hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

Via Email

May 6, 2020

NC DOT Geotechnical Engineering Unit
1020 Birch Ridge Drive
Raleigh, North Carolina 27610

Attention: Mr. Craig Haden

Re: Phase II Investigation
Parcel 44
NC DOT State Project No. U-5824
WBS Element #44395.1.1
Walkertown, Forsyth County, North Carolina
H&H Job No. ROW-606

Dear Craig:

Please find the attached electronic copy of the Phase II Investigation report for the PSI Walkertown (Parcel 44) property located in Walkertown, Forsyth 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
NC DOT Parcel 44

3100 Old Hollow Road
Walkertown, Forsyth County
North Carolina

H&H Job No. ROW-606
State Project U-5824
WBS Element #44395.1.1
May 6, 2020

hart hickman

SMARTER ENVIRONMENTAL SOLUTIONS

#C-1269 Engineering
#-245 Geology

2923 South Tryon Street, Suite 100
Charlotte, NC 28203
704.586.0007 main

3921 Sunset Ridge Rd , Suite 301
Raleigh, NC 27607
919.847.4241 main

www.harthickman.com

Phase II Investigation
3100 Old Hollow Road
Walkertown, Forsyth County
North Carolina
H&H Job No. ROW-606

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Phase II Investigation
3100 Old Hollow Road
Walkertown, Forsyth County
North Carolina
H&H Job No. ROW-606

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 PSI Walkertown, LLC property (NC DOT Parcel 44) in Walkertown, Forsyth County, North Carolina. Parcel 44 is located at 3100 Old Hollow Road. The Parcel 44 property is currently occupied by a Little Ceasars Pizza restaurant. This assessment was conducted on behalf of the North Carolina Department of Transportation (NC DOT) in accordance with H&H's January 15, 2020 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 proposed road improvements along Old Hollow Road and Darrow Road (State Project U-5824). The NC DOT project includes proposed road improvements and installation of stormwater drainage piping. A site location map is included as Figure 1, and a site map is presented as Figure 2. NC DOT's plan sheet depicting the subject site is included in Appendix A.

H&H searched the North Carolina Department of Environmental Quality (NC DEQ) Laserfiche website for incident files for the site property to better target UST system areas and to find locations of previously reported impacts. UST Incident files (Incident #44077) were identified for Parcel 44 on NC DEQ's Laserfiche website. H&H reviewed various environmental reports for Parcel 44 including Paragon Environmental Consultants, Inc.'s (Paragon's) *Site Check and Sampling* report dated January 2, 2013, *UST Closure, 20 Day, and Initial Abatement Report* dated June 24, 2013, *Limited Site Assessment* (LSA) report dated September 27, 2013, and also the NC DEQ *Notice of No Further Action* letters dated February 5, 2014 and May 8, 2014.

Based on the previous environmental documents, the property historically operated as the Exprez It convenience store and gasoline station. Three 8,000-gallon gasoline USTs, one 8,000-gallon diesel UST, and one 8,000-gallon kerosene UST were previously located at the site. During site check activities in December 2012, concentrations of total petroleum hydrocarbons (TPH) as diesel range organics (DRO) (up to 2,890 mg/kg) and gasoline range organics (GRO) (up to 417 mg/kg) were detected above NC DEQ Action Levels in soil samples collected near the diesel and kerosene dispenser islands in the eastern portion of the site. In May 2013, the three 8,000-gallon gasoline, one 8,000-gallon diesel, and one 8,000-gallon kerosene UST systems were removed from the site. Concentrations of TPH GRO (up to 3,990 mg/kg) were detected in closure soil samples collected beneath the former gasoline USTs and associated piping and dispensers. No impacts were detected beneath the former diesel and kerosene USTs. Approximately 327 tons of impacted soil were over-excavated and removed from the diesel and kerosene dispenser areas and the former gasoline USTs and associated dispenser areas and properly disposed. Concentrations of target petroleum constituents were detected in post-excavation soil samples above the NC DEQ Maximum Soil Contaminant Concentrations (MSCCs).

As part of LSA activities in September 2013, one monitoring well (MW-1) was installed near the former UST basin at the site. Concentrations of target petroleum constituents were detected in the soil sample collected from the monitoring well boring above the MSCCs. In addition, target petroleum constituents were detected in the groundwater sample collected from MW-1 above the 15A NCAC 2L .0202 Groundwater Quality Standards (2L Standards). The depth to groundwater in MW-1 was approximately 30 ft below ground surface (bgs). Based on the LSA, no concentrations of target petroleum constituents were detected above the Industrial/Commercial MSCCs in soil samples collected at the site, and detected groundwater constituents were below Gross Contamination Levels (GCLs).

A Notice of Residual Petroleum (NORP) was recorded for the property at the Forsyth County Register of Deeds on January 23, 2014. The NORP restricts land use to non-residential and restricts the use of groundwater. On May 8, 2014, NC DEQ issued a No Further Action (NFA) status for the site. Pertinent information from the environmental documents is included in Appendix B.

The Phase II activities conducted by H&H on Parcel 44 are discussed below.

2.0 Geophysical Survey

Prior to advancing soil borings, H&H contracted with GEL Solutions (GEL) to conduct a geophysical survey on the property on March 2 and 3, 2020. GEL utilized radio-frequency electromagnetic (EM) induction technology, ground penetrating radar (GPR), and time-domain electromagnetic (TDEM) technology to identify potential geophysical anomalies and potential USTs at the site. In addition, GEL screened for subsurface utilities in proposed environmental boring locations. The EM/GPR/TDEM results indicate that no potential USTs were identified at the site. Other anomalies were present in the survey data but were attributed to known surface metallic objects, reinforced concrete, utilities or other structures that were not characteristic signatures of potential USTs. GEL's report, including a site map depicting the results of the EM/GPR/TDEM survey, is provided in Appendix C.

3.0 Soil Assessment

3.1 Soil Sampling

H&H contracted with Innovative Environmental Technologies, Inc. (IET) to advance soil borings on the subject site. On March 11, 2020, thirteen soil borings (SB-1 through SB-13) were advanced at the site using a direct push technology (DPT) drill rig. Prior to conducting soil borings, underground utilities were marked by the NC 811 public utility locator and by GEL for private underground utilities. Borings were also cleared up to a five-foot depth by hand auger.

The soil borings were advanced to maximum depths of 12 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. Based on field screening, there were indications of potential impacts in borings SB-5, SB-9 and SB-12. Soil samples were collected at various depths ranging from 2 ft to 4 ft to 6 ft to 8 ft bgs. Soil boring logs are included

in Appendix D. 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 fourteen soil samples from borings SB-1 through SB-13 for laboratory analysis. Soil samples were collected from two depth intervals in SB-5 to evaluate the potential for impacts at two depths. 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 the surface was patched with asphalt to match the existing ground surface.

3.2 Soil Analytical Results

Concentrations of TPH DRO (1,174 mg/kg and 2,146 mg/kg) were detected in soil samples SB-9 (6-8 ft) and SB-12 (6-8 ft), respectively, above the NC DEQ Action Level of 100 mg/kg. Concentrations of TPH GRO (ranging from 68.8 mg/kg to 3,156 mg/kg) were detected in soil samples SB-5 (6-8 ft), SB-9 (6-8 ft) and SB-12 (6-8 ft) above the NC DEQ Action Level of 50 mg/kg. Low level concentrations of TPH DRO were also detected in samples SB-1 (2-4 ft), SB-5 (2-4 ft and 6-8 ft), SB-8 (4-6 ft), SB-10 (2-4 ft), SB-11 (2-4 ft), and SB-13 (4-6 ft) below the NC DEQ Action Level. TPH data are depicted on Figure 2.

Based on the above soil sample results, H&H estimates the following amounts of impacted soil above the NC DEQ Action Levels are present on Parcel 44 and within proposed NC DOT work areas:

- H&H estimates there are roughly 550 cubic yards (800 tons) of soil impacted with TPH GRO between 4 ft and 12 ft bgs near soil boring SB-5 and 800 cubic yards (1,200 tons) of soil impacted with TPH DRO and GRO between 2 ft and 12 ft bgs near borings SB-9 and SB-12.

The estimated depth of impacted soils is based on field screening and lab results up to approximately 12 ft bgs. However, field screening and lab results did not provide information that fully defines the impacted soil interval or extent. Therefore, impacts may extend beyond the depths and amounts indicated above. The approximate areas of impacted soil are shown on Figure 2.

4.0 Summary and Regulatory Considerations

H&H has reviewed available NC DEQ incident files and analytical results of soil samples collected on NC DOT Parcel 44 in Walkertown, Forsyth County, North Carolina. The subject site is currently occupied by a Little Caesar's Pizza Restaurant and historically operated as a convenience store and gasoline station. Review of NC DEQ UST incident files indicates that three gasoline, one diesel and one kerosene UST systems were previously removed from the site (UST Incident #44077). Approximately 327 tons of petroleum impacted soil were removed from the site during UST closure activities. A NORP was recorded for the site property and a NFA status was issued by NC DEQ for the site in 2014. Historical impacted soil is located within proposed NC DOT work areas. Impacted groundwater at the site is located approximately 30 ft bgs and below proposed NC DOT work areas.

Based on the geophysical survey, no suspected USTs were identified in accessible areas on Parcel 44. Analytical results of soil samples collected by H&H indicate concentrations of TPH DRO and GRO above the NC DEQ Action Levels in three soil samples collected at the site. Based on field screening and laboratory analytical results, H&H estimates there are roughly 550 cubic yards (800 tons) of soil impacted with TPH GRO between 4 ft and 12 ft bgs near soil boring SB-5 and 800 cubic yards (1,200 tons) of soil impacted with TPH DRO and GRO between 2 ft and 12 ft bgs near borings SB-9 and SB-12.

NC DOT plans indicate a proposed cut for road improvement activities in proposed NC DOT work areas and for proposed drainage structures on the subject site. Impacted soil may be

encountered during road construction and drainage piping installation activities. Impacted soil encountered during construction activities 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 in accordance with NC DEQ regulations and properly disposed.

5.0 Signature Page

This report was prepared by:

DocuSigned by:
David Graham
9F6FAD6E6BA34BE...

5/13/2020

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

This report was reviewed by:

DocuSigned by:
CBCA88CDF0E547B...

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

Not considered final unless all signatures are completed.

Table 1 (Page 1 of 1)
Soil Boring GPS Coordinate Data
NC DOT Parcel 44
Walkertown, Forsyth County, North Carolina
H&H Job No. ROW-606

Sample ID	Latitude	Longitude
SB-1	36.167886	-80.147979
SB-2	36.167862	-80.147769
SB-3	36.167836	-80.148060
SB-4	36.167823	-80.147983
SB-5	36.167787	-80.147808
SB-6	36.167716	-80.147979
SB-7	36.167737	-80.147729
SB-8	36.167708	-80.147603
SB-9	36.167755	-80.147513
SB-10	36.167635	-80.147694
SB-11	36.167828	-80.147706
SB-12	36.167676	-80.147531
SB-13	36.167622	-80.147571

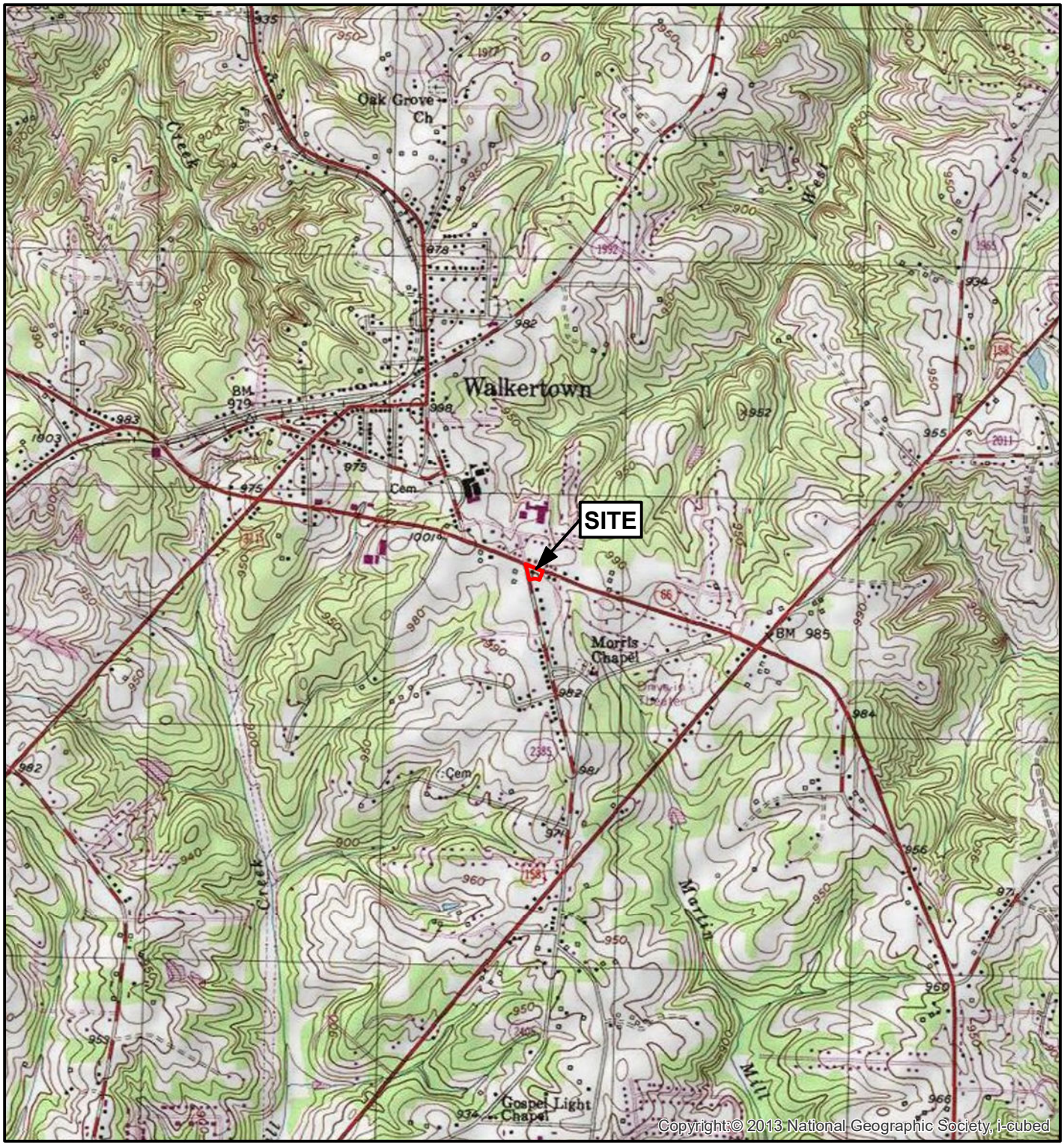
Notes:

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 44
Walkertown, Forsyth County, North Carolina
H&H Job No. ROW-606

Sample ID	SB-1	SB-2	SB-3	SB-4	SB-5		SB-6	SB-7	SB-8	SB-9	SB-10	SB-11	SB-12	SB-13	
Sample Depth (ft)	2-4	2-4	2-4	6-8	2-4	6-8	4-6	4-6	4-6	6-8	2-4	2-4	6-8	4-6	**Regulatory Standard**
Sample Date	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	
TPH-DRO/GRO (UVF) (mg/kg)															**NCDEQ Action Level (mg/kg)**
Diesel-Range Organics (DRO)	11.7	<0.2	<0.21	<0.2	0.07	26.1	<0.19	<0.19	0.17	**1,174**	5.2	0.9	**2,146**	0.3	100
Gasoline-Range Organics (GRO)	<0.6	<0.5	<0.5	<0.5	<0.4	**68.8**	<0.4	<0.4	<0.5	**1,151**	<0.5	<0.5	**3,156**	<0.5	50

Notes:
UVF = QED Ultraviolet fluorescence technology.
BOLD values exceed NCDEQ Action Levels.



N

0 2,000 4,000

SCALE IN FEET

U.S.G.S. QUADRANGLE MAP

WALKERTOWN, NORTH CAROLINA 2013

QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE

SITE LOCATION MAP

PROJECT

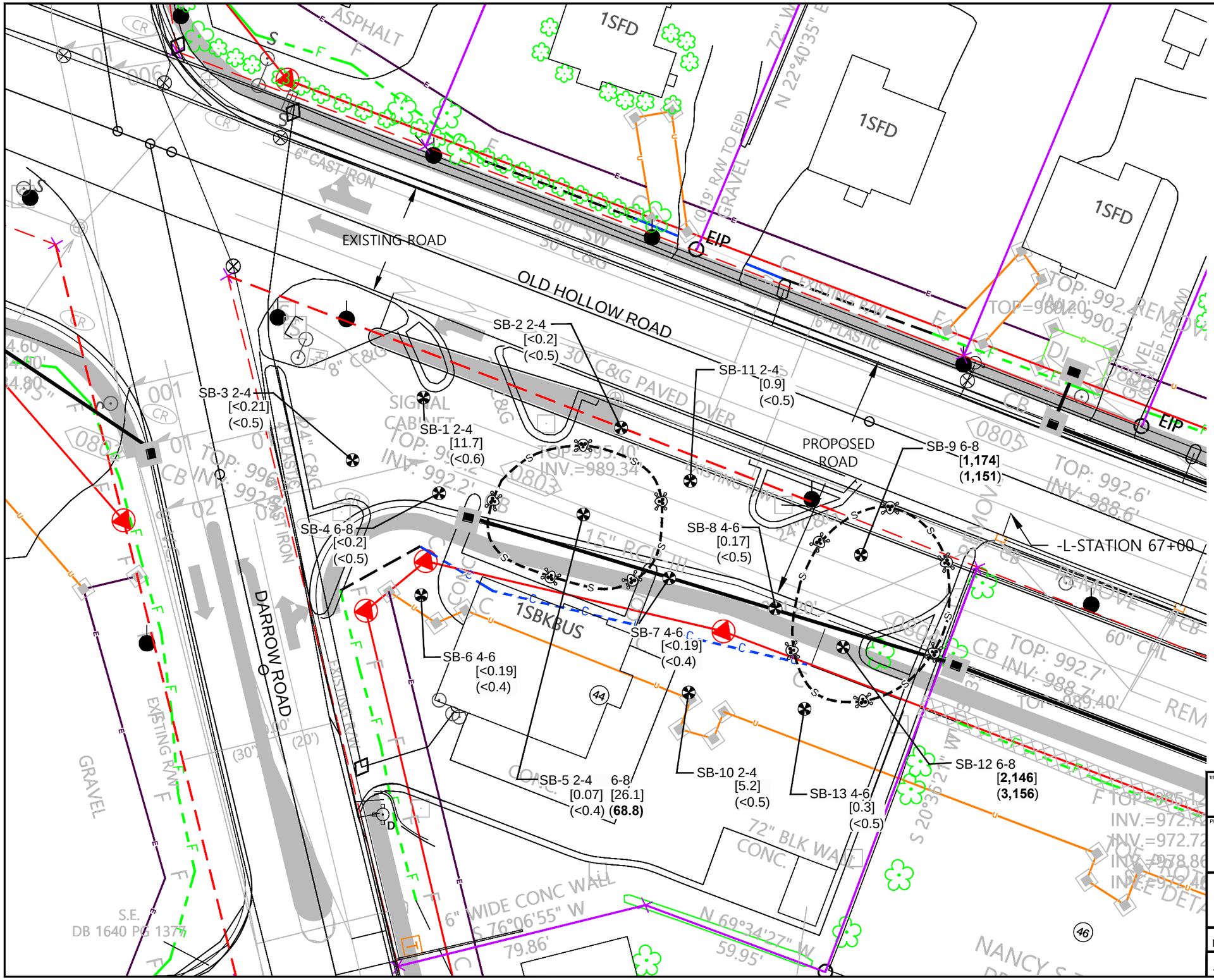
NC DOT PARCEL 44
3100 OLD HOLLOW ROAD
WALKERTOWN, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

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: 4-14-20	REVISION NO: 0
JOB NO: ROW-606	FIGURE. 1

Path: \\HHFS01\Redirectedfolders\sperry\My Documents\ArcGIS\PROJECTS\ROW-606\Figure-1.mxd



LEGEND

- PROPERTY LINE
- VEGETATION / WOODED
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- PROPOSED UTILITY EASEMENT
- PROPOSED CONSTRUCTION EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED CUT LINE
- PROPOSED FILL LINE
- (44) NC DOT PARCEL ID
- SOIL SAMPLE LOCATION
- PROPOSED SIDEWALK
- SB-1 2-4 SAMPLE ID/DEPTH
- [11.7] DIESEL RANGE TPH (mg/kg)
- (<0.6) GASOLINE RANGE TPH (mg/kg)
- KNOWN SOIL CONTAMINATION
- PROPOSED DRAINAGE PIPE
- PROPOSED CATCH BASIN

NOTE:

BOLD EXCEEDS NC DEQ ACTION LEVELS.

