 Geologic Map of North Carolina, the site is within of Coastal Plain Physiographic Province in North Carolina near the contact between the Cretaceous Black Creek and Middendorf Formations. The strata of the Black Creek Formation consist of gray to black clay, thin lenses of fine-grained sand and thick lenses of cross-bedded sand. The lithology may also include glauconite and fossils. In comparison, the Middendorf Formation consists of sand, sandstone, and mudstone that are laterally discontinuous. The soils observed at the site are consistent with the MIddendorf Formation as the parent material.

Analytical Results

The laboratory data are summarized in **Table 1** and the complete report is presented in **Attachment E**. Six soil samples were submitted for analysis (two samples were collected from boring 220-SB-1). Of

these samples, one contained detectable GRO and all six contained detectable DRO. Soil sample 220-SB-3-8-10 contained a concentration of 1.8 mg/kg GRO. DRO concentrations ranged from 1.4 to 13.4 mg/kg. The action levels are 50 mg/kg for GRO and 100 mg/kg for DRO[3]. None of the soil samples analyzed for this site contained DRO or GRO concentrations above their respective action levels.

Conclusions and Recommendations

A Preliminary Site Assessment was conducted to evaluate the RREF II BB-NC LLC Property (Parcel #220) located at 4299 Raeford in Fayetteville, Cumberland County, North Carolina. Documents within the NCDEQ UST Section files indicated that a release occurred at the site in 1993. Soil and groundwater contamination were detected. Soil samples collected during the UST closure contained GRO above the action level. It is unclear from the closure report site map, but these samples may be located within the right-of-way/proposed easement. Groundwater samples collected in 1994 from four on-site monitoring wells indicated several petroleum related compounds present at concentrations above the North Carolina groundwater quality standards.

A geophysical survey conducted at the site indicated no metallic USTs within the right-of-way/proposed easement. Five soil borings were advanced to evaluate the subsurface soil conditions along the right-of-way/proposed easement, and six soil samples were collected and analyzed for GRO and DRO by UVF. None of the analyzed soil samples detected GRO or DRO concentrations above their respective action levels (**Table 1).** Therefore, no estimate of the volume of soil requiring possible remediation was made.

SIES appreciates the opportunity to work with the NCDOT on this project. Because compounds were detected above the method detection limit in the soil samples, SIES recommends that a copy of this report be submitted to the Division of Waste Management, UST Section, in the Fayetteville Regional Office. If you have any questions, please contact us at (919) 873-1060.

Sincerely,

Michael W. Branson, P.G.
Project Manager

Attachments

John Palmer, P.G.
Senior Hydrogeologist

[3] NCDEQ, *Guidelines for North Carolina Action Limits for Total Petroleum Hydrocarbons (TPH)*, July 26, 2016.

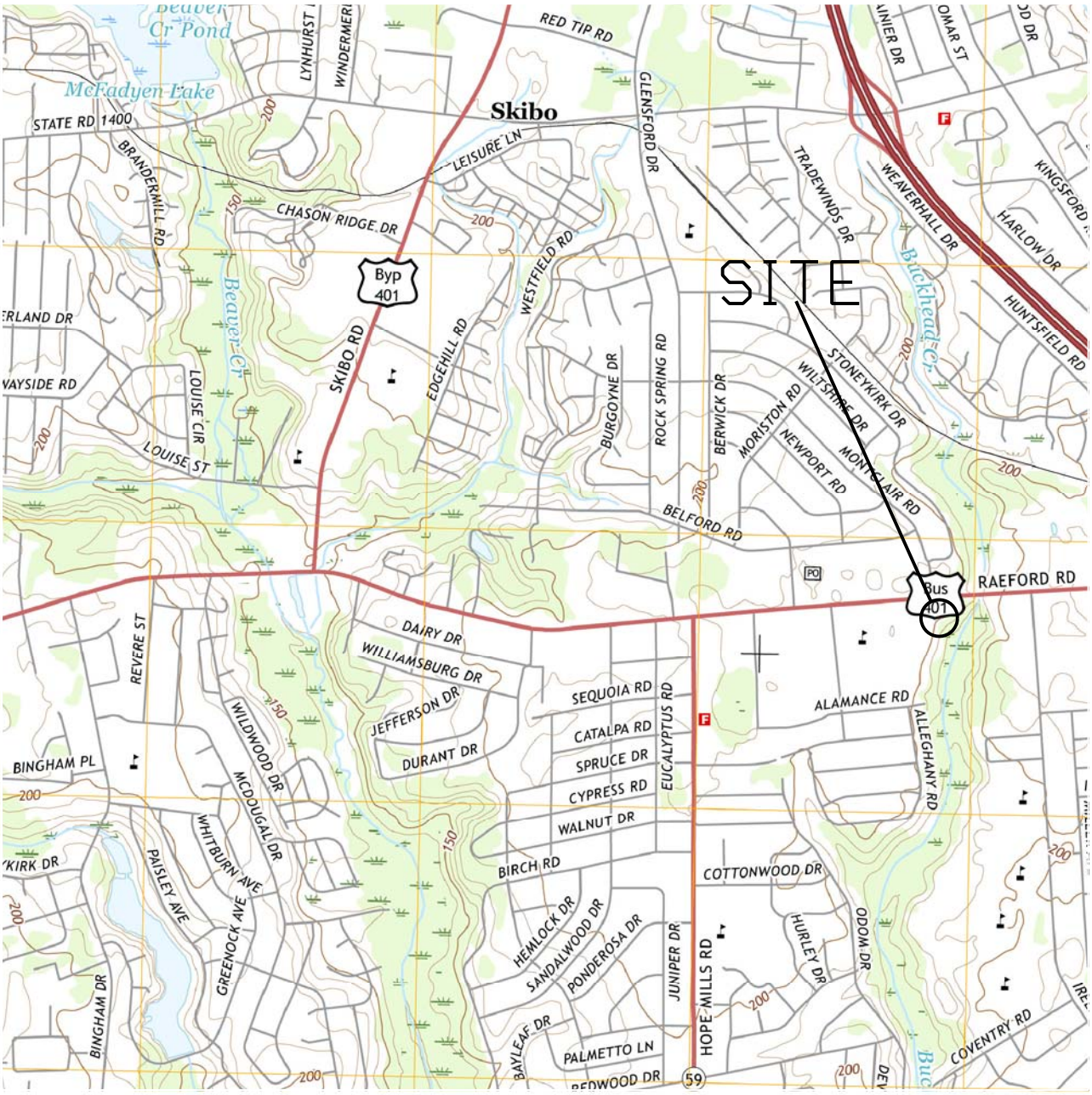
TABLE 1
SOIL FIELD SCREENING AND ANALYTICAL RESULTS
RREF II BB-NC LLC PROPERTY (PARCEL #220)
FAYETTEVILLE, CUMBERLAND COUNTY, NORTH CAROLINA
STATE PROJECT: U-4405
WBS ELEMENT 39049.1.1
SIES PROJECT NO. 2016.0054.NDOT

SAMPLE ID	DEPTH (ft)	PID READING (ppm)	SAMPLE ID	ANALYTICAL RESULTS (mg/kg)	
				UVF GRO	UVF DRO
	Action Level (mg/kg)			50	100
220-SB-1	0 - 2	0.2			
	2 - 4	0.3			
	4 - 6	0.8			
	6 - 8	1.2	220-SB-1-6-8	<0.63	**1.4**
	8 - 10	0.9	220-SB-1-8-10	<0.55	**11.2**
220-SB-2	0 - 2	0.0			
	2 - 4	0.0			
	4 - 6	0.0			
	6 - 8	0.4			
	8 - 10	0.8	220-SB-2-8-10	<0.56	**3.6**
220-SB-3	0 - 2	0.6			
	2 - 4	1.3			
	4 - 6	2.4			
	6 - 8	2.5			
	8 - 10	62.1	220-SB-3-8-10	**1.8**	**7.8**
220-SB-4	0 - 2	0.0			
	2 - 4	0.0			
	4 - 6	0.0			
	6 - 8	0.0			
	8 - 10	0.1	220-SB-4-8-10	<0.55	**13.4**
220-SB-5	0 - 2	0.0			
	2 - 4	0.0			
	4 - 6	0.0			
	6 - 8	0.0			
	8 - 10	0.0	220-SB-5-8-10	<0.58	**10.9**

1) ft - feet
2) ppm - parts per million.
3) PID - photoionization ionization detector
4) mg/kg - milligrams per kilogram.
5) UVF DRO - Diesel range organics by UVF.
6) UVF GRO - Gasoline range organics by UVF.
7) Action level based upon NCDEQ memo *Guidelines for North Carolina Action Limits for Total Petroleum Hydrocarbons* - July 29, 2016.
8) Soil samples were collected on October 25, 2016.
9) **Bold** values are above the detection level.

Solutions-IES
Industrial & Environmental Services

FIGURES



SCALE 1:24,000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

SOURCE: U.S. GEOLOGICAL SURVEY 7.5 MIN QUADRANGLE: FAYETTEVILLE, NC (2016)

PROJECT NUMBER 2016.0054.NDOT
CHECKED BY JEP
PROJECT MANAGER MWB
DATE NOVEMBER 2016
FILE FAYETTEVILLE PSAS

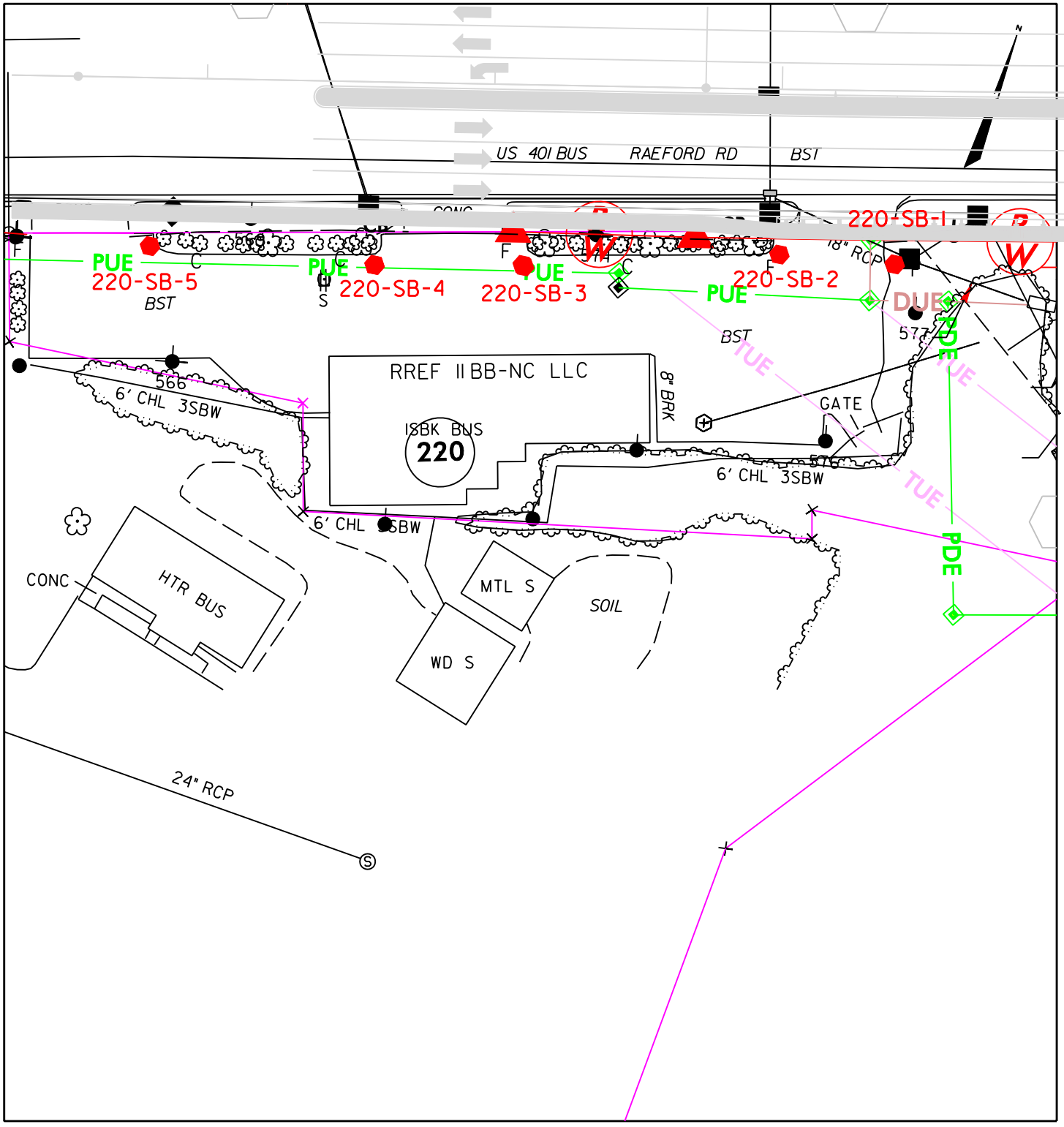
Solutions-IES
Industrial & Environmental Services
1101 NOWELL ROAD
RALEIGH, NORTH CAROLINA 27607
TEL: (919) 873-1060 FAX: (919) 873-1074

VICINITY MAP

RREF II BB-NC LLC PROPERTY (PARCEL #220)
FAYETTEVILLE, CUMBERLAND COUNTY NORTH CAROLINA

FIGURE 1

PROJECT NUMBER 2016.0054.NDOT
DRAFTER MWB
CHECKED BY JEP
PROJECT MANAGER MWB
DATE NOVEMBER 2016
FAYETTEVILLE PSAS
FILE



LEGEND

220-SB-1

SOIL SAMPLE LOCATION AND IDENTIFICATION

0 25 50
GRAPHIC SCALE (FEET)

Solutions-IES
Industrial & Environmental Services
1101 NOWELL ROAD
RALEIGH, NORTH CAROLINA 27607
TEL: (919) 873-1060 FAX: (919) 873-1074

SITE MAP

RREF II BB-NC LLC PROPERTY (PARCEL #220)

FAYETTEVILLE, CUMBERLAND COUNTY, NORTH CAROLINA

FIGURE 2

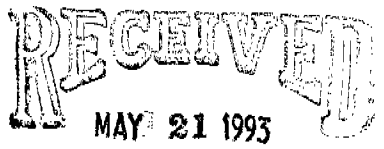
...\reports\FIGURES\220.dgn 12/19/2016 9:36:49 AM

ATTACHMENT A

MR. ROBERT E. BRYAN JR.

UST CLOSURE
4299 RAEFORD RD
FAYETTEVILLE. N.C.

