

Via Email

September 24, 2019

NC DOT Geotechnical Unit
GeoEnvironmental Section
1589 Mail Service Center
Raleigh, NC 27699-1589

Attention: Mr. Gordon Box

Re: Phase II Investigation
Proctor and Gamble Property - Parcel 12
NC DOT State Project No. R-4707
WBS: 36599.1.2
Browns Summit, Guilford County, North Carolina
H&H Job No. ROW-603

Dear Gordon:

Please find the attached electronic copy of the Phase II Investigation report for the Proctor and Gamble Property (Parcel 12) located in Browns Summit, Guilford County, North Carolina. Please return via DocuSign for final signatures. If you have any questions or need additional information, please contact us at (704) 586-0007.

Sincerely,

Hart & Hickman, PC



David Graham, PG
Senior Project Geologist



Matt Bramblett, PE
Principal

Attachment

Phase II Investigation Proctor and Gamble Property

NC DOT Parcel 12 Browns Summit, Guilford County North Carolina

H&H Job No. ROW-603
State Project R-4707
WBS Element #36599.1.2
September 24, 2019



#C-1269 Engineering
#-245 Geology

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Charlotte, NC 28203
704.586.0007 main

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www.harthickman.com

**Phase II Investigation
Proctor and Gamble Property - NC DOT Parcel 12
Browns Summit, Guilford County, North Carolina
H&H Project ROW-603**

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**Phase II Investigation
Proctor and Gamble Property - NC DOT Parcel 12
Browns Summit, Guilford County, North Carolina
H&H Project ROW-603**

1.0 Introduction and Background

Hart & Hickman, PC (H&H) has prepared this Phase II Investigation (Phase II) report documenting assessment activities performed at the Proctor and Gamble property (Parcel 12) located at 6200 Bryan Park Road in Browns Summit, Guilford County, North Carolina. The Parcel 12 property is currently occupied by Proctor and Gamble, a manufacturer of health and beauty products. This assessment was conducted on behalf of the North Carolina Department of Transportation (NC DOT) in accordance with H&H's May 10, 2019 proposal.

The purpose of this assessment was to collect data to evaluate the potential for underground storage tank (UST) systems and the presence or absence of impacted soil in proposed right of way and construction easement areas on the subject property related to the proposed road improvements along Summit Avenue (State Project R-4707). The NC DOT project includes proposed road improvements and installation of storm water drainage piping and catch basins. A site location map is included as Figure 1, and a site map is presented as Figure 2. NC DOT's plan sheet depicting Parcel 12 is included in Appendix A.

H&H searched the North Carolina Department of Environmental Quality (NC DEQ) Laserfiche website for incident files for the Parcel 12 property to better target UST system areas and to find locations of previously reported impacts. A #2 fuel oil UST was removed and release incident file #NONCD0002332 were identified for Parcel 12. H&H reviewed the *Underground Storage Tank Closure Report* dated 1996 prepared by SPATCO Environmental, Inc. (SPATCO) associated with the fuel oil UST and the *Soil Sampling Report* dated June 23, 2005 prepared by Trigon Engineering Consultants, Inc. (Trigon) associated with Incident #NONCD0002332.

The SPATCO *Underground Storage Tank Closure Report* indicates that one 8,000-gallon #2 fuel oil UST was removed from the Parcel 12 property in April 1996. Soil samples collected beneath the

UST were analyzed for total petroleum hydrocarbons (TPH) as diesel range organics (DRO) and gasoline range organics (GRO). No concentrations of TPH DRO or GRO were detected in the soil samples collected beneath the UST. NC DEQ issued a no further action (NFA) status for the #2 fuel oil UST on June 11, 1996. The former fuel oil UST appears to have been located outside of proposed NC DOT work areas.

The 2005 Trigon *Soil Sampling Report* confirms a release of product near a gravel/paved area east of the weigh scale area near the main portion of the site facility. The release originated from product that was sampled from rail cars that was subsequently stored near the gravel/paved area east of the weigh scale. An unknown quantity of materials including mineral oil, dipropylene glycol, propylene glycol, dimethicone, silicone, and/or phenyl may have been released near the scale area.

In February 2005 soil samples were collected in the release area and analyzed for TPH DRO and GRO. Concentrations of TPH DRO (up to 3,010 mg/kg) above the NC DEQ Action Level were detected in soil samples collected in the release area. In April 2005 approximately 54.64 tons of impacted soil were removed from two locations in the release area. Concentrations of TPH DRO (up to 9,760 mg/kg) were detected in post-excavation confirmation samples. Additional excavation of impacted soil could not be conducted due to the proximity of the scale and associated structures. The release area is located outside of proposed NC DOT work areas. Pertinent information from the NC DEQ files is included in Appendix B.

The Phase II activities conducted by H&H on Parcel 12 are discussed below.

2.0 Geophysical Survey

Prior to advancing soil borings, H&H contracted with ESP Associates, Inc. (ESP) for a geophysical survey in proposed NC DOT work areas on Parcel 12 on June 21 through 28, 2019. ESP's work consisted of metal detection using a Geonics EM61 MK2 instrument to identify potential geophysical anomalies and potential USTs at the site. The geophysical survey results indicate that no suspected USTs were identified in proposed NC DOT work areas. Other anomalies were present in the survey data but were attributed to reinforced concrete or other known surface metallic objects.

The anomalies did not indicate characteristic signatures of potential USTs. ESP's report, including figures depicting the results of the geophysical survey, is provided in Appendix C.

3.0 Soil Assessment

3.1 Soil Sampling

H&H contracted with South Atlantic Environmental Drilling and Construction Co. (SAEDACCO) of Fort Mill, South Carolina to advance soil borings on Parcel 12. On June 27 and 28, 2019, five soil borings (12-1 through 12-5) were advanced at the site using a direct push technology (DPT) drilling rig. Prior to conducting soil borings, underground utilities were marked by the NC 811 public utility locator and by ESP for private underground utilities. Borings were also cleared to a five foot depth by hand auger.

The soil borings were advanced to maximum depths of 12 feet below ground surface (ft bgs). To facilitate the selection of soil samples for laboratory analysis, soil from each boring was screened continuously for the presence of volatile organic compounds (VOCs) with a photoionization detector (PID). Additionally, H&H observed the soil for visual and olfactory indications of impacts. There were no significant indications of impacts based on field screening. Soil samples were collected at depths of 0 to 2 ft bgs and 2 ft to 4 ft bgs. Soil boring logs are included in Appendix D. Global positioning system (GPS) coordinate data for the soil borings are summarized in Table 1, and the boring locations are shown on Figure 2.

H&H submitted a total of five soil samples from borings 12-1 through 12-5 for laboratory analysis. The soil samples were placed into laboratory supplied sample containers using nitrile glove-covered hands. The containers were then labeled as to content, analyses requested, sample date and time, and sampler's name. The samples were placed in an iced cooler upon collection and were subsequently submitted to Red Lab, LLC of Wilmington, NC under standard chain-of-custody protocol for analysis of TPH DRO and GRO using QED ultraviolet fluorescence (UVF) technology. Soil sample depths and analytical results are summarized in Table 2. Laboratory analytical data sheets and chain-of-custody documentation are provided in Appendix E. The analytical results are discussed below.

Upon completion of soil sampling activities, soil cuttings generated during drilling activities were spread on site. The soil borings were filled with bentonite pellets and covered with surrounding soil to match the existing ground surface.

3.2 Soil Analytical Results

Concentrations of TPH DRO (ranging from 0.93 mg/kg to 26.3 mg/kg) were detected in soil samples 12-1 through 12-4 collected on Parcel 4. The TPH DRO concentrations are below the NC DEQ Action Level of 100 mg/kg. Concentrations of TPH GRO (ranging from 0.83 mg/kg to 1.2 mg/kg) were also detected in soil samples 12-1, 12-2, and 12-5 below the NC DEQ Action Level of 50 mg/kg. Soil analytical results are depicted on Figure 2.

Based on laboratory analytical results and PID readings, impacted soil above NC DEQ Action Levels does not appear to be present at the site in the vicinity of the soil boring locations. However, if impacted soil is encountered during the NC DOT construction activities, it should be properly managed and disposed.

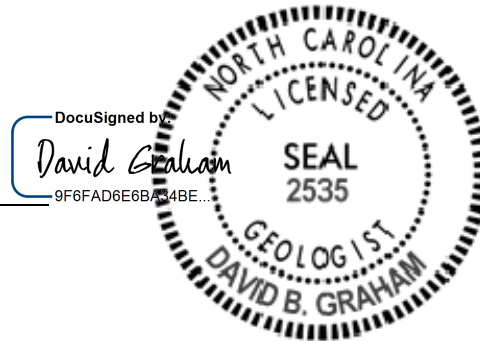
4.0 Summary and Regulatory Considerations

H&H has reviewed available NC DEQ incident files, geophysical survey results, and analytical results of soil samples collected at the Parcel 12 property in Browns Summit, Guilford County, North Carolina. Review of NC DEQ Incident files indicate that one 8,000-gallon #2 fuel oil UST was removed from the site in 1996. No indication of a release was identified during closure of the fuel oil UST. NC DEQ issued a NFA status for the former fuel oil UST. An unknown quantity of materials including mineral oil, dipropylene glycol, propylene glycol, dimethicone, silicone, and/or phenyl were released near the weigh scale area to the west of the site facility (Incident #NONCD0002332). Accessible impacted soil associated with the release was excavated and removed from the site. Concentrations of TPH DRO above the NC DEQ Action Level were detected in post-excavation confirmation samples collected in the release area. The former fuel oil UST and release area located near the facility weigh scale are located outside of proposed NC DOT work areas. Based on the geophysical survey, no potential USTs were identified in proposed NC DOT work areas on Parcel 12.

Analytical results of soil samples collected by H&H indicate concentrations of TPH DRO and GRO below the NC DEQ Action Levels on Parcel 12. NC DOT plans indicate a proposed cut for road improvement activities and proposed drainage structures in the proposed NC DOT work areas on Parcel 12. Impacted soil is not expected to be encountered in proposed cut areas or areas of proposed drainage structures. If impacted soil is encountered during road construction activities, it should be properly managed and disposed at a permitted facility. If a UST is encountered during construction activities, the UST system(s) and their contents should be removed and disposed in accordance with NC DEQ regulations.

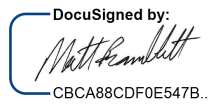
5.0 Signature Page

This report was prepared by:



David Graham, PG
Senior Project Geologist for
Hart & Hickman, PC

This report was reviewed by:



Matt Bramblett, PE
Principal and Project Manager for
Hart & Hickman, PC

Not considered final unless all signatures are completed.

Table 1
Soil Boring GPS Coordinate Data
NC DOT Parcel 12
Browns Summit, Guilford County, North Carolina
H&H Job No. ROW-603

Sample ID	Latitude	Longitude
12-1	36.1753288	-79.7193950
12-2	36.1751796	-79.7183980
12-3	36.1746780	-79.7188007
12-4	36.1743956	-79.7183376
12-5	36.1740905	-79.7188199

Notes:

GPS coordinate data points collected using a Trimble GeoExplorer 6000 series unit with external satellite for increased accuracy.

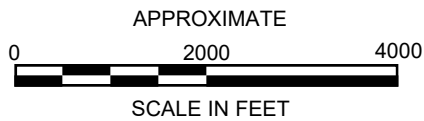
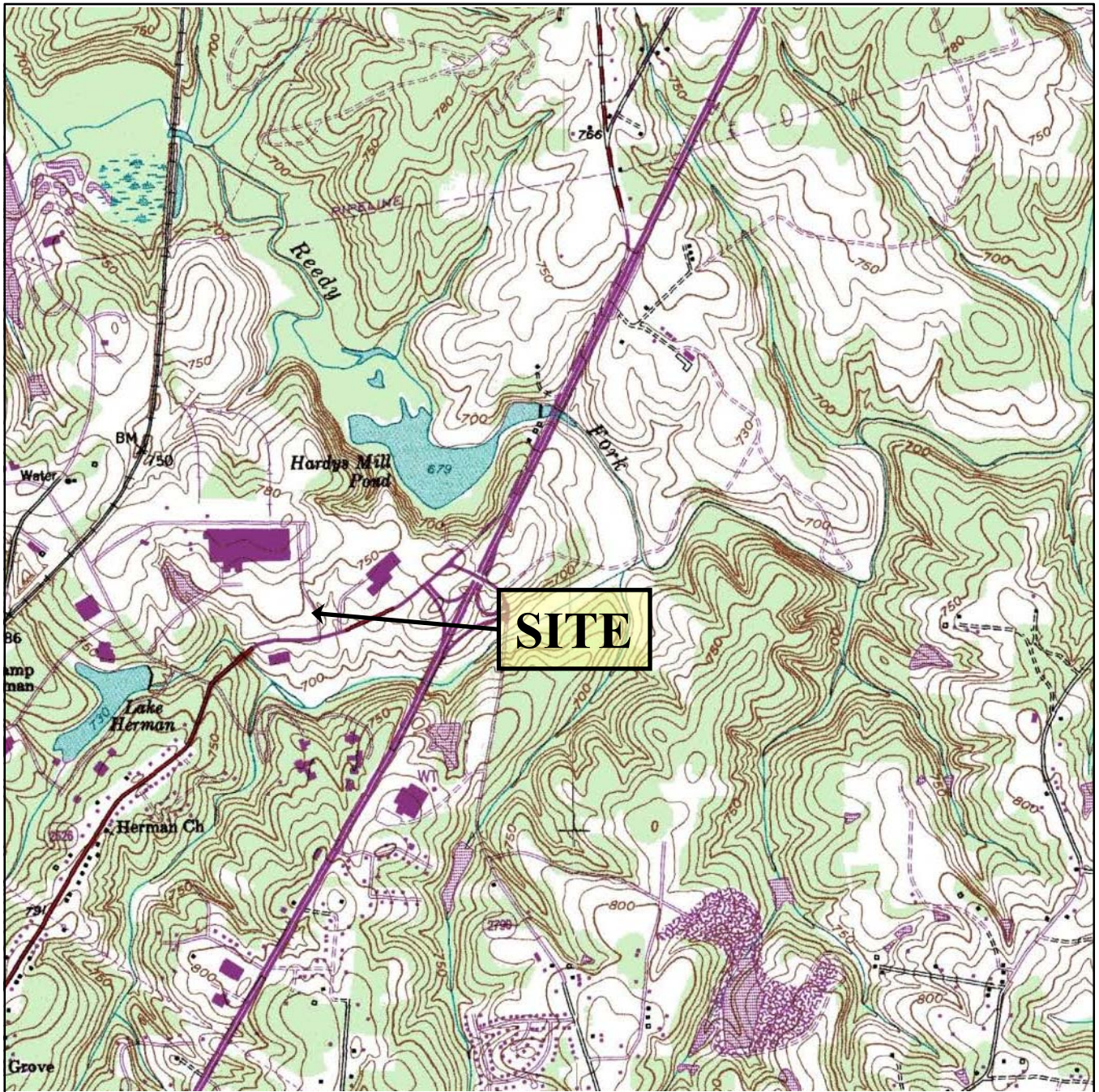
Table 2 (Page 1 of 1)
Soil Analytical Results
NC DOT Parcel 12
Browns Summit, Guilford County, North Carolina
H&H Job No. ROW-603

Sample ID Sample Depth (ft) Sample Date	12-1	12-2	12-3	12-4	12-5	Regulatory Standard
	0-2	0-2	0-2	2-4	2-4	
	6/28/2019	6/27/2019	6/28/2019	6/27/2019	6/28/2019	
<u>TPH-DRO/GRO (UVF)</u> <u>(mg/kg)</u>						NCDEQ Action Level (mg/kg)
Diesel-Range Organics (DRO)	26.3	6.5	5	0.93	<0.51	100
Gasoline-Range Organics (GRO)	0.95	1.2	<0.52	<0.31	0.83	50

Notes:

UVF = QED Ultraviolet fluorescence technology.