TITLE

SITE MAP AND SOIL ANALYTICAL RESULTS

PROJECT

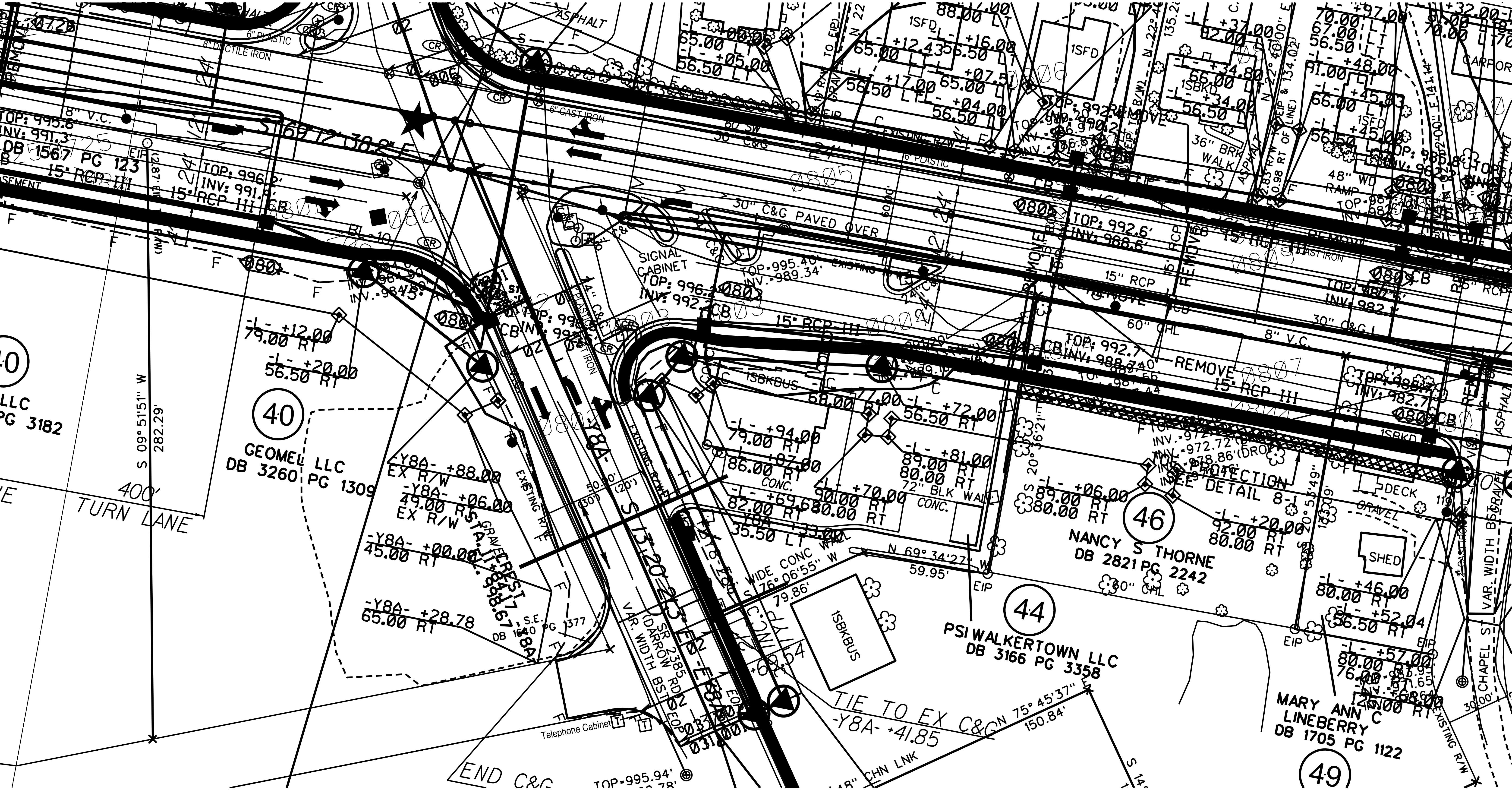
NCDOT PARCEL 44
WALKERTOWN, FORSYTH COUNTY
NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
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: 3-30-20	REVISION NO. 0
JOB NO. ROW-606	FIGURE NO. 2

Appendix A

NC DOT Preliminary Plan



GEOMEL LLC
DB 3260 PG 1309
NANCY S THORNE
DB 2821 PG 2242
PSI WALKERTOWN LLC
DB 3166 PG 3358
MARY ANN C
LINEBERRY
DB 1705 PG 1122
DB 1567 PG 123
PG 3182
40
44
46
49
TURN LANE
400'
S 09° 51'51" W
282.29'
S 69°12'38.2"E
S 13°20'23"E
SR 2385
(DARROW RD)
VAR. WIDTH BST
CHAPEL ST
30" C&G PAVED OVER
SIGNAL
CABINET
Telephone Cabinet
15" RCP III
15" RCP
60" CHL
8" V.C.
6" CAST IRON
6" DUCTILE IRON
6" PLASTIC
36" BRK
WALK
48" WD
RAMP
1SFD
1SBKD
1SBKBUS
SHED
DECK
CARPORT
GRAVEL
ASPHALT
72" BLK WALL
CONC.
REMOVE
SEE DETAIL 8-1
TIE TO EX C&G
-Y8A- +41.85
END C&G
TOP: 995.6'
INV: 991.3'
TOP: 996.2'
INV: 991.8'
TOP: 992.6'
INV: 988.6'
TOP: 992.7'
INV: 988.7'
INV: 982.1'
INV: 982.7'
TOP-995.40'
INV.-989.34'
TOP-995.94'
-L- +12.00
79.00 RT
-L- +20.00
56.50 RT
-Y8A- +88.00
EX R/W
-Y8A- +06.00
49.00 RT
-Y8A- +00.00
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92.00 RT
80.00 RT
-L- +46.00
80.00 RT
-L- +52.04
56.50 RT
-L- +57.00
80.00 RT
76.00 RT
N 69° 34'27" W
59.95'
S 76° 06'55" W
79.86'
N 75° 45'37" E
150.84'
EIP
EXISTING R/W
CHN LNK

Appendix B

NC DEQ Incident Files

RECEIVED
N.C. Dept. of ENR

JAN 0 7 2013

Winston-Salem
Regional Office

#42077

PARAGON
Environmental Consultants, Inc.

January 2, 2013

Dale Holden
Getty Properties Corporation
125 Jerico Turnpike – Suite 103
New York, NY 11753-1016

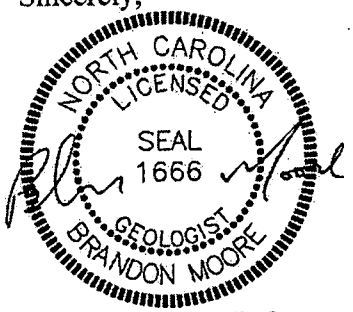
Reference: Site Check Sampling
Exprez It Store
3100 Old Hollow Road
Walkertown, North Carolina

Dear Mr. Holden:

Please find enclosed a report summarizing the site check activities near three dispenser islands at the above referenced facility. This work was performed in response to a Notice of Regulatory Requirements from the NCDENR. On December 20, 2012 Paragon Environmental Consultants, Inc. mobilized to the site to perform assessment sampling in the area of dispensers #7/#8, #9/#10, and #11/#12. Two soil samples were obtained immediately adjacent to each of these islands to complete a site check for subsequent submittal to NCDENR. Paragon collected one sample from in-situ soils at each sample location from a depth of approximately 3 feet below surface grade. These samples were labeled as GP-1 through GP-6 to represent the appropriate location in the order in which the samples were obtained. The locations of the all of the soil samples are illustrated on Figure 1.

The soil samples collected at the gasoline dispenser (GP-1 and GP-2) were below the laboratory detection limit according to EPA Method 5030. The four samples from the other dispenser islands were all in excess of the action level of 10 milligrams per kilogram (mg/kg) by both Method 5030 and 3550. These samples indicated maximum TPH levels of 2,890 mg/kg by Method 3550 and 417 mg/kg by Method 5030. Table 1 summarizes the TPH analytical results, and Attachment A contains a copy of the laboratory analytical report and the chain-of-custody record. Please contact our office at (336) 669-6037 if you have any questions regarding the site check activities.

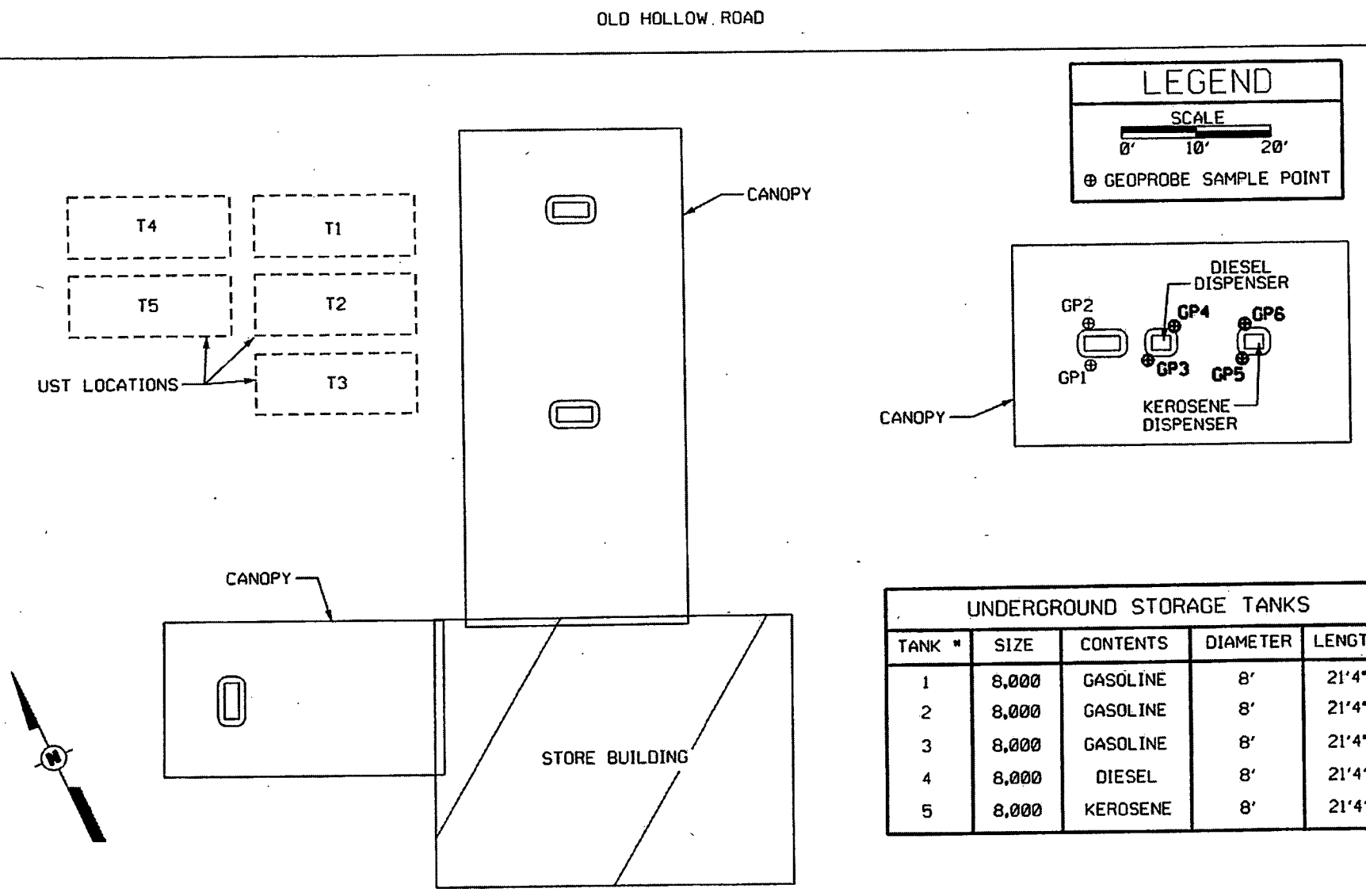
Sincerely,



Brandon Moore, L.G.
Paragon Environmental Consultants, Inc.
cc: . Rose Pruitt - NCDENR

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

FIGURE 1



UNDERGROUND STORAGE TANKS				
TANK #	SIZE	CONTENTS	DIAMETER	LENGTH
1	8,000	GASOLINE	8'	21'4"
2	8,000	GASOLINE	8'	21'4"
3	8,000	GASOLINE	8'	21'4"
4	8,000	DIESEL	8'	21'4'
5	8,000	KEROSENE	8'	21'4'

SCALE: 1"=20' DATE: 1/2/13 DWN. BY: KBM DWG. NO. L12-1291	TITLE: SITE LAYOUT AND UST LOCATIONS	PROJECT: SITE CHECK 3100 OLD HOLLOW ROAD WALKERTOWN, NC	CLIENT: GETTY PROPERTIES NEW YORK, NY	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA

TABLE 1

FIELD AND LABORATORY ANALYTICAL RESULTS - TPH SOIL SAMPLES

Exprez It Store
Walkertown, North Carolina

SAMPLE ID	LOCATION	DATE	DEPTH (FT)	TPH (3550)*	TPH (5030)*	OVA
GP-1	Geoprobe Sample #1	12/20/12	3'	N/A	<10	N/A
GP-2	Geoprobe Sample #2	12/20/12	3'	N/A	<10	N/A
GP-3	Geoprobe Sample #3	12/20/12	3'	**484**	**47.1**	N/A
GP-4	Geoprobe Sample #4	12/20/12	3'	**2,890**	**245**	N/A
GP-5	Geoprobe Sample #5	12/20/12	3'	**1,150**	**417**	N/A
GP-6	Geoprobe Sample #6	12/20/12	3'	**1,690**	**286**	N/A

* Results in milligrams per kilogram (mg/kg)

N/A = Not Analyzed

<10 = Below Detection Limits

R12-1291T

RECEIVED
N.C. Dept. of ENR

JUN 2 5 2013

Winston-Salem
Regional Office

UST CLOSURE, 20 DAY, AND INITIAL ABATEMENT REPORT

EXPREZ IT - WALKERTOWN
3100 OLD HOLLOW ROAD
WALKERTOWN, NC
GROUNDWATER INCIDENT: 44077
FACILITY ID: 0-016559

JUNE 24, 2013

UST OWNER (NOT OPERATOR):

Getty Properties
86 Doremus Avenue
Newark, NJ 07015
Phone Number: (516) 478-5480

PROPERTY OWNER:

Same as UST owner

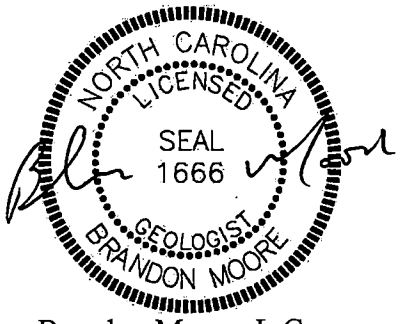
CONSULTANT:

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

RELEASE INFORMATION:

Date Discovered: 12/26/2012
Estimated Quantity of Release: Unknown Cause of Release: Unknown
Source of Release: Gasoline USTs, Dispensers, and Product Piping
Size and Contents: Three (3) 8,000 Gallon Gasoline USTs, One (1) 8,000 Gallon Diesel UST, and One (1) 8,000 Gallon Kerosene UST
Latitude: N 36.167785° Longitude: W 80.147903°

I, Brandon Moore, a Licensed Geologist for Paragon Environmental Consultants, Inc. do certify that the information contained in this report is correct and accurate to the best of my knowledge. Paragon Environmental Consultants, Inc. is licensed to practice geology in North Carolina. The certification number of the corporation is C-300.



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

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT'D)

UST CLOSURE, 20 DAY, AND INITIAL ABATEMENT REPORT

Exprez It
3100 Old Hollow Road
Walkertown, North Carolina

I. General Information

A. Ownership

Name: Getty Properties Corporation
86 Doremus Avenue
Newark, NJ 07015
(516) 478-5480

B. Facility Information

Facility: Exprez It
3100 Old Hollow Road
Walkertown, NC 27015
Phone Number Not Available
Forsyth County
Facility ID # 0-016559

C. Contacts

1. Primary Contact: Dale Holden
Getty Properties Corporation
86 Doremus Avenue
Newark, NJ 07015
(516) 478-5480

2. Closure Contractor: Petroserve
7039 Ellison Road
Stokesdale, NC 27357
(336) 643-9220

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

4. Laboratory: Meritech, Inc.
642 Tamco Road
Reidsville, VA 27320
(336) 342-4748
Lab. Cert.: NCDEM #165

D. UST Information

Tank No	Installation Date	Size (Gal)	Tank Dimensions	Last Contents	Previous Contents
T1	Unknown	8,000	8' x 21'4"	Gasoline	N/A
T2	Unknown	8,000	8' x 21'4"	Gasoline	N/A
T3	Unknown	8,000	8' x 21'4"	Gasoline	N/A
T4	Unknown	8,000	8' x 21'4"	Diesel	N/A
T5	Unknown	8,000	8' x 21'4"	Kerosene	N/A

E. Site Characteristics

1. Past Releases: None Known

2. Facility/UST Status: The facility was formerly used as a convenience store; however, it is not currently in business. The date of last use for the tanks is not known.

3. Surrounding Property Use: Residential / Commercial

4. Site Geology: Native soils consisted of clay with minor amounts of silt. Appendix A contains the geologic logs of excavation for this project. Bedrock was not encountered, and groundwater was not observed during this project.

Other pertinent information is contained in the GW/UST-2 Site Investigation Form which is included as Appendix B.

II. Closure Procedures

A. Tank Preparation

NCDENR: Getty Properties notified the Director of the Division of Waste Management (DWM) of their intent to permanently close by submitting a Notice of Intent: UST Permanent Closure Form GW/UST-3 on April 26, 2013. A copy of this form is included in Appendix C.

Tank Inerting: The tanks were inerted by using an LEL suppressant. An LEL meter was used to verify degassing. The Forsyth County Fire Marshall was present on-site to verify that the tanks were properly inerted and safe for removal.

B. Residuals

On May 10, 2013 Zebra Environmental and Industrial Services, Inc. removed approximately 1,268 gallons of liquids from the five tanks. Appendix D contains a copy of the liquids disposal manifest for this project. Minor amounts of residuals (<3% of volume) were left in the tanks and were subsequently disposed by Zebra at their disposal facility in High Point, NC.

C. Excavation

The UST closure project at the Exprez It was initiated on May 13, 2013. Petroserve, Inc. (Petroserve) excavated the fill and vent pipes, cut and drained them to avoid release of product into the surrounding soils, then removed them from the tanks. The USTs were exhumed from the ground on May 13, 2013. Figure 2 shows the site layout and the locations of the USTs removed during this closure project.