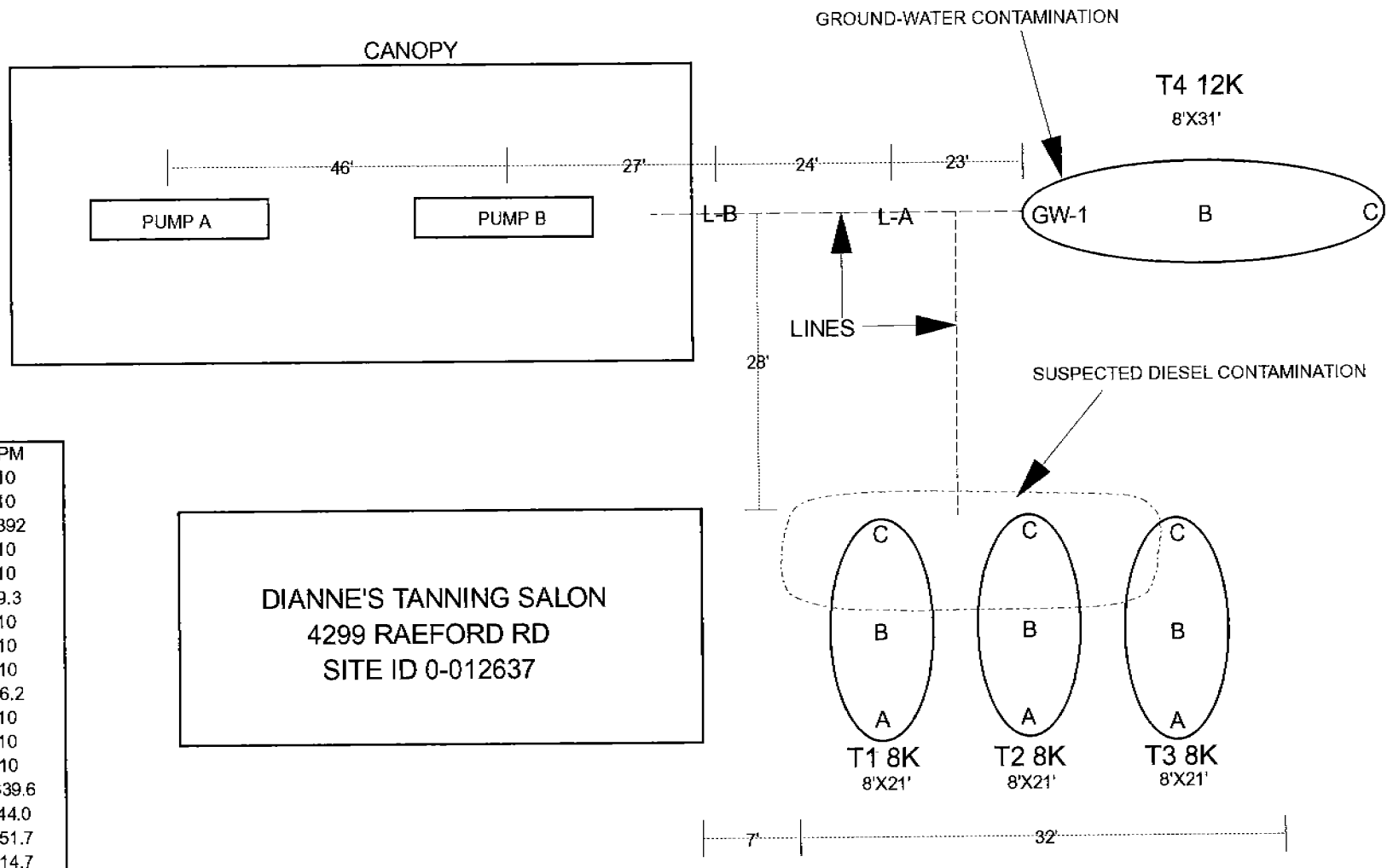
ID NO. 0-012637



ENV. MANAGEMENT
FAYETTEVILLE REG. OFFICE

PREPARED BY
HOLLOWELL TESTING

SAMPLE LOCATION MAP



SAMPLE#	PPM
T1A	<10
T1B	<10
T1C	3892
T2A	<10
T2B	<10
T2C	99.3
T3A	<10
T3B	<10
T3C	<10
GW-1	36.2
T4A	<10
T4B	<10
T4C	<10
T1C'	639.6
T2C'	44.0
PUMP A	51.7
PUMP B	14.7
L-A	63.6
L-B	62.0

DIANNE'S TANNING SALON
4299 RAEFORD RD
SITE ID 0-012637

SOIL SAMPLING:

SAMPLES WERE COLLECTED WITH DISPOSABLE SPATULAS AND PLACED IN GLASS JARS WITH ALUMINIUM FOIL LINED TOPS. THREE SAMPLES WERE COLLECTED UNDER THOSE TANKS GREATER THAN 20 FEET IN LENGTH. SAMPLES WERE COLLECTED ALONG LINES EVERY 20 FEET. ALL SAMPLES WERE PLACED ON ICE WHILE BEING TRANSPORTED TO THE LABORATORY.

SOIL CHARACTERISTICS:

THE TOP TWO FEET CONSISTED OF A SAND/CLAY MIXTURE. FROM 2 FEET TO A DEPTH OF 13 FEET CONSISTED OF A GREY DRAB PLASTIC CLAY FOLLOWED BY SANDY CLAY.

PROPERTY DESCRIPTION AND SURROUNDING AREA:

THE SITE IS SITUATED IN THE CENTER OF THE CITY OF FAYETTEVILLE. THE AREA IS GENERALLY A BUSINESS DISTRICT ALONG WITH A FEW DWELLINGS. CITY WATER AND SEWAGE DISPOSAL SERVES THE AREA. THERE ARE NO KNOWN WELLS IN THE VICINITY OF THE SITE.

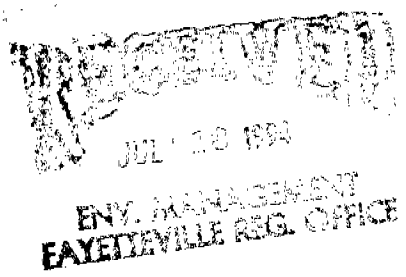
UTTS ENVIRONMENTAL

Corporate Headquarters
Post Office Box 8148
Greenville, North Carolina 27835
919-758-0001

FAX 919-758-9652

Post Office Box 2102
Myrtle Beach
South Carolina 29578
803-448-0000

July 15, 1994



Mr. Jim Bales
NC DEHNR - Fayetteville Regional Office
Wachovia Building, Suite 714
Fayetteville, N.C. 28301

Re: Dianne's Tanning Salon
4299 Raeford Road
Fayetteville, N.C. 28305

Dear Mr. Bales:

UTTS/Environmental (UTTS/E) is pleased to submit the preliminary findings of the ground water investigation at the above referenced subject site.

To date, UTTS/E has installed four monitoring wells at the subject site. The location of the monitoring wells is provided on a site map included herein.

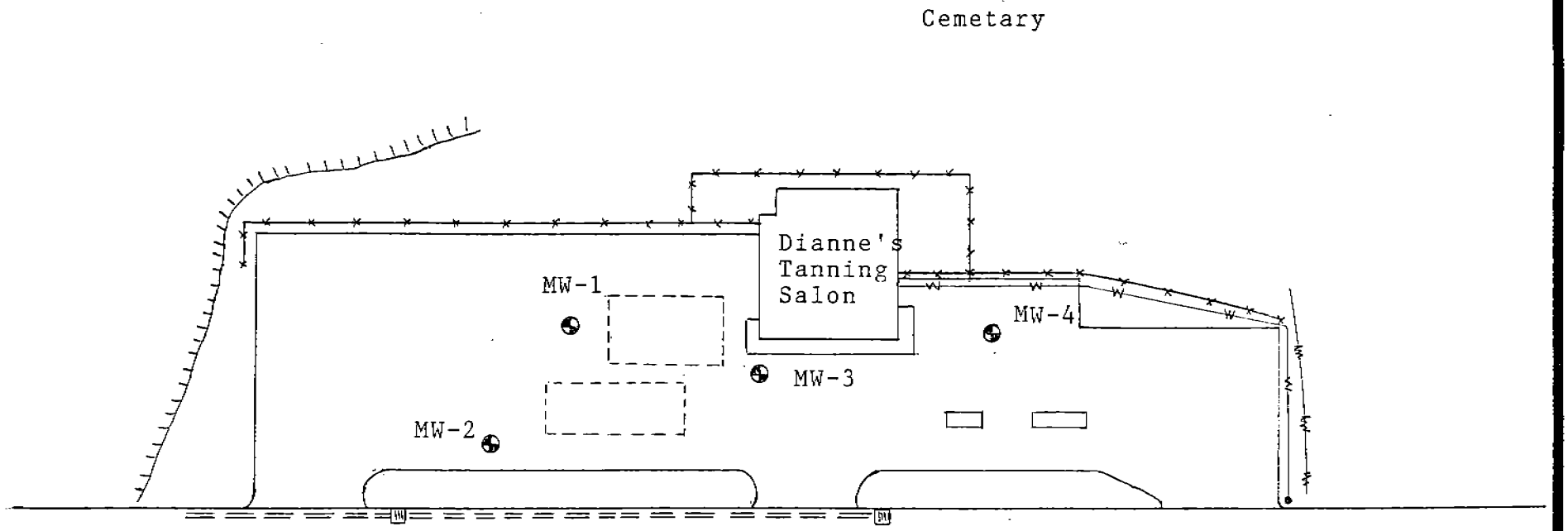
In addition, UTTS/E personnel have obtained ground water samples from the subject site. The samples were submitted to GeoChem, Incorporated in Morrisville, N.C. for analysis by EPA Method 601, EPA Method 602 plus Methyl Tertiary Butyl Ether (MTBE), Ethylene Dibromide (EDB) and Isopropyl Ether (IPE) in addition to EPA Method 625 B/N. A copy of the analytical results is included herein.

Based on the confirmation of ground water contamination at the subject site, UTTS/E is currently seeking off site permission of adjacent property owners to access their property to continue needed investigative work.

Sincerely,

J. Alan Pinnix, P.G.
Staff Geologist

cc: Mr Robert Bryan, Yaupon Corporation



Monitoring Well Locations
Dianne's Tanning Salon
Fayetteville, Cumberland County, N.C.
Scale: 1 inch = 50 feet

UTTS ENVIRONMENTAL

Division of Waste Management

Underground Storage Tank Section

May 7, 2001

MEMORANDUM

To: Fay Sweat

From: Rob Krebs, Field Operations Branch

Subject: Incident Closure

The following underground storage tank (UST) pollution incident has successfully met the requirements for closure and has been issued a no further action letter by the UST Section. A copy of the no further action letter is on file in the UST Section's regional office.

Incident #:	10468
IncidentName:	DIANNE'S TANNING SALON
Address:	4299 RAEFORD RD.
City/Town:	FAYETTEVILLE
County:	CUMBE
CloseOut Date:	6/11/96
Region:	FAY

ATTACHMENT B

PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2016-265)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCEL 220 – RREF II BB-NC, LLC
NCDOT PROJECT U-4405

4299 RAEFORD RD., FAYETTEVILLE, CUMBERLAND COUNTY, NC

NOVEMBER 4, 2016

Report prepared for: **Mike Branson**
Solutions, IES
1101 Nowell Road
Raleigh, North Carolina 27607

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

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

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

GEOPHYSICAL INVESTIGATION REPORT
Parcel 220 – 4299 Raeford Road
Fayetteville, Cumberland County, North Carolina

Table of Contents

Figures

Appendices

LIST OF ACRONYMS

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

EXECUTIVE SUMMARY

Project Description: Pyramid Environmental conducted a geophysical investigation for Solutions, IES (Solutions) at Parcel 220, located at 4299 Raeford Road, Fayetteville, NC. The survey was part of a North Carolina Department of Transportation (NCDOT) Right-of-Way (ROW) investigation (NCDOT Project U-4405). Solutions directed Pyramid as to the geophysical survey boundaries at the project site, which were designed to extend from the existing edge of pavement to the proposed ROW lines and/or easement lines within the property, whichever distance was greater. Conducted from October 12-17, 2016, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

Geophysical Results: A large portion of the EM anomalies were directly attributed to visible cultural features at the ground surface. EM interference from suspected metal reinforcement was observed across the central portion of the parking area and at the entrance driveway aprons. These areas were investigated by GPR. The GPR scans verified the presence of reinforcement in the asphalt. No additional structures were observed. Collectively, the geophysical data did not show any evidence of unknown metallic USTs at Parcel 220.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Solutions, IES (Solutions) at Parcel 220, located at 4299 Raeford Road, Fayetteville, NC. The survey was part of a North Carolina Department of Transportation (NCDOT) Right-of-Way (ROW) investigation (NCDOT Project U-4405). Solutions directed Pyramid as to the geophysical survey boundaries at the project site, which were designed to extend from the existing edge of pavement to the proposed ROW lines and/or easement lines within the property, whichever distance was greater. Conducted from October 12-17, 2016, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

The site included a commercial building with an asphalt parking lot and grass medians. Aerial photographs showing the survey area boundaries and ground-level photographs are shown in **Figure 1**.

FIELD METHODOLOGY

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. Pyramid collected the EM data using a Geonics EM61 metal detector integrated with a Trimble AG-114 GPS antenna. The integrated GPS system allows the location of the instrument to be recorded in real-time during data collection, resulting in an EM data set that is geo-referenced and can be overlain on aerial photographs and CADD drawings. A boundary grid was established around the perimeter of the site with marks every 10 feet to maintain orientation of the instrument throughout the survey and assure complete coverage of the area.

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

parallel survey lines spaced five feet apart. The data were downloaded to a computer and reviewed in the field and office using the Geonics NAV61 and Surfer for Windows Version 11.0 software programs.

GPR data were acquired across select EM anomalies on October 17, 2016, using a Geophysical Survey Systems, Inc. (GSSI) UtilityScan DF unit equipped with a dual frequency 300/800 MHz antenna. Data were collected both in reconnaissance fashion as well as along formal transect lines across EM features. The GPR data were viewed in real-time using a vertical scan of 512 samples, at a rate of 48 scans per second. GPR data were viewed down to a maximum depth of approximately 4 feet, based on dielectric constants calculated by the DF unit in the field during the reconnaissance scans. GPR transects across specific anomalies were saved to the hard drive of the DF unit for post-processing and figure generation.

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

Geophysical Surveys for Underground Storage Tanks
on NCDOT Projects

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

DISCUSSION OF RESULTS

Discussion of EM Results

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

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

LIST OF METALLIC ANOMALIES IDENTIFIED BY EM SURVEY

Metallic Anomaly #	Cause of Anomaly	Investigated with GPR
1	Reinforced Concrete	☑
2	Telephone Pole and Guy Wires	
3	Reinforced Concrete	☑
4	Reinforced Concrete	
5	Guy Wire	
6	Dumpster	
7	Telephone Pole	
8	Reinforced Concrete	☑

A large portion of the EM anomalies recorded by the survey were directly attributed to visible cultural features such as utility poles, guy wires, and a dumpster. Suspected metal-reinforced concrete was present across the central portion of the asphalt parking area, as well as at each of the three entrance driveway aprons leading into the parking lot. These areas of reinforced concrete were investigated further by GPR.

Discussion of GPR Results

Figure 3 presents the locations of the formal GPR transects performed at the property, as well as select transect images. A total of 23 GPR transects were performed at the site across the areas containing reinforced concrete. The 23 transects all verified the presence of metal reinforcement in the concrete. No evidence of significant structures beneath the reinforcement such as USTs was observed.

Collectively, the geophysical data did not show any evidence of unknown metallic USTs at Parcel 220.

SUMMARY & CONCLUSIONS

Pyramid's evaluation of the EM61 and GPR data collected at Parcel 220 in Fayetteville, Cumberland County, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the accessible portions of the geophysical survey area.
- A large portion of the EM anomalies were directly attributed to visible cultural features at the ground surface. EM interference from suspected metal reinforcement was observed across the central portion of the parking area and at the entrance driveway aprons. These areas were investigated by GPR.
- The GPR scans verified the presence of reinforcement in the asphalt. No additional structures were observed.
- Collectively, the geophysical data did not show any evidence of unknown metallic USTs at Parcel 220.