TPH = Total petroleum hydrocarbons.



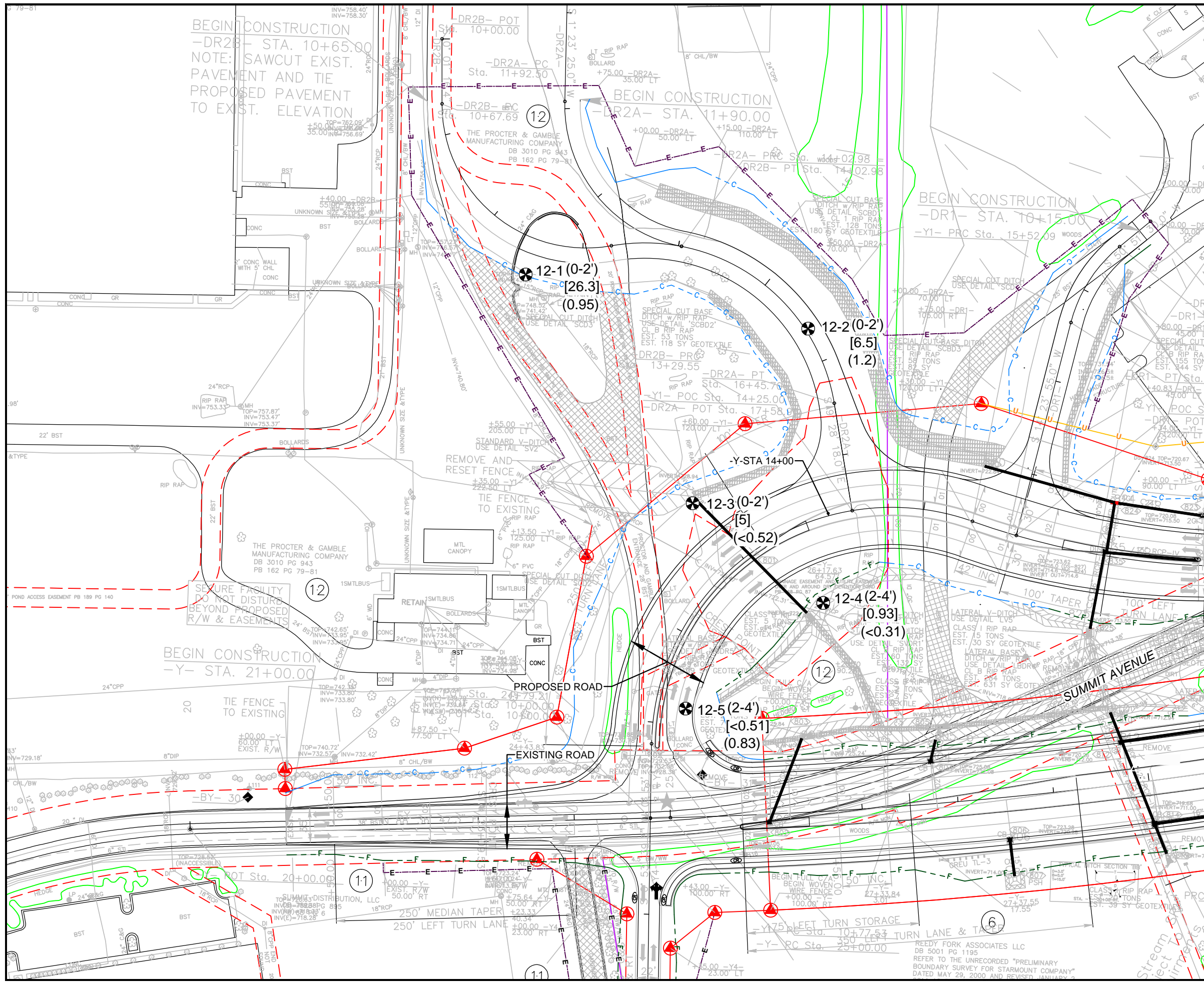
U.S.G.S. QUADRANGLE MAP

BROWNS SUMMIT, NORTH CAROLINA, 1994

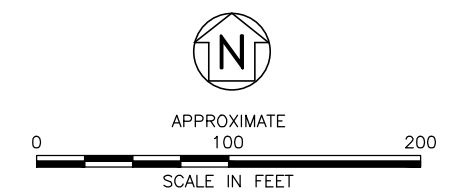
QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE	SITE LOCATION MAP		
PROJECT	NC DOT PARCEL 12 6200 BRYAN PARK ROAD BROWNS SUMMIT, NORTH CAROLINA		
	 2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f)		
	SMARTER ENVIRONMENTAL SOLUTIONS		
DATE:	9-18-19	REVISION NO:	0
JOB NO:	ROW-603	FIGURE:	1

\\HHS01\MasterFiles\AAA-Master\Projects\NC DOT Right-of-Way-ROW\ROW-603\Parcel 12.dwg, FIG. 2, 9/23/2019 10:19:38 AM, DWG to PDF.pc3



- LEGEND**
- PROPERTY LINE
 - VEGETATION / WOODED
 - EXISTING RIGHT-OF-WAY
 - PROPOSED RIGHT-OF-WAY AND CONTROLLED ACCESS
 - PROPOSED UTILITY EASEMENT
 - PROPOSED CONSTRUCTION EASEMENT
 - PROPOSED CUT LINE
 - PROPOSED FILL LINE
 - NC DOT PARCEL ID
 - SOIL SAMPLE LOCATION
 - DIESEL RANGE TPH (mg/kg)
 - GASOLINE RANGE TPH (mg/kg)
 - SAMPLE ID / DEPTH
 - EXISTING DRAINAGE PIPE / PROPOSED DRAINAGE PIPE
 - PROPOSED CATCH BASIN



TITLE SITE MAP AND SOIL ANALYTICAL RESULTS	
PROJECT NC DOT PARCEL 12 6200 BRYAN PARK ROAD BROWNS SUMMIT, NORTH CAROLINA	
	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE: 9-23-19	REVISION NO. 0
JOB NO. ROW-603	FIGURE NO. 2

Appendix A
NC DOT Preliminary Plan

BEGIN CONSTRUCTION
-DR2B- STA.10+65.00
NOTE: SAWCUT EXIST.
PAVEMENT AND TIE
PROPOSED PAVEMENT
TO EXIST. ELEVATION

BEGIN CONSTRUCTION
-DR2A- STA.11+90.00

BEGIN CONSTRUCTION
-DRI- STA.10+15.00

TRAFFIC VOLUME DATA	
5,000	SUMMIT AVENUE
8,400	
7,400	1,600
9,400	2,400
3,400	9,200
6,000	13,000
SUMMIT AVENUE	REEDY FORK PARKWAY
2020 AADT	DIXIE SALES DRIVEWAY
2040 AADT	

-DR2A- CURVE DATA

PI Sta 13+19.25	PI Sta 15+41.81
$\Delta = 80^{\circ} 23' 48.6" (LT)$	$\Delta = 69^{\circ} 32' 05.6" (RT)$
$D = 38' 11" 49.9"$	$D = 28' 38' 52.4"$
$L = 210.48'$	$L = 242.72'$
$T = 126.75'$	$T = 138.84'$
$R = 150.00'$	$R = 200.00'$

-DR2B- CURVE DATA

PI Sta 12+46.52	PI Sta 13+66.68
$\Delta = 100^{\circ} 01' 18.2" (LT)$	$\Delta = 21^{\circ} 02' 11.0" (RT)$
$D = 38' 11" 49.9"$	$D = 28' 38' 52.4"$
$L = 261.86'$	$L = 73.43'$
$T = 178.83'$	$T = 37.13'$
$R = 150.00'$	$R = 200.00'$

-DRI- CURVE DATA

PI Sta 10+91.04	PI Sta 20+29.91
$\Delta = 36^{\circ} 27' 35.0" (LT)$	$\Delta = 61^{\circ} 41' 51.8" (RT)$
$D = 38' 11" 49.9"$	$D = 7^{\circ} 09' 43.1"$
$L = 95.45'$	$L = 861.46'$
$T = 49.40'$	$T = 477.82'$
$R = 150.00'$	$R = 800.00'$
$e = 0.02$	$e = 0.02$

-YI- CURVE DATA

PI Sta 14+26.48	PI Sta 20+29.91
$\Delta = 108^{\circ} 45' 42.3" (RT)$	$\Delta = 61^{\circ} 41' 51.8" (RT)$
$D = 22^{\circ} 55' 05.9"$	$D = 7^{\circ} 09' 43.1"$
$L = 474.56'$	$L = 861.46'$
$T = 348.95'$	$T = 477.82'$
$R = 250.00'$	$R = 800.00'$
$e = 0.02$	$e = 0.02$

THE PROCTER & GAMBLE MANUFACTURING COMPANY
DB 3010 PG 943
PB 162 PG 79-81

BEGIN CONSTRUCTION
-Y- STA.21+00.00

SUMMIT DISTRIBUTION, LLC
DB 7828 PG 895
PB 88 PG 6

MATCHLINE
-Y4- STA. 11+25.00
SEE INSET ON SHEET 6

MATCHLINE
-Y- STA. 34+00.00
SEE SHEET 6

DO NOT DISTURB
WATER VALVE VAULT

★ PROPOSED TRAFFIC SIGNAL
FOR -Y- PROFILE, SEE SHEET 16
FOR -YI- PROFILE, SEE SHEET 22
FOR -DRI- PROFILE, SEE SHEET 23
FOR INTERSECTION DETAIL, SEE SHEET 2B-1
FOR -Y4-, -DR2A- & DR2B- PROFILES, SEE SHEET 24

07-MAR-2019 07:20 C:\Roadway\Proj\4707_Rdy_psh_08.dgn
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 REVISIONS
 8/17/99

Appendix B
NC DEQ Incident Files

UNDERGROUND STORAGE TANK CLOSURE REPORT

The Closure report should contain, at a minimum, the following information. Any other information that is pertinent to the site should be included.

I. General Information

A. Ownership of UST(s)

1. Name of UST owner:

Proctor & Gamble

2. Owner address and telephone number:

6200 Brian Park Road
Browns Summit, NC 27214
(910) 621-9222

B. Facility Information

1. Facility Name:

Proctor & Gamble

2. Facility ID#:

0-029255 (Not Available)

3. Facility address, telephone number and county:

6200 Brian Park Road
Browns Summit, NC 27214
(910) 632-4237
Guilford County

C. Contacts

1. Name, address, telephone number and job title of primary contact person:

Mr. Marvin Huber
Proctor & Gamble
6200 Brian Park Road
Browns Summit, NC 27214
(910) 632-4237
(919) 621-9222

2. Name, address and telephone number of closure contractor:

SPATCO Environmental, Inc.
556-Arbor Hill Road
Winston-Salem, NC 27284-3321
(910) 996-0573

3. Name, address and telephone number of primary consultant::

SPATCO Environmental, L.L.P.
5100 N. I-85, Suite 7
Charlotte, NC 28206
(704) 598-8624

MAY 30 1996

Winston-Salem
 Regional Office

4. Name, address, telephone number, and State certification number of laboratory:

Hydrologic, Inc.
 1491 Twilight Trail
 Frankfort, KY 40601
 (502) 223-0251
 NC 399

D. UST Information:

Tank No.	Installation Dates	Size In Gallons	Tank Dimensions	Last Content	Previous Contents (if any)
1	Sept. 21, 1988	8,000	8' x 21.5'	#2 fuel oil	---

E. Site Characteristics

1. Describe any past releases at this site: No known past releases were reported during the history of the tanks.
2. Is the facility active or inactive at this time? If the facility is inactive note the last time the USTs were in operation: Proctor and Gamble, is an active facility.
3. Describe surrounding property use (for example, residential, commercial, farming, etc.): The area surrounding the site consists of commercial, industrial and residential with farm land in the area as land uses.
4. Describe site geology/hydrogeology: The site is located in the Carolina Slate Belt, which consists of metamorphosed granitic rocks of late Proterozoic through late Cambrian, and includes megacrystic, well foliated, and in local areas contains hornblende. Soils encountered during the UST excavation activities revealed that the predominant soil type is red to brown silty clay with some white weathered granitic rock. Bedrock was not encountered to a depth of thirteen feet. Groundwater at the site was not encountered in the excavation.

II. Closure Procedures

- A. Describe preparations for closure including the steps taken to notify authorities, permits obtained and the steps taken to clean and purge the tanks: Prior to UST removal, a Notification of Intent for Permanent Closure (GW/UST-3) was filed with the North Carolina Department of Environment, Health and Natural Resources, Winston-Salem Regional Office by SPATCO Environmental. A Guilford County Inspector was notified and present during the collection of soil samples from below the UST. Proper permits were obtained prior to UST removal.
- B. Note the amount of residual material pumped from the tank(s): The 8,000 gallon #2 fuel oil UST was found empty of product.
- C. Describe the storage, sampling and disposal of the residual material: No residual product was found in the tank.

D. Excavation

Note: Refer to the "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater" on limiting excavations. The Trust Fund will not pay for excessive excavation unless it is justified and verified by laboratory results.