Petroserve and Paragon personnel inspected the tanks for structural integrity upon removal. The tanks showed very little surface corrosion and no visible holes were noted in the USTs. After removal the three 8,000 gallon gasoline tanks, the one 8,000 gallon diesel tank, and the one 8,000 gallon kerosene tank were transported according to API guidelines by Petroserve to their facility in Stokesdale, NC for cleaning and subsequent disposal. Appendix E contains a copy of the tank disposal manifest for the USTs removed during this closure project.

Following removal of the USTs, the excavation was visually inspected for the presence of free product and groundwater. Groundwater was not encountered in the tank pit, and free product was not observed during any phase of this closure project. Petroleum odors were noted in the soils beneath the former gasoline USTs. Petroleum odors were not noted in the soils beneath the diesel or kerosene USTs. The dimensions of the excavation created by the removal of the all the USTs were approximately 52' long by 34' wide by 14' deep.

Other pertinent information for this removal is summarized below:

Tank No.	Depth to Top of Tank	QTY of Soil Re moved (yd3)	Avg. PID Reading (ppm)	Stockpile Soil Type	Excavation Backfill Type	Backfill Source
T1	3'	98	N/A	Native Soil	Silty Clay	Off-site
T2	3'	98	N/A	Native Soil	Silty Clay	Off-site
T3	3'	98	N/A	Native Soil	Silty Clay	Off-site
T4	3'	98	N/A	Native Soil	Silty Clay	Off-site
T5	3'	98	N/A	Native Soil	Silty Clay	Off-site

D. Contaminated Soil

Contaminated soils were detected beneath the three gasoline tanks, underneath two of the dispenser islands, and in several areas of the product piping. The kerosene and diesel dispensers had previously shown contamination during the site check conducted in this area of the site. Following removal of the USTs, excavation was performed to remove the petroleum impacted soils from the areas identified by the UST closure and site check soil samples. Please refer to Section IV of this report for information regarding the soil remediation activities.

III. Site Investigation

A. Soil Sampling

To confirm site conditions Paragon collected samples from beneath the former USTs, dispenser, and piping lines in accordance with the current NCDENR Guidelines for Tank Closure. Soil samples were collected underneath the gasoline, diesel, and kerosene tanks at depths of 15 feet below surface grade. The closure samples from beneath the tanks were collected with the excavator bucket and were labeled with sample ID and depth below surface. The soil samples from beneath the former dispenser islands and the product piping were obtained with hand augers at depths of 3 feet to 4 feet below the land surface.

All of the soil samples were submitted to Meritech, Inc. for analysis according to EPA Method 5030. Method 5030 detects total petroleum hydrocarbons (TPH) from low boiling-point fuels such as gasoline, aviation fuel, and gasohol. The samples from the diesel and kerosene portions of the tank system were also analyzed by EPA Method 3550. Method 3550 detects TPH from high boiling-point fuels such as diesel, kerosene, and fuel oil. The current action level for both Method 5030 and 3550 TPH is 10 milligrams per kilogram (mg/kg). Figure 3 illustrates the soil sample locations for this closure project.

B. Water Sampling

No water samples were collected during the USTs closure activities.

C. Quality Control Measures

The soil samples were packed into new laboratory supplied glassware. The sample containers were labeled with sample location, analyses to be performed, time, date, and the sampler's name. They were then placed in a cooler and chilled with ice to approximately 4°C in preparation for transportation to the analytical laboratory utilizing EPA approved chain-of-custody procedures. The first soil samples for the UST closure assessment were collected on May 13, 2013 between 9:35 AM and 2:20 PM and were delivered to the laboratory on the following day. The remaining tank closure samples were obtained on May 15, 2013 between 9:20 AM and 10:50 AM and were delivered to the laboratory on this same date.

D. Investigation Results

According to the laboratory analytical report for this project, the soil samples from the east end of tank #1 (T1-E) indicated the maximum level of gasoline TPH. This sample was detected at 3,990 mg/kg according to EPA Method 5030. The other two samples from tank #1 showed levels of 1,080 mg/kg and 31.3 mg/kg by Method 5030. Tank #2 contained concentrations ranging from 1,680 mg/kg to 289 mg/kg according to Method 5030. Tank #3 was listed with TPH levels of 1,550 mg/kg on the east end and 778 mg/kg in the middle. The west end of this tank was below the detection limit for Method 5030. Tanks #4 and #5 were both below the laboratory detection limits for all samples by both Methods 5030 and 3550.

Gasoline dispensers #1 and #4 (GD-1 and GD-4) were below the laboratory detection limit for Method 5030. Gasoline dispensers #2 and #3 (GD-2 and GD-3) showed 5030 TPH results of 737 mg/kg and 454 mg/kg, respectively. The piping samples labeled as P-2, P-4, P-5, P-6, and P-8 all contained concentrations of TPH above the action levels by Method 5030 and also by Method 3550 if applicable. These results ranged from 761 mg/kg to 2,480 mg/kg according to EPA Method 5030 and 339 mg/kg to 2,290 mg/kg by Method 3550. Piping samples #1, #3, #7, and #9 were below the laboratory detection limits. Figure 3 illustrates the soil sample locations and the TPH analytical results, and Table 1 summarizes the analytical results for the TPH soil samples from 3100 Old Hollow Road. Appendix F contains copies of the laboratory analytical reports for the TPH soil samples, and Appendix G contains the chain-of-custody records.

IV. Soil Contamination Remedial Activities

A. Excavation and Soil Sampling

On May 2, May 29, and May 30, 2013 personnel from Petroserve and Paragon attempted to remove the petroleum impacted soils which were identified during the site check activities and the UST closure assessment. The impacted soils were excavated to the horizontal extent possible with respect to the DOT right-of-way and to the maximum depth attainable with the reach of the excavation equipment. In order to verify site conditions, eight "Risk-Based" soil samples were collected from the bottom and walls of the primary remedial pit from the former area of the tanks at depths ranging from 10 feet to 24 feet below land surface. Five soil samples were collected from the final limits of the kerosene and diesel dispenser remedial excavation. Three other small excavations were conducted in the impacted product piping areas with one sample from each of these areas obtained for laboratory analyses by "Risk-Based" methods.

All of the soil samples collected from the final limits of the remedial excavations at the Exprez It facility were analyzed by EPA Method 8260 plus MTBE and IPE as well as for MADEP methods for Volatile Petroleum Hydrocarbons (VPH). The soil samples from the kerosene or diesel portions of the tank system were also analyzed by EPA Method 8270 and Extractable Petroleum Hydrocarbons (EPH). The in-situ soil samples from the remedial excavations were collected with the equipment bucket and were immediately placed into laboratory supplied glassware and placed on ice for transportation to the analytical laboratory utilizing EPA approved chain-of-custody procedures.

According to the laboratory analytical results for the in-situ samples, eight Method 8260 compounds and three Method 8270 compounds were detected above the lowest Maximum Soil Contaminant Concentrations (MSCCs). 4-Isopropyltoluene, Naphthalene, n-Propylbenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Toluene, Xylenes, and MTBE were in excess of the lowest MSCCs by Method 8260. 1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene were detected above the lowest MSCCs by Method 8270. Four of the samples showed carbon fraction classes which exceeded the lowest MSCCs by VPH and also EPH if applicable. Concentrations of C5-C8 Aliphatics, C9-C18 Aliphatics, and C9-C22 Aromatics were reported above the lowest MSCCs in the in-situ samples. The samples from the final limits of the kerosene and diesel dispenser remedial excavation and the small excavations from the areas of P-2, P-6, and P-8 were all below the lowest MSCCs for all applicable laboratory methods. The laboratory analytical results for all of the "Risk-Based" soil samples are summarized in Table 2. Copies of the laboratory analytical reports for the "Risk-Based" samples are included in Appendix F, and the chain-of-custody records are contained in Appendix G.

B. Soil Disposal

Petroserve, Inc. excavated and disposed of 83.17 tons of contaminated soils from the kerosene and diesel dispenser area on May 2, 2013. Petroserve, Inc. excavated and disposed of 243.59 tons of petroleum impacted soils from the areas of the former USTs, gasoline dispensers, and product piping on May 29 and 30, 2013. A total of approximately 233 cubic yards (326.76 tons) of soil contamination have been removed from this subject site. A composite stockpile sample, labeled as X-1, was collected from the excavated material on May 2 which was reported with TPH levels of 1,110 mg/kg by Method 3550 and 258 mg/kg by Method 5030. A second composite sample, labeled as X-2, was obtained on May 30 that contained TPH levels of 521 mg/kg by Method 3550 and 86.8 mg/kg by Method 5030. All of the excavated material from 3100 Old Hollow Road was transported to Evo Corporation in Winston-Salem, NC for treatment and disposal. The soil disposal manifests and the Certificates of Acceptance are contained in Appendix H.

V. Conclusions and Recommendations

A. Conclusions

The UST Closure, 20 Day, and Initial Abatement Report activities for five regulated USTs have been completed at the Exprez It facility in Walkertown, NC. From a review of all information gathered during this tank removal and soil remediation project, Paragon Environmental Consultants, Inc. makes the following conclusions:

- Three 8,000 gallon gasoline USTs, one 8,000 gallon diesel UST, and one 8,000 gallon kerosene UST have been properly closed by removal at 3100 Old Hollow Road in Walkertown, NC.

- Analytical results for soil samples obtained beneath the gasoline tanks indicated a maximum TPH concentration of 3,990 mg/kg by Method 5030. The samples from underneath the kerosene and diesel tanks were below the laboratory detection limits by EPA Methods 5030 and 3550.

- The soil samples collected below the gasoline dispenser islands and the product piping showed maximum TPH levels of 2,480 mg/kg by Method 5030 and 2,290 mg/kg by Method 3550.

- Approximately 233 cubic yards of petroleum impacted soils were excavated from the project site between May 2 and May 30, 2013 by Petroserve, Inc. This material was transported to Evo Corporation in Winston-Salem, NC for treatment and disposal.

- A petroleum release of unknown quantity has occurred at this site in the location of the former UST system. Eight Method 8260 compounds, three Method 8270 compounds, and three carbon fraction classes at concentrations in excess of the lowest MSCCs remain in place at the subject site.

B. Recommendations

Based upon a review of all information gathered during this project, Paragon recommends the following actions with regards to the associated UST system:

- A Limited Site Assessment (LSA) should be conducted at this facility to detail site specific information and allow the site to be given a priority ranking and a land use classification by the NCDENR.
- A copy of this report should be forwarded to the following address:

  Winston-Salem Regional Office - UST Section
  585 Waughtown Street
  Winston-Salem, NC 27107

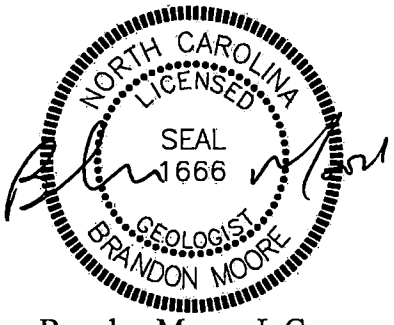
C. Limitations

This report has been prepared for the exclusive use of Getty Properties Corporation for the specific application to the referenced site located in Forsyth County, North Carolina. The assessment was conducted based on the scope of work and level of effort desired by the client. Our findings have been developed in accordance with generally accepted standards in the practice of UST Closure, 20 Day, and Initial Abatement Action Reports in the State of North Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

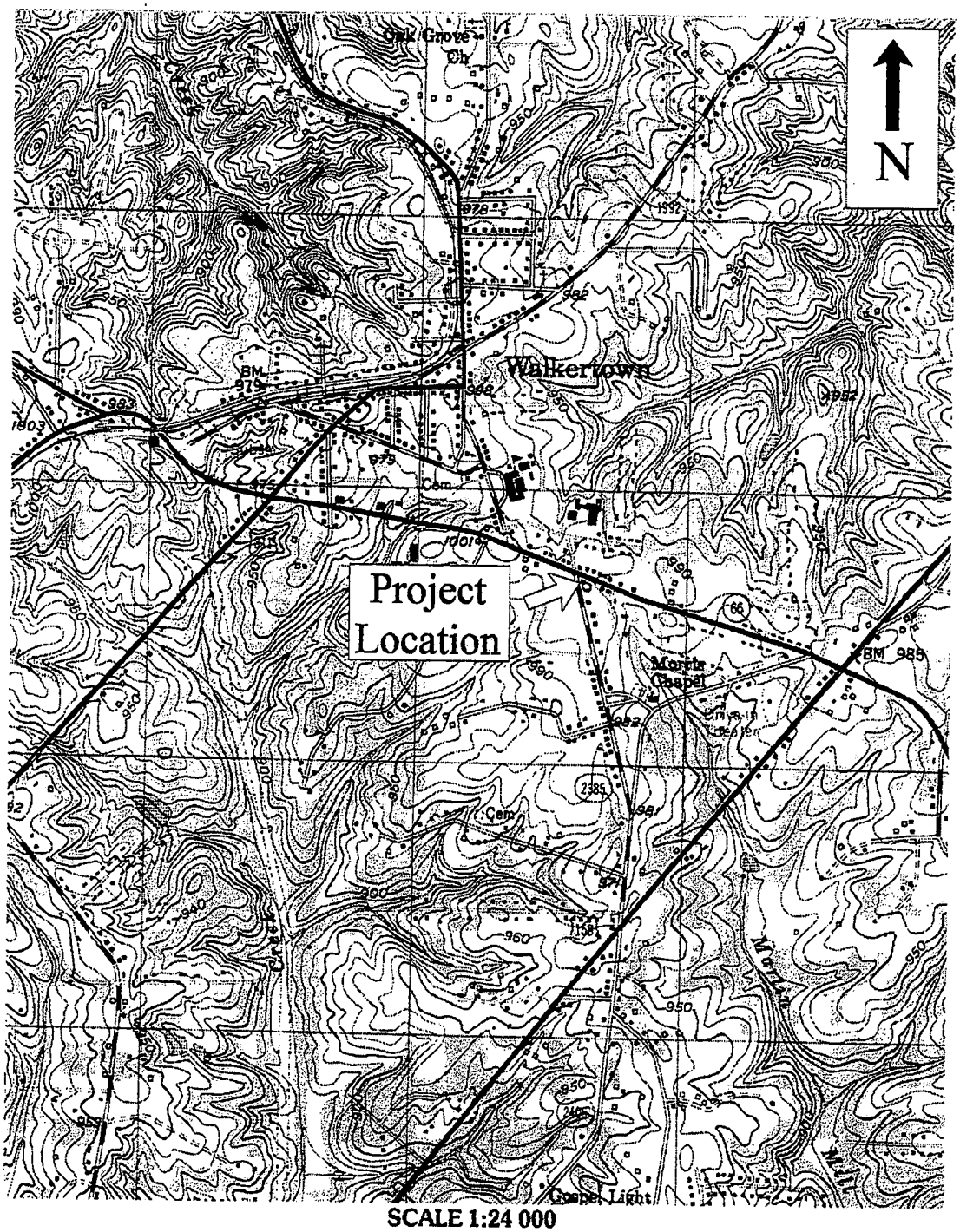
The data presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. Additionally, the data obtained from the samples would be interpreted as meaningful with respect to the parameters indicated in the laboratory reports.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

VI. Professional Certification

The UST Closure, 20 Day, and Initial Abatement Report for this site has been prepared by Paragon Environmental Consultants, Inc. under the direct supervision of a licensed geologist. All activities performed on this project were conducted under my direct supervision:



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



SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
TO CONVERT FROM FEET TO METERS, MULTIPLY BY 0.3048

FIGURE 1

PARAGON ENVIRONMENTAL CONSULTANTS, INC.
THOMASVILLE, NORTH CAROLINA

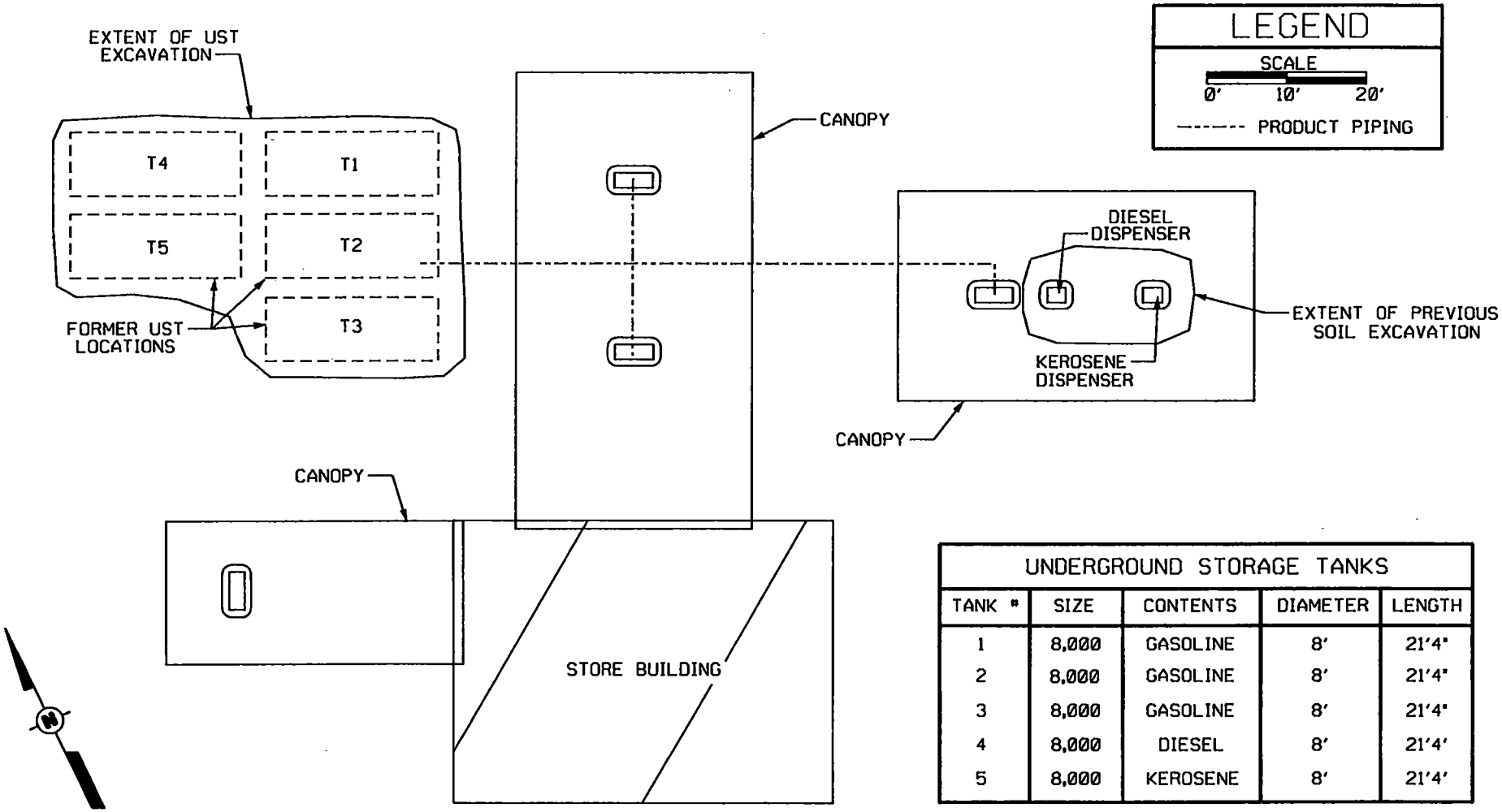
CLIENT: PETROSERVE, INC.
STOKESDALE, NC

PROJECT: UST CLOSURE
3100 OLD HOLLOW ROAD
WALKERTOWN, NC

TITLE: PROJECT LOCATION
U.S.G.S. TOPO MAP
WALKERTOWN QUADRANGLE

SCALE: 1"=2000'
DATE: 5/13/13
DWN. BY: KBM
DWG. NO. L12-12912

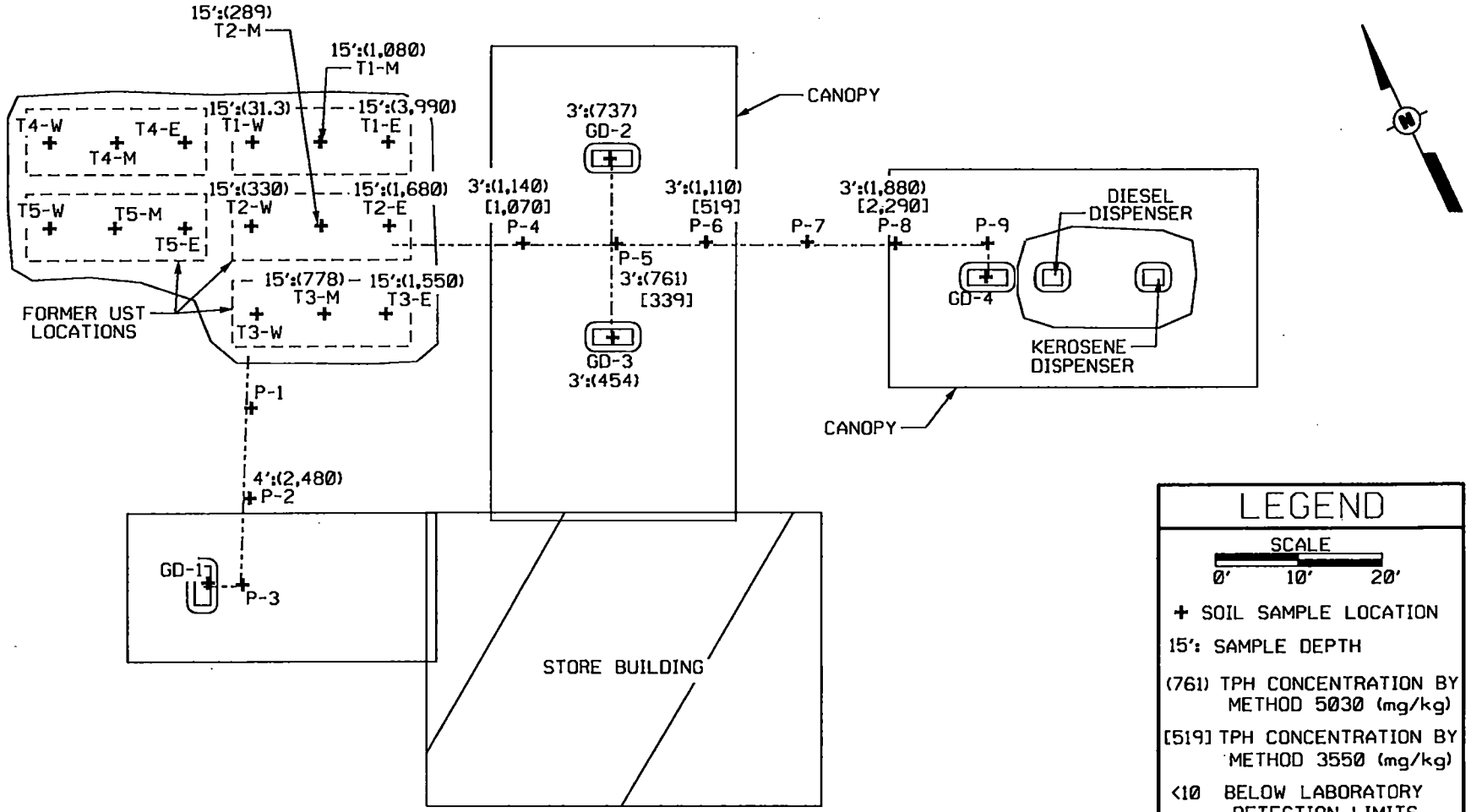
FIGURE 2



UNDERGROUND STORAGE TANKS				
TANK #	SIZE	CONTENTS	DIAMETER	LENGTH
1	8,000	GASOLINE	8'	21'4"
2	8,000	GASOLINE	8'	21'4"
3	8,000	GASOLINE	8'	21'4"
4	8,000	DIESEL	8'	21'4'
5	8,000	KEROSENE	8'	21'4'

SCALE: 1"=20' DATE: 5/20/13 DWN. BY: KBM DWG. NO. L13-1291	TITLE: SITE LAYOUT AND FORMER UST LOCATIONS	PROJECT: UST CLOSURE 3100 OLD HOLLOW ROAD WALKERTOWN, NC	CLIENT: PETROSERVE, INC. STOKESDALE, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA

FIGURE 3



LEGEND

SCALE 0' 10' 20'

+ SOIL SAMPLE LOCATION

15': SAMPLE DEPTH

(761) TPH CONCENTRATION BY METHOD 5030 (mg/kg)

[519] TPH CONCENTRATION BY METHOD 3550 (mg/kg)

<10 BELOW LABORATORY DETECTION LIMITS

NOTE: All TPH results not noted on map were below the laboratory detection limits.

SCALE: 1"=20'	TITLE: SITE LAYOUT, SOIL SAMPLE LOCATIONS, AND SOIL TPH MAP	PROJECT: UST CLOSURE 3100 OLD HOLLOW ROAD WALKERTOWN, NC	CLIENT: PETROSERVE, INC. STOKESDALE, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA
DATE: 5/20/13				
DWN. BY: KBM				
DWG. NO. L13-1291A				

OLD HOLLOW ROAD

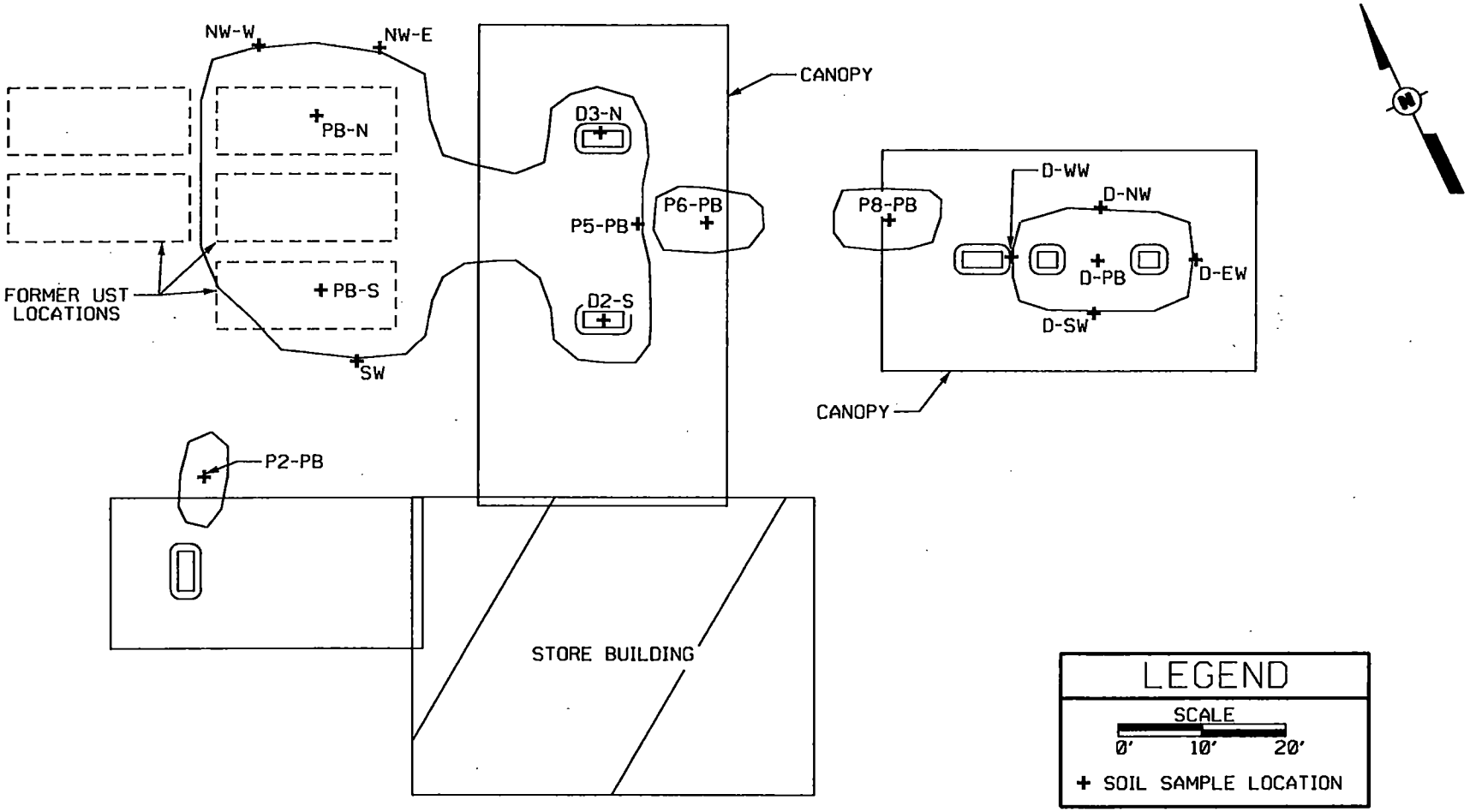


FIGURE 4

NOTE: Diesel and kerosene dispenser contamination confirmed by site check and not UST closure assessment.

SCALE: 1"=20'	TITLE: REMEDIAL EXCAVATIONS AND SOIL SAMPLE LOCATIONS	PROJECT: SOIL REMEDIATION 3100 OLD HOLLOW ROAD WALKERTOWN, NC	CLIENT: PETROSERVE, INC. STOKESDALE, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA
DATE: 6/21/13				
DWN. BY: KBM				
DWG. NO. L13-12918				

TABLE 1

FIELD AND LABORATORY ANALYTICAL RESULTS - SOIL SAMPLES

Exprezit-Walkertown
Walkertown, North Carolina

SAMPLE ID	LOCATION	DATE	DEPTH (FT)	TPH (3550)*	TPH (5030)*	OVA
T1-E	Tank #1 – East End	5/13/13	15'	N/A	**3,990**	N/A
T1-M	Tank #1 - Middle	5/13/13	15'	N/A	**1,080**	N/A
T1-W	Tank #1 – West End	5/13/13	15'	N/A	**31.3**	N/A
T2-E	Tank #2 – East End	5/13/13	15'	N/A	**1,680**	N/A
T2-M	Tank #2 - Middle	5/13/13	15'	N/A	**289**	N/A
T2-W	Tank #2 – West End	5/13/13	15'	N/A	**330**	N/A
T3-E	Tank #3 – East End	5/13/13	15'	N/A	**1,550**	N/A
T3- M	Tank #3 - Middle	5/13/13	15'	N/A	**778**	N/A
T3-W	Tank #3 – West End	5/13/13	15'	N/A	<10	N/A

* Results in milligrams per kilogram (mg/kg)

<10 = Below Detection Limits

N/A = Not Analyzed

R13-1291T

TABLE 1 (CONT'D)

FIELD AND LABORATORY ANALYTICAL RESULTS - SOIL SAMPLES (CONT'D)

Exprezit-Walkertown
Walkertown, North Carolina

SAMPLE ID	LOCATION	DATE	DEPTH (FT)	TPH (3550)*	TPH (5030)*	OVA
T4-E	Tank #5 – East End	5/13/13	15'	<10	<10	N/A
T4-M	Tank #5 - Middle	5/13/13	15'	<10	<10	N/A
T4-W	Tank #5 – West End	5/13/13	15'	<10	<10	N/A
T5-E	Tank #5 – East End	5/13/13	15'	<10	<10	N/A
T5-M	Tank #5 - Middle	5/13/13	15'	<10	<10	N/A
T5-W	Tank #5 – West End	5/13/13	15'	<10	<10	N/A
GD-1	Gas Dispenser #1	5/13/13	3'	N/A	<10	N/A
GD-2	Gas Dispenser #2	5/13/13	3'	N/A	**737**	N/A
GD-3	Gas Dispenser #3	5/13/13	3'	N/A	**454**	N/A
GD-4	Gas Dispenser #4	5/13/13	3'	N/A	<10	N/A

* Results in milligrams per kilogram (mg/kg)

<10 = Below Detection Limits

N/A = Not Analyzed

R13-1291T2

TABLE 1 (CONT'D)

FIELD AND LABORATORY ANALYTICAL RESULTS - SOIL SAMPLES (CONT'D)

Exprezit-Walkertown
Walkertown, North Carolina

SAMPLE ID	LOCATION	DATE	DEPTH (FT)	TPH (3550)*	TPH (5030)*	OVA
P-1	Piping #1	5/15/13	4'	N/A	<10	N/A
P-2	Piping #2	5/15/13	4'	N/A	**2,480**	N/A
P-3	Piping #3	5/15/13	4'	N/A	<10	N/A
P-4	Piping #4	5/15/13	3'	**1,070**	**1,140**	N/A
P-5	Piping #5	5/15/13	3'	**339**	**761**	N/A
P-6	Piping #6	5/15/13	3'	**519**	**1,110**	N/A
P-7	Piping #7	5/15/13	3'	<10	<10	N/A
P-8	Piping #8	5/15/13	3'	**2,290**	**1,880**	N/A
P-9	Piping #9	5/15/13	3'	<10	<10	N/A

* Results in milligrams per kilogram (mg/kg)

<10 = Below Detection Limits

N/A = Not Analyzed

R13-1291T3

TABLE 2

Summary of Soil Laboratory Analytical Results

Exprezit - Walkertown
Walkertown, North Carolina

Constituent	D-NW	D-SW	D-EW	D-WW	D-PB	Lowest MSCCs
Date	*5/8/2013*	*5/8/2013*	*5/8/2013*	*5/8/2013*	*5/8/2013*	
Method 8260 (mg/kg)						
n-Butylbenzene	BDL	BDL	BDL	BDL	BDL	4.3
sec-Butylbenzene	BDL	BDL	BDL	BDL	BDL	3.3
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	4.9
Isopropylbenzene	BDL	BDL	BDL	BDL	BDL	1.7
4-Isopropyltoluene	BDL	BDL	BDL	BDL	BDL	0.12
Naphthalene	BDL	BDL	BDL	BDL	BDL	0.16
n-Propylbenzene	BDL	BDL	BDL	BDL	BDL	1.7
1,2,4-Trimethylbenzene	BDL	BDL	BDL	BDL	BDL	8.5
1,3,5-Trimethylbenzene	BDL	BDL	BDL	BDL	BDL	8.3
Toluene	BDL	BDL	BDL	BDL	BDL	4.3
Xylenes (total)	BDL	BDL	BDL	BDL	BDL	4.6
IPE	BDL	BDL	BDL	BDL	BDL	0.37
MTBE	BDL	BDL	BDL	BDL	BDL	0.091
Method 8270 (mg/kg)						
Fluorene	BDL	BDL	BDL	N/A	N/A	47
1-Methylnaphthalene	BDL	BDL	BDL	N/A	N/A	0.004
2-Methylnaphthalene	BDL	BDL	BDL	N/A	N/A	3.6
Naphthalene	BDL	BDL	BDL	N/A	N/A	0.16
Phenanthrene	BDL	BDL	BDL	N/A	N/A	56
Aliphatic Fraction Classes (mg/kg)						
C5-C8 Volatile Aliphatics	BDL	BDL	BDL	BDL	BDL	68
C9-C12 Volatile Aliphatics	BDL	BDL	BDL	BDL	BDL	NSE
C9-C18 Extractable Aliphatics	BDL	BDL	BDL	N/A	N/A	NSE
C9-C18 Aliphatics (total)	BDL	BDL	BDL	BDL	BDL	540
C19-C36 Extractable Aliphatics	BDL	BDL	BDL	N/A	N/A	NSE
Aromatic Fraction Classes (mg/kg)						
C9-C10 Volatile Aromatics	BDL	BDL	BDL	BDL	BDL	NSE
C11-C22 Extractable Aromatics	BDL	BDL	BDL	N/A	N/A	NSE
C9-C22 Aromatics (total)	BDL	BDL	BDL	BDL	BDL	31

BDL= Below Detection Limits

NSE = No Standard Established

X13-1291

TABLE 2 (CONT'D)

Summary of Soil Laboratory Analytical Results (Cont'd)

Exprezit - Walkertown
Walkertown, North Carolina

Constituent	P5-PB	P6-PB	P8-PB	NW-E	NW-W	Lowest MSCCs
Date	*5/29/2013*	*5/29/2013*	*5/29/2013*	*5/29/2013*	*5/29/2013*	
Method 8260 (mg/kg)						
n-Butylbenzene	0.631	BDL	BDL	BDL	BDL	4.3
sec-Butylbenzene	BDL	BDL	BDL	BDL	BDL	3.3
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	4.9
Isopropylbenzene	BDL	BDL	BDL	BDL	BDL	1.7
4-Isopropyltoluene	**0.292**	BDL	BDL	BDL	BDL	0.12
Naphthalene	**16.9**	BDL	BDL	BDL	BDL	0.16
n-Propylbenzene	BDL	BDL	BDL	BDL	BDL	1.7
1,2,4-Trimethylbenzene	5.24	BDL	BDL	BDL	BDL	8.5
1,3,5-Trimethylbenzene	1.43	BDL	BDL	BDL	BDL	8.3
Toluene	BDL	BDL	BDL	BDL	BDL	4.3
Xylenes (total)	BDL	BDL	BDL	BDL	BDL	4.6
IPE	BDL	BDL	BDL	BDL	BDL	0.37
MTBE	**2.19**	BDL	BDL	BDL	BDL	0.091
Method 8270 (mg/kg)						
Fluorene	BDL	BDL	BDL	N/A	N/A	47
1-Methylnaphthalene	**4.3**	BDL	BDL	N/A	N/A	0.004
2-Methylnaphthalene	**9.78**	BDL	BDL	N/A	N/A	3.6
Naphthalene	**6.81**	BDL	BDL	N/A	N/A	0.16
Phenanthrene	BDL	BDL	BDL	N/A	N/A	56
Aliphatic Fraction Classes (mg/kg)						
C5-C8 Volatile Aliphatics	67.7	BDL	BDL	BDL	BDL	68
C9-C12 Volatile Aliphatics	280	BDL	BDL	BDL	BDL	NSE
C9-C18 Extractable Aliphatics	50.3	BDL	BDL	N/A	N/A	NSE
C9-C18 Aliphatics (total)	330.3	BDL	BDL	BDL	BDL	540
C19-C36 Extractable Aliphatics	BDL	BDL	BDL	N/A	N/A	NSE
Aromatic Fraction Classes (mg/kg)						
C9-C10 Volatile Aromatics	190	BDL	BDL	BDL	BDL	NSE
C11-C22 Extractable Aromatics	68	BDL	BDL	N/A	N/A	NSE
C9-C22 Aromatics (total)	**258**	BDL	BDL	BDL	BDL	31

BDL= Below Detection Limits

NSE = No Standard Established

X13-1291

TABLE 2 (CONT'D)

Summary of Soil Laboratory Analytical Results (Cont'd)

Exprezit - Walkertown
Walkertown, North Carolina

Constituent	SW	PB-N	PB-S	D2-S	D3-N	P2-PB	Lowest MSCCs
Date	*5/29/2013*	*5/29/2013*	*5/29/2013*	*5/30/2013*	*5/30/2013*	*5/30/2013*	
Method 8260 (mg/kg)							
n-Butylbenzene	0.007	BDL	0.34	3.88	BDL	BDL	4.3
sec-Butylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	3.3
2-Butanone (MEK)	BDL	0.244	BDL	BDL	BDL	BDL	16
Ethylbenzene	BDL	BDL	0.05	4.96	BDL	BDL	4.9
Isopropylbenzene	BDL	BDL	0.042	1.01	BDL	BDL	1.7
4-Isopropyltoluene	BDL	BDL	**0.171**	BDL	BDL	BDL	0.12
Naphthalene	0.076	BDL	**2.76**	**20.5**	**1.82**	BDL	0.16
n-Propylbenzene	BDL	BDL	1.36	**4.36**	BDL	BDL	1.7
1,2,4-Trimethylbenzene	0.011	BDL	1.21	**34.6**	5.66	BDL	8.5
1,3,5-Trimethylbenzene	0.006	BDL	0.585	**13.6**	1.76	BDL	8.3
Toluene	BDL	BDL	0.039	**5.19**	BDL	BDL	4.3
Xylenes (total)	BDL	BDL	0.439	**20.62**	0.574	BDL	4.6
IPE	BDL	BDL	BDL	BDL	BDL	BDL	0.37
MTBE	**0.189**	BDL	BDL	BDL	BDL	BDL	0.091
Method 8270 (mg/kg)							
Fluorene	N/A	N/A	N/A	N/A	N/A	N/A	47
1-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	0.004
2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	3.6
Naphthalene	N/A	N/A	N/A	N/A	N/A	N/A	0.16
Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	56
Aliphatic Fraction Classes (mg/kg)							
C5-C8 Volatile Aliphatics	18.4	BDL	**95.2**	**133**	46.1	BDL	68
C9-C12 Volatile Aliphatics	78.7	19.2	213	1,460	265	BDL	NSE
C9-C18 Extractable Aliphatics	N/A	N/A	N/A	N/A	N/A	N/A	NSE
C9-C18 Aliphatics (total)	78.7	19.2	213	**1,460**	265	BDL	540
C19-C36 Extractable Aliphatics	N/A	N/A	N/A	N/A	N/A	N/A	NSE
Aromatic Fraction Classes (mg/kg)							
C9-C10 Volatile Aromatics	13.6	BDL	54.7	501	87	BDL	NSE
C11-C22 Extractable Aromatics	N/A	N/A	N/A	N/A	N/A	N/A	NSE
C9-C22 Aromatics (total)	13.6	BDL	**54.7**	**501**	**87**	BDL	31

BDL= Below Detection Limits

NSE = No Standard Established

X13-1291

GEOLOGIC LOG OF EXCAVATION

Paragon Environmental Consultants, Inc.