LIMITATIONS

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

N↑

APPROXIMATE BOUNDARIES OF GEOPHYSICAL SURVEY AREA

View of Survey Area
(Facing Approximately East)

View of Survey Area
(Facing Approximately East)

TITLE
PARCEL 220 - GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS

PROJECT
4299 RAEFORD ROAD
FAYETTEVILLE, NORTH CAROLINA
NCDOT PROJECT U-4405

Pyramid Geophysics
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27460
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

DATE	10/31/16	CLIENT	SOLUTIONS, IES
PYRAMID PROJECT #:	2016-265		**FIGURE 1**

N↑

EM61 METAL DETECTION RESULTS

NUMBERS IN BLUE (x) CORRESPOND TO ANOMALY TABLE INCLUDED IN THE REPORT

NO EVIDENCE OF UNKNOWN METALLIC USTs OBSERVED

The contour plot shows the differential results of the EM61 instrument in millivolts (mV). The differential results focus on larger metallic objects such as USTs and drums. The EM61 data were collected on October 13, 2016, using a Geonics EM61 instrument. Verification GPR data were collected using a GSSI UtilityScan DF instrument with a dual frequency 300/800 MHz antenna on October 17, 2016.

EM61 Metal Detection Response (millivolts)

TITLE: PARCEL 220 - EM61 RESULTS CONTOUR MAP

PROJECT: 4299 RAEFORD ROAD
FAYETTEVILLE, NORTH CAROLINA
NCDOT PROJECT U-4405

Pyramid Geophysics
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27460
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

DATE: 10/31/2016

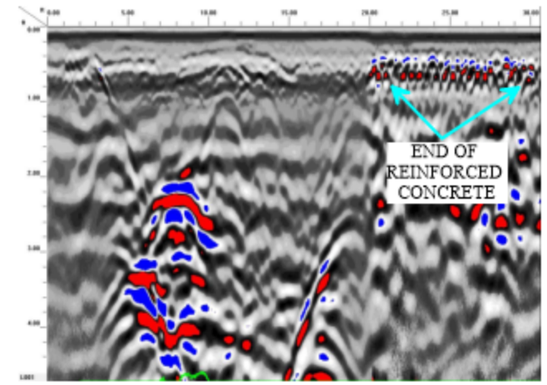
CLIENT: SOLUTIONS, IES

PYRAMID PROJECT #: 2016-265

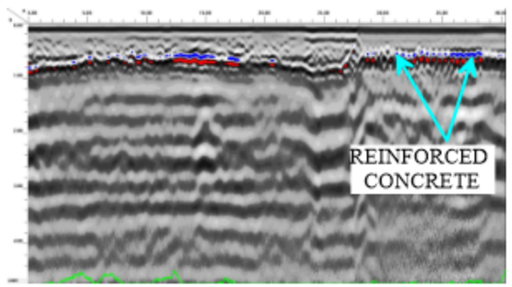
FIGURE 2

N

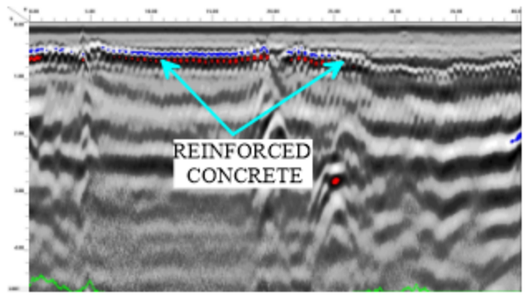
LOCATIONS OF GPR TRANSECTS



GPR TRANSECT 18 (T18)



GPR TRANSECT 1 (T1)



GPR TRANSECT 14 (T14)

TITLE

PARCEL 220 - GPR TRANSECT LOCATIONS AND SELECT IMAGES

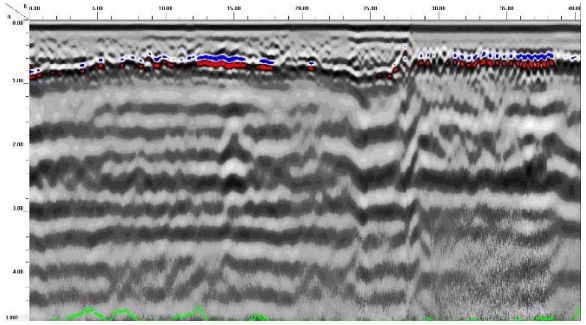
PROJECT

4299 RAEFORD ROAD
FAYETTEVILLE, NORTH CAROLINA
NCDOT PROJECT U-4405

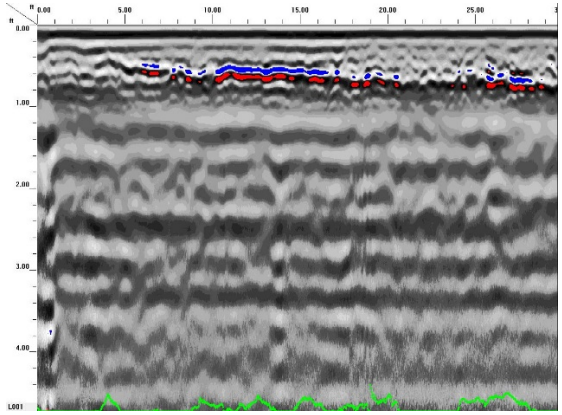
Pyramid Geophysics
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27460
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

DATE	10/31/2016	CLIENT	SOLUTIONS, IES
PYRAMID PROJECT #:	2016-265		**FIGURE 3**

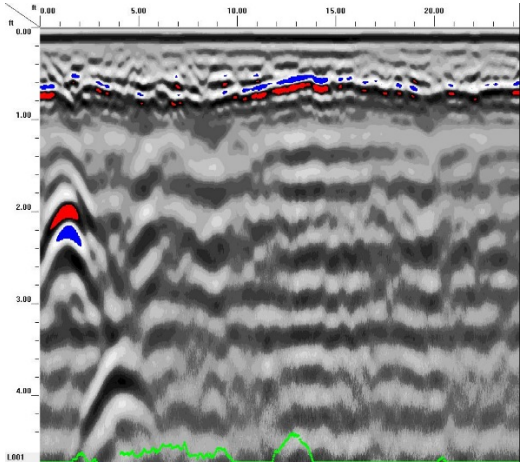
Appendix A – GPR Transect Images



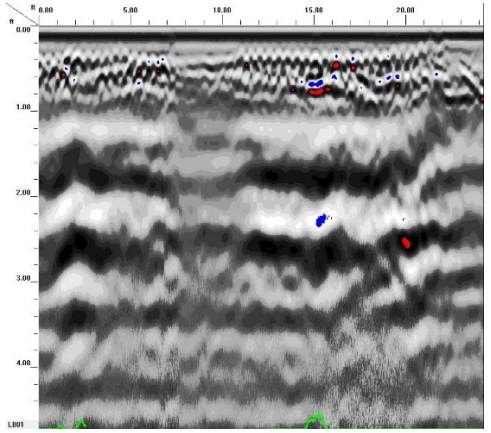
GPR TRANSECT 1



GPR TRANSECT 2



GPR TRANSECT 3



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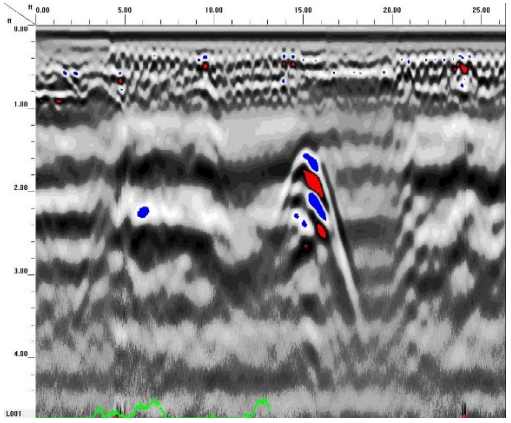
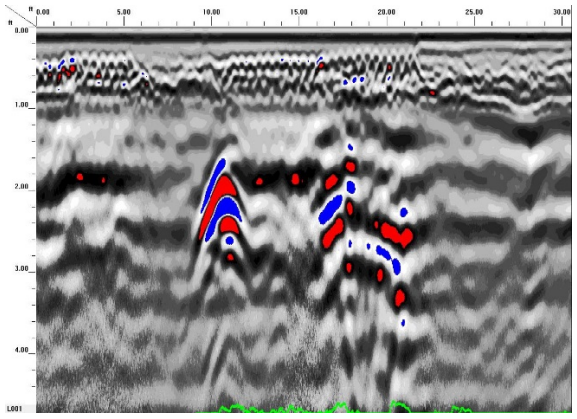
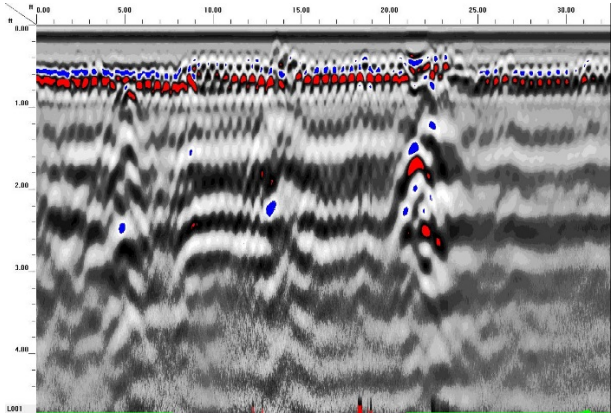