1. **Describe excavation procedures noting the condition of the soils and the dimensions of the excavation in relation to the tanks, piping and/or pumps:** A backhoe was used to remove the fill material over and around the UST bed. The dimensions of the UST bed was 15' x 34' with varying depths. The tank pit consisted of one 8,000-gallon #2 fuel oil fiberglass UST. The UST was purged with dry ice to removed and lower the oxygen level in the tank. The dry ice lowered the oxygen levels to less than 8% inside the UST as measured with a Neotronics Exotox 40 portable gas monitor.
2. **Note the depth of tank burial(s) (from land surface to top of tank):** The top of the UST in the excavation was buried approximately 3.5-feet below land surface (BLS).
3. **Quantity of soil removed:** No soils were excavated from the tank pit. The excavated soils were placed back into the excavation 15' x 34' minus diameter of the tank.
4. **Describe soil type(s):** The soil encountered during the UST removal was a brown very fine to coarse grain sand, and clay, and structures of white clay (kaolinitic) weathered residuum.
5. **Type and source of backfill used:** The fill material was provided by Proctor & Gamble. The soils excavated for a new installation was used as backfill.

E. Contaminated Soil

Note: Suspected contaminated soil should be segregated from soil that appears to be uncontaminated and should be treated as contaminated until proven otherwise. It should not be used as backfill.

1. **Describe how it was determined to what extent to excavate the soil:** The soil surrounding the tank did not contain visible staining, odor and organic vapor analyzer (OVA) readings. No soils were over-excavated.
2. **Describe method of temporary storage, sampling and treatment/disposal of soil:** N/A.

III. Site Investigation

- A. Provide information on field screening and observations, include methods used to calibrate field screening instrument(s):** Soil samples were collected and divided into two representative portions. The first portion of each sample was placed in a polyethylene bag for a minimum of ten minutes to allow any petroleum hydrocarbons to volatilize. An organic vapor analyzer (OVA) was used to screen the headspace of the bagged sample for volatile hydrocarbons. The OVA is a factory calibrated instrument using a 95 ppm methane gas standard. The calibration is routinely checked in the field by trained personnel. OVA readings for soil samples are presented in Table 1.

SPATCO
Environmental, Inc.

B. Describe soil sampling points and sampling procedures used, including:

Note: Refer to the "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater" for information about sampling requirements.

- **Location of Samples:** A total of three soil samples were collected during the UST removal activities. Soil samples TS-1, TS-2, and TS-3, were collected beneath the base of the 8,000-gallon #2 fuel oil UST at a depth of 13-feet below land surface (BLS).

- **Type of Samples (from excavation, stockpiled soil, etc.):** Soil samples were collected from the UST excavation. Soil samples were collected from the UST excavation during the removal of the tank.

- **Sample collection procedures (grab, split spoon, hand auger, etc.):** Soil samples were obtained from undisturbed soils utilizing a trackhoe bucket. Soil sample associated with the 8,000-gallon #2 fuel oil UST were labeled TS-1, TS-2 and TS-3.

- **Depth of soil samples (below land surface):** Depth of soils samples are described above.

- **Whether samples were taken from side or floor of an Excavation:** Soil samples were collected from below the tank at the floor of the excavation.

- **Sample identification:** Soil samples are identified TS from below the UST.

- **Sample analyses:** Soil samples, TS-1, TS-2, and TS-3, were submitted for laboratory analysis by EPA method 8015 with a sample preparation of 3550 and 5030, for total petroleum hydrocarbons (TPH) as fuel oil. Soil sample depths, OVA results and laboratory analytical results of these soil samples are presented in Table 1.

C. Describe groundwater or surface water sampling procedures used, including:

Note: Refer to the "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater" for information about sampling requirements.

- **Location of samples:** NO groundwater was encountered in the UST excavation.

- **Sample collection procedures (grab, bailer, etc.):** NA

- **Sample identification:** NA

- **Sample Analysis:** NA

D. Quality Control Measures

- **Describe sample handling procedures including sample preservation and transportation:** Soil samples were immediately placed in laboratory supplied glass containers, sealed with Teflon lined caps, and placed in an iced cooler. Soil samples were maintained at 4°C and submitted under chain-of-custody procedures to Hydrologic, Incorporated for laboratory analysis.

- **Describe decontamination procedures used:** NA

- Describe time and date samples were collected and date submitted to lab: The date and time soil samples were submitted to the laboratory for analysis are provided on the chain-of-custody. Soil samples were submitted to the laboratory as shown on the Chain of Custody (see Appendix D.)
- Describe samples collected for quality control purposes (e.g. duplicates, field blanks, trip blanks, etc.) Including methods used to obtain these samples and analytical parameters: NA
- Discuss how results of quality control samples may have affected your interpretation of soil, groundwater or surface water sample results: NA

E. Investigation results

- Describe results of Site Sensitivity Evaluation (SSE), (if SSE was not Conducted, explain why not): An SSE was conducted due to the analytical results from the excavation. Depth to groundwater is estimated at being less than 10-feet of the base of the excavation.
- Describe methods of analyses used (including U.S. EPA method number): Soil samples TS-1, TS-2 and TS-3 were collected below the UST, were analyzed for TPH by EPA method 8015 with a 3550 and 5030 extraction. Analytical results for the soil samples are summarized in Table 1.
- Describe analytical results for samples; discuss in relation to site specific cleanup level or action level, as appropriate: The presence of groundwater was estimated to be less than 10-feet of the base of the excavation, the specific site action level is 10 mg/kg. Based on the soil sample analytical results of BDL below the UST for EPA methods 3550 and 5030 sample preparations, no additional assessment will be required to determine if groundwater is impacted.

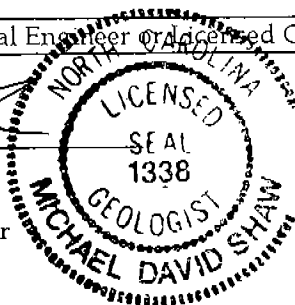
IV. Conclusion and Recommendations

Include probable sources of contamination, further investigation or remediation tasks, or whether no further action is required: Laboratory results for all samples collected from below the UST excavation pit was below the North Carolina reportable concentration for TPH by EPA method 8015 with a 3550 (diesel) 5030 (gasoline) extraction's. Based on these soil sample laboratory analytical result (BDL) and that groundwater is estimated to be within 10-feet of the bottom of the UST excavation, no further investigation is recommended.

V. Signature of Professional Engineer or Licensed Geologist



Michael D. Shaw, P.G.
Professional Services Manager
NC License #1338



5-7-96

Date

- Professional Engineer Registration #:
- Licensed Geologist License #: 1338

MAIN WAREHOUSE

LEGEND:

- SOIL SAMPLE LOCATION
- (XXX) TPH CONCENTRATION(mg/kg)
EPA METHOD 5030
- (XXX) TPH CONCENTRATION(mg/kg)
EPA METHOD 3550

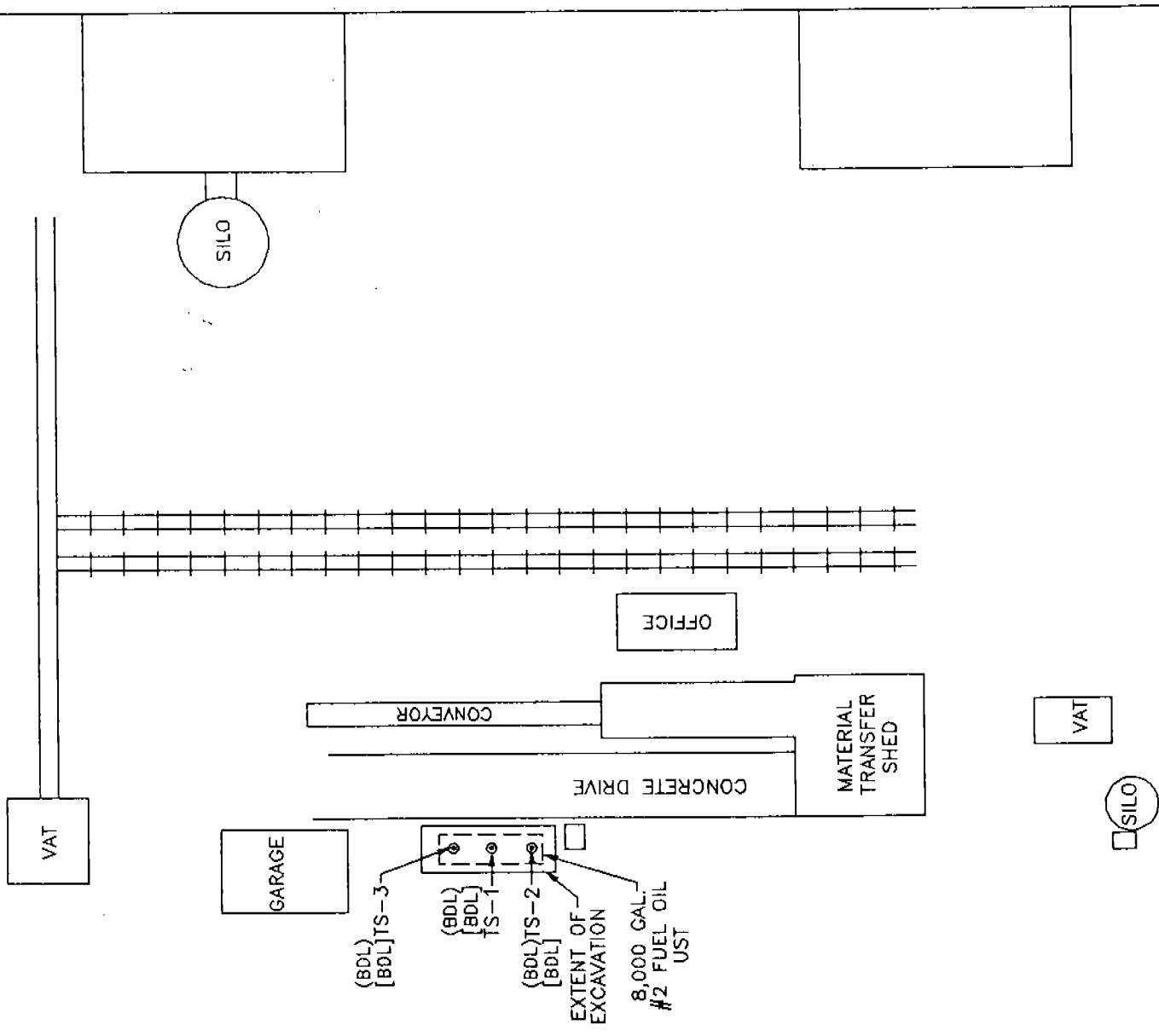
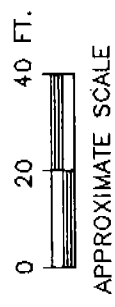
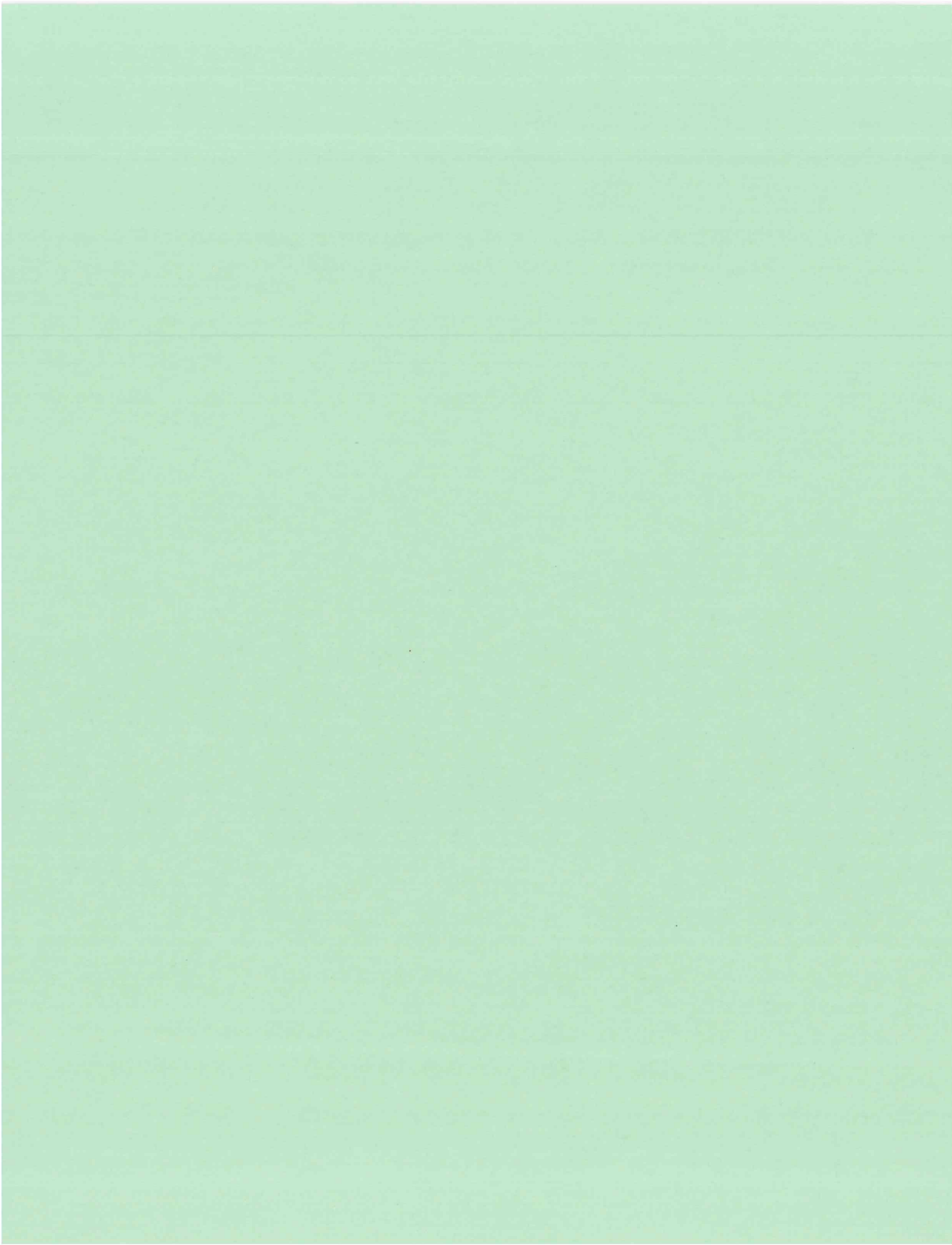


Table I. Field Scening/ Soil Sample Results						
Proctor & Gamble 6200 Brain Park Road Browns Summit, NC						
Sample #	Date	Time	Depth (feet)	OVA Units (ppm)	Method 8015 with a 3550 Extraction (mg/kg)	Method 8015 with a 5030 Extraction (mg/kg)
TS-1	4/22/96	11:39 A	13	4.8	BDL	BDL
TS-2	4/22/96	11:43 A	13	5.8	BDL	BDL
TS-3	4/22/96	11:50 A	13	1.2	BDL	BDL

Note: Table I, II and III are combined.