Job Name:	Exprezit-Walkertown		
Address:	3100 Old Hollow Road Walkertown, NC		
Job No.:	P-1291	Excavation Method:	Excavator
Start Date:	5/8/13	Sample Method:	Excavator Bucket
Contractor:	Petroserve, Inc.	Sampled By:	BB
Sample ID:	Soil Remediation Samples	Logged By:	BB
Comments:			

Sample Number	Depth (FT.)	Soil Decription (color, soil type, moisture)	OVA (ppm)
D-NW	10'	Orange/brown, CLAY with silt, damp	N/A
D-SW	10'	Orange, CLAY with silt, damp	N/A
D-EW	10'	Orange/light red, CLAY with silt, damp	N/A
D-WW	10'	Dark orange, CLAY with silt, damp	N/A
D-PB	12'	Red, CLAY with silt, damp	N/A
P-1291X3			

GEOLOGIC LOG OF EXCAVATION

Paragon Environmental Consultants, Inc.

Job Name:	Exprezit - Walkertown		
Address:	3100 Old Hollow Road Walkertown, NC		
Job No.:	P-1291	Excavation Method:	Excavator
Start Date:	5/13/13	Sample Method:	Excavator Bucket
Contractor:	Petroserve, Inc.	Sampled By:	BB
Sample ID:	UST Closure Samples	Logged By:	BB
Comments:			

Sample Number	Depth (FT.)	Soil Decription (color, soil type, moisture)	OVA (ppm)
T1-E	15'	Orange, CLAY with silt, damp	N/A
T1-M	15'	Orange/brown, CLAY with silt, damp	N/A
T1-W	15'	Orange/red, CLAY with silt, damp	N/A
T2-E	15'	Orange, CLAY with silt, damp	N/A
T2-M	15'	Red, CLAY with silt, damp	N/A
T2-W	15'	Orange/tan, CLAY with silt, damp	N/A
T3-E	15'	Tan/orange, CLAY with silt, damp	N/A
T3-M	15'	Orange, CLAY with silt, damp	N/A
T3-W	15'	Orange/red, CLAY with silt, damp	N/A
T4-E	15'	Orange/tan, CLAY with silt, damp	N/A
T4-M	15'	Orange/brown, CLAY with silt, damp	N/A
T4-W	15'	Red,CLAY with silt, damp	N/A
T5-E	15'	Light orange, CLAY with silt, damp	N/A
T5-M	15'	Orange/tan, CLAY with silt, damp	N/A
T5-W	15'	Orange, CLAY with silt, damp	N/A
GD-1	3'	Orange/red, CLAY with silt, damp	N/A
GD-2	3'	Orange/brown, CLAY with silt, damp	N/A
GD-3	3'	Red, CLAY with silt, damp	N/A
GD-4	3'	Red/orange, CLAY with silt,damp	N/A
P-1291X			

GEOLOGIC LOG OF EXCAVATION

Paragon Environmental Consultants, Inc.

Job Name: Exprezit - Walkertown
Address: 3100 Old Hollow Road Walkertown, NC
Job No.: P-1291 Excavation Method: Excavator
Start Date: 5/29/13 Sample Method: Excavator Bucket
Contractor: Petroserve, Inc. Sampled By: BB
Sample ID: Soil Remediation Samples Logged By: BB
Comments:

Sample Number	Depth (FT.)	Soil Decription (color, soil type, moisture)	OVA (ppm)
NW-E	18'	Red, CLAY with silt, damp	N/A
NW-W	18'	Orange/red, CLAY with silt, damp	N/A
SW	18'	Brown/orange, CLAY with silt, damp	N/A
PB-N	21'	Red/orange, CLAY with silt, damp	N/A
PB-S	21'	same as PB-N	N/A
D3-N	12'	Brown/red, CLAY with silt, damp	N/A
D2-S	12'	Red/orange, CLAY with silt, damp	N/A
P2-PB	10'	Brown/orange, CLAY with silt, damp	N/A
P5-PB	12'	Olive/brown, CLAY with silt, damp	N/A
P6-PB	12'	Brown/orange, CLAY with silt, damp	N/A
P8-PB	12'	Light brown/orange, CLAY with silt, damp	N/A
P-1291X2			

LIMITED SITE ASSESSMENT

EXPREZ IT - WALKERTOWN
3100 OLD HOLLOW ROAD
WALKERTOWN, NC
GROUNDWATER INCIDENT: 44077
FACILITY ID: 0-016559

SEPTEMBER 27, 2013

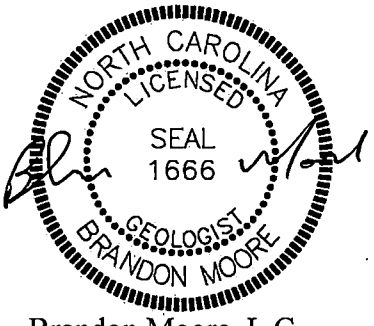
UST OWNER (NOT OPERATOR):
Getty Properties
86 Doremus Avenue
Newark, NJ 07015
Phone Number: (516) 478-5480

PROPERTY OWNER:
Same as UST owner

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

RELEASE INFORMATION:
Date Discovered: 12/26/2012
Estimated Quantity of Release: Unknown
Cause of Release: UST System
Source of Release: Gasoline USTs, Dispensers, and Product Piping
Size and Contents: Three (3) 8,000 Gallon Gasoline USTs, One (1) 8,000 Gallon Diesel UST, and One (1) 8,000 Gallon Kerosene UST
Latitude: N 36.167785° Longitude: W 80.147903°

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



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

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LIMITED SITE ASSESSMENT REPORT

Exprez It
3100 Old Hollow Road
Walkertown, North Carolina

1.0. - SITE HISTORY AND SOURCE CHARACTERIZATION

Getty Properties owns a facility at 3100 Old Hollow Road which was formerly referred to as the Exprez It. This property contains one permanent structure which was used as a convenience store. Figure 1 illustrates the location of this facility on the Walkertown Quadrangle U.S.G.S. Topographic Map. The site contained three (3) 8,000 gallon gasoline USTs, one (1) 8,000 gallon diesel UST, and one (1) 8,000 gallon kerosene UST which were used for the retail sale of petroleum. Releases from the tank system were detected by soil samples collected during a Site Check and the UST closure assessment. Figure 2 illustrates the site layout of this facility and the former location of the USTs. Information regarding the ownership of the regulated USTs which are located at this facility is contained in Table 1. A UST Closure, 20 Day, and Initial Abatement Action Report for this facility was submitted to the NCDENR on June 24, 2013.

2.0 - RISK CHARACTERIZATION AND LAND USE FORM

Part I Groundwater/Surface water/Vapor impact
High Risk

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

   NO

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

   NO

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

   NO

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

   NO

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

NO

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

NONE KNOWN

Intermediate Risk

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

NO

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

N/A

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

NO

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

NO

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

N/A

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

NO

Part II-Land Use

Property containing Source Area of Discharge or Release

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

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

   NO

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

   NO

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

   YES, THE PROPERTY FORMERLY CONTAINED A CONVENIENCE STORE

4. Do children visit the property?

   NO

   Explain.

   THE FACILITY IS NOT CURRENTLY IN OPERATION

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

   YES

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

   NO

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

7. What is the zoning status of the property?

   COMMERCIAL

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

   NO

Property Surrounding Source Area of Discharge or Release.

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

   APPROXIMATLEY 165 FEET TO THE NORTH

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

    WALKERTOWN PUBLIC LIBRARY IS LOCATED APPROXIMATLEY 1,200 FEET TO THE NORTHWEST OF SUBJECT SITE

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

    COMMERCIAL / RESIDENTIAL

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

    COMMERCIAL / RESIDENTIAL

3.0 - RECEPTOR INFORMATION

3.1 Water Supply Wells

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

3.2 Public Water Supplies

Public water supplies are available from the Town of Walkertown to all of the surrounding properties within a radius of 1,500 feet from 3100 Old Hollow Road.

3.3 Surface Water

The partial U.S.G.S. map included as Figure 1 indicates that surface waters in the vicinity of the release area generally drain towards an unnamed stream which is located approximately 1,550 feet to the southeast of the release area. This unnamed stream flows into Martin Mill Creek approximately 6,900 feet to the south which flows into Salem Lake. Salem Lake is located within the Yadkin-Pee Dee River Drainage Basin.

3.4 Wellhead Protection Areas

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

3.5 Deep Aquifers in the Coastal Plain Physiographic Region

This release is not located in the coastal plain.

3.6 Subsurface Structures

Subsurface utility lines in the form of the former electrical conduits are located above the petroleum affected area at this facility. The building located on the impacted property does not have a basement; however, other subsurface utilities are present in the form of water and sewer lines. Figure 3 illustrates the locations of all known subsurface utilities.

3.7 Land Use

The possibility of human exposure to soil contamination at the Exprez It is minimal. The marginally impacted soil which remains in place is situated more than 5 feet below the land surface and is covered with clean backfill material above this depth. The facility lies within a primarily commercial area.

3.8 Property Owners and Occupants

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

4.0 - SITE GEOLOGY AND HYDROGEOLOGY

4.1 Site Geology

The site is situated in the Piedmont Region of the North Carolina Slate Belt. According to the Geological Map of North Carolina local bedrock geology of the region consists of Late Proterozoic to Cambrian aged metamorphosed granitic bedrock. Competent bedrock was not encountered to a depth of 40 feet below land surface which was the maximum depth explored during the subsurface investigation.

4.2 Soils Investigation

The soils at the project site consist of clay with varying amounts of silt. A soil boring log for the boring advanced for monitor well installation at the site is contained as Appendix A. Soil samples collected during the Initial Abatement activities showed one VPH carbon fraction class in excess of the Residential Standard. C9-C22 Aromatics was reported at a concentration of 501 milligrams per kilogram (mg/kg) which is over the Residential Standard of 469 mg/kg near one of the former gasoline dispensers. All other soil samples obtained at the site for laboratory analyses were below the Residential Standards for the appropriate "Risk-Based" methods.

One "Risk-Based" soil sample was collected from the monitor well boring installed in the source area for laboratory analyses. This soil sample was analyzed for EPA Method 8260 plus MTBE and IPE and EPA Method 8270 as well as MADEP methods for Volatile Petroleum Hydrocarbons (VPH) and Extractable Petroleum Hydrocarbons (EPH). The soil sample from the monitor well, labeled as MW1-24, reported several constituents above the lowest MSCCs but below the Residential Standards.

Table 3 summarizes the analytical results of the "Risk-Based" soil samples, and Figure 5 illustrates the location of the soil samples collected at 3100 Old Hollow Road. Copies of the laboratory analytical reports and the chain-of-custody records for the "Risk-Based" soil samples collected at the site are contained as Appendix B.

5.0 - SAMPLING RESULTS

5.1 Monitor Well Installation

One North Carolina Type II groundwater monitoring well has been installed at the site. Figure 6 illustrates the site layout and the location of the monitor well which was labeled as MW-1. The monitoring well was constructed of 2-inch Schedule 40 PVC pipe with 20 feet of 0.010 inch slotted screen. Based on the assumption that the contaminants being addressed were primarily hydrocarbon constituents with specific gravities of less than 1.0, the groundwater monitoring well was installed so that the screened interval intersected the shallow groundwater table at the time of installation. Table 5 summarizes the monitoring well information and groundwater elevations as measured on September 5, 2013. A copy of the well construction record for the monitor well installed at the subject site is included as Appendix C.

5.2 Groundwater Analyses

Following installation the monitoring well was developed and sampled in accordance with Paragon's Standard Operating Procedures which are contained as Appendix D. The groundwater samples were submitted to Meritech, Inc. for laboratory analyses according to EPA Method 6200B plus MTBE and IPE, EPA Method 625 plus TICs, EPA Method 3030C for Lead, and MADEP methods for VPH and EPH.

According to the analytical results for monitor well MW-1, eight Method 6200B compounds, three Method 625 compounds, and three carbon fraction classes were detected in excess of the 2L Standards. None of the reported compounds at the Exprez It site were shown at concentrations above the Gross Contaminant Levels (GCL). Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene, n-Propylbenzene, 1,2,4-Trimethylbenzene, MTBE, 1-Methylnaphthalene, 2-Methylnaphthalene, C5-C8 Aliphatics, C9-C18 Aliphatics, and C9-C22 Aromatics were all indicated above the 2L Standards in the monitor well sample. TICs were reported at a total concentration of 3,893 micrograms per liter (ug/L) in MW-1; however, no 2L Standard has been established for TICs. Table 5 summarizes the groundwater analytical results, and Appendix E contains a copy of the laboratory analytical report and the chain-of-custody record for the groundwater sample.

6.0 - CONCLUSIONS AND RECOMMENDATIONS

6.1 General Summary

Limited Site Assessment activities at the Exprez It –Walkertown have been completed. From a review of all information gathered during this project, Paragon Environmental Consultants, Inc. makes the following conclusions:

- A petroleum release of unknown quantity has occurred at this site. All soil which remains in place at 3100 Old Hollow Road is at concentrations below the Industrial / Commercial Standards.
- One groundwater monitoring well was constructed at the site during this investigation. Free product was not observed in monitor well MW-1.
- The analytical results for the groundwater sample from the monitor well indicated constituents above the 2L Standards but all detected compounds were below the GCLs.

6.2 Recommendations

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

- Since soil concentrations are below the applicable standards and groundwater levels are below the GCLs, a notice of No Further Action should be issued for the subject site. Public notifications and deed recordation will be required due to the remaining soil and groundwater contamination.
- A copy of this report should be forwarded to the following address:

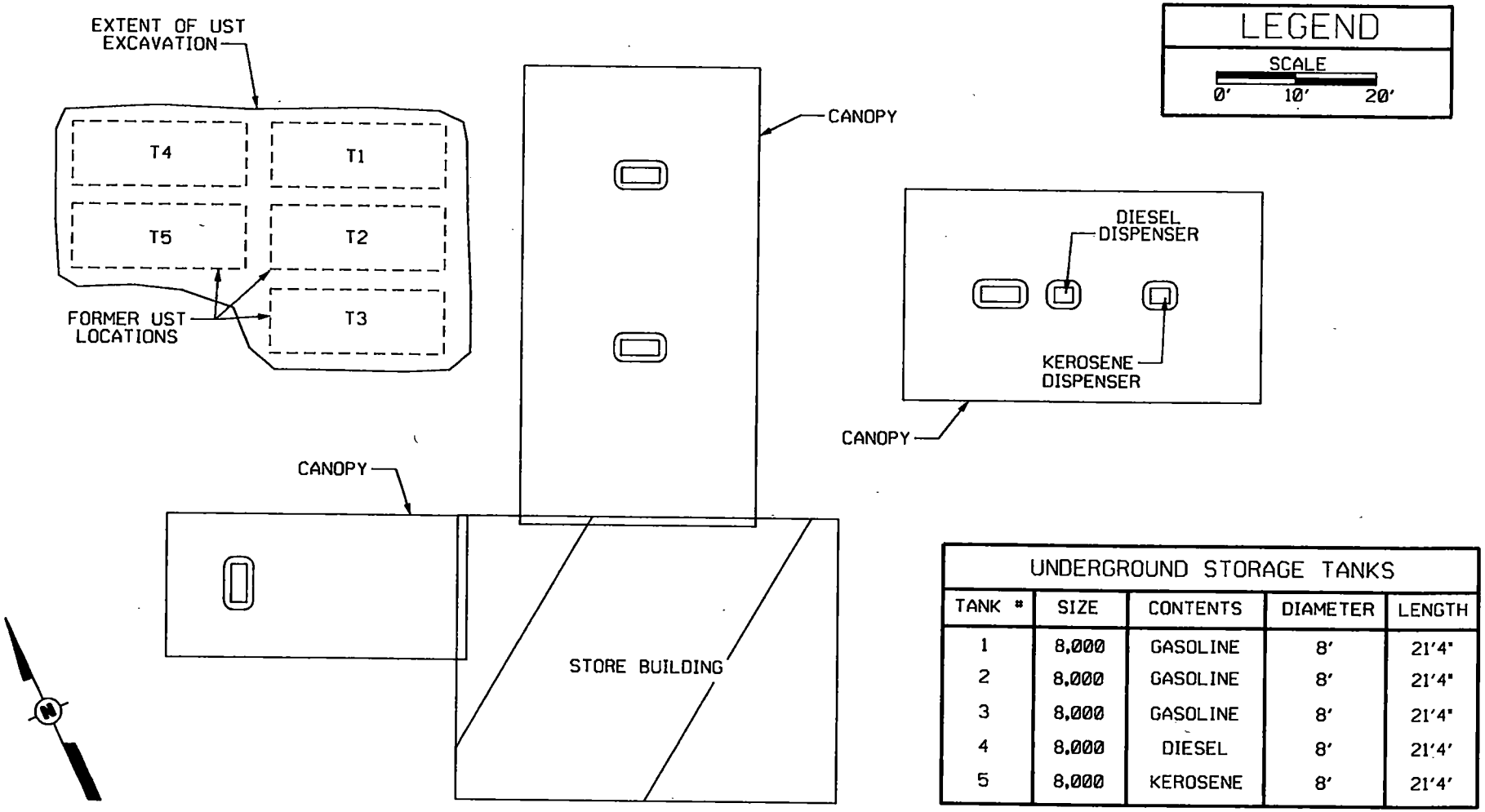
  Winston-Salem Regional Office – UST Section
  585 Waughtown Street
  Winston-Salem, NC 27107