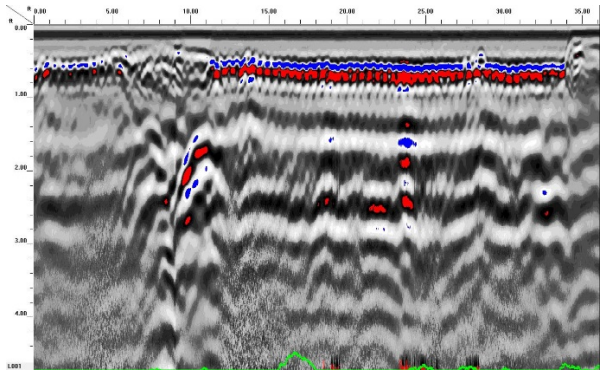
GPR TRANSECT 5



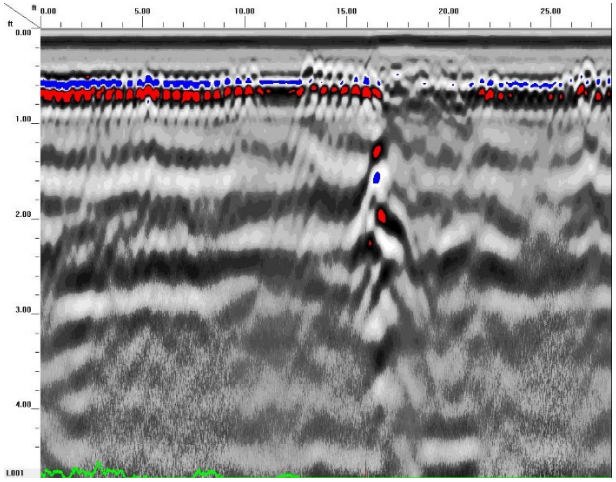
GPR TRANSECT 6



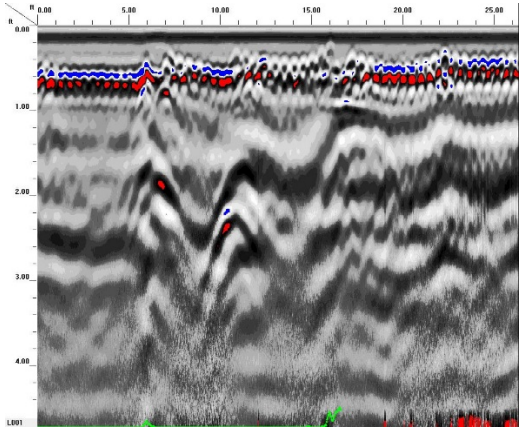
GPR TRANSECT 7



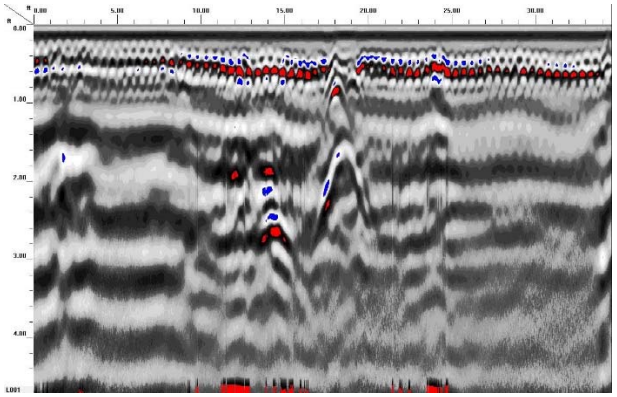
GPR TRANSECT 8



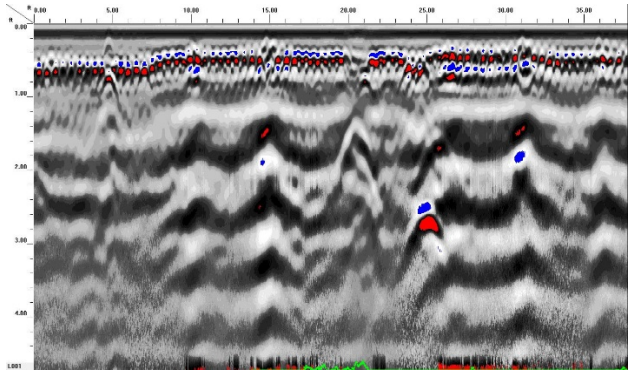
GPR TRANSECT 9



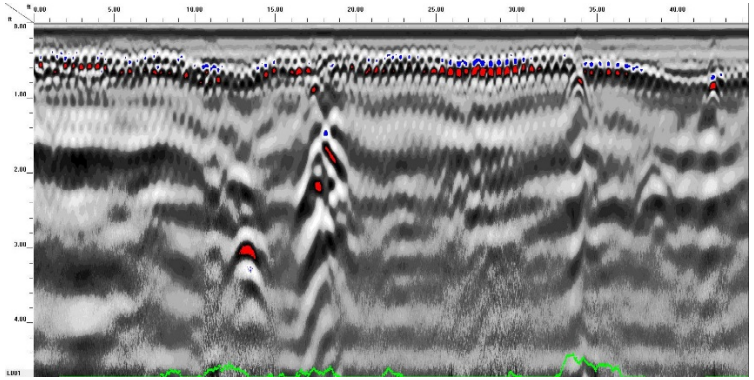
GPR TRANSECT 10



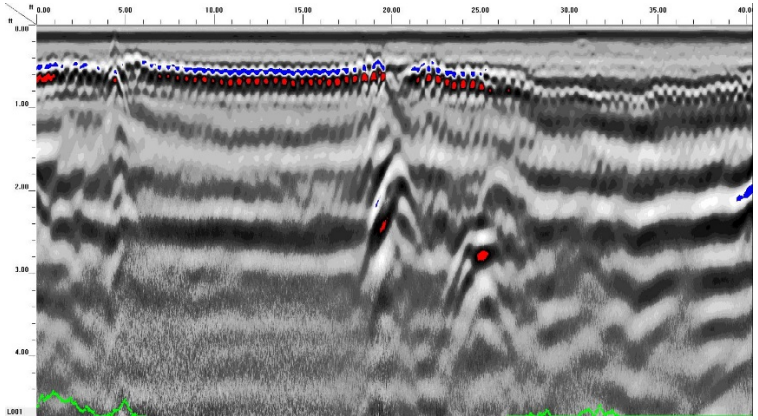
GPR TRANSECT 11



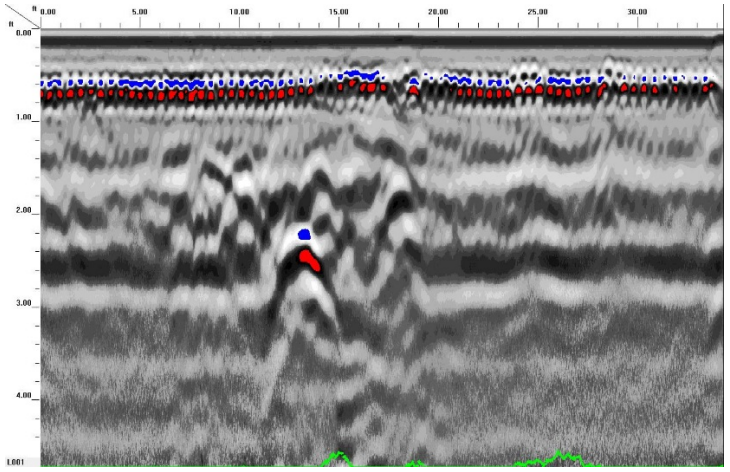
GPR TRANSECT 12



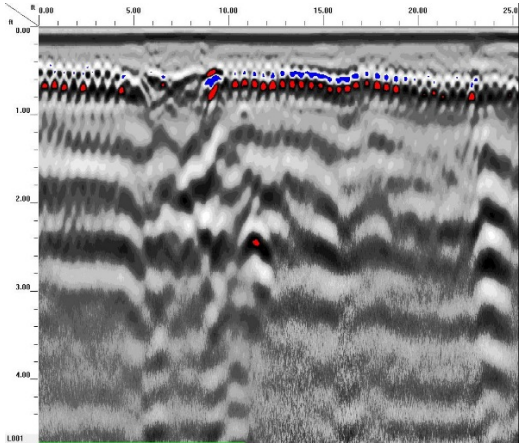
GPR TRANSECT 13



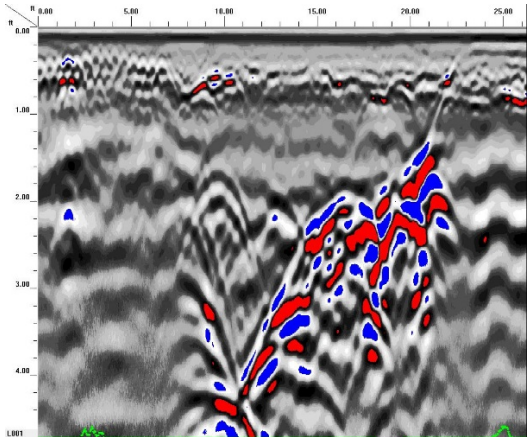
GPR TRANSECT 14



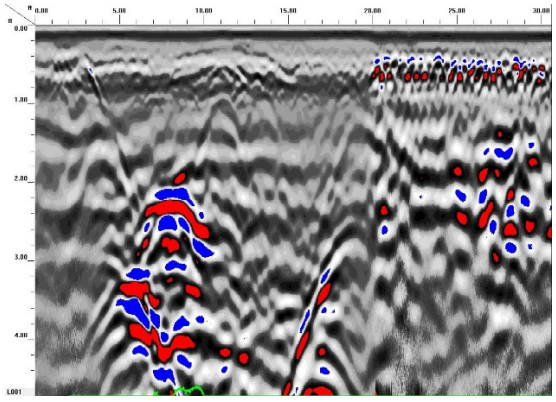
GPR TRANSECT 15



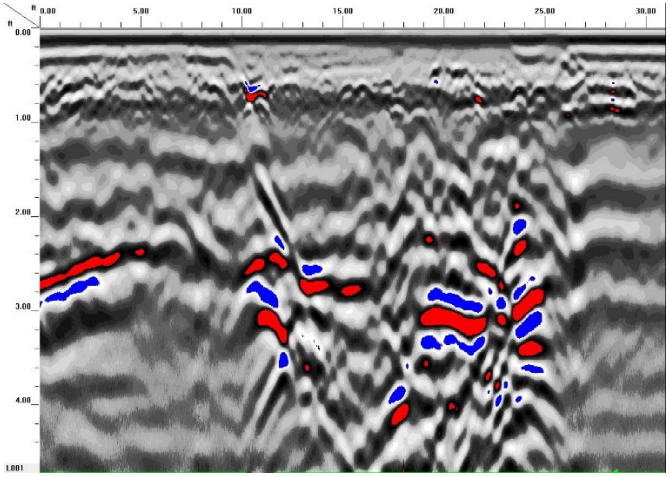
GPR TRANSECT 16



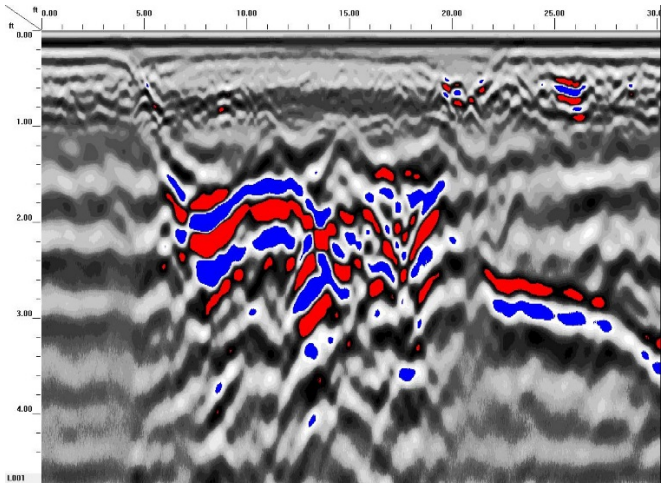
GPR TRANSECT 17



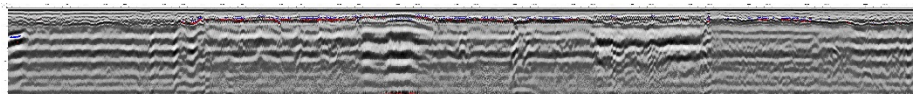
GPR TRANSECT 18



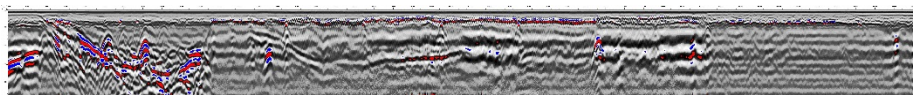
GPR TRANSECT 19



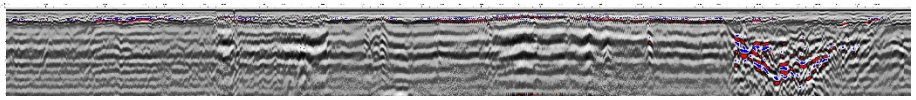
GPR TRANSECT 20



GPR TRANSECT 21



GPR TRANSECT 22



GPR TRANSECT 23

ATTACHMENT C

Solutions-IES
Industrial & Environmental Services

Log of Boring 220-SB-1

BORING LOCATION: Parcel #220, Fayetteville, NC	PROJECT NUMBER: 2016.0054.NDOT
DRILLING CONTRACTOR: Regional Probing Services	DATE STARTED: 10/27/2016 — DATE FINISHED: 10/27/2016
DRILLING METHOD: Direct Push — BOREHOLE DIAMETER: 2.25"	TOTAL DEPTH (ft bgs): 10 ft bgs — SCREEN INTERVAL (ft bgs): NA
DRILLING EQUIPMENT: Geoprobe 5410	NORTHING: NA — EASTING: NA
SAMPLING METHOD: Macro Core	INITIAL DTW: NA — FINAL DTW: NA
LOGGED BY: Samuel McIntyre — CHECKED BY:	

DEPTH (ft bgs)	SAMPLES: Sample ID and Interval	SAMPLES: Recovery	PID (ppm)	DESCRIPTION OF MATERIALS	DEPTH (ft bgs)
0					0
1			0.2		1
2		100%		Tan clayey fine sand. Dry.	2
3			0.3		3
4					4
5			0.8		5
6	220-SB-1-6-8	100%			6
7			1.2	Light brown and red mottled fine sandy clay. Dry. Minor black staining at 9 ft bgs.	7
8					8
9	220-SB-1-8-10	100%	0.9		9
10					10

End of Boring

Solutions-IES
Industrial & Environmental Services

Log of Boring 220-SB-2

BORING LOCATION: Parcel #220, Fayetteville, NC	PROJECT NUMBER: 2016.0054.NDOT
DRILLING CONTRACTOR: Regional Probing Services	DATE STARTED: 10/27/2016 — DATE FINISHED: 10/27/2016
DRILLING METHOD: Direct Push — BOREHOLE DIAMETER: 2.25"	TOTAL DEPTH (ft bgs): 10 ft bgs — SCREEN INTERVAL (ft bgs): NA
DRILLING EQUIPMENT: Geoprobe 5410	NORTHING: NA — EASTING: NA
SAMPLING METHOD: Macro Core	INITIAL DTW: NA — FINAL DTW: NA
LOGGED BY: Samuel McIntyre — CHECKED BY:	

DEPTH (ft bgs)	SAMPLES: Sample ID and Interval	SAMPLES: Recovery	PID (ppm)	DESCRIPTION OF MATERIALS	DEPTH (ft bgs)
0				Asphalt.	0
1		100%	0.0	Tan clayey fine sand. Dry.	1
2					2
3			0.0		3
4		100%			4
5			0.0		5
6					6
7			0.4	Light brown and red mottled fine sandy clay. Dry.	7
8	220-SB-2-8-10	100%			8
9			0.8		9
10					10

End of Boring

Solutions-IES
Industrial & Environmental Services

Log of Boring 220-SB-3

BORING LOCATION: Parcel #220, Fayetteville, NC	PROJECT NUMBER: 2016.0054.NDOT
DRILLING CONTRACTOR: Regional Probing Services	DATE STARTED: 10/27/2016 — DATE FINISHED: 10/27/2016
DRILLING METHOD: Direct Push — BOREHOLE DIAMETER: 2.25"	TOTAL DEPTH (ft bgs): 10 ft bgs — SCREEN INTERVAL (ft bgs): NA
DRILLING EQUIPMENT: Geoprobe 5410	NORTHING: NA — EASTING: NA
SAMPLING METHOD: Macro Core	INITIAL DTW: NA — FINAL DTW: NA
LOGGED BY: Samuel McIntyre — CHECKED BY:	

DEPTH (ft bgs)	SAMPLES: Sample ID and Interval	SAMPLES: Recovery	PID (ppm)	DESCRIPTION OF MATERIALS	DEPTH (ft bgs)
0				Asphalt.	0
1		100%	0.6	Tan clayey fine sand. Dry.	1
2					2
3			1.3		3
4				Light brown and red mottled fine sandy clay. Dry. Mild hydrocarbon odors at 8 ft bgs.	4
5		100%	2.4		5
6					6
7			2.5		7
8	220-SB-3-8-10	100%	62.1		8
9					9
10				End of Boring	10

Solutions-IES
Industrial & Environmental Services

Log of Boring 220-SB-4

BORING LOCATION: Parcel #220, Fayetteville, NC	PROJECT NUMBER: 2016.0054.NDOT
DRILLING CONTRACTOR: Regional Probing Services	DATE STARTED: 10/27/2016 — DATE FINISHED: 10/27/2016
DRILLING METHOD: Direct Push — BOREHOLE DIAMETER: 2.25"	TOTAL DEPTH (ft bgs): 10 ft bgs — SCREEN INTERVAL (ft bgs): NA
DRILLING EQUIPMENT: Geoprobe 5410	NORTHING: NA — EASTING: NA
SAMPLING METHOD: Macro Core	INITIAL DTW: NA — FINAL DTW: NA
LOGGED BY: Samuel McIntyre — CHECKED BY:	

DEPTH (ft bgs)	SAMPLES: Sample ID and Interval	SAMPLES: Recovery	PID (ppm)	DESCRIPTION OF MATERIALS	DEPTH (ft bgs)
0				Asphalt.	0
1		100%	0.0	Tan clayey fine sand. Dry.	1
2					2
3			0.0		3
4		100%			4
5			0.0		5
6				Light brown and red mottled fine sandy clay. Dry.	6
7			0.0		7
8	220-SB-4-8-10	100%			8
9			0.1		9
10					10

End of Boring

Solutions-IES
Industrial & Environmental Services

Log of Boring 220-SB-5

BORING LOCATION: Parcel #220, Fayetteville, NC	PROJECT NUMBER: 2016.0054.NDOT
DRILLING CONTRACTOR: Regional Probing Services	DATE STARTED: 10/27/2016 — DATE FINISHED: 10/27/2016
DRILLING METHOD: Direct Push — BOREHOLE DIAMETER: 2.25"	TOTAL DEPTH (ft bgs): 10 ft bgs — SCREEN INTERVAL (ft bgs): NA
DRILLING EQUIPMENT: Geoprobe 5410	NORTHING: NA — EASTING: NA
SAMPLING METHOD: Macro Core	INITIAL DTW: NA — FINAL DTW: NA
LOGGED BY: Samuel McIntyre — CHECKED BY:	

DEPTH (ft bgs)	SAMPLES: Sample ID and Interval	SAMPLES: Recovery	PID (ppm)	DESCRIPTION OF MATERIALS	DEPTH (ft bgs)
0				Asphalt.	0
1		100%	0.0	Tan clayey fine sand. Dry.	1
2					2
3			0.0		3
4		100%		Light brown and red mottled fine sandy clay. Dry.	4
5			0.0		5
6					6
7			0.0		7
8	220-SB-5-8-10	100%			8
9			0.0		9
10					10

End of Boring

ATTACHMENT D

PHOTO 1- VIEW OF SOIL BORING LOOKING NORTHEAST

PHOTO 2 - VIEW OF SOIL BORING LOOKING NORTH

PHOTO 3 - VIEW OF SOIL BORING LOOKING NORTH

PHOTO 4 - VIEW OF SOIL BORING LOOKING WEST

PHOTO 5 - VIEW OF SOIL BORING LOOKING WEST

ATTACHMENT E

QED REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS QROS

Hydrocarbon Analysis Results

Client: NCDOT
Address: Site 220: 4299 Raeford Road
Fayetteville, NC

Samples taken 10/27/2016
Samples extracted 10/27/2016
Samples analysed 10/27/2016

Contact:

Operator Candy Elliott

Project: 2016.0054.NDOT

U04049

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	220-SB-1-6-8	25.0	<0.63	<0.63	1.4	1.4	1.1	0.13	0.017	0	65.8	34.2	V.Deg.PHC (FCM) 59.8%
s	220-SB-1-8-10	21.9	<0.55	<0.55	11.2	11.2	4.6	0.23	0.003	0	86.4	13.6	Deg Fuel (FCM) 73.7%
s	220-SB-2-8-10	22.5	<0.56	<0.56	3.6	3.6	1.9	0.09	0.002	0	87.3	12.7	V.Deg.PHC (FCM) 74.5%
s	220-SB-3-8-10	23.5	<0.59	1.8	7.8	9.6	3.7	0.16	0.002	34.9	58.5	6.6	Deg.Fuel (FCM) 92.8%
s	220-SB-4-8-10	22.1	<0.55	<0.55	13.4	13.4	13.4	0.76	0.057	0	79.8	20.2	Deg Fuel (FCM) (P) 64.7%
s	220-SB-5-8-10	23.2	<0.58	<0.58	10.9	10.9	6.9	2.1	0.039	0	87.6	12.4	Deg.Creosote (FCM) 72.4%

Initial Calibrator QC check OK

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

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

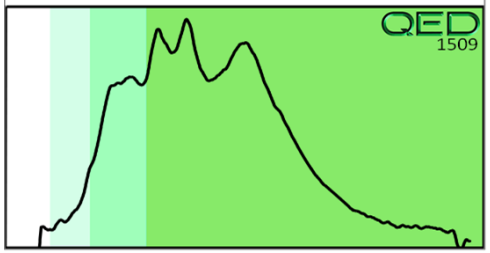
(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present

QED Hydrocarbon Fingerprints

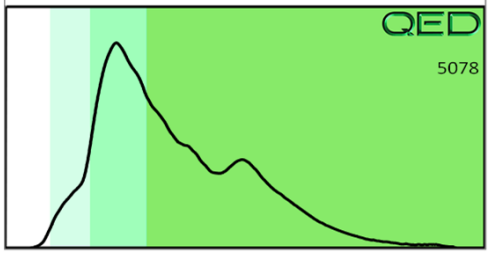
Project: 2016.0054.NDOT

10/27/2016

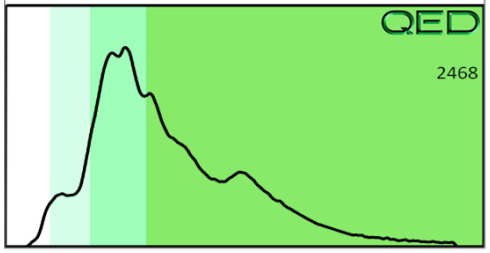
220-SB-1-6-8 : V.Deg.PHC (FCM) 59.8%



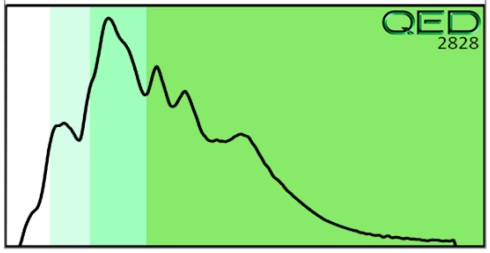
220-SB-1-8-10 : Deg Fuel (FCM) 73.7%



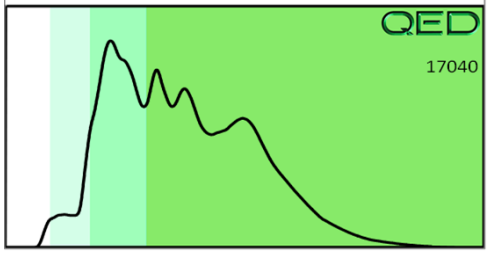
220-SB-2-8-10 : V.Deg.PHC (FCM) 74.5%



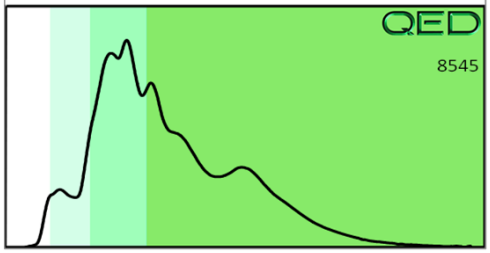
220-SB-3-8-10 : Deg.Fuel (FCM) 92.8%



220-SB-4-8-10 : Deg Fuel (FCM) (P) 64.7%



220-SB-5-8-10 : Deg.Creosote (FCM) 72.4%



File Review Reports
RREF II BB-NC LLC (Parcel #220)
4299 Raeford Road
Fayetteville, Cumberland County, North Carolina
State Project: U-4405
WBS Element 39049.1.1

HOLLOWELL TESTING
ALAN G. HOLLOWELL

Rt. 1 Box 47
Goldsboro, N.C. 27530
PHONE (919)689-2114

MAY 3, 1993

MR. GENE JACKSON
N.C. DEPARTMENT OR HEALTH AND NATURAL RESOURCES
SUITE 714, WACHOVIA BLDG.
FAYETTEVILLE, N.C. 28301

SUBJECT: UST CLOSURE 4299 RAEFORD RD.

SITE ID: 0-012637

DEAR MR. JACKSON,

HOLLOWELL TESTING CONDUCTED THE REQUIRED SITE ASSESSMENT AT THE ABOVE MENTIONED SITE. THIS TANK REMOVAL COMMENCED 4/20/93 AND CONCLUDED 4/23/93. THREE 8,000 GALLON AND ONE 12,000 GALLON GASOLINE UST'S WERE REMOVED BY CARL TAYLOR AND DISPOSED OF BY M&M TANK SERVICE LOCATED IN LAGRANGE, N.C.

AS MENTIONED ABOVE, CARL TAYLOR REMOVED TANKS, LINES AND EXCAVATED CONTAMINATED SOIL. THIS CONTAMINATION WAS LAND FARMED BY MR. TOM HERRING (PERMIT NO. WQ 0004784). THIS PERMITTED SITE IS LOCATED IN AUTRYVILLE, N.C.

CONTAMINATION WAS DISCOVERED AT THE WEST END (PUMP, FILL END) OF THE TANK BED THAT HOUSED THREE 8K GALLON UST'S. CONTAMINATION WAS REMOVED AND SOIL SAMPLES WERE COLLECTED AND ANALYZED FOR REIMBURSEMENT PURPOSES. CONTAMINATION WAS ALSO DISCOVERED AT THE SOUTH END (PUMP, FILL END) OF THE 12K GALLON UST. WHILE REMOVING CONTAMINATION, GROUNDWATER WAS ENCOUNTERED. THIS WATER WAS SAMPLED AND ANALYZED FOR BETX/TPH.

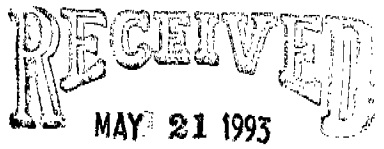
SINCERELY,

ALAN G. HOLLOWELL

MR. ROBERT E. BRYAN JR.

UST CLOSURE
4299 RAEFORD RD
FAYETTEVILLE. N.C.

ID NO. 0-012637



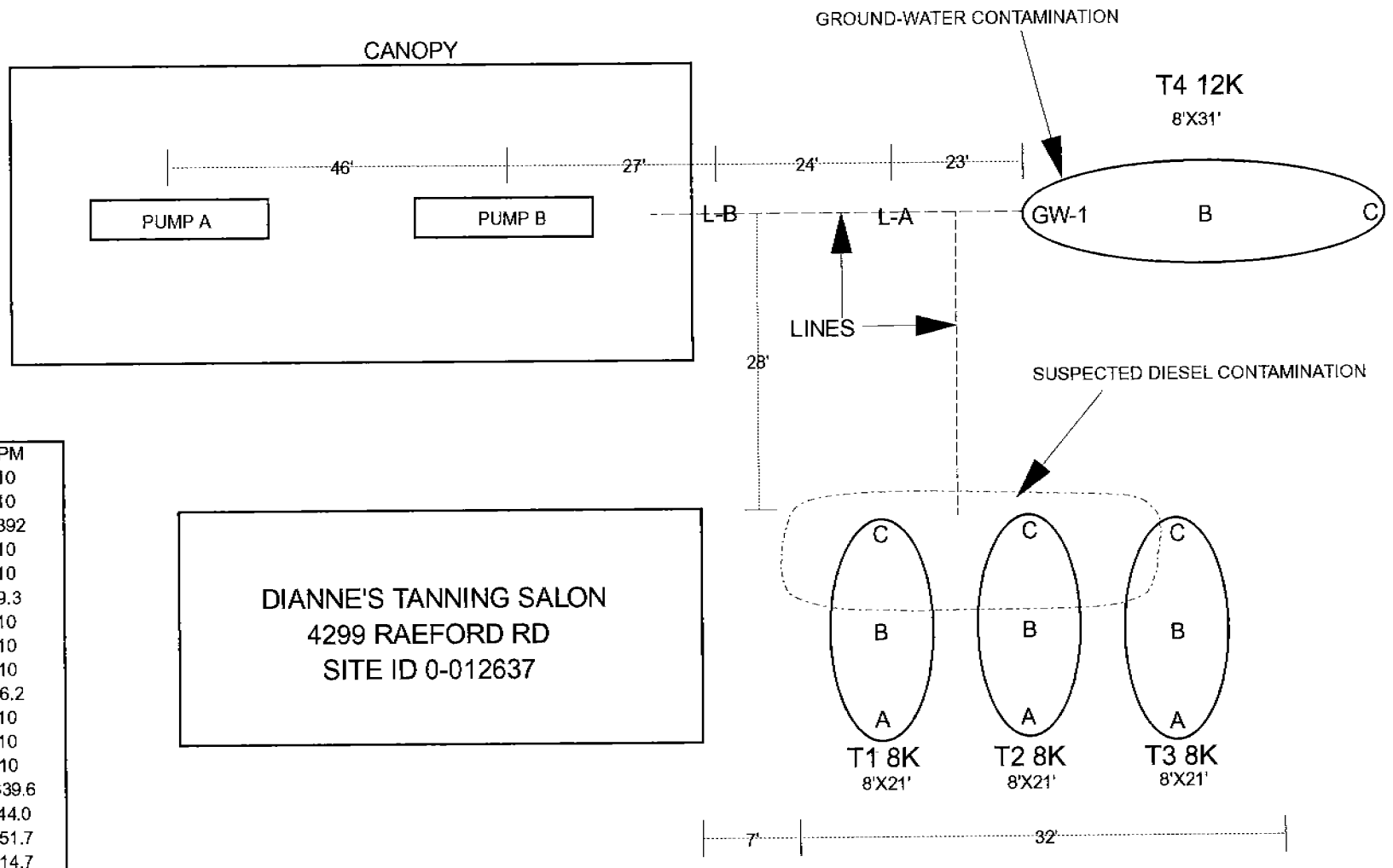
ENV. MANAGEMENT
FAYETTEVILLE REG. OFFICE

PREPARED BY
HOLLOWELL TESTING

SAMPLES WERE COLLECTED AT THE BOTTOM OF EACH UST IN THE NATIVE UNDISTURBED SOIL. MINOR CONTAMINATION WAS ENCOUNTERED AT SAMPLING POINTS "C" WHERE THREE 8K GASOLINE UST'S WERE LOCATED. WHILE REMOVING THIS CONTAMINATED SOIL, GREATER LEVELS OF CONTAMINATION WAS DISCOVERED IN THE VERTICAL DIRECTION. THE CHROMATAGRAM PRODUCED IN THE LABORATORY STRONGLY SUGGESTS CONTAMINATION CAUSED BY DIESEL OR ANOTHER HEAVIER FUEL. ACCORDING TO THE OWNER MR. BRYAN, ONLY GASOLINE WAS SOLD AT HIS FACILITY. APPARENTLY PREVIOUS OWNER/OPERATORS SOLD AND HOUSED SUCH FUELS AT THIS SITE.

WHILE REMOVING THE 12K GALLON UST CONTAMINATION WAS ALSO DISCOVERED AT THE PUMP/FILL END. CONTAMINATED SOIL WAS REMOVED DOWN TO THE GROUNDWATER TABLE (17.5'). THIS WATER WAS SAMPLED (GW-1) IN LIEU OF A SOIL SAMPLE AT THIS POINT. THIS SAMPLE WAS ANALYZED FOR TPH AS WELL AS BTEX.