State of North Carolina
Department of Environment,
Health and Natural Resources
Winston-Salem Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary



June 11, 1996

Marvin Huber
Proctor & Gamble
6200 Brya Park Rd.
Browns Summit, NC 27214

Subject: Underground Storage Tank Closure, Proctor & Gamble -
Brown Summit, 6200 Bryan Park Rd., Browns Summit,
Guilford County, NC

Dear Mr. Huber:

On June 3, 1996, we received the completed site assessment for the subject location. We have determined after careful review of your report that no further action is warranted. However, this does not absolve you of any responsibility for contamination that may not have been detected or noted during the site assessment.

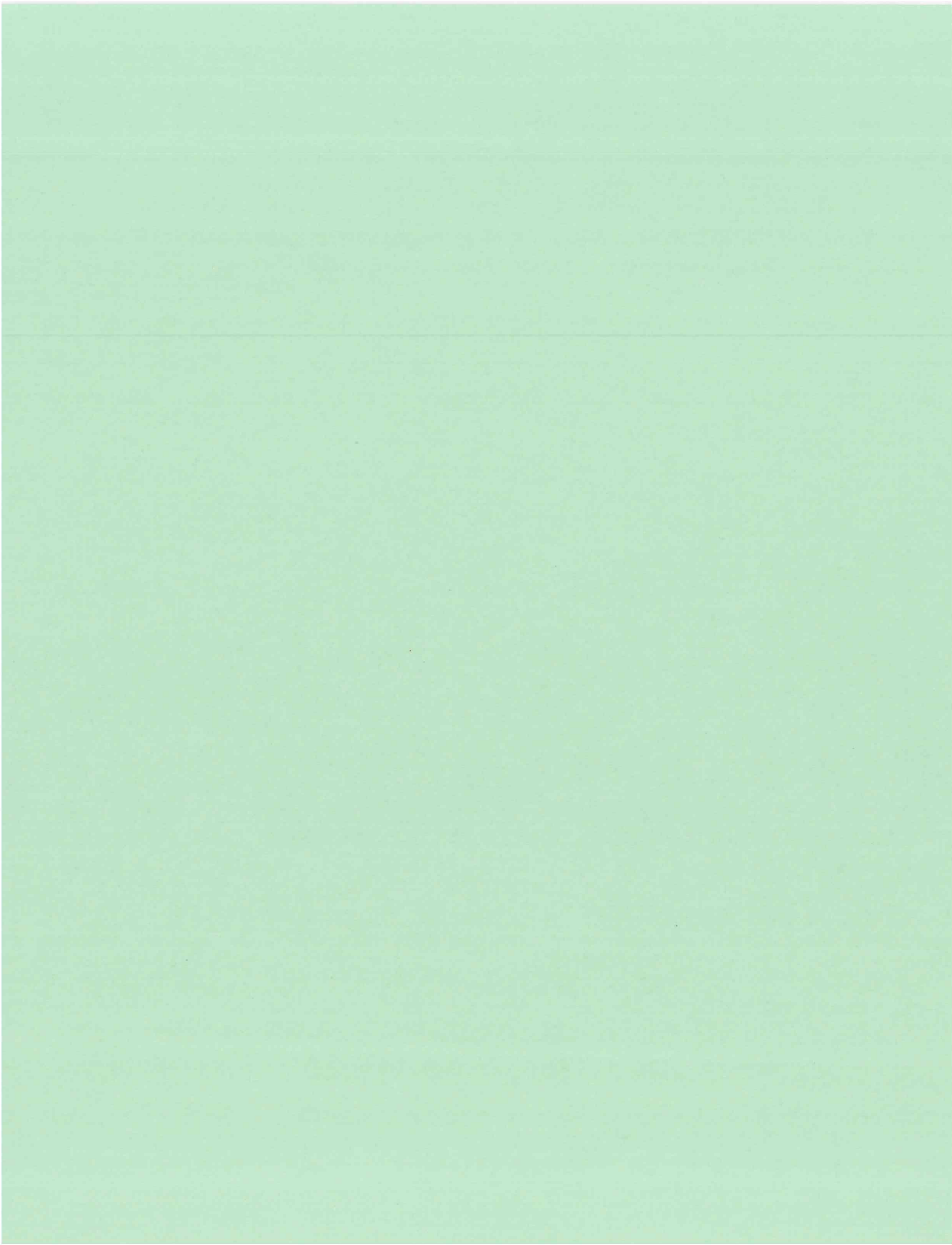
If you have any questions, please feel free to contact Kelly C. Gage at (910) 373-3771.

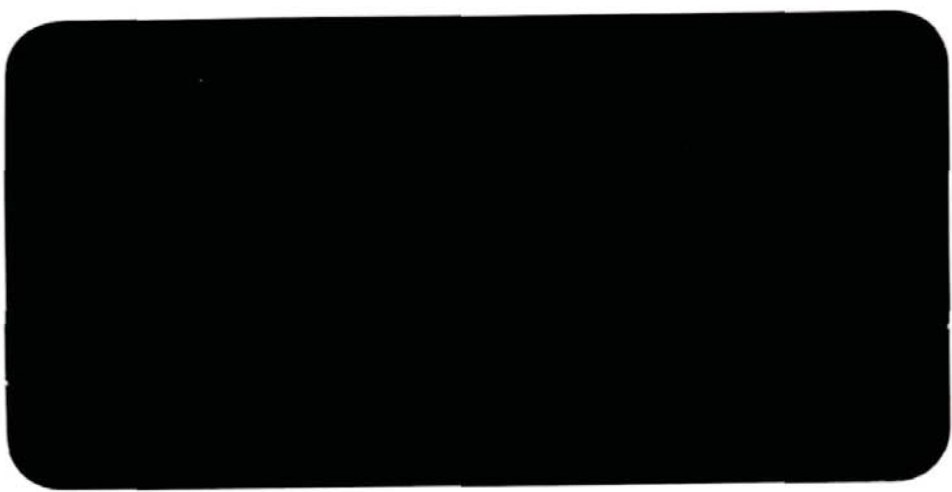
Sincerely,

A handwritten signature in cursive script that reads 'Sherri V. Knight'.

Sherri V. Knight
Groundwater Supervisor

cc: WSRO Files
Central Files-Guilford County
Guilford County Health Dept.







ENGINEERING CONSULTANTS, INC.

21st
1983-2004
Anniversary

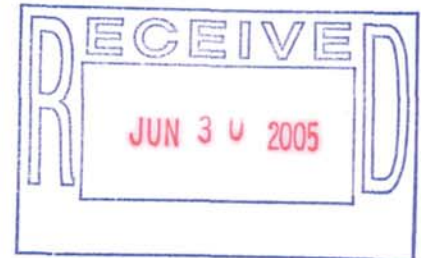
www.trigoneng.com

P.O. Box 18846 • Zip 27419-8846 • 313 Gallimore Dairy Road • Greensboro, NC 27409 • p 336.668.0093 • f 336.668.3868

June 23, 2005

Ms. Myra Gore
The Procter & Gamble Manufacturing Company
Post Office Box 18647
Greensboro, North Carolina 27419

Reference: **The Procter & Gamble Manufacturing Company**
6200 Bryan Park Road
Browns Summit, North Carolina
Trigon Project No. 042-05-058



Dear Ms. Gore:


Please find enclosed Trigon's report summarizing the soil excavation and sampling activities in the vicinity of the weight scales at the referenced site. Trigon Engineering Consultants, Inc. (Trigon) has received the laboratory report regarding the chemical analysis of the soil samples. This report summarizes our field activities, observations, and includes the complete laboratory report. Our recommendations and conclusions are contained herein.

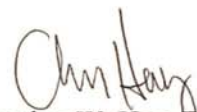
A copy of this report should be mailed to the North Carolina Department of Environment and Natural Resources Winston-Salem Regional Office located at 585 Woughtown Street in Winston-Salem, North Carolina 27107.

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

Sincerely,

TRIGON ENGINEERING CONSULTANTS, INC.


John M. Stewart, P.G.
Project Geologist


Christopher W. Hay, E.I.
Environmental Manager

JMS/CWH:mes

Attachments

s:\0420\projects\2005\04205058\4205058.doc

Thank you for our success.

**SOIL SAMPLING REPORT
THE PROCTER & GAMBLE MANUFACTURING COMPANY**

Site Name and Location: The Procter & Gamble Manufacturing Company
6200 Bryan Park Road
Browns Summit, North Carolina

Latitude and Longitude: N 36 10.525' / W 79 43.256'

Incident No.: Pending

Date of Report: June 23, 2005

Land Use Category: Industrial

Current Land Owner: The Procter & Gamble Manufacturing Company
6200 Bryan Park Road
Browns Summit, North Carolina
Attn: Ms. Myra Gore
Phone: 336.202.8783

Consultant: Trigon Engineering Consultants, Inc.
Post Office Box 18846
Greensboro, North Carolina 27419
Attn.: Mr. Chris W. Hay
Phone: 336.668.0093

Release Information: The release addressed in this report is believed to have accumulated within the last year from day to day activities. The release reportedly originated from product that was sampled from rail cars and then stored in five gallon drums on the gravel area east of the scale. The amount of the release is unknown. The release was confirmed by analytical results of soil samples collected on February 15, 2005.

Seal and Signature of Certifying Professional Geologist

I, John M. Stewart, a Licensed Geologist for Trigon Engineering Consultants, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.



John M. Stewart, P.G.
Registered NC No. 1046


TABLE OF CONTENTS

1.0 SITE HISTORY	1
2.0 SOIL EXCAVATION	1
2.1 SOIL REMOVAL	1
2.2 SOIL SAMPLE RESULTS.....	2
3.0 CONCLUSIONS AND RECOMMENDATIONS	3

TABLE

- 1 Soil Sample Analytical Summary

DRAWINGS

- 1 Browns Summit Quadrangle
- 2 Site Plan
- 3 Soil Sample Locations

APPENDICES

- A Soil Manifests, Weight Tickets, and Certificates of Disposal
- B Laboratory Reports and Chain-of-Custody Forms

1.0 SITE HISTORY

The subject site is located at 6200 Bryan Park Road in Browns Summit, Guilford County, North Carolina. Drawing 1 and Drawing 2 show the site location. The site is owned and occupied by The Procter & Gamble Manufacturing Company (P&G) personal care products manufacturing facility. The release addressed by this report originated from product that was sampled from rail cars and then stored in five gallon drums on the gravel paved area east of the scale. The release is believed to have accumulated within the last year from day to day activities. Materials that may have been released to the ground surface in the vicinity of the weight scales include mineral oil, dipropylene glycol, propylene glycol, dimethicone, silicone, and phenyl. The release was confirmed by analytical results of soil samples collected on February 15, 2005. Subsequently, Trigon was contracted to excavate accessible impacted soil in the vicinity of the release.

2.0 SOIL EXCAVATION

2.1 SOIL REMOVAL

On April 26, 2005 Trigon personnel and A&D Environmental and Industrial Services, Inc. (A&D) mobilized to the site to excavate contaminated soil in the vicinity of the release. Soil to the north and east of the pump was excavated to a depth of eight feet below ground surface. The piping exiting the pump was encountered at the terminal depth of the excavation and appeared to be damaged and was subsequently repaired. The purpose of the piping is to discharge stormwater from the scale to the industrial waste retention basin. This area of the excavation had to be halted due to concern for the structural stability of the concrete pad supporting the pump and surrounding paved areas, as well as undermining the scale and a tool box. Five soil samples were collected from the base (SS-1 and SS-2) and sidewalls (SS-3, SS-4, and SS-5) of the excavation. The soil sample locations are shown on Drawing 3.

On April 27, 2005, soil to the south and west of the pump was excavated. No indications of impacted soil was observed at a depth of five feet below ground surface and excavation activities were terminated. Three soil samples (SS-6, SS-7, and SS-8) were collected from the base and sidewalls of the excavation prior to placing backfill. All soil samples were placed into laboratory provided containers, labeled, and maintained on ice until delivery to Paradigm Analytical Laboratories, Inc. in Wilmington, North Carolina

for chemical analysis.

Excavated soil was loaded into four tandem axle dump trucks. The impacted soil was hauled to Earthtec environmental, Inc. in Sanford, North Carolina. A total of 54.64 tons of contaminated soil was taken to Earthtec Environmental, Inc. to be treated. Certificates of Acceptance and Disposal, manifests, and weight tickets for each load of impacted soil are included in Appendix A. Excavated areas were backfilled with soil stockpiled in the construction area of the new warehouse. The soil fill was compacted with the bucket of the backhoe and approximately four inches of gravel was placed at the ground surface.

2.2 SOIL SAMPLE RESULTS

Soil samples collected February 15, 2005 (SS-1 and SS-2) were analyzed for Total Petroleum Hydrocarbons by Method 8015 with sample preparation by Methods 5035 (Gasoline Range Organics) and 3545 (Diesel Range Organics). These analytical methods were recommended by Paradigm Analytical Laboratories, Inc. to detect the contaminants of concern. Gasoline Range Organics were not detected in either sample. The laboratory analysis of the soil samples detected concentrations of Diesel Range Organics (DRO) in both samples SS-1 and SS-2 exceeding the State's action level of 40 milligrams per kilogram (mg/kg). The DRO concentration detected in sample SS-1 was 3,010 mg/kg, and the concentration detected in sample SS-2 was 1,380 mg/kg.

Soil samples collected April 26 and 27, 2005 (SS-1, SS-2, SS-3, SS-4, SS-5, SS-6, SS-7, and SS-8) were analyzed for Total Petroleum Hydrocarbons by Method 8015 with sample preparation by Method 3545 (DRO). Laboratory analysis of soil samples SS-1, SS-2, SS-3, SS-4, and SS-5 indicated the DRO concentration exceeded the State's action level. Laboratory analysis of soil samples SS-6, SS-7, and SS-8 indicated the DRO concentration was either below the laboratory quantitation limits or below the State's action level. The laboratory results are summarized in Table 1. The laboratory reports and associated chain-of-custody documents are included in Appendix B.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our field observations, and the results of the laboratory analysis, Trigon presents the following conclusions and recommendations:

- An unknown quantity of materials was released to the ground surface which may include mineral oil, dipropylene glycol, propylene glycol, dimethicone, silicone, and phenyl;
- A total of 54.64 tons of impacted soil were excavated on April 26 and 27, 2005 and taken to Earthtec Environmental in Sanford, North Carolina for treatment;
- Laboratory analyses of soil samples collected from the area of the release indicate impacted soil remains to the north and east of the pump, however, the remaining impacted soil is inaccessible at this time due to the adjacent scale and toolbox;
- Contaminated soil located south and west of the pump was removed. Confirmation soil samples indicate no additional contaminated soil is located in this area.
- A copy of this report should be mailed to the North Carolina Department of Environment and Natural Resources Winston-Salem Regional Office.