6.3 Limitations

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

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

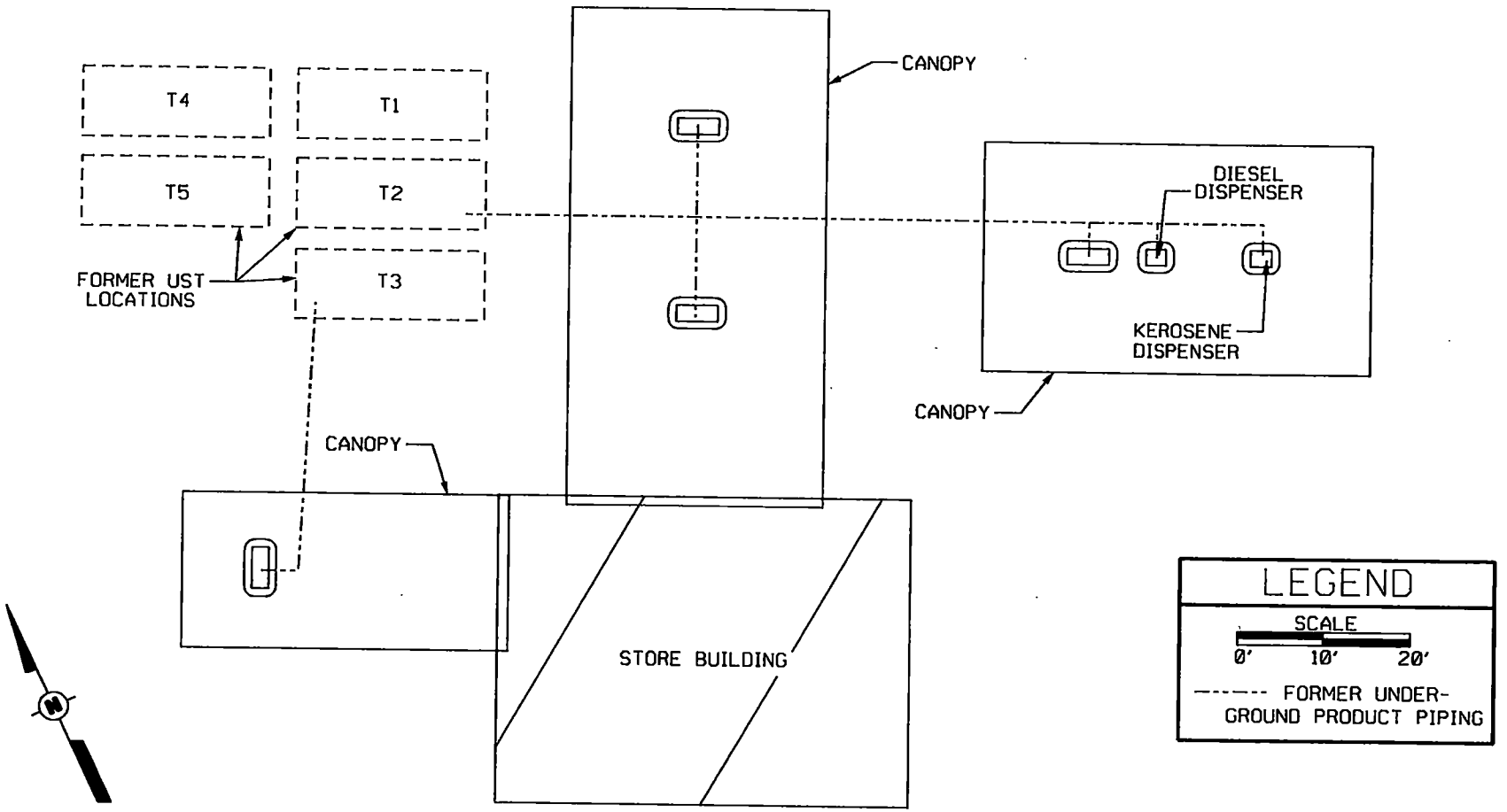
FIGURE 2



UNDERGROUND STORAGE TANKS				
TANK #	SIZE	CONTENTS	DIAMETER	LENGTH
1	8,000	GASOLINE	8'	21'4"
2	8,000	GASOLINE	8'	21'4"
3	8,000	GASOLINE	8'	21'4"
4	8,000	DIESEL	8'	21'4'
5	8,000	KEROSENE	8'	21'4'

SCALE: 1"=20'	TITLE: SITE LAYOUT AND FORMER UST LOCATIONS	PROJECT: LSA 3100 OLD HOLLOW ROAD WALKERTOWN, NC	CLIENT: PETROSERVE, INC. STOKESDALE, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA
DATE: 9/20/13				
DWN. BY: KBM				
DWG. NO. L13-1291S				

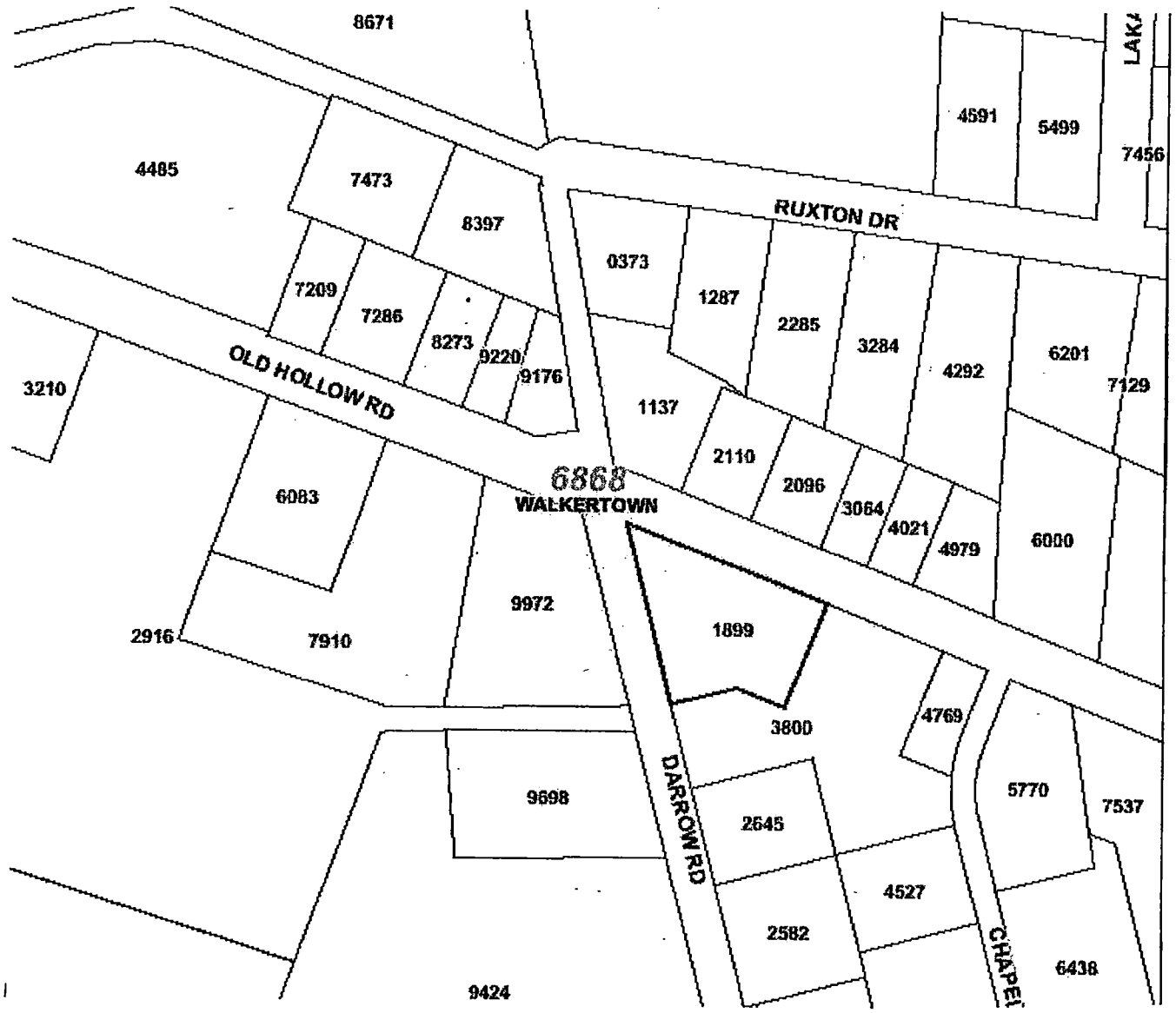
FIGURE 3



NOTE: Exact location ofU/G water, sewer, and electrical lines is unknown.

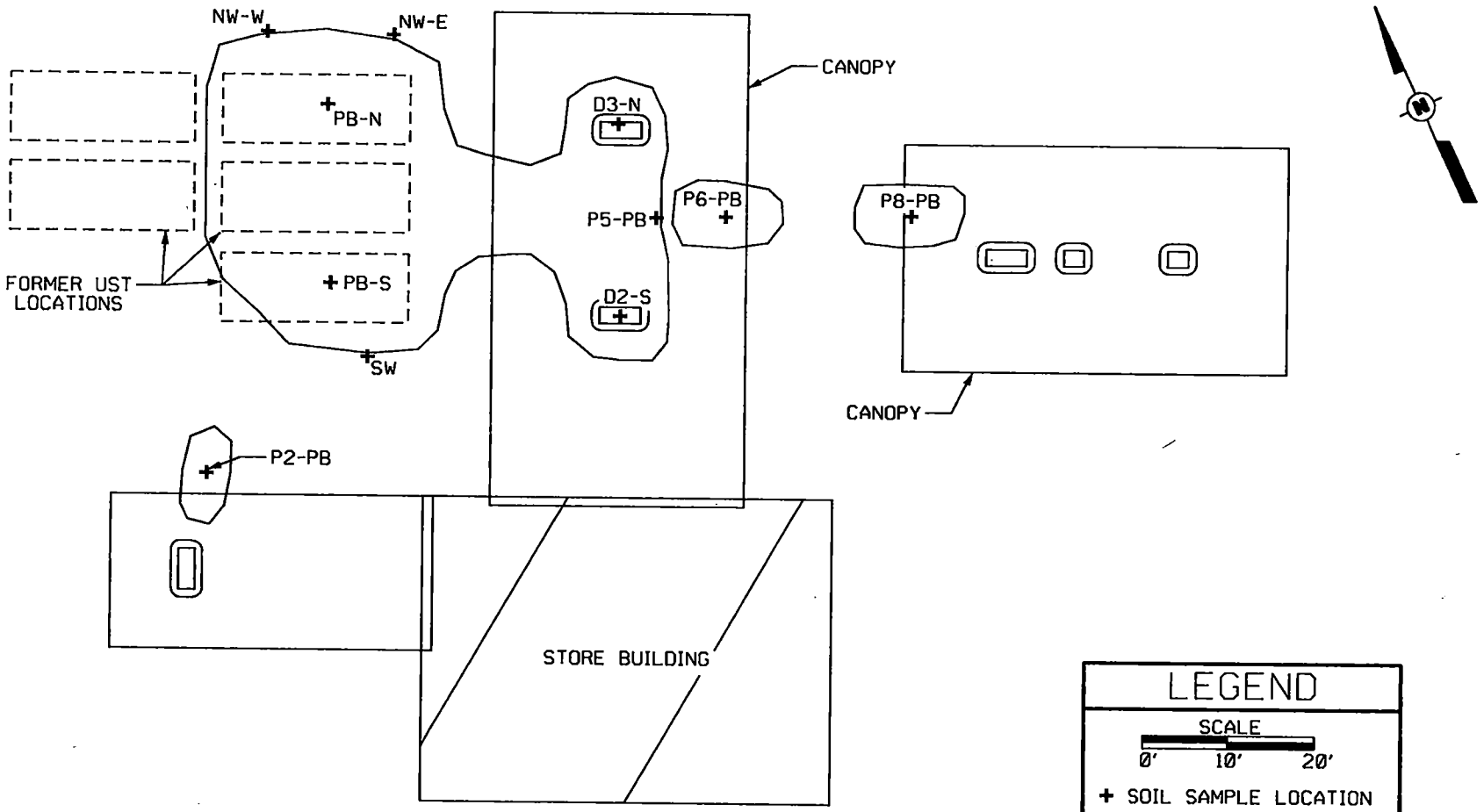
SCALE: 1"=20'	TITLE:	PROJECT:	CLIENT:	PARAGON ENVIRONMENTAL CONSULTANTS, INC.
DATE: 9/20/13	SUBSURFACE UTILITIES MAP	LSA 3100 OLD HOLLOW ROAD WALKERTOWN, NC	PETROSERVE, INC. STOKESDALE, NC	THOMASVILLE, NORTH CAROLINA
DWN. BY: KBM				
DWG. NO. L13-1291D				

FIGURE 4



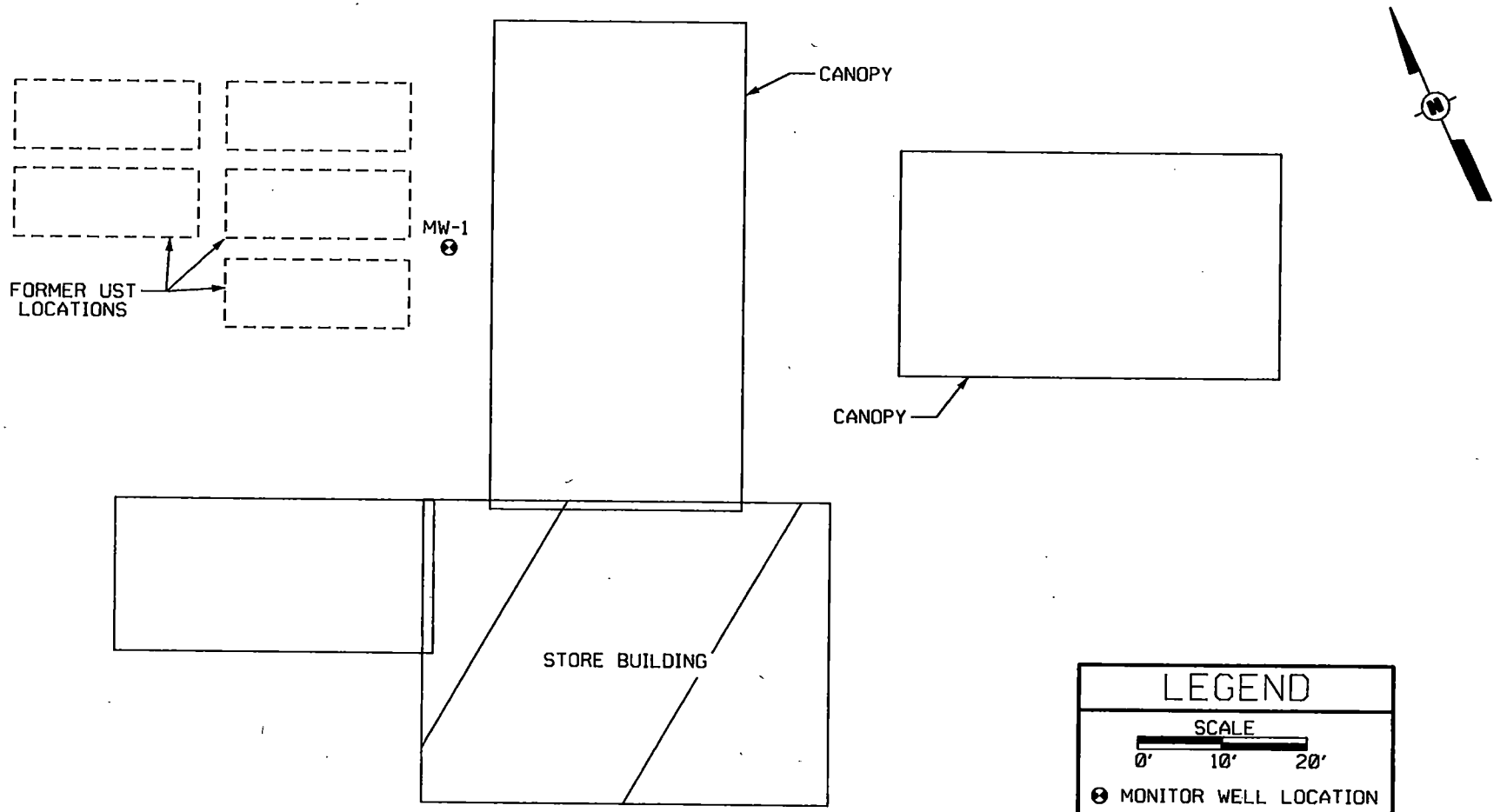
SCALE: 1"=200'	TITLE:	PROJECT:	CLIENT:	PARAGON ENVIRONMENTAL CONSULTANTS, INC.
DATE: 9/23/13	ADJACENT PROPERTIES MAP	LSA	PETROSERVE, INC.	THOMASVILLE, NORTH CAROLINA
DWN. BY: KBM		3100 OLD HOLLOW ROAD	STOKESDALE, NC	
DWG. NO. L12-1291Y		WALKERTOWN, NC		

FIGURE 5



SCALE: 1"=20'	TITLE: SITE LAYOUT AND SOIL SAMPLE LOCATIONS	PROJECT: LSA 3100 OLD HOLLOW ROAD WALKERTOWN, NC	CLIENT: PETROSERVE, INC. STOKESDALE, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA
DATE: 9/21/13				
DWN. BY: KBM				
DWG. NO. L13-1291B				

FIGURE 6



SCALE: 1"=20'	TITLE: SITE LAYOUT AND MONITOR WELL LOCATION	PROJECT: LSA 3100 OLD HOLLOW ROAD WALKERTOWN, NC	CLIENT: PETROSERVE, INC. STOKESDALE, NC	PARAGON ENVIRONMENTAL CONSULTANTS, INC. THOMASVILLE, NORTH CAROLINA
DATE: 9/21/13				
DWN. BY: KBM				
DWG. NO. L13-1291C				

TABLE 1: SITE HISTORY

EXPREZ IT
3100 OLD HOLLOW ROAD
WALKERTOWN, NORTH CAROLINA

Property Ownership:

Getty Properties
86 Doremus Avenue
Newark, NJ 07015

UST Ownership:

Same as property owner (Getty was not the tank operator)

UST Information:

Tank No	Installation Date	Size (Gal)	Closure Date	UST Status	Tank Contents
T1	Unknown	8,000	5/13/2013	Removed	Gasoline
T2	Unknown	8,000	5/13/2013	Removed	Gasoline
T3	Unknown	8,000	5/13/2013	Removed	Gasoline
T4	Unknown	8,000	5/13/2013	Removed	Diesel
T5	Unknown	8,000	5/13/2013	Removed	Kerosene

TABLE 3

Summary of Soil Laboratory Analytical Results

Exprezit - Walkertown
Walkertown, North Carolina

Constituent	P5-PB	P6-PB	P8-PB	NW-E	NW-W	MW1-24	Residential Standard
Date	*5/29/2013*	*5/29/2013*	*5/29/2013*	*5/29/2013*	*5/29/2013*	*8/14/2013*	
Method 8260 (mg/kg)							
n-Butylbenzene	0.631	BDL	BDL	BDL	BDL	0.651	626
sec-Butylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	626
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	0.325	1,560
Isopropylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	1,564
4-Isopropyltoluene	2.92	BDL	BDL	BDL	BDL	0.368	100
Naphthalene	16.9	BDL	BDL	BDL	BDL	1.5	313
n-Propylbenzene	BDL	BDL	BDL	BDL	BDL	1.12	626
1,2,4-Trimethylbenzene	5.24	BDL	BDL	BDL	BDL	2.28	782
1,3,5-Trimethylbenzene	1.43	BDL	BDL	BDL	BDL	0.704	782
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	1,200
Xylenes (total)	BDL	BDL	BDL	BDL	BDL	1.026	3,129
IPE	BDL	BDL	BDL	BDL	BDL	BDL	156
MTBE	2.19	BDL	BDL	BDL	BDL	BDL	350
Method 8270 (mg/kg)							
Fluorene	BDL	BDL	BDL	N/A	N/A	BDL	620
1-Methylnaphthalene	4.3	BDL	BDL	N/A	N/A	1.36	20
2-Methylnaphthalene	9.78	BDL	BDL	N/A	N/A	2.6	63
Naphthalene	6.81	BDL	BDL	N/A	N/A	1.3	313
Phenanthrene	BDL	BDL	BDL	N/A	N/A	BDL	469
Aliphatic Fraction Classes (mg/kg)							
C5-C8 Volatile Aliphatics	67.7	BDL	BDL	BDL	BDL	33.6	939
C9-C12 Volatile Aliphatics	280	BDL	BDL	BDL	BDL	168	NSE
C9-C18 Extractable Aliphatics	50.3	BDL	BDL	N/A	N/A	13	NSE
C9-C18 Aliphatics (total)	330.3	BDL	BDL	BDL	BDL	181	1,500
C19-C36 Extractable Aliphatics	BDL	BDL	BDL	N/A	N/A	BDL	31,000
Aromatic Fraction Classes (mg/kg)							
C9-C10 Volatile Aromatics	190	BDL	BDL	BDL	BDL	59.6	NSE
C11-C22 Extractable Aromatics	68	BDL	BDL	N/A	N/A	25.6	NSE
C9-C22 Aromatics (total)	258	BDL	BDL	BDL	BDL	85.2	469