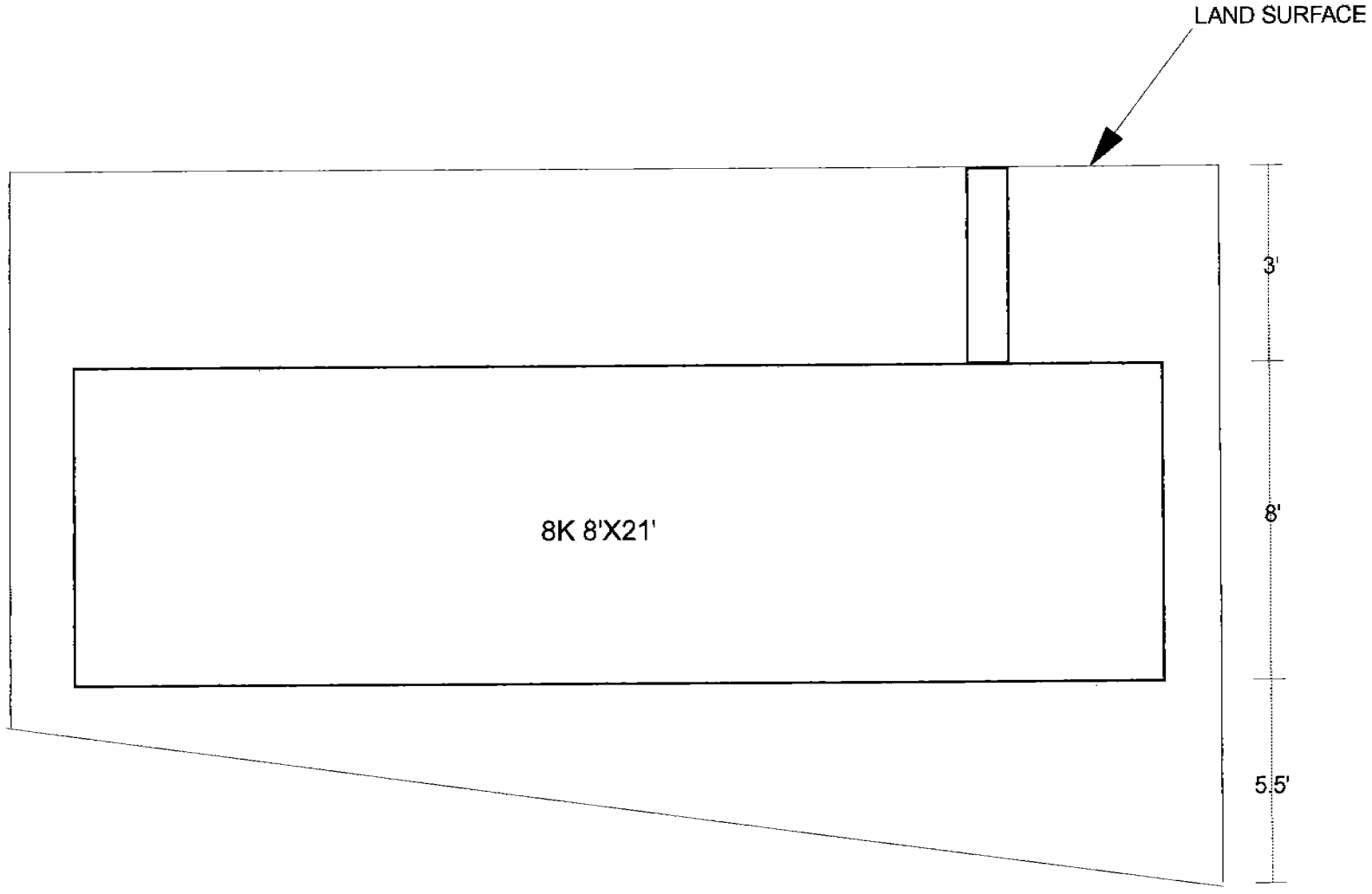
SAMPLE LOCATION MAP



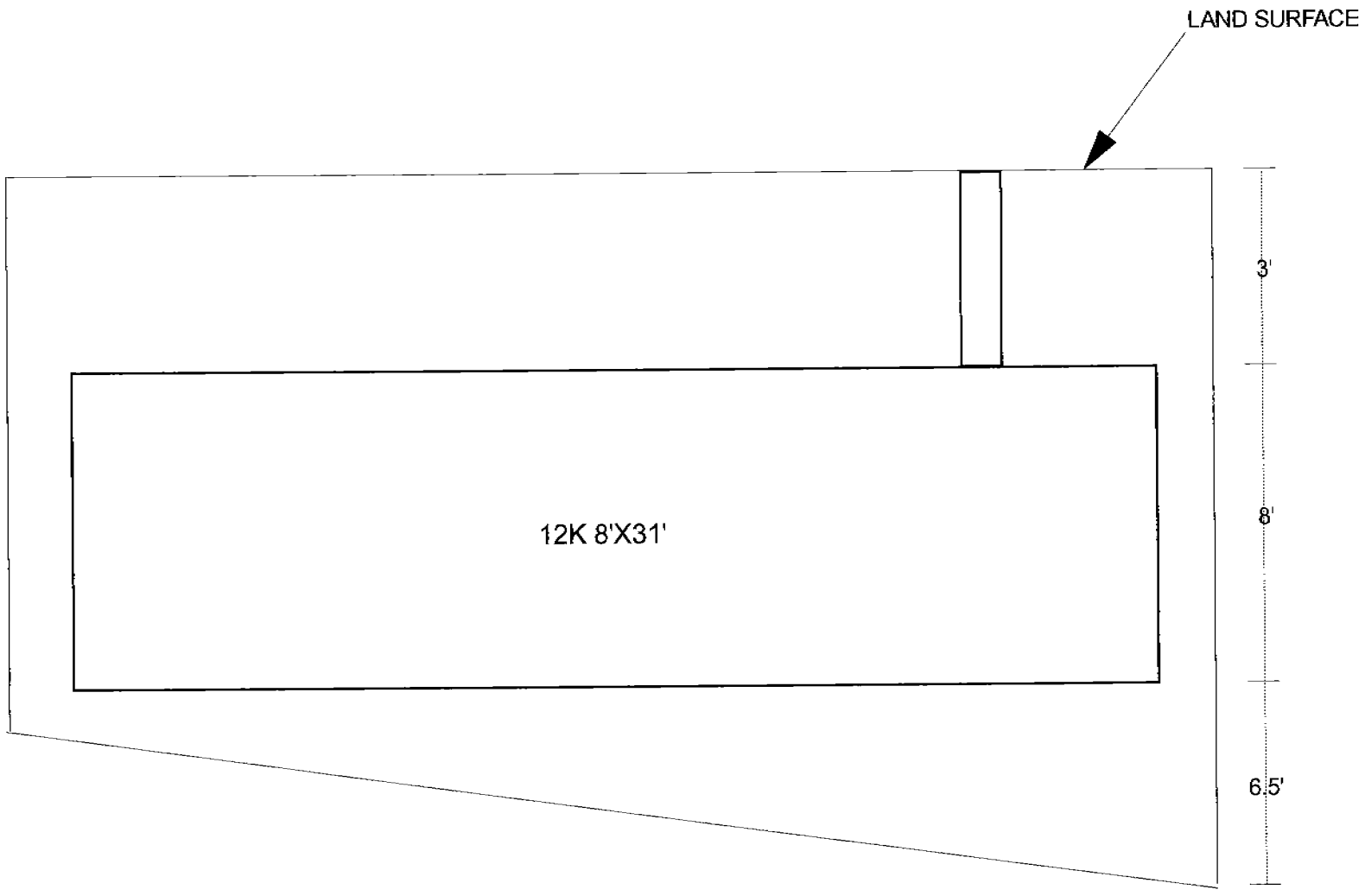
SAMPLE#	PPM
T1A	<10
T1B	<10
T1C	3892
T2A	<10
T2B	<10
T2C	99.3
T3A	<10
T3B	<10
T3C	<10
GW-1	36.2
T4A	<10
T4B	<10
T4C	<10
T1C'	639.6
T2C'	44.0
PUMP A	51.7
PUMP B	14.7
L-A	63.6
L-B	62.0

DIANNE'S TANNING SALON
4299 RAEFORD RD
SITE ID 0-012637

EXCAVATION CROSSECTION



EXCAVATION CROSSECTION



SOIL SAMPLING:

SAMPLES WERE COLLECTED WITH DISPOSABLE SPATULAS AND PLACED IN GLASS JARS WITH ALUMINIUM FOIL LINED TOPS. THREE SAMPLES WERE COLLECTED UNDER THOSE TANKS GREATER THAN 20 FEET IN LENGTH. SAMPLES WERE COLLECTED ALONG LINES EVERY 20 FEET. ALL SAMPLES WERE PLACED ON ICE WHILE BEING TRANSPORTED TO THE LABORATORY.

SOIL CHARACTERISTICS:

THE TOP TWO FEET CONSISTED OF A SAND/CLAY MIXTURE. FROM 2 FEET TO A DEPTH OF 13 FEET CONSISTED OF A GREY DRAB PLASTIC CLAY FOLLOWED BY SANDY CLAY.

PROPERTY DESCRIPTION AND SURROUNDING AREA:

THE SITE IS SITUATED IN THE CENTER OF THE CITY OF FAYETTEVILLE. THE AREA IS GENERALLY A BUSINESS DISTRICT ALONG WITH A FEW DWELLINGS. CITY WATER AND SEWAGE DISPOSAL SERVES THE AREA. THERE ARE NO KNOWN WELLS IN THE VICINITY OF THE SITE.

CONCLUSIONS:

SUSPECTED DIESEL CONTAMINATION IS NOTED ON THE SAMPLE LOCATION MAP. IT IS BELIEVED PREVIOUS OWNER/OPERATORS ARE RESPONSIBLE FOR THIS CONTAMINATION SINCE MR. BRYAN NEVER SOLD PRODUCTS OF THIS TYPE AT THIS SITE.

GROUNDWATER HAS BEEN IMPACTED AT THE PUMP/FILL END OF THE 12K GALLON TANK BED AREA. GASOLINE IS THE CONTAMINATE IN THIS AREA. A WATER SAMPLE WAS COLLECTED AND ANALYZED IN LIEU OF A SOIL SAMPLE.

T1C' AND T2C' REPRESENT SOIL SAMPLES COLLECTED AFTER RAESONABLE AMOUNTS OF CONTAMINATED SOIL HAD BEEN REMOVED. 3-8KSPA-D AND 12KSPA-D REPRESENT SOIL SAMPLES COLLECTED FROM CONTAMINATED SOIL STOCK PILED FOR DISPOSAL. THESE SAMPLES WERE COLLECTED AND ANALYZED FOR REIMBURSEMENT PURPOSES.

PETROCHEM ENVIRONMENTAL LABS

ALAN G. HOLLOWELL

1907 STATE ROAD 1243
GOLDSBORO, N.C. 27530
PHONE(919)-736-8002
(919)-689-2114

METHOD 5030

CLIENT ID	T1A	T1B	T1C	T2A	T2B	T2C
LAB ID	4229301	4229302	4229311	4229303	4229304	4229312
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
GASOLINE TPH (PPM)	<10	<10	3892	<10	<10	99.3

CLIENT ID	T3A	T3B	T3C	GW-1	T4B	T4C
LAB ID	4229305	4229306	4229307	4259301	4229310	4229308
MATRIX	SOIL	SOIL	SOIL	WATER	SOIL	SOIL
GASOLINE TPH (PPM)	<10	<10	<10	36.2	<10	<10

CLIENT ID	T1C'	T2C'	PUMP A	PUMP B	L-A	L-B
LAB ID	4239301	4239302	539301	539302	539303	539304
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
GASOLINE TPH (PPM)	639.6	44.0	51.7	14.7	63.6	62.0

CLIEMT ID	3-8KSPA	3-8KSPB	3-8KSPC	3-8KSPD	12KSPA	12KSPB
LAB ID	4239303	4239304	4239305	4239306	4239307	4239308
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
GASOLINE TPH (PPM)	169.2	25.6	155.2	2881	<10*	<10*

* LESS THAN 10 BUT DETECTED

CLIENT ID	12KSPC	12KSPD
LAB ID	4239309	4239310
MATRIX	SOIL	SOIL
GASOLINE TPH (PPM)	288.0	96.5

JOB SITE: 4299 RAEFORD RD

DATE REPORTED: 4/23/93

ANALYST

PETROCHEM ENVIRONMENTAL LABS
ALAN G. HOLLOWELL

1907 STATE ROAD 1243
GOLDSBORO, N.C. 27530
PHONE(919)-736-8002
(919)-689-2114

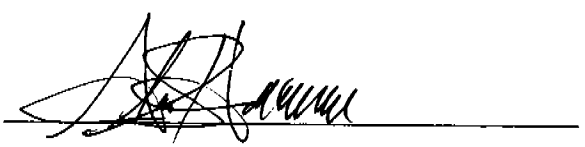
METHOD 602

CLIENT ID	GW-1
LAB ID	4239311
MATRIX	WATER
GASOLINE TPH (PPM)	36.2
BENZENE (PPB)	2686.1
TOLUENE (PPB)	4401.0
ETHYL BENZENE (PPB)	987.7
XYLENES (PPB)	5745.5

DATE REPORTED: 4\23\93

JOB SITE: 4299 RAEFORD RD FAYETTEVILLE, N.C.

ID NO: 0-012637

ANALYST: 

PETROCHEM ENVIRONMENTAL LABS
Alan G. Hollowell
1907 STATE RD 1243
GOLDSBORO, N.C.27530
PHONE (919)-736-8002

SAMPLE SUBMISSION FORM

Company: Hollowell Testing

Date Submitted: 4/22/93

Submitted By:

Phone:

Job No: 4299 Raeford Rd

Recieved By:

No. of Samples:

SAMPLE MATRIX	SAMPLE ID.	ANALYSIS	PPM LEVELS
Soil	Pump A	GAS TPH 5030	≥ 10
	Pump B		
	L-A		
	L-B		

Sample collection date 4/22/93 Time 10:50

Special Instructions:

Youpon Corp

(GW/UST-2) Site Investigation Report For Permanent Closure or Change-in-Service of U.S.T.

FOR TANKS IN **NC**

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

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

INSTRUCTIONS

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

I. Ownership of Tank(s)

Youpon Corp DBA Express Stops
Owner Name (Corporation, Individual, Public Agency, or Other Entity)
PO Box 53557
Street Address
Fayetteville NC
County
City State Zip Code
Area Code Telephone Number

II. Location of Tank(s)

Facility Name or Company
O-012637
Facility ID # (if available)
4299 Raeford Rd
Street Address or State Road
Cumberland Fayetteville NC
County City Zip Code
N/A
Area Code Telephone Number

III. Contact Person

Alan G. Hollowell — Name
Environmental Specialist — Job Title
919-689-2114 — Telephone No. (Area Code)

Closure Contractor (Name) Carl Taylor — P.O. Box 691 Hope Mills NC. (Address) — 919-423-1273 Telephone No. (Area Code)

Lab (Name) Petrochem Environmental Labs — 1907 S.R. 1243 Goldsboro NC (Address) — 919-736-8002 Telephone No. (Area Code)

IV. U.S.T. Information / V. Excavation Condition

Tank No.	Size in Gallons	Tank Dimensions	Last Contents	Water In Excavation Yes	Water In Excavation No	Free Product Yes	Free Product No	Notable Odor or Visible Soil Contamination Yes	Notable Odor or Visible Soil Contamination No
1	8K	8'x21'	Gasoline		✓		✓	✓	
2	8K	8'x21'			✓		✓	✓	
3	8K	8'x21'			✓		✓	✓	
4	12K	8'x31'		✓			✓	✓	

VI. Additional Information Required

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

VII. Check List

Check the activities completed.

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

Date Tank(s) Permanently closed: 4/22/93
Date of Change-in-Service: _____

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

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

Final tank destination: _____
M&M Tank Service Lagrange N.C.

VIII. Certification (Read and Sign)

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

Print name and official title of owner or owner's authorized representative	Signature	Date Signed
Alan G. Hollowell		5/12/93

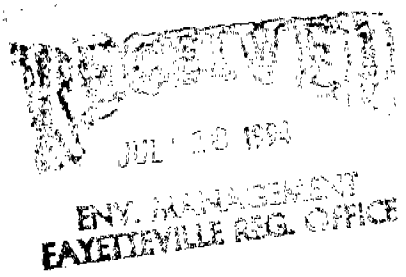
UTTS ENVIRONMENTAL

Corporate Headquarters
Post Office Box 8148
Greenville, North Carolina 27835
919-758-0001

FAX 919-758-9652

Post Office Box 2102
Myrtle Beach
South Carolina 29578
803-448-0000

July 15, 1994



Mr. Jim Bales
NC DEHNR - Fayetteville Regional Office
Wachovia Building, Suite 714
Fayetteville, N.C. 28301

Re: Dianne's Tanning Salon
4299 Raeford Road
Fayetteville, N.C. 28305

Dear Mr. Bales:

UTTS/Environmental (UTTS/E) is pleased to submit the preliminary findings of the ground water investigation at the above referenced subject site.

To date, UTTS/E has installed four monitoring wells at the subject site. The location of the monitoring wells is provided on a site map included herein.

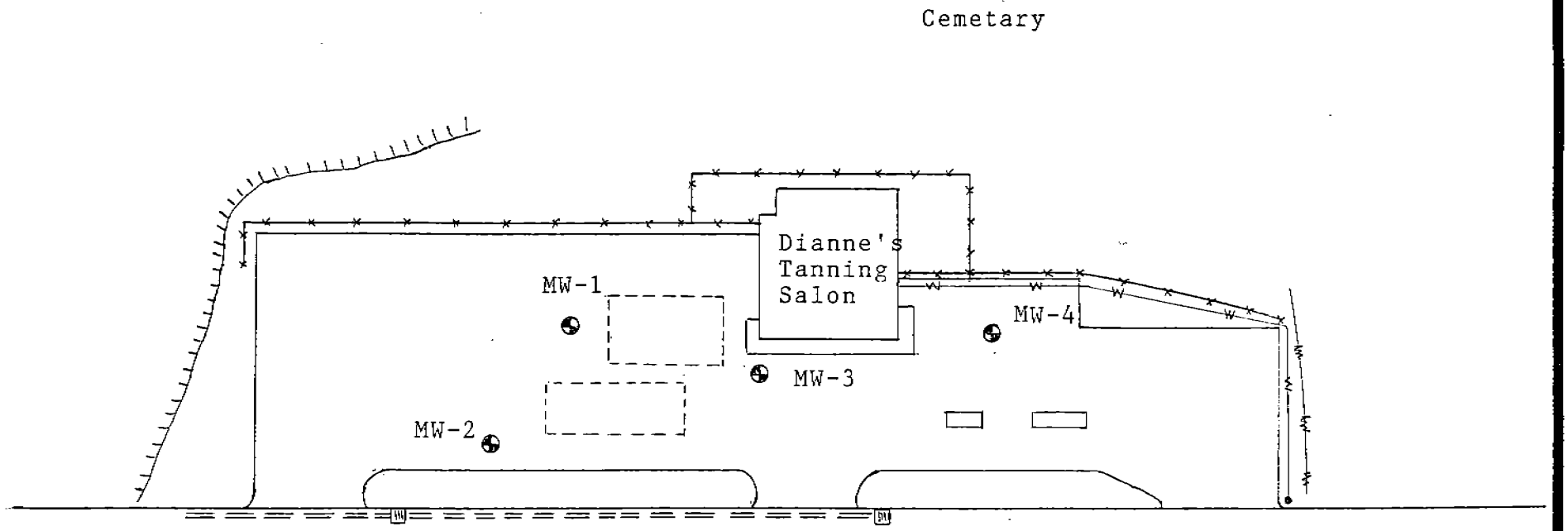
In addition, UTTS/E personnel have obtained ground water samples from the subject site. The samples were submitted to GeoChem, Incorporated in Morrisville, N.C. for analysis by EPA Method 601, EPA Method 602 plus Methyl Tertiary Butyl Ether (MTBE), Ethylene Dibromide (EDB) and Isopropyl Ether (IPE) in addition to EPA Method 625 B/N. A copy of the analytical results is included herein.