TABLES

TABLE 1: SOIL SAMPLE ANALYTICAL SUMMARY

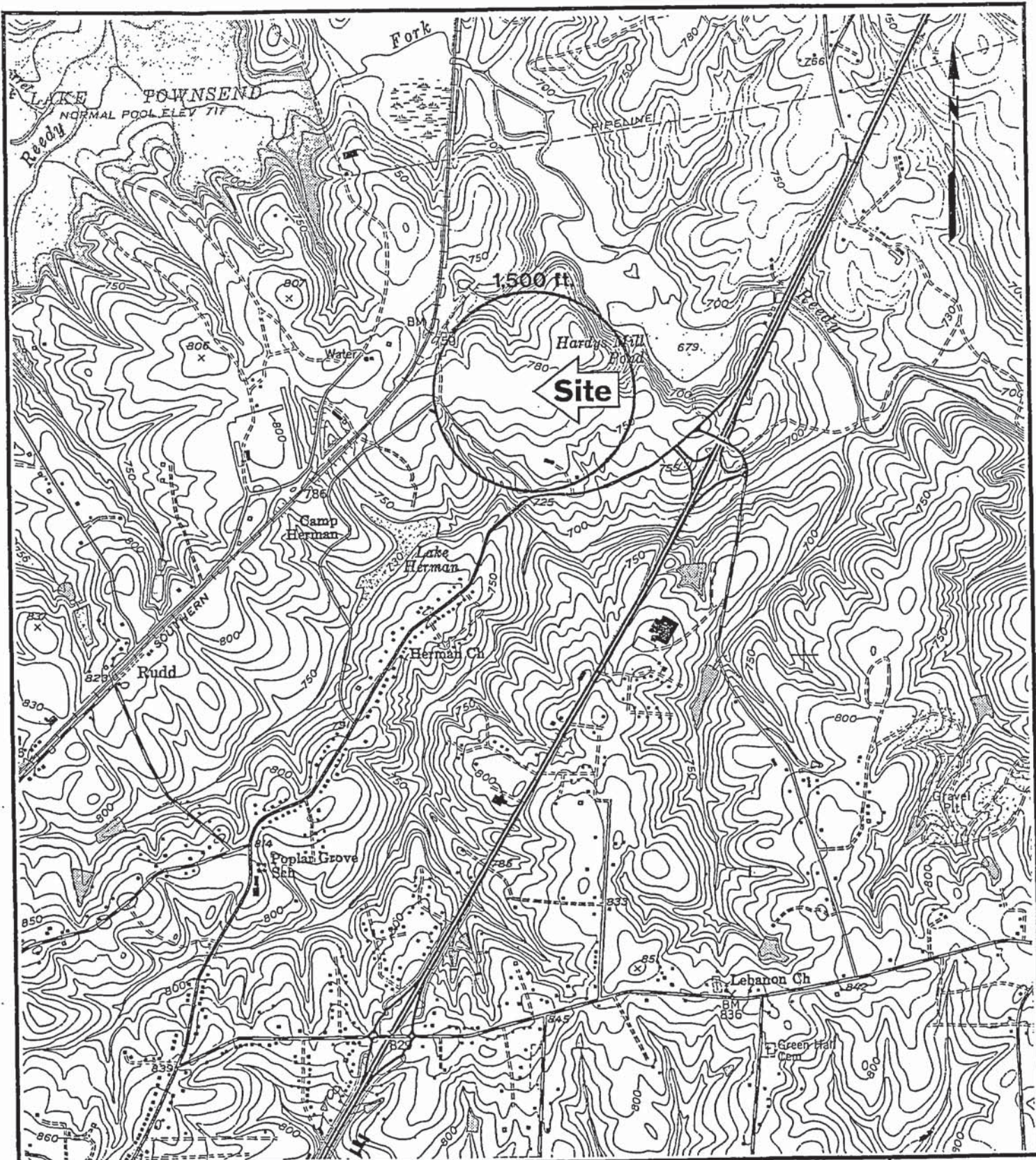
Parameter	Sample Locations										Comparison Criteria	
	SS-1	SS-2	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8		
Sample ID												State Action Level
Collection Depth (feet bgs)	2	2	8	8	5	5	5	5	4	4		
Collection Date	02/15/05	02/15/05	04/26/05	04/26/05	04/26/05	04/26/05	04/26/05	04/27/05	04/27/05	04/27/05		
Total Petroleum Hydrocarbons by EPA Method 8015												
Diesel Range Organics	3,010	1,380	40.4	797	3,840	9,760	156	BDL	BDL	11.3	40	
Gasoline Range Organics	BDL	BDL	NA	NA	NA	NA	NA	NA	NA	NA	10	

Notes:

mg/kg = Results presented in parts per million (ppm)
 Feet bgs = Feet below ground surface
 BDL = Below detection limits
 NA = Not analyzed by this method

Prepared by: JAN
 Checked by: CWH

DRAWINGS



SCALE: 1" = 2000'	DATE: 6/18/03	APPROVED BY: <i>awt</i>	SOURCE: USGS
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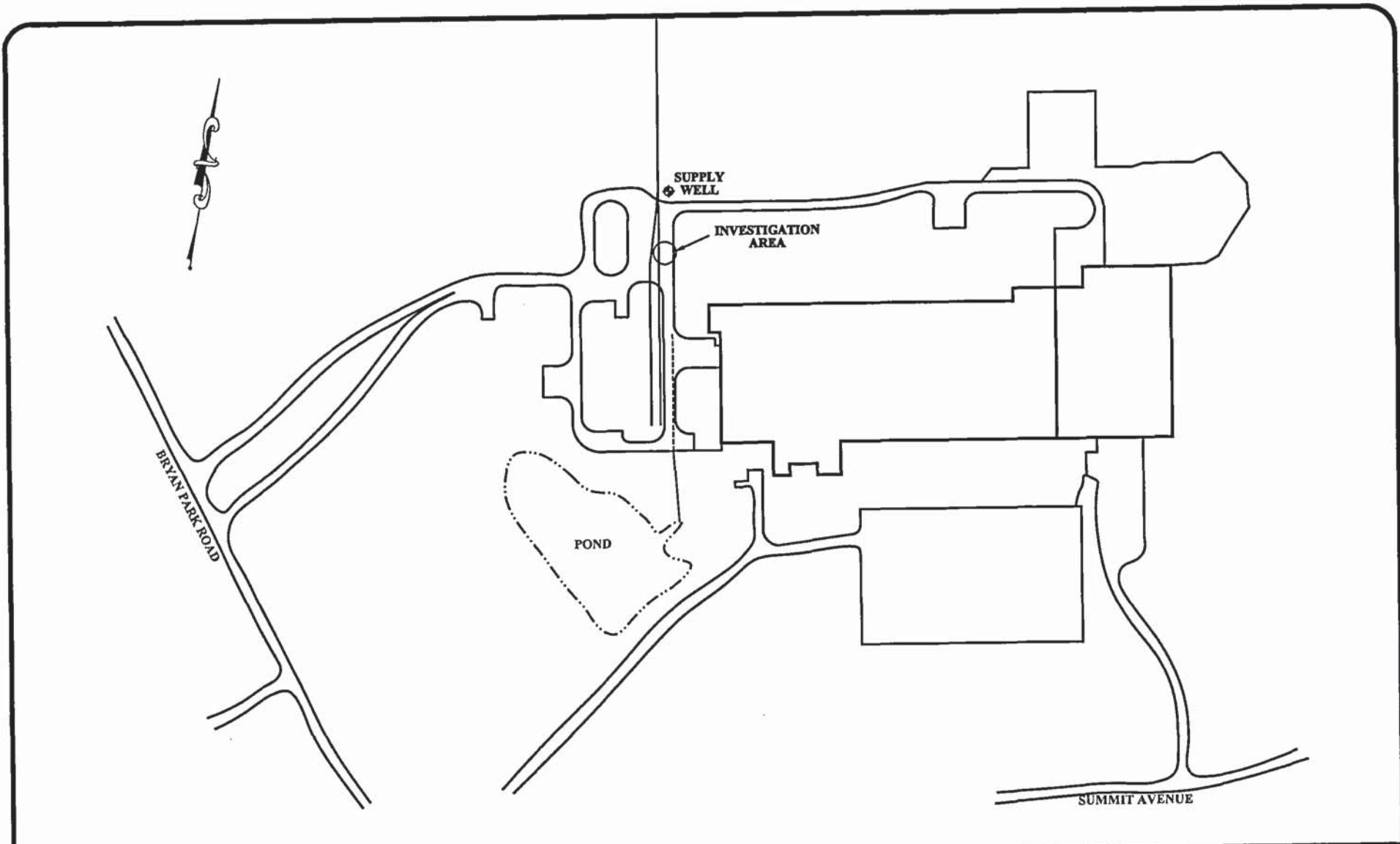


Trigon Engineering Consultants, Inc.
Greensboro North Carolina

Procter & Gamble Manufacturing Company
6200 Bryan Park Road
Browns Summit, North Carolina

1951 (Photorevised 1968) USGS Topographic Map
Browns Summit Quadrangle

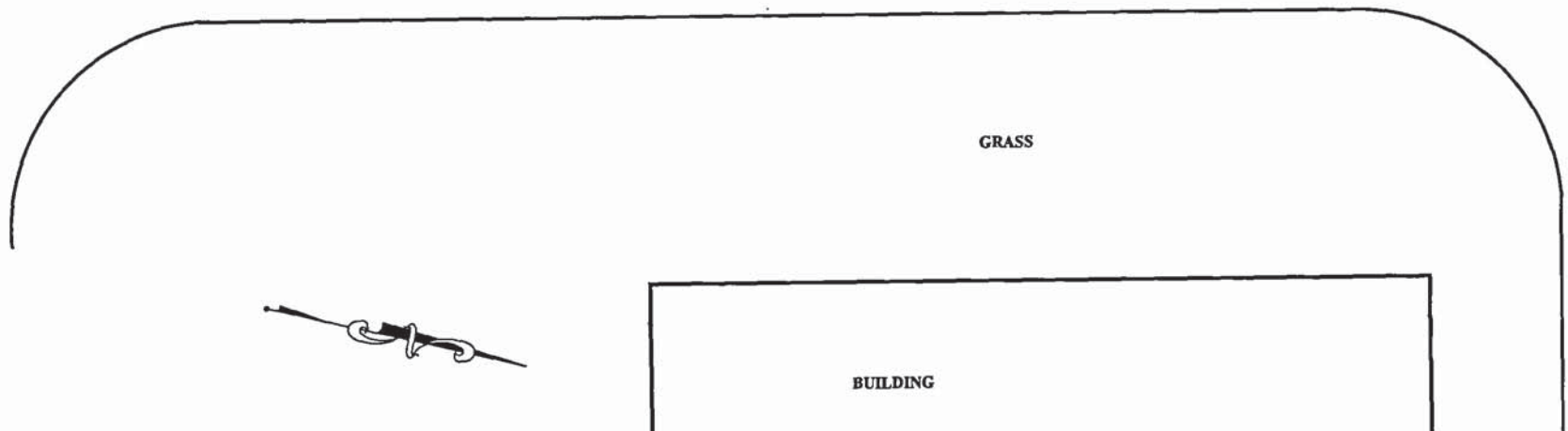
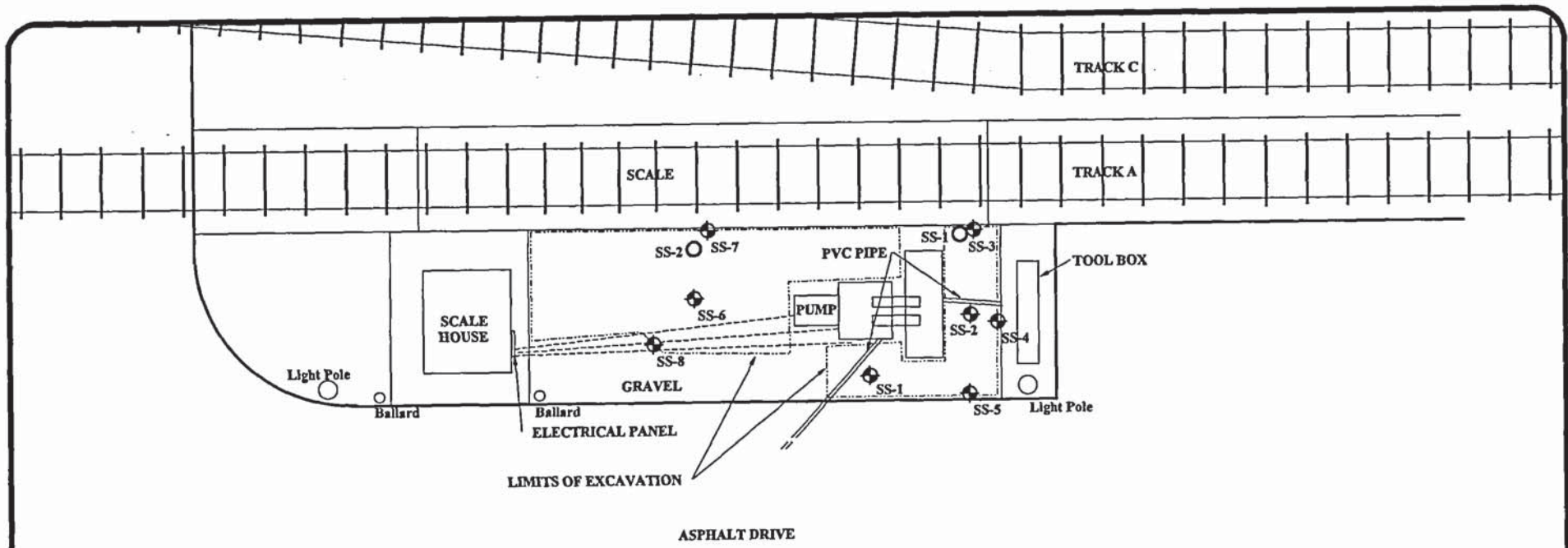
DRAWING NUMBER:
1



SITE PLAN

PROCTER & GAMBLE MANUFACTURING CO.
6200 BRYAN PARK ROAD
BROWN SUMMIT, NORTH CAROLINA

Date 5/26/05	Scale 1" = 400'
Drawn by DRK	Drawing No. 2



LEGEND

- SS-2 ○ SOIL SAMPLE LOCATION 2/15/05
- SS-5 ⊕ SOIL SAMPLE LOCATION 4/26/05



ENGINEERING CONSULTANTS, INC.