BDL= Below Detection Limits
NSE = No Standard Established

X13-1291R

TABLE 3 (CONT'D)

Summary of Soil Laboratory Analytical Results (Cont'd)

Exprezit - Walkertown

Walkertown, North Carolina

Constituent	SW	PB-N	PB-S	D2-S	D3-N	P2-PB	Residential Standard
Date	*5/29/2013*	*5/29/2013*	*5/29/2013*	*5/30/2013*	*5/30/2013*	*5/30/2013*	
Method 8260 (mg/kg)							
n-Butylbenzene	0.007	BDL	0.34	3.88	BDL	BDL	626
sec-Butylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	626
2-Butanone (MEK)	BDL	0.244	BDL	BDL	BDL	BDL	9385
Ethylbenzene	BDL	BDL	0.05	4.96	BDL	BDL	1,560
Isopropylbenzene	BDL	BDL	0.042	1.01	BDL	BDL	1,564
4-Isopropyltoluene	BDL	BDL	0.171	BDL	BDL	BDL	100
Naphthalene	0.076	BDL	2.76	20.5	1.82	BDL	313
n-Propylbenzene	BDL	BDL	1.36	4.36	BDL	BDL	626
1,2,4-Trimethylbenzene	0.011	BDL	1.21	34.6	5.66	BDL	782
1,3,5-Trimethylbenzene	0.006	BDL	0.585	13.6	1.76	BDL	782
Toluene	BDL	BDL	0.039	5.19	BDL	BDL	1,200
Xylenes (total)	BDL	BDL	0.439	20.62	0.574	BDL	3,129
IPE	BDL	BDL	BDL	BDL	N/A	BDL	156
MTBE	0.189	BDL	BDL	BDL	N/A	BDL	350
Method 8270 (mg/kg)							
Fluorene	N/A	N/A	N/A	N/A	N/A	N/A	620
1-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	20
2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	63
Naphthalene	N/A	N/A	N/A	N/A	N/A	N/A	313
Phenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	469
Aliphatic Fraction Classes (mg/kg)							
C5-C8 Volatile Aliphatics	18.4	BDL	95.2	133	46.1	BDL	939
C9-C12 Volatile Aliphatics	78.7	19.2	213	1,460	265	BDL	NSE
C9-C18 Extractable Aliphatics	N/A	N/A	N/A	N/A	N/A	BDL	NSE
C9-C18 Aliphatics (total)	78.7	19.2	213	1,460	265	BDL	1,500
C19-C36 Extractable Aliphatics	N/A	N/A	N/A	N/A	N/A	BDL	31,000
Aromatic Fraction Classes (mg/kg)							
C9-C10 Volatile Aromatics	13.6	BDL	54.7	501	87	BDL	NSE
C11-C22 Extractable Aromatics	N/A	N/A	N/A	N/A	N/A	N/A	NSE
C9-C22 Aromatics (total)	13.6	BDL	54.7	**501**	87	BDL	469

BDL= Below Detection Limits

NSE = No Standard Established

TABLE 4

Monitoring Well Information and Groundwater Elevations

Exprez It
Walkertown, North Carolina

Well Number	Top of Casing Elevation	Top of Screen Elevation	Bottom of Screen Elevation	Depth to Water	Groundwater Elevation
MW-1	100.00	80.00	60.00	29.87	70.13

Note: All measurements taken in feet and based on an arbitrary benchmark of 100.00 feet; groundwater levels measured on 9/5/13.

X13-1291B

TABLE 5

Summary of Groundwater Analytical Results

Exprez It
Walkertown, North Carolina

Constituent	MW-1	2L Standard	GCL
Date	*9/5/2013*		
Method 6200B (ug/L)			
Benzene	4,610	1	5,000
Toluene	15,800	600	260,000
Ethylbenzene	1,760	600	84,500
Xylenes (total)	8,210	500	85,500
BTEX (total)	30,380	NSE	NSE
n-Butylbenzene	BDL	70	6,900
Naphthalene	294	6	6,000
Isopropylbenzene	BDL	70	25,000
p-Isopropyltolune	BDL	25	11,700
n-Propylbenzene	124	70	30,000
1,2,4-Trimethylbenzene	1,104	400	28,500
1,3,5-Trimethylbenzene	280	400	25,000
IPE	BDL	70	70,000
MTBE	3,080	20	20,000
Method 625 (ug/L)			
Fluorene	BDL	300	990
2-Methylnaphthalene	39.5	30	12,500
1-Methylnaphthalene	18.6	1	1,000
Naphthalene	249	6	6,000
Benzoic Acid	140	30,000	1,700,000
Phenanthrene	BDL	200	410
TICs (total)	3,893	NSE	NSE
Method 3030C (ug/L)			
Lead	BDL	15	15,000
Aliphatic Fraction Classes (ug/L)			
C5-C8 Volatile Aliphatics	108,000	400	400,000
C9-C12 Volatile Aliphatics	60,000	NSE	NSE
C9-C18 Extractable Aliphatics	1,060	NSE	NSE
C9-C18 Aliphatics (total)	61,060	700	700,000
C19-C36 Extractable Aliphatics	BDL	10,000	10,000,000
Aromatic Fraction Classes (ug/L)			
C9-C10 Volatile Aromatics	7,350	NSE	NSE
C11-C22 Extractable Aromatics	1,500	NSE	NSE
C9-C22 Aromatics (total)	8,850	200	200,000

BDL = Below Detection Limits
N/A = Not Analyzed
NSE = No Standard Established

X13-1291A

SOIL BORING LOG

Paragon Environmental Consultants, Inc.

Job Name: Exprez It
Address: 3100 Old Hollow Road Walkertown, NC
Job No: P-1291
Start Date: 8/14/2013
Driller: Bradley Dean Berrier
Reg. No.: 4074-B
Boring No.: MW-1
Comments:

Sample Number	Depth (ft.)	Soil Decription (color, soil type, moisture)	Blow Counts	OVA (ppm)
MW-1	5	Backfill		N/A
	10	Backfill		N/A
	15	Backfill		N/A
	20	Light orange, CLAY with silt, damp		N/A
	25	Orange, CLAY with silt, damp		N/A
	30	same as 25'		N/A
	35	Orange/tan, CLAY with silt, damp		N/A
	40	Light orange, CLAY with silt, moist		N/A
		Soil boring terminated at 40 ft.		
P-1291				

North Carolina Department of Environment and Natural Resources

Pat McCrory, Governor

Division of Waste Management
UST Section

John E. Skvarla, III, Secretary
Dexter R. Matthews, Director

February 5, 2014

Getty Properties
86 Doremus Avenue
Newark, NJ 07015

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

Exprezit-Walkertown
3100 Old Hollow Road, Walkertown, NC
Forsyth County
Incident Number: 44077
Facility I.D. 0-016559
Risk Classification: Low
Ranking: L20R

Dear Mr. Dan Holden:

The Soil Cleanup Report/ Site Closure Request received by the UST Section, Winston-Salem Regional Office on October 9, 2013 and the Notice of Residual Petroleum received on January 23, 2014 have been reviewed. The review indicates that soil contamination exceeds the residential maximum soil contaminant concentrations (MSCCs) established in Title 15A NCAC 2L .0411 and groundwater contamination meets the cleanup requirements for a low-risk site but exceeds the groundwater quality standards established in Title 15A NCAC 2L .0202.

The UST Section determines that no further action is warranted for this incident. This determination shall apply unless the UST Section later finds that the discharge or release poses an unacceptable risk or a potentially unacceptable risk to human health or the environment. Pursuant to Title 15A NCAC 2L .0407(a) you have a continuing obligation to notify the Department of any changes that might affect the risk or land use classifications that have been assigned.

Be advised that as groundwater contamination exceeds the groundwater quality standards established in Title 15A NCAC 2L .0202, groundwater within the area of contamination or within the area where groundwater contamination is expected to migrate is not suitable for use as a water supply. Be advised that as soil contamination exceeds the residential MSCCs, the property containing the contamination is suitable only for industrial/ commercial use or restricted residential use (The term "residential is inclusive of, but not limited to, private houses, apartment complexes, schools, nursing homes, parks, recreation areas and day care centers), as stipulated in the Notice of Residual Petroleum (attached).

As groundwater contamination exceeds the groundwater quality standards established in Title 15A NCAC 2L .0202 and soil contamination exceeds the residential MSCCs, pursuant to NCGS 143B-

279.9 and 143B-279.11, you must file the approved Notice of Residual Petroleum (attached) with the Register of Deeds in the county in which the release is located and submit a certified copy to the UST Section within 30 days of receipt of this letter. This No Further Action determination will not become valid until the UST Section receives a certified copy of the Notice of Residual Petroleum which is filed with the Register of Deeds.

As groundwater contamination exceeds the groundwater quality standards established in Title 15A NCAC 2L .0202 and soil contamination exceeds the lower of the soil-to-groundwater or residential MSCCs, public notice in accordance with 15A NCAC 2L .0409(b) also is required. Thus, within 30 days of receipt of this letter, a copy of the letter must be provided by certified mail, or by posting in a prominent place, if certified mail is impractical, to the local health director, the chief administrative officer of each political jurisdiction in which the contamination occurs, all property owners and occupants within or contiguous to the area containing contamination, and all property owners and occupants within or contiguous to the area where the contamination is expected to migrate. Within 60 days of receiving this no further action letter, this office must be provided with proof of receipt of the copy of the letter or of refusal by the addressee to accept delivery of the copy of the letter or with a description of the manner in which the letter was posted. This No Further Action determination will not become valid until public notice requirements are completed. Interested parties may examine the Soil Cleanup Report/ Site Closure Request by contacting this regional office and may submit comments on the site to the regional office at the address or telephone number listed below.

This No Further Action determination applies only to the subject incident; for any other incidents at the subject site, the responsible party must continue to address contamination as required.

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

Sincerely,

Karen J. Hall

Karen J. Hall
Environmental Sr. Technician
Winston-Salem Regional Office

Attachments: Notice of Residual Petroleum
cc: Forsyth County Health Department

UST Regional Offices

Asheville (ARO) – 2090 US Highway 70, Swannanoa, NC 28778 **(828) 296-4500**

Fayetteville (FAY) – 225 Green Street, Suite 714, Systel Building, Fayetteville, NC 28301 **(910) 433-3300**

Mooresville (MOR) – 610 East Center Avenue, Suite 301, Mooresville, NC 28115 **(704) 663-1699**

Raleigh (RRO) – 1628 Mail Service Center, Raleigh, NC 27699 **(919) 791-4200**

Washington (WAS) – 943 Washington Square Mall, Washington, NC 27889 **(252) 946-6481**

Wilmington (WIL) – 127 Cardinal Drive Extension, Wilmington, NC 28405 **(910) 796-7215**

Winston-Salem (WS) – 585 Waughtown Street, Winston-Salem, NC 27107 **(336) 771-5000**

Guilford County Environmental Health, 400 West Market Street, Suite 300, Greensboro, NC 27401, **(336) 641-3771**

2014002687 00056
FORSYTH CO, NC FEE $26.00
PRESENTED & RECORDED:
01-23-2014 11:00:32 AM
C. NORMAN HOLLEMAN
REGISTER OF DEEDS
BY: OLIVIA DOYLE
ASST
BK: RE 3163
PG: 3459-3461

original to: Brandon Moore

NOTICE OF RESIDUAL PETROLEUM

Exprez It 3100 Old Hollow Road Walkertown, NC Incident #44077
Forsyth County, North Carolina

Current Property owners Deed Book 2745 Page # 1494

The property that is the subject of this Notice (hereinafter referred to as the "Site") contains residual petroleum and is an Underground Storage Tank (UST) incident under North Carolina's Statutes and Regulations, which consist of N.C.G.S. 143-215.94 and regulations adopted thereunder. This Notice is part of a remedial action for the Site that has been approved by the Secretary (or his/her delegate) of the North Carolina Department of Environment and Natural Resources (or its successor in function), as authorized by N.C.G.S. Section 143B-279.9 and 143B-279.11. The North Carolina Department of Environment and Natural Resources shall herein after be referred to as "DENR".

NOTICE

Petroleum product was released and/or discharged at the Site. **Petroleum constituents remain on the site, but are not a danger to public health and the environment, provided that the restrictions described herein, and any other measures required by DENR pursuant to N.CG.S. Sections 143B-279.9 and 143B-279.11, are strictly complied with.** This "Notice of Residual Petroleum" is composed of a description of the property, the location of the residual petroleum and the land use restrictions on the Site. The Notice has been approved and notarized by DENR pursuant to N.C.G.S. Sections 143B-279.9 and 143B-279.11 and has/shall be recorded at the Forsyth County Register of Deeds' office Book ___, Page ___ .

Getty Properties of Newark, NJ is the owner in fee simple of all or a portion of the Site, which is located in the County of Forsyth, State of North Carolina, and is known and legally described as:

BEGINNING at an existing iron rod at the southwest corner of the Douglas B. Jones property as recorded in Deed Book 1487 at page 2154, and in the line of the Douglas B. Jones property as recorded in Deed Book 2050 at page 3482; running thence with said Jones North 61°48'25: West 60.07 feet to an existing iron road; thence continuing with said Jones South 83° 58'24" West 80.48 feet to an existing iron rod in the eastern right of way of Darrow Road; thence continuing with the eastern right of way of Darrow Road the two(2) following courses and distances: North 06° 47'40" West 56.10 feet to a P.K. nail; and North 06° 47'54" West 173.80 feet to a P.K. nail; thence North 43° 15'46" East 9.35 feet to a P.K. nail in the southern right of way of NC Highway 66; thence along the southern right of way of NC Highway 66 South 61° 13'00" East 256.74 feet to a P.K. nail; thence along the western line of the Douglas B. Jones property as recorded in Deed Book 1487 at page 240 South 28° 27'50" West 149.47 feet to the point and place of beginning.

For protection of public health and the environment, the following land use restrictions required by N.C.G.S. Section 143B-279.9(b) shall apply to all of the above described real property. These restrictions shall continue in effect as long as residual petroleum remains on the site in excess of unrestricted use standards and cannot be amended or cancelled unless and until the Forsyth County Register of Deeds receives and records the written concurrence of the Secretary (or his/her delegate) of DENR (or its successor in function).

PERPETUAL LAND USE RESTRICTIONS

[Restrictions apply to activities on, over, or under the land.]

Soil: *The Site shall be used for industrial / commercial use only. Industrial / commercial use means a use where exposure to soil contamination is limited in time and does not involve exposure to children or other sensitive populations such as the elderly or sick. The real property shall not be developed or utilized for residential purposes including but not limited to: primary or secondary residences (permanent or temporary), schools, daycare centers, nursing homes, playgrounds, parks, recreation areas and / or picnic areas.*

Groundwater: *Groundwater from the site is prohibited from use as a water supply. Water supply wells of any kind shall not be installed or operated on the site.*

ENFORCEMENT

The above land use restriction(s) shall be enforced by any owner, operator, or other party responsible for the Site. The above Land Use restriction(s) may also be enforced by DENR through any of the remedies provided by law or means of a civil action, and may also be enforced by any unit of local government having jurisdiction over any part of the Site. Any attempt to cancel this Notice without the approval of DENR (or its successor in function) shall be subject to enforcement by DENR to the full extent of the law. Failure by any party required or authorized to enforce any of the above restriction(s) shall in no event be deemed a waiver of the right to do so thereafter as to the same violation or as to one occurring prior or subsequent thereto.

IN WITNESS WHEREOF, Getty Leasing, Inc. has caused this Notice to be executed pursuant to N.C.G.S. Sections 143B-279.9 and 143B-279.11, this 30 day of DECEMBER, 2103.

Getty Leasing, Inc.

Signed By: _____,

Signatory's name typed or printed: KEVIN SHEA Executive Vice President

STATE OF ~~NORTH CAROLINA~~ NEW YORK
NASSAU COUNTY

I, Erika Trafny, a Notary Public of said County and State, do hereby certify that KEVIN SHEA personally appeared before me this day and acknowledged that he is ~~Dale Holden~~ KEVIN SHEA of Getty Leasing, Inc. and acknowledged, on behalf of GettyLeasing, Inc., the grantor the due execution of the foregoing instrument.

WITNESS my hand and seal this the 30 day of DECEMBER, 2013.

(Official Seal)

Erika Trafny
Notary Public (signature)

My commission expires March 21, 2015.

Erika D Trafny
Notary Public, State of New York
No. 01TR6237633
Qualified in Nassau County
Commission Expires March 21, 2015

Approved for the purposes of N.C.G.S. 143B-279.11.

Carin Lee Kromm

Carin Kromm, Regional Supervisor
Winston-Salem Regional Office
UST Section
Division of Waste Management
Department of Environment and Natural Resources

NORTH CAROLINA
Davidson **COUNTY**

I, Shelia M. McIntosh a Notary Public of said County and State, do hereby certify that Carin Lee Kromm, Regional Supervisor of the Winston-Salem Regional Office for the Division of Waste Management – UST Section of the NC Department of Environment and Natural Resources, did personally appear and sign before me this the 22 day of January, 2014.

Shelia M. McIntosh

Notary public (signature)

(Official Seal)

My commission expires January 19, 2017.

Shelia M. McIntosh
Notary Public - North Carolina
Davidson County
My Commission Expires January 19, 2017

C. NORMAN
HOLLEMAN
Register of Deeds

Forsyth County
Register of Deeds

Forsyth County Government Center • WINSTON-SALEM, NORTH CAROLINA 27101-4120
Telephone 336 703 2701 • Fax 336 703 8599 • E-Mail no-reply@bislandrecords.com

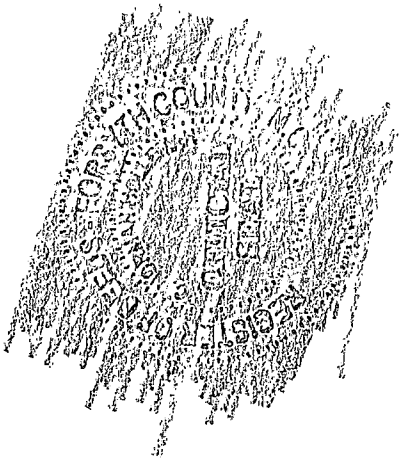
State of North Carolina, County of Forsyth

I certify that this is a true and accurate copy which appears on record in the office of the Register of Deeds of Forsyth County, North Carolina in Book 3163 Page 3459.

Witness my hand and seal this 23rd day of JANUARY 2014.

C. NORMAN HOLLEMAN, REGISTER OF DEEDS

By: Olivia Doyle
OLIVIA DOYLE, ASSISTANT/DEPUTY REGISTER OF DEEDS



THIS CERTIFICATION SHEET IS A PART OF THE DOCUMENT.