Based on the confirmation of ground water contamination at the subject site, UTTS/E is currently seeking off site permission of adjacent property owners to access their property to continue needed investigative work.

Sincerely,

J. Alan Pinnix, P.G.
Staff Geologist

cc: Mr Robert Bryan, Yaupon Corporation



Monitoring Well Locations
Dianne's Tanning Salon
Fayetteville, Cumberland County, N.C.
Scale: 1 inch = 50 feet

UTTS ENVIRONMENTAL

GeoChem, Incorporated

Environmental Laboratories

February 14, 1994

Mr. Charlie Harrison
UTTS/E
P.O. Box 8148
Greenville, NC 27835

Reference: **Dians Tanning**
GCI# 9401-069 (additional information)

Dear Mr. Charlie Harrison:

This is the analytical report for the above referenced project. On January 20, 1994 we received one ground water sample for analysis. The analytical and quality control results are presented in separate tables for your convenience. Brief summaries of analytical methods employed are as follows. GeoChem analytical reports contain information based strictly on the analysis requested on the chain of custody (COC) accompanying this report. Non-target compounds are not identified or quantified. Our clients must request such additional documentation in writing.

EPA method 602

Samples are loaded into a specially designed purging chamber at ambient temperature. Helium is bubbled through the sample. This drives the organics onto a sorbent trap. Once purging has been completed the sorbent column is rapidly heated. This efficiently transfers the organics into the gas chromatograph which separates the components of the sample. The purgeable organics are then detected using flame ionization and photo ionization detectors.

2500 Gate Way Centre Blvd., Suite 300 • Morrisville, NC 27560
Telephone: 919-460-8093 • FAX: 919-460-0167

GeoChem, Incorporated

Environmental Laboratories

EPA method 601

Samples are loaded into a specially designed purging chamber at ambient temperature. Helium is bubbled through the sample. This drives the organics onto a sorbent trap. Once purging has been completed the sorbent column is rapidly heated. This efficiently transfers the organics into the gas chromatograph which separates the components of the sample. The purgeable organics are then detected using a halide specific detector.

Semivolatiles EPA 625

This method is used to determine the concentration of semivolatile organic compounds in extracts prepared from waste water and ground water. The components are separated via gas chromatograph and detected using a mass spectrometer. This method can be used to quantify most neutral, acidic, and basic organic compounds that are soluble in methylene chloride.

If there are any technical questions please feel free to call me at 919-460-8093. Thank you for allowing GEOCHEM to serve your analytical needs.

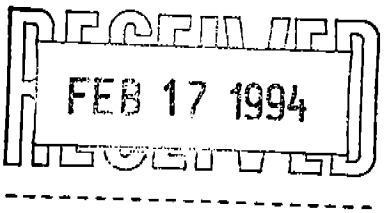
Sincerely,

Dean Gokel
President

2500 Gate Way Centre Blvd., Suite 300 • Morrisville, NC 27560
Telephone: 919-460-8093 • FAX: 919-460-0167

GeoChem, Incorporated

Environmental Laboratories



Geochem (NC # 336/SC # 99008)
Project#9401-069 1 Site Name Dians Tanning

LAB ID.	0257
DATE SAMPLED	01/19/94
DATE ANALYZED	01/22/94
FIELD ID.	MW 4

METHOD

ANALYTE	ug/l	pql
EPA 602		
Benzene	BDL	0.5
Toluene	BDL	
Chlorobenzene	BDL	
Ethylbenzene	1.9	
Xylenes	25	
1,3 Dichlorobenzene	BDL	
1,4 Dichlorobenzene	BDL	
1,2 Dichlorobenzene	BDL	
MTBE	BDL	1.0
EDB	BDL	1.0
IPE	BDL	1.0

	soil	water
parts per million =	*mg/kg*	*mg/l*
parts per billion =	*ug/kg*	*ug/l*

pql = practical quantitation limit due to matrix effects.
bdl = below method detection limit.
bql = below quantitation limit.

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Telephone: 919-460-8093 • FAX: 919-460-0167

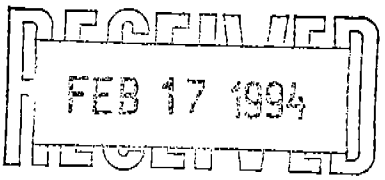
GeoChem, Incorporated

Environmental Laboratories

Geochem (NC # 336/SC # 99008)
Project#9401-069 2 Site Name Dians Tanning

LAB ID.	0257
DATE SAMPLED	01/19/94
DATE ANALYZED	01/22/94
FIELD ID.	MW 4

METHOD



ANALYTE	ug/l	pql
EPA 601		
Dichlorodifluoromethane	BDL	0.5
Chloromethane	BDL	
Vinyl chloride	BDL	
Bromomethane	BDL	
Chloroethane	BDL	
Methylene chloride	BDL	
Trichlorofluoromethane	BDL	
trans-1,2Dichloroethene	BDL	
1,1-Dichloroethane	BDL	
Chloroform	BDL	
1,1,1-Trichloroethane	BDL	
Carbon tetrachloride	BDL	
1,2-Dichloroethane	BDL	
Trichloroethene	BDL	
1,1-Dichloroethene	BDL	
1,2-Dichloropropane	BDL	
Bromodichloromethane	BDL	
trans1,3Dichloropropene	BDL	
cis-1,3-Dichloropropene	BDL	
1,1,2-Trichloroethane	BDL	
Tetrachloroethene	BDL	
Dibromochloromethane	BDL	
Chlorobenzene	BDL	
Bromoform	BDL	
1,1,2,2Tetrachloroethane	BDL	
1,3-Dichlorobenzene	BDL	
1,2-Dichlorobenzene	BDL	
1,4-Dichlorobenzene	BDL	
2-Chloroethylvinylether	BDL	

	soil	water
parts per million =	*mg/kg*	*mg/l*
parts per billion =	*ug/kg*	*ug/l*

pql = practical quantitation limit due to matrix effects.
bdl = below method detection limit.
bql = below quantitation limit.

2500 Gate Way Centre Blvd., Suite 300 • Morrisville, NC 27560
Telephone: 919-460-8093 • FAX: 919-460-0167

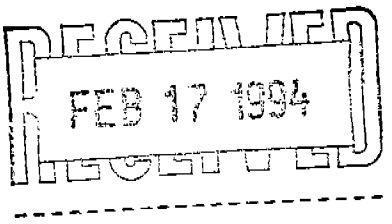
GeoChem, Incorporated

Environmental Laboratories

Geochem (NC #336/SC #99008)
Project#9401-069 3 Site Name Dians Tanning

LAB ID.	0257
DATE SAMPLED	01/19/94
DATE EXTRACTED	01/24/94
FIELD ID.	MW 4

METHOD



ANALYTE	ug/l	pql
625 Base/Neutral		
1,2,4-Trichlorobenzene	BDL	10
Bis2Chloroethyl Ether	BDL	
1,3-Dichlorobenzene	BDL	
1,4-Dichlorobenzene	BDL	
1,2-Dichlorobenzene	BDL	
Bis2ChloroisopropylEthr	BDL	
Hexachloroethane	BDL	
n-Nitrosodipropylamine	BDL	
Nitrobenzene	BDL	
Isophorone	BDL	
Bis2ChloroethoxyMethane	BDL	
Naphthalene	BDL	
Hexachlorobutadiene	BDL	
Hexachlorcyclopentadien	BDL	
2-Chloronaphthalene	BDL	
Acenaphthylene	BDL	
Dimethylphthalate	BDL	
2,6-Dinitrotoluene	BDL	
Acenaphthene	BDL	
2,4-Dinitrotoluene	BDL	
Fluorene	BDL	
4ChlorophenylPhenylEthe	BDL	
Diethylphthalate	BDL	
n-Nitrosodiphenylamine	BDL	
4-BromophenylPhenylEthe	BDL	
Hexachlorobenzene	BDL	

Base Neutrals continued on the following page

	soil	*water*
parts per million =	*mg/kg*	*mg/l*
parts per billion =	*ug/kg*	*ug/l*

pql = practical quantitation limit due to matrix effects.
bdl = below method detection limit.
bql = below quantitation limit.

2500 Gate Way Centre Blvd., Suite 300 • Morrisville, NC 27560
Telephone: 919-460-8093 • FAX: 919-460-0167

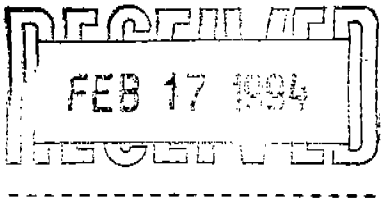
GeoChem, Incorporated

Environmental Laboratories

Geochem (NC #336/SC #99008)
Project#9401-069 4 Site Name Dians Tanning

LAB ID.	0257
DATE SAMPLED	01/19/94
DATE EXTRACTED	01/24/94
FIELD ID.	MW 4

METHOD



ANALYTE	ug/l	pql
625 B/N Continued		
Anthracene	BDL	10
Phenanthrene	BDL	
Di-N-Butylphthalate	BDL	
Fluoranthene	BDL	
Pyrene	BDL	
Benzidine	BDL	50
Indeno(1,2,3-cd)Pyrene	BDL	10
Butyl Benzyl Phthalate	BDL	20
Chrysene	BDL	10
Benzo(a)Anthracene	BDL	
3,3'-Dichlorobenzidine	BDL	20
Bis2EthylhexylPhthalate	BDL	10
Di-N-Octylphthalate	BDL	
Benzo(b)Fluoranthene	BDL	
Benzo(k)Fluoranthene	BDL	
Benzo(a)Pyrene	BDL	
Dibenz(a,h)Anthracene	BDL	
Benzo(g,h,i)Perylene	BDL	

	soil	*water*
parts per million	*mg/kg*	*mg/l*
parts per billion	*ug/kg*	*ug/l*

pql = practical quantitation limit due to matrix effects.
bdl = below method detection limit.
bql = below quantitation limit.

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GeoChem, Incorporated

Environmental Laboratories

QUALITY CONTROL RESULTS

METHOD	RECOVERY	METHOD DETECTION LIMIT
602		
Benzene	111 %	0.5 ppb
Toluene	107 %	
Chlorobenzene	114 %	
Ethylbenzene	108 %	
Xylenes	106 %	
1,3-Dichlorobenzene	102 %	
1,2-Dichlorobenzene	97 %	
1,4-Dichlorobenzene	88 %	
MTBE	86 %	1.0 ppb
EDB	95 %	1.0 ppb
IPE	90 %	1.0 ppb
625		
Base/Neutrals		
1,4-Dichlorobenzene	37 %	10 ppb
n-Nitroso-di-n-propylamine	46 %	
1,2,4-Trichlorobenzene	44 %	
Acenaphthene	65 %	
2,4-Dinitrotoluene	76 %	
Pyrene	105 %	
601		
1,2-Dichloropropane	117 %	0.5 ppb
Dibromochloromethane	114 %	
1,4-Dichlorobenzene	109 %	

REVIEWED BY

Laura Fogleman

REVIEWED BY

Valeri G. Rees

2500 Gate Way Centre Blvd., Suite 300 • Morrisville, NC 27560
Telephone: 919-460-8093 • FAX: 919-460-0167

Report To:
Charlie Harrison
P.O. Box 8148
Greenville, NC 27835
919-7580001

GeoChem, Incorporated

Environmental Laboratories

2500 Gate Way Centre Blvd., Suite 300
Morrisville, NC 27560

Bill To:
UTILE

Chain of Custody Record

602 127

PROJECT SITE NUMBER	PO# 07675	NO. OF CONTAINERS PER LOCATION	602 + MTBE/TPE	EDB	625 BN	601	ANALYSES	GEOCHEM PROJECT # 9401-069	
SITE NAME Dans Tunning	07676 625							DATE DUE 02-03-94	
COLLECTED BY (Signature)								VERBAL/FAX/HARDCOPY	
FIELD SAMPLE ID	TURNAROUND IN DAYS	SAMPLE MATRIX	DATE AND TIME COLLECTED					REMARKS	LAB ID NO. (for lab use only)
MW4	Standard.	H_2O	1-19-94	5	X	X	X		0257
	10	Ground Water	300P.						
								Mark A Creel.	

REMARKS				RELINQUISHED BY:			DATE 1-20	TIME
RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE 01/20	TIME 14:30	RELINQUISHED BY:	DATE	TIME

This Chain of Custody is considered a written contract to perform the services requested in the analyses section of this document.

GeoChem, Incorporated

Environmental Laboratories

January 24, 1994

Mr. Brian Gray
UTTS/E
P.O. Box 8148
Greenville, NC 27835

Reference: **Dianne's Tanning**
GCI# 9401-040

Dear Mr. Brian Gray:

This is the analytical report for the above referenced project. On January 10, 1994 we received three ground water samples for analysis. The analytical and quality control results are presented in separate tables for your convenience. Brief summaries of analytical methods employed are as follows. GeoChem analytical reports contain information based strictly on the analysis requested on the chain of custody (COC) accompanying this report. Non-target compounds are not identified or quantified. Our clients must request such additional documentation in writing.

EPA method 601

Samples are loaded into a specially designed purging chamber at ambient temperature. Helium is bubbled through the sample. This drives the organics onto a sorbent trap. Once purging has been completed the sorbent column is rapidly heated. This efficiently transfers the organics into the gas chromatograph which separates the components of the sample. The purgeable organics are then detected using a halide specific detector.

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Telephone: 919-460-8093 • FAX: 919-460-0167

GeoChem, Incorporated

Environmental Laboratories

EPA method 602

Samples are loaded into a specially designed purging chamber at ambient temperature. Helium is bubbled through the sample. This drives the organics onto a sorbent trap. Once purging has been completed the sorbent column is rapidly heated. This efficiently transfers the organics into the gas chromatograph which separates the components of the sample. The purgeable organics are then detected using flame ionization and photo ionization detectors.

If there are any technical questions please feel free to call me at 919-460-8093. Thank you for allowing GEOCHEM to serve your analytical needs.