SOIL SAMPLE LOCATIONS

PROCTER & GAMBLE MANUFACTURING CO.
 6200 BRYAN PARK ROAD
 BROWN SUMMIT, NORTH CAROLINA

Date 05/16/05

Scale 1" = 10'

Drawn by DRK

Drawing No. 3

Appendix C

ESP Associates, Inc. Geophysical Survey Report



July 12, 2019

Mr. David Graham, P.G.
Hart & Hickman, P.C.
2923 S. Tryon Street, Suite 100
Charlotte, North Carolina 28203

Reference: REPORT ON GEOPHYSICAL SERVICES FOR PARCEL 12
Proctor & Gamble Manufacturing Company
6200 Bryan Park Rd., Guilford, North Carolina
ESP Project No. HR12.300

TIP Number: R-4707
WBS Number: 36599.1.2
County: Guilford
Description: SR 2526 (Summit Avenue) from SR 2641 (Bryan Park Road) to US 29-SR
 2970 (Ready Fork Parkway) Interchange

Dear Mr. Graham:

ESP Associates, Inc. (ESP) is pleased to present this report to Hart & Hickman, P.C. (Hart & Hickman) on the geophysical services we provided for the referenced project. This work was performed under our contractor agreement dated May 31, 2019, as authorized by the Work Authorization dated June 6, 2019, and in accordance with our cost proposal to you dated April 17, 2019. The purpose of the work was to help identify possible metallic underground storage tanks (USTs).

1.0 GEOPHYSICAL DATA COLLECTION

On June 21 through 28, 2019, ESP performed geophysical studies at Parcel 12, located on the east side of US 29-SR Browns Summit, North Carolina. The work consisted of metal detection using a Geonics EM61 MK2 instrument, obtaining the approximate locations of relevant site features using a DGPS instrument and collecting ground-penetrating radar (GPR) data over selected EM61 anomalies. In addition, our survey group provided utility locating and marked the found utilities on site.

The limits of the study area were based on NCDOT field staking and on the NCDOT MicroStation file provided by Hart & Hickman, and extended from the edge of the current roadway to the proposed right-of-way (ROW)/easement. Representative photographs of the geophysical study area are provided on Figure 1.

The EM61 data were collected over the accessible areas of the study area using a line spacing of approximately 4 feet. We used a Hemisphere XF101 differential GPS instrument (DGPS) connected to an Archer field computer to provide approximate locations of the EM61 data in real time. The DGPS instrument was also used to obtain the approximate location of site features that could affect the EM61 readings.

We compared the location of the EM61 responses to the location of site features and noted an anomaly that did not correspond to known site features. We collected GPR data in this area using a Sensors and Software Noggin GPR system with a 250 MHz antenna.

2.0 DATA ANALYSIS AND PRESENTATION

The EM61 data were gridded and contoured in Surfer to produce plan view contour maps of the early time gate response (Figure 2) and the differential response (Figure 3). The differential response is calculated by subtracting the response of the bottom coil from the response of the top coil of the EM61. Typically, the differential response diminishes the response from smaller, near-surface metallic objects, thus emphasizing the response from deeper and larger metallic objects, such as metallic USTs. The DGPS locations of observed site features were superimposed on the EM61 contour maps so that anomalies caused by site features such as metal objects on the ground surface could be recognized. Figures 2 and 3 show the EM61 data and the site features that we observed and mapped in the field with DGPS; these figures do not necessarily show all existing site features.

The GPR data we collected over the one EM61 anomaly within the asphalt drive indicated that the anomaly was caused by steel reinforcement (rebar) (Figure 4). The GPR data were reviewed in the field and it was determined that the data did not indicate the presence of abandoned metallic USTs.

The EM61 early time gate response and differential response were exported from Surfer as geo-referenced images and attached to the NCDOT plan sheet in MicroStation (Figures 5 and 6). The legend for the NCDOT line types and symbols is shown on Figure 7.

4.0 SUMMARY AND CONCLUSIONS

Our review of the geophysical data collected for this project does not indicate the presence of metallic USTs within the proposed ROW/easement of Parcel 12.

5.0 LIMITATIONS

These services have been provided to Hart & Hickman in accordance with generally accepted guidelines for performing geophysical investigations. It is recognized that the results of geophysical investigations are non-unique and subject to interpretation. Further, the locations of data and features included in this report are approximate and were collected using a DGPS instrument. ESP makes no guarantee as to the accuracy of these locations.

Thank you for the opportunity to be of service on this project. Please contact us if you have any questions or need further information.

Sincerely,

ESP Associates, Inc.



Edward D. Billington, PG
Senior Geophysicist

SBM/EDB

Attachments: Figures 1 – 7



A. Property entrance sign and eastern edge of the geophysical area.




B. Photograph of western edge of geophysical area.

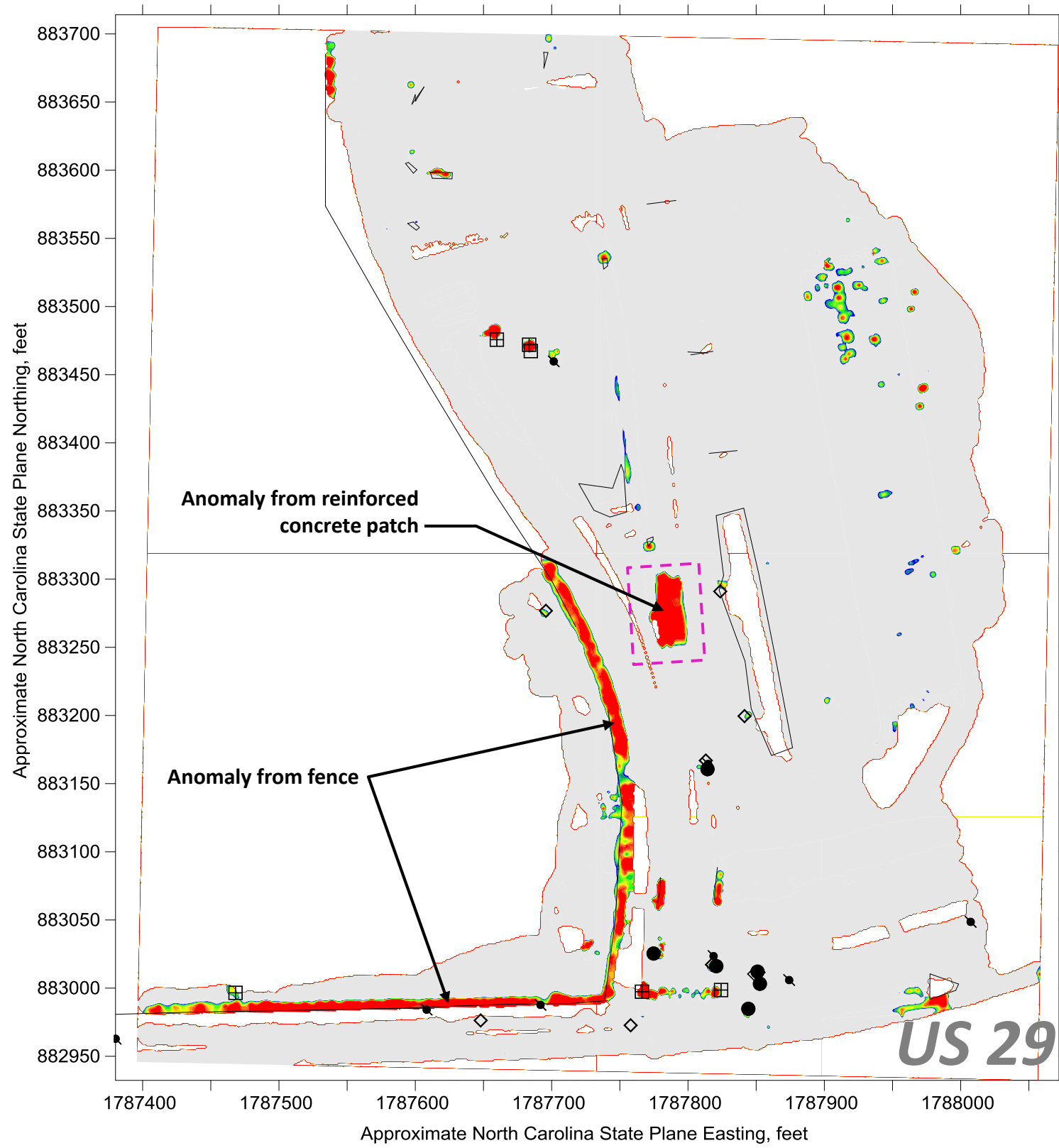


D. Photograph of parking lot, median and water treatment plant on west side of geophysical area.



E. Photograph of geophysical area, looking south.

PROJECT NO. HO12.300	FIGURE 1 – PARCEL 12, PROCTOR & GAMBLE SITE PHOTOGRAPHS	NCDOT PROJECT R-2511, US 17 NORTH OF NC 171 TO MULTI-LANES SOUTH OF WILLIAMSTON BEAUFORT AND MARTIN COUNTIES, NORTH CAROLINA	 ESP Associates, Inc. 7011 Albert Pick Rd., Suite E Greensboro, NC 27409 336.334.7724 www.espassociates.com
SCALE N/A			
DATE 7/12/19			
BY SBM/EDB			



EXPLANATION

	Miscellaneous metal object (pipe, debris, etc.)
	Utility Box (water meter, electrical outlet, etc.)
	Storm drain
	Utility pole
	Guy wire anchor
	Sign pole, other pole
	UST Valve Cover or Fill Port
	Buried utility line (marked by others)
	Existing Building (per NCDOT file)
	EM61 Data Collection Areas
	GPR Data Collection Areas
	Underground Storage Tank

Note: Locations of data and features are approximate and were collected using a DGPS instrument. ESP make no guarantees as to the accuracy of these locations. Coordinates on the axes of the maps are approximate and provided for general reference only.

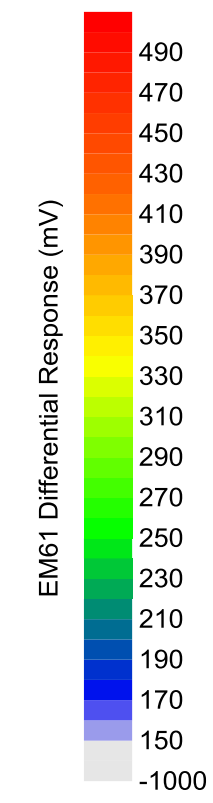
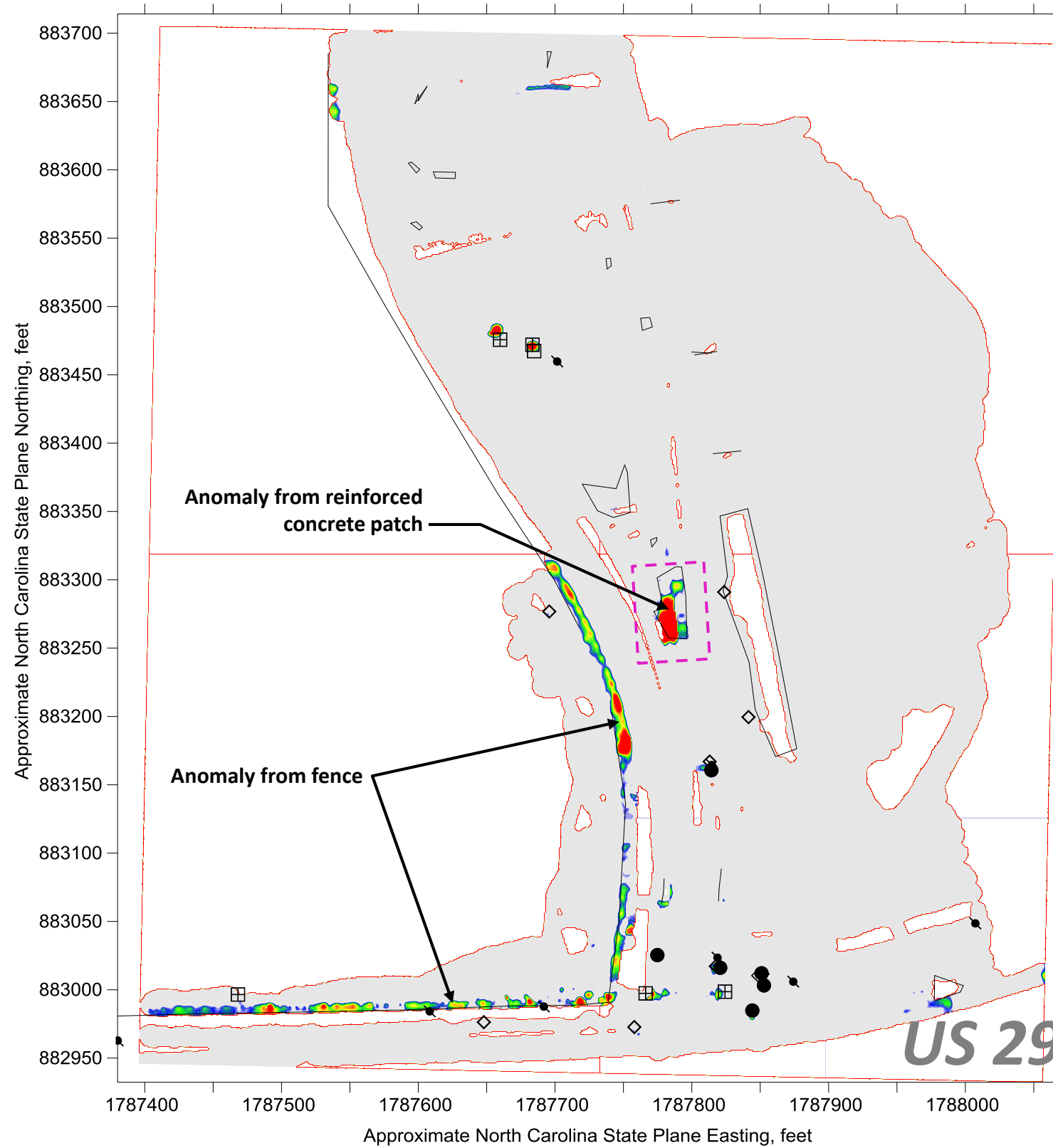
PROJECT NO.	HO12.300
SCALE	AS SHOWN
DATE	7/12/19
BY	SBM/EDB

**FIGURE 2 – PARCEL 12, PROCTOR & GAMBLE
EM61 EARLY TIME GATE DATA**

**NCDOT PROJECT R-2511, US 17 NORTH OF NC 171 TO
MULTI-LANES SOUTH OF WILLIAMSTON
BEAUFORT AND MARTIN COUNTIES, NORTH CAROLINA**



ESP Associates, Inc.
7011 Albert Pick Rd.,
Suite E
Greensboro, NC 27409
336.334.7724
www.espassociates.com



EXPLANATION	
◇	Miscellaneous metal object (pipe, debris, etc.)
□	Utility Box (water meter, electrical outlet, etc.)
⊠	Storm drain
●	Utility pole
+	Guy wire anchor
●	Sign pole, other pole
○	UST Valve Cover or Fill Port
- -	Buried utility line (marked by others)
▭	Existing Building (per NCDOT file)
▭	EM61 Data Collection Areas
▭	GPR Data Collection Areas
▭	Underground Storage Tank

Note: Locations of data and features are approximate and were collected using a DGPS instrument. ESP make no guarantees as to the accuracy of these locations. Coordinates on the axes of the maps are approximate and provided for general reference only.

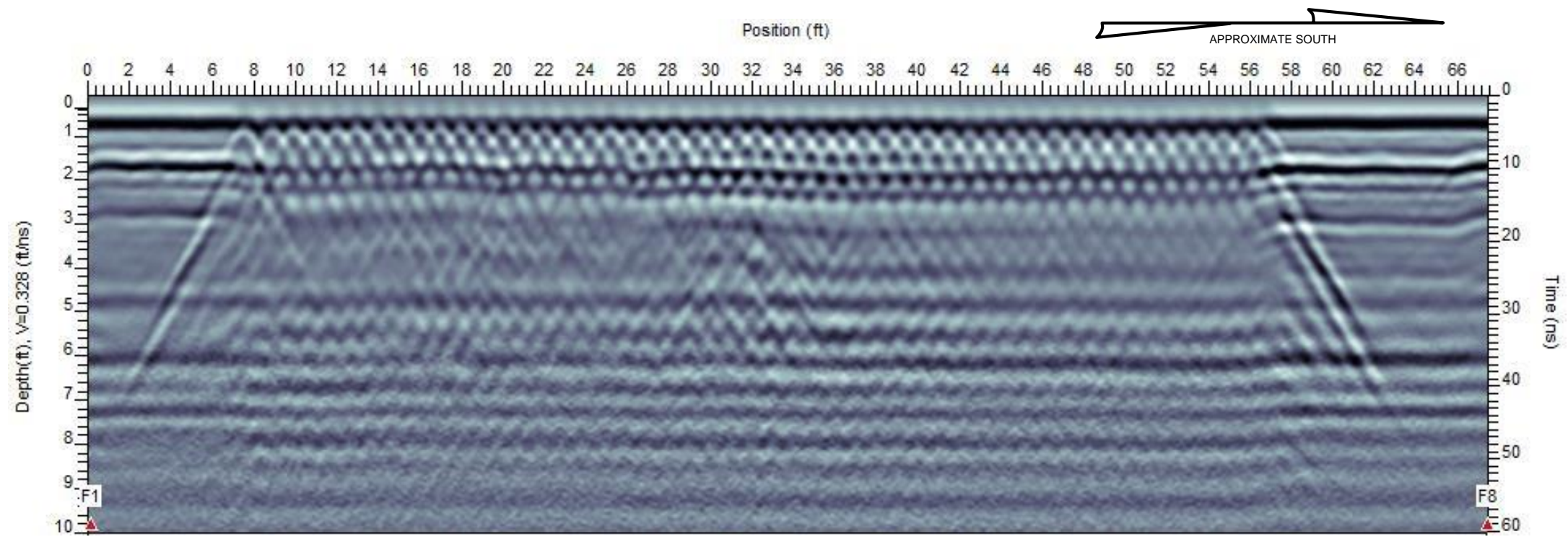
PROJECT NO.	HO12.300
SCALE	AS SHOWN
DATE	7/12/19
BY	SBM/EDB

**FIGURE 3 – PARCEL 12, PROCTOR & GAMBLE
EM61 DIFFERENTIAL DATA**

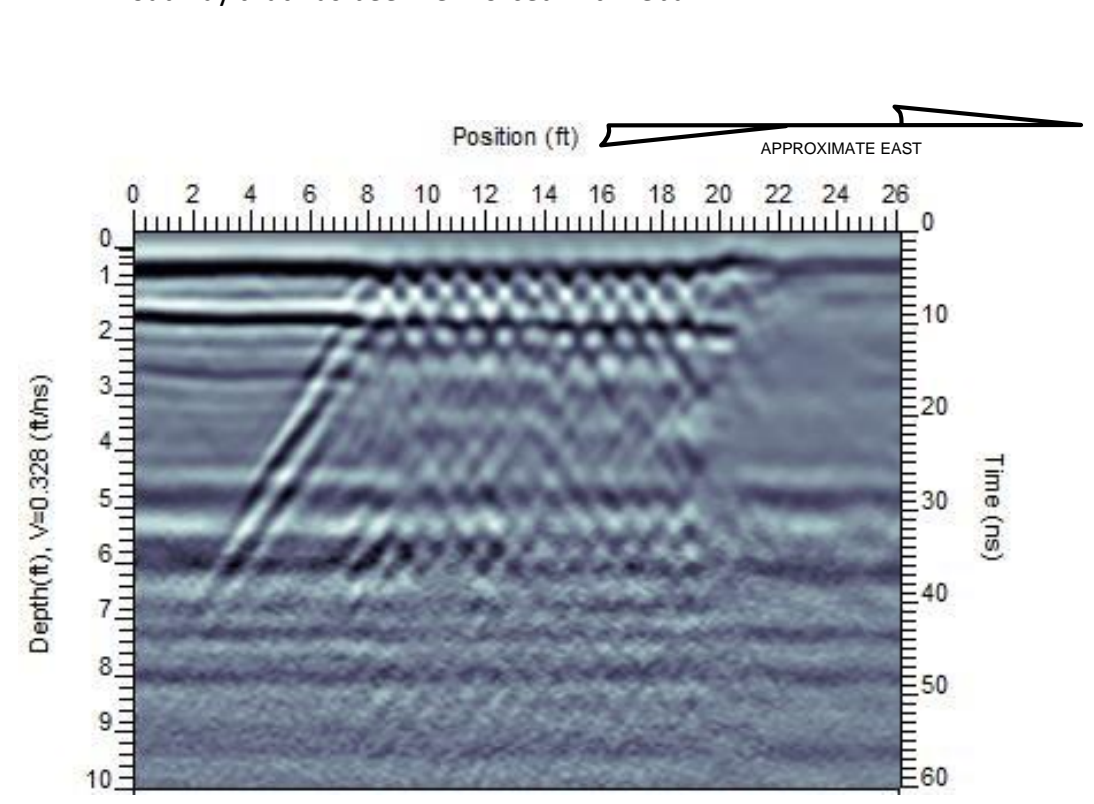
**NCDOT PROJECT R-2511, US 17 NORTH OF NC 171 TO
MULTI-LANES SOUTH OF WILLIAMSTON
BEAUFORT AND MARTIN COUNTIES, NORTH CAROLINA**



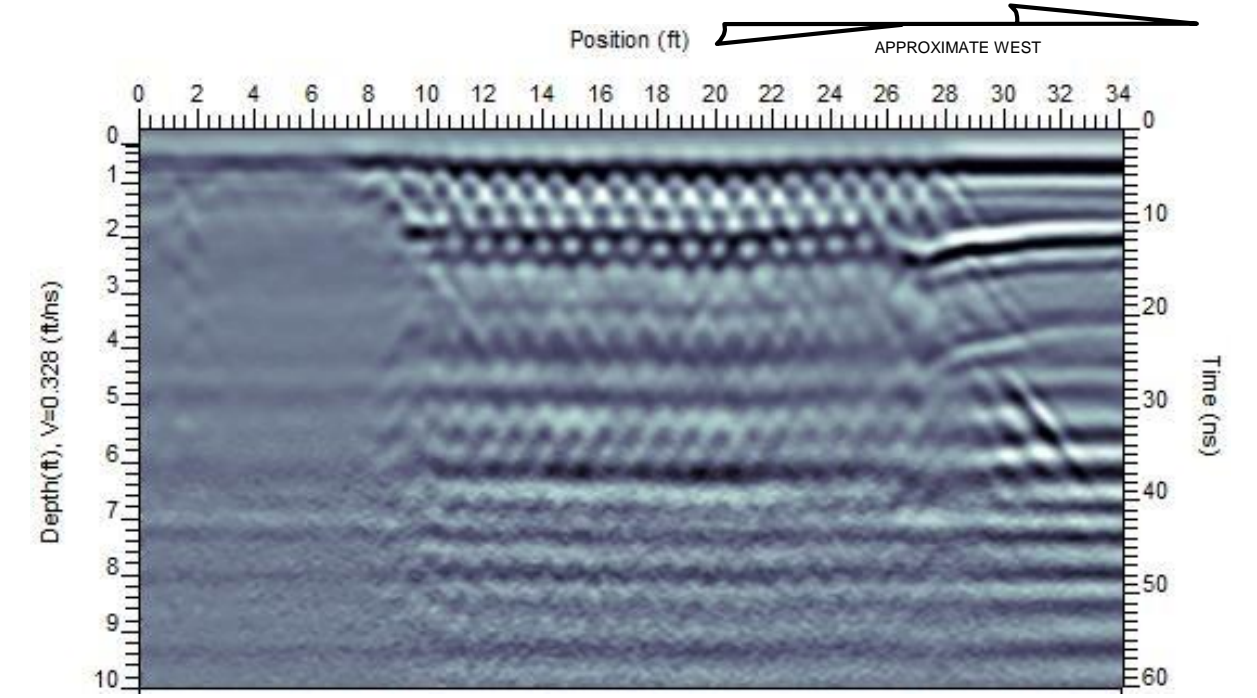
ESP Associates, Inc.
7011 Albert Pick Rd.,
Suite E
Greensboro, NC 27409
336.334.7724
www.espassociates.com




A. GPR image collected across long axis of the EM61 anomaly. This area is a concrete patch along the roadway that has been reinforced with rebar.

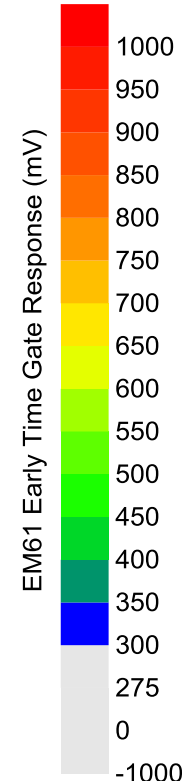
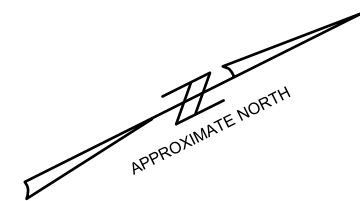


B. GPR image collected across short axis of the EM61 anomaly. This area is a concrete patch along the roadway that has been reinforced with rebar.



C. GPR image collected across short axis of the EM61 anomaly. This area is a concrete patch along the roadway that has been reinforced with rebar.

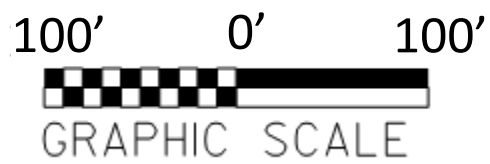
PROJECT NO. HO12.300	FIGURE 4 – PARCEL 12, PROCTOR & GAMBLE GPR IMAGES OF EM61 ANOMALY		ESP Associates, Inc.
SCALE AS SHOWN			7011 Albert Pick Rd., Suite E Greensboro, NC 27409
DATE 7/12/19	NCDOT PROJECT R-2511, US 17 NORTH OF NC 171 TO MULTI-LANES SOUTH OF WILLIAMSTON BEAUFORT AND MARTIN COUNTIES, NORTH CAROLINA		336.334.7724
BY SBM/EDB			www.espassociates.com



List of NCDOT reference files

- R4707_Geo_Env.dgn
- R4707_FS_NCDOT.dgn
- R4707_hyd_drn.dgn
- R4707_Rdy_dsn.dgn
- R4707_Rdy_row.dgn
- R4707_Rdy_ss.dgn

See Figure 7 for explanation of symbols and line types



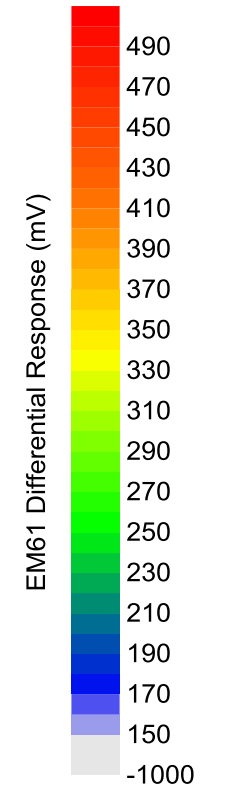
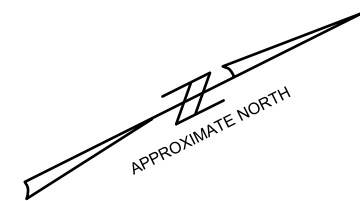
PROJECT NO.	HO12.300
SCALE	1" = 100'
DATE	7/12/19
BY	SBM/EDB

**FIGURE 5 – PARCEL 12, PROCTOR & GAMBLE
EM61 EARLY TIME GATE DATA ON PLAN SHEET**

**NCDOT PROJECT R-2511, US 17 NORTH OF NC 171 TO
MULTI-LANES SOUTH OF WILLIAMSTON
BEAUFORT AND MARTIN COUNTIES, NORTH CAROLINA**



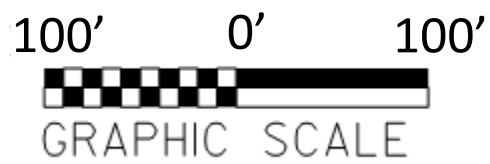
ESP Associates, Inc.
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Greensboro, NC 27409
336.334.7724
www.espassociates.com