Sincerely,

Dean Gokel
President

2500 Gate Way Centre Blvd., Suite 300 • Morrisville, NC 27560
Telephone: 919-460-8093 • FAX: 919-460-0167

GeoChem, Incorporated

Environmental Laboratories

Geochem (NC # 336/SC # 99008)
Project#9401-040 1 Site Name Dianne's Tanning

LAB ID.	0127	0128	0129
DATE SAMPLED	01/10/94	01/10/94	01/10/94
DATE ANALYZED	01/11/94	01/11/94	01/11/94
FIELD ID.	MW-1	MW-2	MW-3

METHOD

ANALYTE	ug/l	pql	ug/l	pql	ug/l	pql
EPA 601						
Dichlorodifluoromethane	BQL	13	BQL	5.0	BQL	5.0
Chloromethane	BQL		BQL		BQL	
Vinyl chloride	BQL		BQL		BQL	
Bromomethane	BQL		BQL		BQL	
Chloroethane	BQL		BQL		BQL	
Methylene chloride	BQL		BQL		BQL	
Trichlorofluoromethane	BQL		BQL		26	
trans-1,2Dichloroethene	BQL		BQL		BQL	
1,1-Dichloroethane	BQL		BQL		BQL	
Chloroform	BQL		BQL		BQL	
1,1,1-Trichloroethane	BQL		BQL		BQL	
Carbon tetrachloride	BQL		BQL		BQL	
1,2-Dichloroethane	BQL		BQL		BQL	
Trichloroethene	BQL		BQL		BQL	
1,1-Dichloroethene	BQL		BQL		BQL	
1,2-Dichloropropane	BQL		BQL		BQL	
Bromodichloromethane	BQL		BQL		BQL	
trans1,3Dichloropropene	BQL		BQL		BQL	
cis-1,3-Dichloropropene	BQL		BQL		BQL	
1,1,2-Trichloroethane	BQL		BQL		BQL	
Tetrachloroethene	BQL		BQL		BQL	
Dibromochloromethane	BQL		BQL		BQL	
Chlorobenzene	BQL		BQL		BQL	
Bromoform	BQL		BQL		BQL	
1,1,2,2Tetrachloroethane	BQL		BQL		BQL	
1,3-Dichlorobenzene	BQL		BQL		BQL	
1,2-Dichlorobenzene	BQL		BQL		BQL	
1,4-Dichlorobenzene	BQL		BQL		BQL	
2-Chloroethylvinylether	BQL		BQL		BQL	

	soil	*water*
parts per million	*mg/kg*	*mg/l*
parts per billion	*ug/kg*	*ug/l*

pql = practical quantitation limit due to matrix effects.
bdl = below method detection limit.
bql = below quantitation limit.

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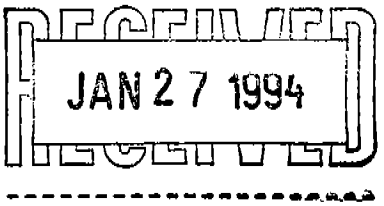
GeoChem, Incorporated

Environmental Laboratories



Geochem (NC # 336/SC # 99008)
Project#9401-040 2 Site Name Dianne's Tanning

LAB ID.	0127	0128	0129
DATE SAMPLED	01/10/94	01/10/94	01/10/94
DATE ANALYZED	01/11/94	01/11/94	01/11/94
FIELD ID.	MW-1	MW-2	MW-3

METHOD

ANALYTE	ug/l	pql	ug/l	pql	ug/l	pql
EPA 602						
Benzene	2100	13	580	5.0	56	5.0
Toluene	890		130		35	
Chlorobenzene	BQL		BQL		BQL	
Ethylbenzene	950		500		49	
Xylenes	2700		2600		220	
1,3 Dichlorobenzene	BQL		BQL		BQL	
1,4 Dichlorobenzene	BQL		BQL		BQL	
1,2 Dichlorobenzene	BQL		BQL		BQL	
MTBE	23,000	125	810	10	33	10
EDB	BQL	25	BQL	10	BQL	10

	soil	*water*
parts per million =	*mg/kg*	*mg/l*
parts per billion =	*ug/kg*	*ug/l*

pql = practical quantitation limit due to matrix effects.
bdl = below method detection limit.
bql = below quantitation limit.
** = exceeds calibration curve >20%.*

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GeoChem, Incorporated

Environmental Laboratories

QUALITY CONTROL RESULTS

METHOD	RECOVERY	METHOD DETECTION LIMIT
601		
1,2-Dichloropropane	90 %	0.5 ppb
Dibromochloromethane	110 %	
1,4-Dichlorobenzene	85 %	
602		
Benzene	91 %	0.5 ppb
Toluene	94 %	
Chlorobenzene	90 %	
Ethylbenzene	95 %	
Xylenes	96 %	
1,3-Dichlorobenzene	95 %	
1,2-Dichlorobenzene	95 %	
1,4-Dichlorobenzene	96 %	
MTBE	93 %	1.0 ppb
EDB	93 %	1.0 ppb

REVIEWED BY

Laura Fogleman

REVIEWED BY

Kevin Bolden

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Telephone: 919-460-8093 • FAX: 919-460-0167

Report To:

Brian Gray

GeoChem, Incorporated

Environmental Laboratories

2500 Gate Way Centre Blvd., Suite 300
Morrisville, NC 27560

Bill To:

UTTS ENV
P.O. Box 8148
Greenville NC 27835

Chain of Custody Record

0117

PROJECT SITE NUMBER	PO# 4841			NO. OF CONTAINERS PER LOCATION	ANALYSES: 602, X, EDB, MTBE	ANALYSES: 601									GEOCHEM PROJECT # 9401-040	
SITE NAME DIANNE'S TANNING															DATE DUE 01-24-94	
COLLECTED BY (Signature)															VERBAL/FAX/HARDCOPY	
FIELD SAMPLE ID	TURNAROUND IN DAYS	SAMPLE MATRIX	DATE AND TIME COLLECTED												REMARKS	LAB ID NO. (for lab use only)
MW-1	10	Ground Water	1-10-94	1:15	3	✓	✓									0127
MW-2	↓	"	"	"	3	✓	✓									0128
MW-3	↓	"	"	"	3	✓	✓									0129

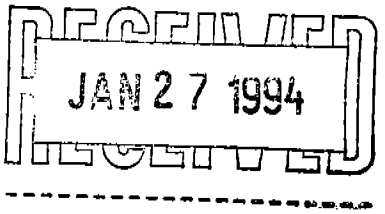
REMARKS

RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME
	1/10/94	3:55								1-10-94	3:50

This Chain of Custody is considered a written contract to perform the services requested in the analyses section of this document.

GeoChem, Incorporated

Environmental Laboratories



January 24, 1994

Mr. Brian Gray
UTTS/E
P.O. Box 8148
Greenville, NC 27835

Reference: **Dianne's Tanning**
GCI# 9401-041

Dear Mr. Brian Gray:

This is the analytical report for the above referenced project. On January 10, 1994 we received three groundwater samples for analysis. The analytical and quality control results are presented in separate tables for your convenience. Brief summaries of analytical methods employed are as follows. GeoChem analytical reports contain information based strictly on the analysis requested on the chain of custody (COC) accompanying this report. Non-target compounds are not identified or quantified. Our clients must request such additional documentation in writing.

Semivolatiles EPA 625

This method is used to determine the concentration of semivolatile organic compounds in extracts prepared from waste water and ground water. The components are separated via gas chromatograph and detected using a mass spectrometer. This method can be used to quantify most neutral, acidic, and basic organic compounds that are soluble in methylene chloride.

If there are any technical questions please feel free to call me at 919-460-8093. Thank you for allowing GeoChem to serve your analytical needs.

Sincerely,

Dean Gokel
President

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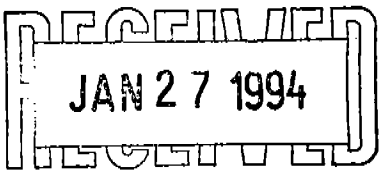
Telephone: 919-460-8093 • FAX: 919-460-0167

GeoChem, Incorporated

Environmental Laboratories



Geochem (NC #336/SC #99008)
Project#9401-041 1 Site Name Dianne's Tanning

LAB ID.	0130	0131	0132
DATE SAMPLED	01/10/94	01/10/94	01/10/94
DATE EXTRACTED	01/11/94	01/11/94	01/11/94
FIELD ID.	MW-1	MW-2	MW-3

METHOD

ANALYTE	ug/l	pql	ug/l	pql	ug/l	pql
625 Base/Neutral						
1,2,4-Trichlorobenzene	BDL	10	BDL	10	BDL	10
Bis2Chloroethyl Ether	BDL		BDL		BDL	
1,3-Dichlorobenzene	BDL		BDL		BDL	
1,4-Dichlorobenzene	BDL		BDL		BDL	
1,2-Dichlorobenzene	BDL		BDL		BDL	
Bis2ChloroisopropylEthr	BDL		BDL		BDL	
Hexachloroethane	BDL		BDL		BDL	
n-Nitrosodipropylamine	BDL		BDL		BDL	
Nitrobenzene	BDL		BDL		BDL	
Isophorone	BDL		BDL		BDL	
Bis2ChloroethoxyMethane	BDL		BDL		BDL	
Naphthalene	22		130		BDL	
Hexachlorobutadiene	BDL		BDL		BDL	
Hexachlorcyclopentadien	BDL		BDL		BDL	
2-Chloronaphthalene	BDL		BDL		BDL	
Acenaphthylene	BDL		BDL		BDL	
Dimethylphthalate	BDL		BDL		BDL	
2,6-Dinitrotoluene	BDL		BDL		BDL	
Acenaphthene	BDL		BDL		BDL	
2,4-Dinitrotoluene	BDL		BDL		BDL	
Fluorene	BDL		BDL		BDL	
4ChlorophenylPhenylEthe	BDL		BDL		BDL	
Diethylphthalate	BDL		BDL		BDL	
n-Nitrosodiphenylamine	BDL		BDL		BDL	
4-BromophenylPhenylEthe	BDL		BDL		BDL	
Hexachlorobenzene	BDL		BDL		BDL	

Base Neutrals continued on the following page

	soil	water
parts per million	*mg/kg*	*mg/l*
parts per billion	*ug/kg*	*ug/l*

pql = practical quantitation limit due to matrix effects.
bdl = below method detection limit.
bql = below quantitation limit.

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GeoChem, Incorporated

Environmental Laboratories

Geochem (NC #336/SC #99008)
Project#9401-041 2 Site Name Dianne's Tanning

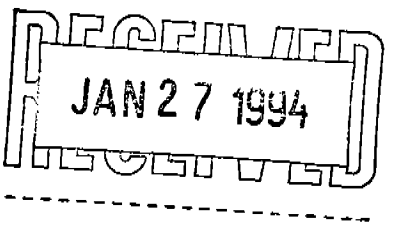
LAB ID.	0130	0131	0132
DATE SAMPLED	01/10/94	01/10/94	01/10/94
DATE EXTRACTED	01/11/94	01/11/94	01/11/94
FIELD ID.	MW-1	MW-2	MW-3

METHOD

ANALYTE	ug/l	pql	ug/l	pql	ug/l	pql
625 B/N Continued						
Anthracene	BDL	10	BDL	10	BDL	10
Phenanthrene	BDL		BDL		BDL	
Di-N-Butylphthalate	BDL		BDL		BDL	
Fluoranthene	BDL		BDL		BDL	
Pyrene	BDL		BDL		BDL	
Benzidine	BDL	50	BDL	50	BDL	50
Indeno(1,2,3-cd)Pyrene	BDL	10	BDL	10	BDL	10
Butyl Benzyl Phthalate	BDL	20	BDL	20	BDL	20
Chrysene	BDL	10	BDL	10	BDL	10
Benzo(a)Anthracene	BDL		BDL		BDL	
3,3'-Dichlorobenzidine	BDL	20	BDL	20	BDL	20
Bis2EthylhexylPhthalate	BDL	10	BDL	10	BDL	10
Di-N-Octylphthalate	BDL		BDL		BDL	
Benzo(b)Fluoranthene	BDL		BDL		BDL	
Benzo(k)Fluoranthene	BDL		BDL		BDL	
Benzo(a)Pyrene	BDL		BDL		BDL	
Dibenz(a,h)Anthracene	BDL		BDL		BDL	
Benzo(g,h,i)Perylene	BDL		BDL		BDL	

	soil	*water*
parts per million =	*mg/kg*	*mg/l*
parts per billion =	*ug/kg*	*ug/l*

pql = practical quantitation limit due to matrix effects.
bdl = below method detection limit.
bql = below quantitation limit.



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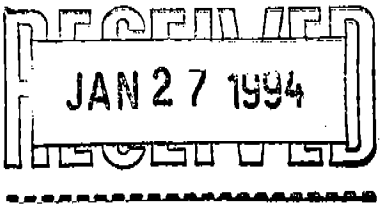
Environmental Laboratories



QUALITY CONTROL RESULTS

METHOD	RECOVERY	METHOD DETECTION LIMIT
625		
Base/Neutrals		
1,4-Dichlorobenzene	33 %	10 ppb
n-Nitroso-di-n-propylamine	42 %	
1,2,4-Trichlorobenzene	33 %	
Acenaphthene	48 %	
2,4-Dinitrotoluene	54 %	
Pyrene	82 %	

REVIEWED BY

Laura Fogleman

REVIEWED BY

Valeri G. Peeler

2500 Gate Way Centre Blvd., Suite 300 • Morrisville, NC 27560
Telephone: 919-460-8093 • FAX: 919-460-0167

Report To:

Brian Gray

GeoChem, Incorporated

Environmental Laboratories

2500 Gate Way Centre Blvd., Suite 300
Morrisville, NC 27560

Bill To:

UTTS ENV
PO Box 8148
Greenville NC 27835

Chain of Custody Record

0117

PROJECT SITE NUMBER	PO# 4842	NO. OF CONTAINERS PER LOCATION	625 B.N.	ANALYSES	GEOCHEM PROJECT # 9401-041
SITE NAME DIANNE'S TANNING					DATE DUE 01-24-94
COLLECTED BY (Signature)					VERBAL/FAX/HARDCOPY

FIELD SAMPLE ID	TURNAROUND IN DAYS	SAMPLE MATRIX	DATE AND TIME COLLECTED	NO. OF CONTAINERS PER LOCATION	625 B.N.	REMARKS	LAB ID NO. (for lab use only)
MW-1	10	Ground Water	1-10-94 / 1100	2	✓		0130
MW-2	↓	"	1 " / "	2	✓		0131
MW-3	↓	"	" / "	2	✓		0132

REMARKS

RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME
	1/10/94	3:55								1-10-94	3:50

This Chain of Custody is considered a written contract to perform the services requested in the analyses section of this document.

Division of Waste Management

Underground Storage Tank Section

May 7, 2001

MEMORANDUM

To: Fay Sweat

From: Rob Krebs, Field Operations Branch

Subject: Incident Closure

The following underground storage tank (UST) pollution incident has successfully met the requirements for closure and has been issued a no further action letter by the UST Section. A copy of the no further action letter is on file in the UST Section's regional office.

Incident #:	10468
IncidentName:	DIANNE'S TANNING SALON
Address:	4299 RAEFORD RD.
City/Town:	FAYETTEVILLE
County:	CUMBE
CloseOut Date:	6/11/96
Region:	FAY