List of NCDOT reference files

- R4707_Geo_Env.dgn
- R4707_FS_NCDOT.dgn
- R4707_hyd_drn.dgn
- R4707_Rdy_dsn.dgn
- R4707_Rdy_row.dgn
- R4707_Rdy_ss.dgn

See Figure 7 for explanation of symbols and line types



PROJECT NO.	HO12.300
SCALE	1" = 100'
DATE	7/12/19
BY	SBM/EDB

**FIGURE 6 – PARCEL 12, PROCTOR & GAMBLE
EM61 DIFFERENTIAL DATA ON PLAN SHEET**

**NCDOT PROJECT R-2511, US 17 NORTH OF NC 171 TO
MULTI-LANES SOUTH OF WILLIAMSTON
BEAUFORT AND MARTIN COUNTIES, NORTH CAROLINA**



ESP Associates, Inc.
7011 Albert Pick Rd.,
Suite E
Greensboro, NC 27409
336.334.7724
www.espassociates.com

Appendix D
Soil Boring Logs



Client: **NC DOT**
 Project: **ROW-603**
 Address: **Parcel 12, Browns Summit, NC**

BORING LOG
 Boring No. **12-1**
 Page: **1 of 1**

Drilling Start Date: **6/28/2019**
 Drilling End Date: **6/28/2019**
 Drilling Company: **SAEDACCO**
 Drilling Method: **Direct Push**
 Drilling Equipment: **Geoprobe 7822 DT**
 Driller: **Stefan Smith**
 Logged By: **AFM**

Boring Depth (ft): **12.0**
 Boring Diameter (in): **2.50**
 Sampling Method(s): **Direct Push, Grab**
 DTW During Drilling (ft):
 DTW After Drilling (ft):
 Ground Surface Elev. (ft):
 Location (X,Y):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') SILT (ML); mostly silt, some clay, medium stiff, moist, brown - red	0.4	12-1 (0-2)	0
								(2.5') Layer of fine gravel	0.5		
5								(7') SILT (ML); mostly silt, some clay, stiff, moist, red - orange	1.2		
10								(10') No Recovery	1.1		
15								(12') Boring terminated			15

NOTES: Hole precleared to 5.0' by SAEDACCO using hand auger.



Client: NC DOT
 Project: ROW-603
 Address: Parcel 12, Browns Summit, NC

BORING LOG
 Boring No. 12-2
 Page: 1 of 1

Drilling Start Date: 6/27/2019
 Drilling End Date: 6/27/2019
 Drilling Company: SAEDACCO
 Drilling Method: Direct Push
 Drilling Equipment: Geoprobe 7822 DT
 Driller: Stefan Smith
 Logged By: AFM

Boring Depth (ft): 12.0
 Boring Diameter (in): 2.50
 Sampling Method(s): Direct Push, Grab
 DTW During Drilling (ft):
 DTW After Drilling (ft):
 Ground Surface Elev. (ft):
 Location (X,Y):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') SILT (ML); mostly silt, little clay, soft, moist, red - brown			0
											0.5
											0.6
								(4') SILT (ML); mostly silt, some clay, medium stiff, moist, brown - orange - red			0.8
5								(7') SILT (ML); mostly silt, some clay, medium stiff, moist, brown			1.0
								(8') SILT (ML); mostly silt, little clay, medium stiff, moist, red - orange			0.9
10								(10') No Recovery			10
								(12') Boring terminated			15

NOTES: Hole precleared to 5.0' by SAEDACCO using hand auger.



Client: NC DOT
 Project: ROW-603
 Address: Parcel 12, Browns Summit, NC

BORING LOG
 Boring No. 12-3
 Page: 1 of 1

Drilling Start Date: 6/28/2019
 Drilling End Date: 6/28/2019
 Drilling Company: SAEDACCO
 Drilling Method: Direct Push
 Drilling Equipment: Geoprobe 7822 DT
 Driller: Stefan Smith
 Logged By: AFM

Boring Depth (ft): 12.0
 Boring Diameter (in): 2.50
 Sampling Method(s): Direct Push, Grab
 DTW During Drilling (ft):
 DTW After Drilling (ft):
 Ground Surface Elev. (ft):
 Location (X,Y):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') SILT (ML); medium stiff, moist, red - orange			0
								(1') SILT (ML); mostly silt, some clay, soft, moist, red - orange			1.4
											1.3
								(5') As Above: red			0.9
5											1.2
											1.3
10								(10') No Recovery			10
								(12') Boring terminated			15

NOTES: Hole precleared to 5.0' by SAEDACCO using hand auger.



Client: **NC DOT**
 Project: **ROW-603**
 Address: **Parcel 12, Browns Summit, NC**

BORING LOG
 Boring No. **12-4**
 Page: **1 of 1**

Drilling Start Date: **6/27/2019**
 Drilling End Date: **6/27/2019**
 Drilling Company: **SAEDACCO**
 Drilling Method: **Direct Push**
 Drilling Equipment: **Geoprobe 7822 DT**
 Driller: **Stefan Smith**
 Logged By: **AFM**

Boring Depth (ft): **12.0**
 Boring Diameter (in): **2.50**
 Sampling Method(s): **Direct Push, Grab**
 DTW During Drilling (ft):
 DTW After Drilling (ft):
 Ground Surface Elev. (ft):
 Location (X,Y):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') SILT (ML); mostly silt, some clay, medium stiff, moist, brown - red			0
								(2') SILT (ML); mostly silt, some clay, medium stiff, moist, red - orange		12-4 (2-4)	0.5
								(7.5') SILT (ML); mostly silt, little clay, medium stiff, moist, brown			0.6
								(9.5') SILT (ML); few fine sand, mostly silt, some clay, medium stiff, moist, brown			1.0
								(10') SILT (ML); mostly silt, little clay, medium stiff, moist, tan - orange			1.0
								(12') Boring terminated			15

NOTES: Hole precleared to 5.0' by SAEDACCO using hand auger.

Drilling Start Date: **6/28/2019**
 Drilling End Date: **6/28/2019**
 Drilling Company: **SAEDACCO**
 Drilling Method: **Direct Push**
 Drilling Equipment: **Geoprobe 7822 DT**
 Driller: **Stefan Smith**
 Logged By: **AFM**

Boring Depth (ft): **12.0**
 Boring Diameter (in): **2.50**
 Sampling Method(s): **Direct Push, Grab**
 DTW During Drilling (ft):
 DTW After Drilling (ft):
 Ground Surface Elev. (ft):
 Location (X,Y):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') Lean CLAY (CL); some silt, mostly clay, medium plasticity, stiff, moist, red - brown			0
											0.6
											0.6
											0.8
											0.9
5											5
								(8') Lean CLAY (CL); some silt, mostly clay, medium plasticity, medium stiff, moist, red, micaceous			0.8
								(9') Lean CLAY (CL); some silt, mostly clay, medium plasticity, medium stiff, moist, red - orange			0.9
10								(10') SILT (ML); mostly silt, trace clay, soft, moist, red - orange, micaceous			10
								(12') Boring terminated			15

NOTES: Hole precleared to 5.0' by SAEDACCO using hand auger.

Appendix E
Laboratory Analytical Report



Hydrocarbon Analysis Results

Client: HART & HICKMAN
Address: 2923 S TRYON ST SUITE 100
 CHARLOTTE, NC 28203

Samples taken Friday, June 28, 2019
Samples extracted Friday, June 28, 2019
Samples analysed Monday, July 1, 2019

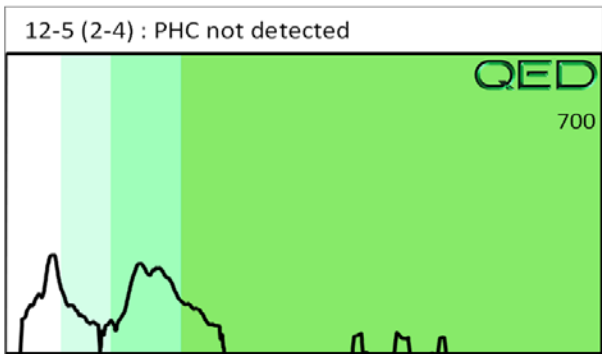
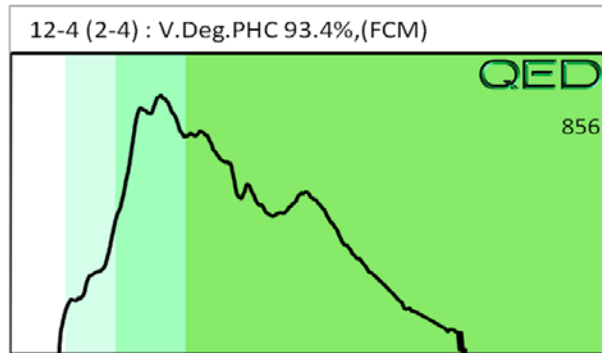
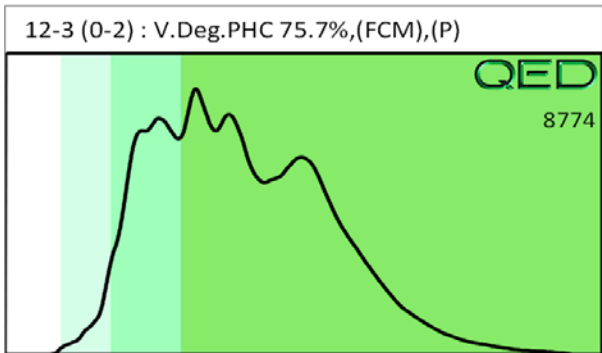
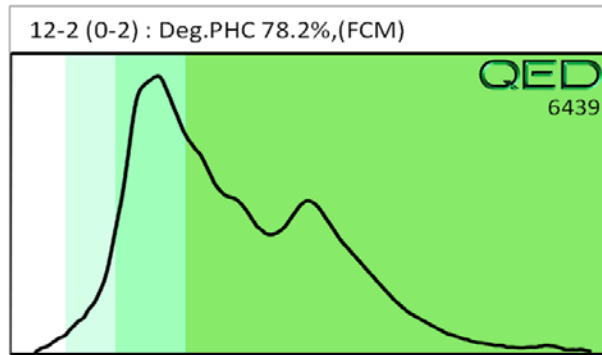
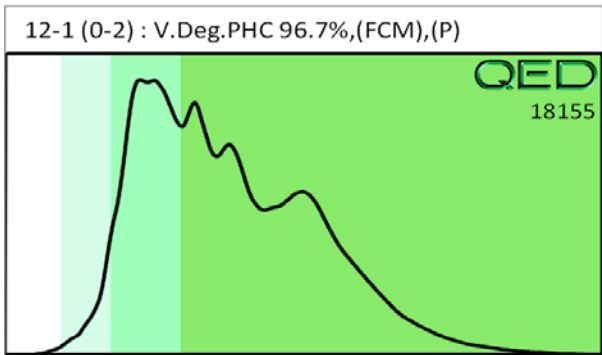
Contact: DAVID GRAHAM

Operator CAROLINE STEVENS

Project: ROW - 603 PARCEL 12

										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	12-1 (0-2)	20.3	<0.51	0.95	26.3	27.3	11.8	0.5	<0.02	10.6	60.7	28.8	V.Deg.PHC 96.7%,(FCM),(P)
s	12-2 (0-2)	20.6	<0.52	1.2	6.5	7.7	3.2	<0.17	<0.021	39.9	40.3	19.8	Deg.PHC 78.2%,(FCM)
s	12-3 (0-2)	20.6	<0.52	<0.52	5	5	3.7	<0.17	<0.021	0	54.5	45.5	V.Deg.PHC 75.7%,(FCM),(P)
s	12-4 (2-4)	12.4	<0.31	<0.31	0.93	0.93	0.43	<0.1	<0.012	0	62.4	37.6	V.Deg.PHC 93.4%,(FCM)
s	12-5 (2-4)	20.3	<0.51	0.83	<0.51	0.83	<0.1	<0.16	<0.02	94.9	4.6	0.5	PHC not detected
Initial Calibrator QC check										OK			98.3 %
Final FCM QC Check										OK			98.3 %

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content
 Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library
 (SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present



Client Name: HART A HICKMAN
 Address: 2023 S. TRYON ST SUITE 100 CHARLOTTE, NC 28203
 Contact: DAVID GRAHAM
 Project Ref.: ROW-603
 Email: DGRAHAM@HARTHICKMAN.COM
 Phone #: 704-586-0007
 Collected by: AFM, CDG



RED Lab, LLC
 5598 Marvin K Moss Lane
 MARBIONC Bldg, Suite 2003
 Wilmington, NC 28409
 Each UVF sample will be analyzed for total BTEX, GRO, DRO, TPH, PAH total aromatics and BaP. Standard GC Analyses are for BTEX and Chlorinated Solvents: VC, 1,1 DCE, 1,2 cis DCE, 1,2 trans DCE, TCE, and PCE. Specify target analytes in the space provided below.

CHAIN OF CUSTODY AND ANALYTICAL REQUEST FORM

Sample Collection Date/Time	TAT Requested		Analysis Type		Initials	Sample ID	Total Wt.	Tare Wt.	Sample Wt.
	24 Hour	48 Hour	UVF	GC					
6/27/19/1005			X		CDG	7-12 (0-2)	53.4	44.4	9
6/27/19/1020			X		CDG	7-13 (0-2)	54.2	43.9	10.3
6/27/19/1115			X		CDG	7-14 (0-2)	56.1	44.1	12
6/27/19/1135			X		CDG	7-15 (0-2)	56.1	44.3	11.8
6/27/19/1205			X		CDG	7-16 (0-2)	53.3	44.2	9.1
6/27/19/1345			X		CDG	7-17 (0-2)	57.9	44.2	13.7
6/27/19/1625			X		CDG	12-4 (2-4)	55.3	44	11.3
6/27/19/1655			X		CDG	12-2 (0-2)	56.4	43.8	12.6
6-28-19/845			X		CDG	12-1 (0-2)	56.5	43.7	12.8
6-28-19/0920			X		CDG	12-3 (0-2)	56.6	44.0	12.6
6-28-19/1005			X		CDG	12-5 (2-4)	57.1	44.3	12.8

COMMENTS/REQUESTS: TARGET GC/UVF ANALYTES: BTEX, GRO, DRO, TPH, PAH, BaP

Relinquished by	Accepted by	Date/Time	RED Lab USE ONLY 11
	HBH	6-28-19 10:50	
Relinquished by	Accepted by	Date/Time	Ref. No 061719A
	MM 7/1/19	1004	