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

May 8, 2014

Getty Properties Corp.
Dale Holden
86 Doremus Ave.
Newark, NJ 07015

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

Exprezit-Walkertown
3100 Old Hollow Road, Walkertown, NC
Forsyth County
Incident Number (if applicable): 44077
Risk Classification: Low
Ranking: L20R

Dear Mr. Holden:

The Initial Abatement and Action Report received by the UST Section, Division of Waste Management, Winston-Salem Regional Office on July 29, 2013 has been reviewed. The review indicates that after tank closure or soil excavation soil contamination does not exceed the lower of the soil-to-groundwater or residential maximum soil contaminant concentrations (MSCCs), established in Title 15A NCAC 2L .0411. The review also indicates that, although groundwater or bedrock was encountered during the initial abatement process, groundwater contamination does not exceed the groundwater quality standards established in Title 15A NCAC 2L .0202.

The UST Section determines that no further action is warranted for this incident. This determination shall apply unless the UST Section later finds that the discharge or release poses an unacceptable risk or a potentially unacceptable risk to human health or the environment. Pursuant to Title 15A NCAC 2L .0407(a) you have a continuing obligation to notify the Department of any changes that might affect the risk or land use classifications that have been assigned.

This No Further Action determination applies only to the subject incident; for any other incidents at the subject site, the responsible party must continue to address contamination as required.

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

Sincerely,

Karen J. Hall

Karen J. Hall
Environmental Sr. Technician
Winston-Salem Regional Office

cc: Forsyth County Health Department

UST Regional Offices

Asheville (ARO) – 2090 US Highway 70, Swannanoa, NC 28778 **(828) 296-4500**

Fayetteville (FAY) – 225 Green Street, Suite 714, Systel Building, Fayetteville, NC 28301 **(910) 433-3300**

Mooresville (MOR) – 610 East Center Avenue, Suite 301, Mooresville, NC 28115 **(704) 663-1699**

Raleigh (RRO) – 1628 Mail Service Center, Raleigh, NC 27699 (919) **791-4200**

Washington (WAS) – 943 Washington Square Mall, Washington, NC 27889 **(252) 946-6481**

Wilmington (WIL) – 127 Cardinal Drive Extension, Wilmington, NC 28405 **(910) 796-7215**

Winston-Salem (WS) – 585 Waughtown Street, Winston-Salem, NC 27107 **(336) 771-5000**

Guilford County Environmental Health, 400 West Market Street, Suite 300, Greensboro, NC 27401, **(336) 641-3771**

Appendix C

GEL Solutions Geophysical Survey Report

GEL Solutions

PO Box 30712, Charleston, SC 29417
2040 Savage Road, Charleston, SC 29407
P 843.769.7379

www.gel-solutions.com

March 18, 2020

Mr. David Graham
Hart & Hickman, PC
2923 South Tryon Street, Suite 100
Charlotte, NC 28203

Re: Report for Geophysical Survey to Identify Potential Underground Storage Tanks (USTs) and Underground Utilities NCDOT Project: U-5824
NCDOT Parcel 44: 3100 Old Hollow Road, Walkertown, North Carolina

Dear Mr. Graham,

GEL Solutions appreciates the opportunity to provide Hart & Hickman, PC with this report of our geophysical investigation for the referenced project. This investigation was designed to determine the potential presence of underground storage tanks (USTs) at the site and underground utilities that would obstruct drilling activities at the site. The geophysical field investigation was successfully performed on March 2-3, 2020.

1.0 Summary of Results

Multiple anomalies were identified in the geophysical data; however, none are representative of a possible, probable or known UST. Figure 1 depicts the approximate location and size of the anomalies, as well as the known metallic surface objects present at the time of the investigation. Any anomalies not denoted with the UST level of confidence rating in post-processed data (Figure 1) are consistent with known metallic surface objects, utilities, and/or other cultural interferences. A portion of the project limits contained reinforced concrete as noted in Figure 1. Although geophysical methods provide a high level of assurance for the location of subsurface objects, the possibility exists that not all features can or will be identified. Therefore, due caution should be used when performing any subsurface excavation, and GEL Solutions will not be liable for any damages that may occur. Descriptions of the technologies employed during this geophysical investigation are provided below.

2.0 Overview of Geophysical Investigation

The geophysical evaluation included the deployment of radio-frequency electromagnetic (EM), ground penetrating radar (GPR) and time-domain electromagnetic (TDEM) technologies to the site. These technologies were used in concert with one another in order to identify the presence of potential underground utilities and USTs at the site. A brief description of each technology is presented in the following paragraphs.

Radio-Frequency Electromagnetic

Radio-frequency EM utility locating equipment consists of a transmitter and a dual-function receiver. The receiver can be operated in a “passive” mode or in an “active” mode. The two modes of operation provide various levels of detection capabilities depending on the specific target or application.

The EM system is operated in the “active” mode by either inducting or conducting a signal into the underground utility to be traced. A transmitter is placed over and in line with a suspected buried utility. The transmitter induces a signal, which propagates along the buried utility. As the receiver is moved back and forth across the suspected path of the utility, the trace signal induces a signal into the receiver’s coil sensor. A visual and audio response indicates when the receiver is directly over the buried utility.

Another means of detecting in the "active" mode utilizes a method to "conduct" a signal within the buried utility. To accomplish this, a cable from the transmitter is clamped onto an exposed section of the buried utility and a signal propagates along the buried line. This technique minimizes any interference caused by parasitic emissions from adjacent cables in congested areas. When the system is utilized in the "passive" mode, the receiver is responding to a 60-Hertz cycle current energized by underground utilities.

Interference can and may occur when buried utilities intersect or are adjacent to each other. This effect, referred to as "bleed-off," may provide a false response to the identification of the tracked utility. "Bleed-off" is caused by utilities that may be energized in the "active" or "passive" mode.

Ground Penetrating Radar Methodology

An Impulse Radar GPR system configured with both 400 MHz and 800MHz antennas was used in this investigation. GPR is an EM geophysical method that detects interfaces between subsurface materials with differing dielectric constants. The GPR system consists of an antenna which houses the transmitter and receiver, a digital control unit which both generates and digitally records the GPR data, and a color video monitor to view data as it is collected in the field.

The transmitter radiates repetitive short-duration EM waves (at radar frequencies) into the earth from an antenna moving across the ground surface. These radar waves are reflected back to the receiver from the interface of materials with different dielectric constants. The intensity of the reflected signal is a function of the contrast in the dielectric constant between the materials, the conductivity of the material through which the wave is traveling, and the frequency of the signal.

Subsurface features that commonly cause such reflections are: 1) natural geologic conditions, such as changes in sediment composition, bedding, and cementation horizons and voids; or 2) unnatural changes to the subsurface such as disturbed soils, soil backfill, buried debris, tanks, pipelines, and utilities. The digital control unit processes the signal from the receiver and produces a continuous cross-section of the subsurface interface reflection events.

GPR data profiles were collected along transects covering the entire project limit. The average depth of penetration at this site was approximately 3-5 feet below land surface. Depth of investigation of the GPR signal is highly site-specific and is limited by signal attenuation (absorption) in the subsurface materials. Signal attenuation is dependent upon the electrical conductivity of the subsurface materials. Signal attenuation is greatest in materials with relatively high electrical conductivities such as clays, brackish groundwater, or groundwater with a high dissolved solid content from natural or manmade sources. Signal attenuation is lowest in relatively low conductivity materials such as dry sand or rock. Depth of investigation is also dependent on the antenna's transmitting frequency. Depth of investigation generally increases as transmitting frequency decreases; however, the ability to resolve smaller subsurface features is diminished as frequency is decreased.

The GPR antenna used at this site is internally shielded from aboveground interference sources. Accordingly, the GPR response is not affected by overhead power lines, metallic buildings, or nearby objects.

Time Domain Electromagnetic Methodology

TDEM methods measure the electrical conductivity of subsurface materials. The conductivity is determined by inducing (from a transmitter) a time or frequency-varying magnetic field and measuring (with a receiver) the amplitude and phase shift of an induced secondary magnetic field. The secondary magnetic field is created by subsurface conductive materials behaving as an inductor as the primary magnetic field is passed through them.

The Geonics EM-61 system used in this investigation operates within these principles. However, the EM-61 TDEM system can discriminate between moderately conductive earth materials and very conductive metallic targets. The EM-61 consists of a portable coincident loop time domain transmitter and receiver with a 1.0-meter by 0.5-meter coil system. The EM-61 generates 150 pulses per second and measures the response from the ground after transmission or between pulses. The secondary EM responses from metallic targets are of longer duration than those created by conductive earth materials. By recording the later time EM arrivals, only the response from metallic targets is measured, rather than the field generated by the earth material.

3.0 Field Procedures and Results

The geophysical field investigation was successfully performed on March 2-3, 2020 at 3100 Old Hollow Road in Walkertown, North Carolina. The area of investigation was approximately 0.75 acre. Interpretation of the GPR data was conducted in the field and any potential anomalies were marked in the field. GPR data processing typically included band pass filtering, background removal, horizontal smoothing, and gain adjustments. TDEM was also used to scan the project site. Any EM-61 anomalies detected during field activities that were indicative of buried metallic objects were also marked in the field.

Multiple anomalies were identified in the geophysical data; however, none are representative of a possible, probable or known UST. Figure 1 depicts the approximate location and size of the anomalies, as well as the known metallic surface objects present at the time of the investigation. Any anomalies not denoted with the UST level of confidence rating in post processed data (Figure 1) are consistent with known metallic surface objects, utilities, and/or other cultural interferences. A portion of the project limits contained reinforced concrete which prevents the EM-61 from detecting buried metallic objects that may exist below the reinforced areas. GPR was used extensively in the reinforced areas to confirm that no detectable USTs exist beneath them.

The UST level of confidence rating system was developed by NCDOT in May 2009 (“Known UST,” “Probable UST,” “Possible UST,” or “No Confidence”) and was used in the interpretation and presentation of this report.

Additional TDEM responses were present in the data but were attributed to surface metallic debris and/or above ground metal structures. Therefore, they are not considered to be representative of “Potential USTs.”

The locations of underground utilities were designated using EM and GPR equipment, and their approximate horizontal locations were marked with paint on the land surface for soil boring activities. Positioning data was obtained using a Trimble R6 GPS Rover connected to the NC VRS network.

4.0 Closing

GEL Solutions appreciates the opportunity to assist Hart & Hickman with this project. If you have any questions or need further information regarding the project, please do not hesitate to call me at (843) 769-7379.

Yours very truly,

William S. Dovell
Director of SC Operations

Attachments: Site Photos, Figure 1, Figure 2
fc: HAHI00120 Report.pdf

Attachment I
Site Photos

Photo 1: Looking southeast along Old Hollow Rd. project limits.

Photo 2: Looking south along Darrow Rd. project limits.

Photo 3: Looking southeast from west parking spaces.

Photo 4: Looking southeast showing asphalt cracking.

Photo 5: Looking southeast along Darrow Rd. showing utility features.

Photo 6: Looking east from Darrow Rd. along southern property boundary.

Photo 7: Looking north from southern property boundary toward building.

Photo 8: Looking northeast from southern property boundary towards building.

Photo 9: Looking east from southeast building corner showing unknown utility.

Photo 10: Looking east from southeast building corner showing limited access/trees/dumpster pen.

Photo 11: Looking north across parking lot towards Old Hollow Rd. showing unknown utilities and a proposed boring location.

Photo 12: Looking northeast towards northeast property corner.

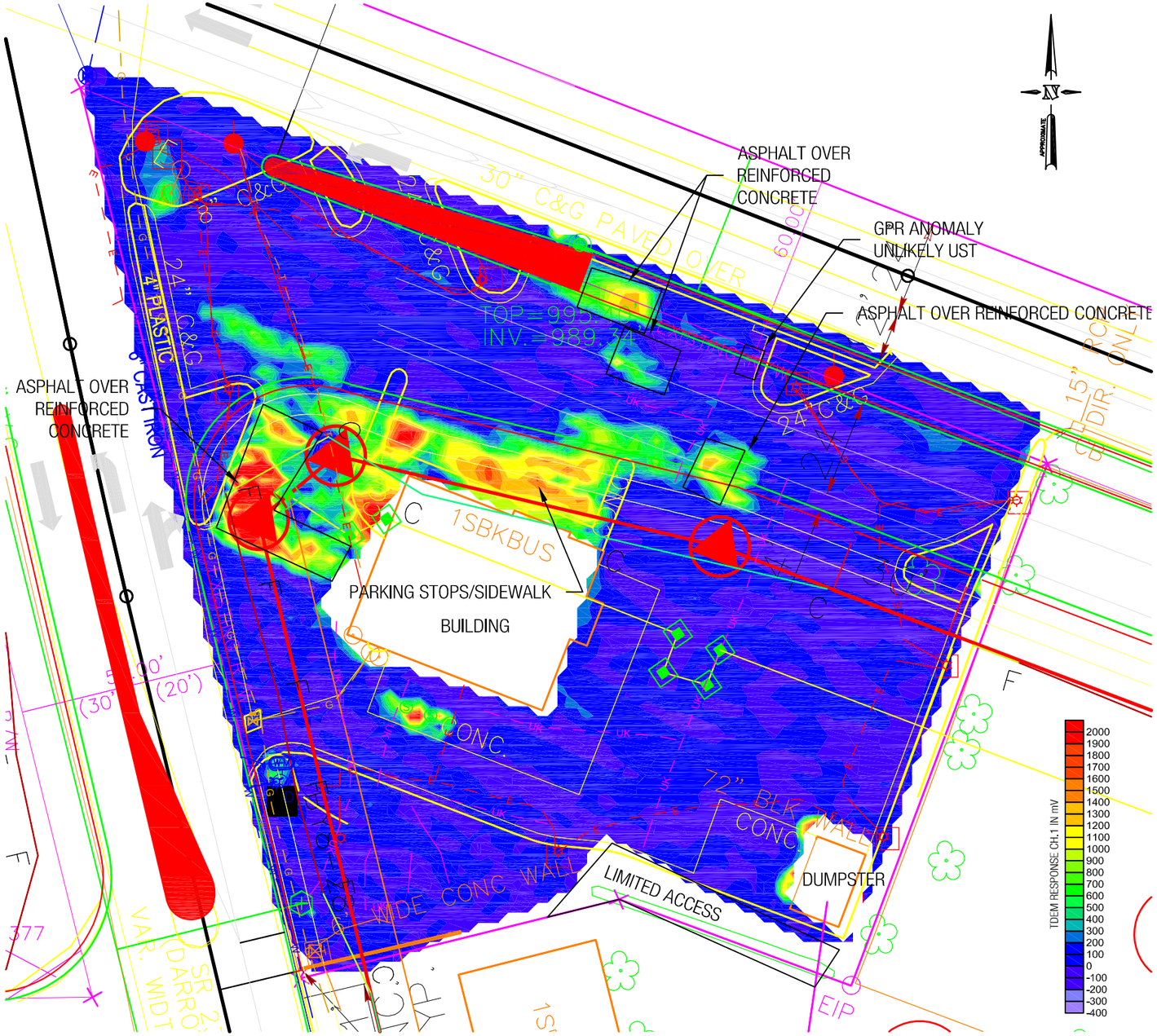
Photo 13: looking northwest along Old Hollow Rd.

Photo 14: Looking north at parking area along Old Hollow Rd. showing GPR anomaly and unknown utility near proposed boring locations.

Photo 15: Looking east towards Old Hollow Rd. showing GPR anomaly.

Photo 16: Looking north along Old Hollow Rd. showing asphalt cracking.

Photo 17: Looking north toward intersection of Old Hollow Rd. and Darrow Rd.



LEGEND

UK — APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND UNKNOWN UTILITY LINE	WV — WATER VALVE	T — TELEPHONE PEDESTAL	
W — APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND WATER LINE	WM — WATER METER	CATV — CABLE TV PEDESTAL	
SD — APPROXIMATE LOCATION OF SUSPECTED STORMWATER DRAIN LINE	W — WATER VAULT	E — ELECTRIC PULLBOX	
SS — APPROXIMATE LOCATION OF SUSPECTED SANITARY SEWER LINE	FH — FIRE HYDRANT	LP — LIGHT POLE	
FM — APPROXIMATE LOCATION OF SUSPECTED SANITARY SEWER FORCEMAIN	PIV — POST INDICATOR VALVE	UP — UTILITY POLE	
G — APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND GAS LINE	D — STORM DRAIN MANHOLE	E — ELECTRIC MANHOLE	
T — APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND COMMUNICATIONS LINE	CI — STORMWATER CURB INLET	E — ELECTRIC HANDHOLE	
E — APPROXIMATE LOCATION OF SUSPECTED UNDERGROUND ELECTRICAL POWER LINE	DG — STORMWATER DRAINAGE GRATE	TRANSFORMER — ELECTRIC TRANSFORMER	
LIMIT OF INVESTIGATION (ACCESSIBLE AREAS OF RIGHTS OF WAY)	SCO — SANITARY SEWER CLEANOUT	PED — PEDESTRIAN CROSSING SIGNAL	
END OF DESIGNATION OR UNKNOWN DESIGNATION	S — SANITARY SEWER MANHOLE	ST — STEEL	
END OF UTILITY OR CAPPED UTILITY	ST — STEAM MANHOLE	PL — PLASTIC	
	GM — GAS METER	CI — CAST IRON	
UNKNOWN MANHOLE	GV — GAS VALVE	CL — CLAY	
UNKNOWN VALVE	C — COMMUNICATIONS MANHOLE	RCP — REINFORCED CONCRETE PIPE	
	CH — COMMUNICATIONS HANDHOLE	DIP — DUCTILE IRON PIPE	

NOTES

1) UNDERGROUND FEATURES WERE LOCATED USING VISUAL EVIDENCE, GROUND PENETRATING RADAR (GPR), AND TIME DOMAIN ELECTROMAGNETIC (TDEM) METHODS. OTHER BURIED UTILITIES AND STRUCTURES MAY EXIST BUT WERE NOT DETECTED DUE TO LIMITATIONS OF THE GEOPHYSICAL METHODS, SITE ACCESS, AND/OR HIGH TARGET CONGESTION. THEREFORE, DUE CAUTION SHOULD BE USED WHEN PERFORMING SUBSURFACE EXCAVATION ACTIVITIES WHERE POTENTIAL CONFLICTS EXIST. GEL SOLUTIONS. IS NOT RESPONSIBLE FOR DAMAGES THAT MAY OCCUR. IDENTIFYING THE LOCATION OF SOME UTILITIES MAY ONLY BE POSSIBLE WITH VACUUM OR OTHER EXCAVATION METHODS.
2) FIELD SURVEY CONDUCTED ON 3/2/2020-3/3/2020.
3) BASE MAP PROVIDED BY HART & HICKMAN. GEL SOLUTIONS IS NOT LIABLE FOR ACCURACY OF THE BASE MAP.
4) TDEM DATA DISPLAYED FROM GEONICS, LTD. EM-61 MKII A.

GRAPHIC SCALE

0' 15' 30' 60' 120'

(IN FEET)
1 inch = 30 ft.

GEL Solutions
P.O. BOX 30712 CHARLESTON, SC 29417
2040 SAVAGE ROAD 29407
(843) 769-7379
WWW.GEL-SOLUTIONS.COM

PROJECT: HAHI00120

GEOPHYSICAL INVESTIGATION FOR UNDERGROUND STORAGE TANKS AND UTILITIES
NCDOT PARCEL 44: 3100 OLD HOLLOW ROAD
WALKERTOWN, NORTH CAROLINA (FORSYTHE COUNTY)

RESULTS OF GEOPHYSICAL AND UTILITY INVESTIGATION

FIGURE 1

DATE: 3/18/2020 NCDOT PROJECT: U-5824 DRAWN BY: WSD CHECKED BY: STS

Appendix D

Soil Boring Logs

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-1**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT: Sample Type	COLLECT: Time	COLLECT: Blow Counts	COLLECT: Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	MEASURE: PID (ppm)	MEASURE: Lab Sample	DEPTH (ft)
0								(0') Asphalt (0.5') Poorly graded SAND (SP); few fine gravel, loose, moist, very dark brown, fill material	8.1		0
									12.3	SB-1 (2-4)	
5									11.2		5
10								(12') Boring terminated	5.7		10
15											15

NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

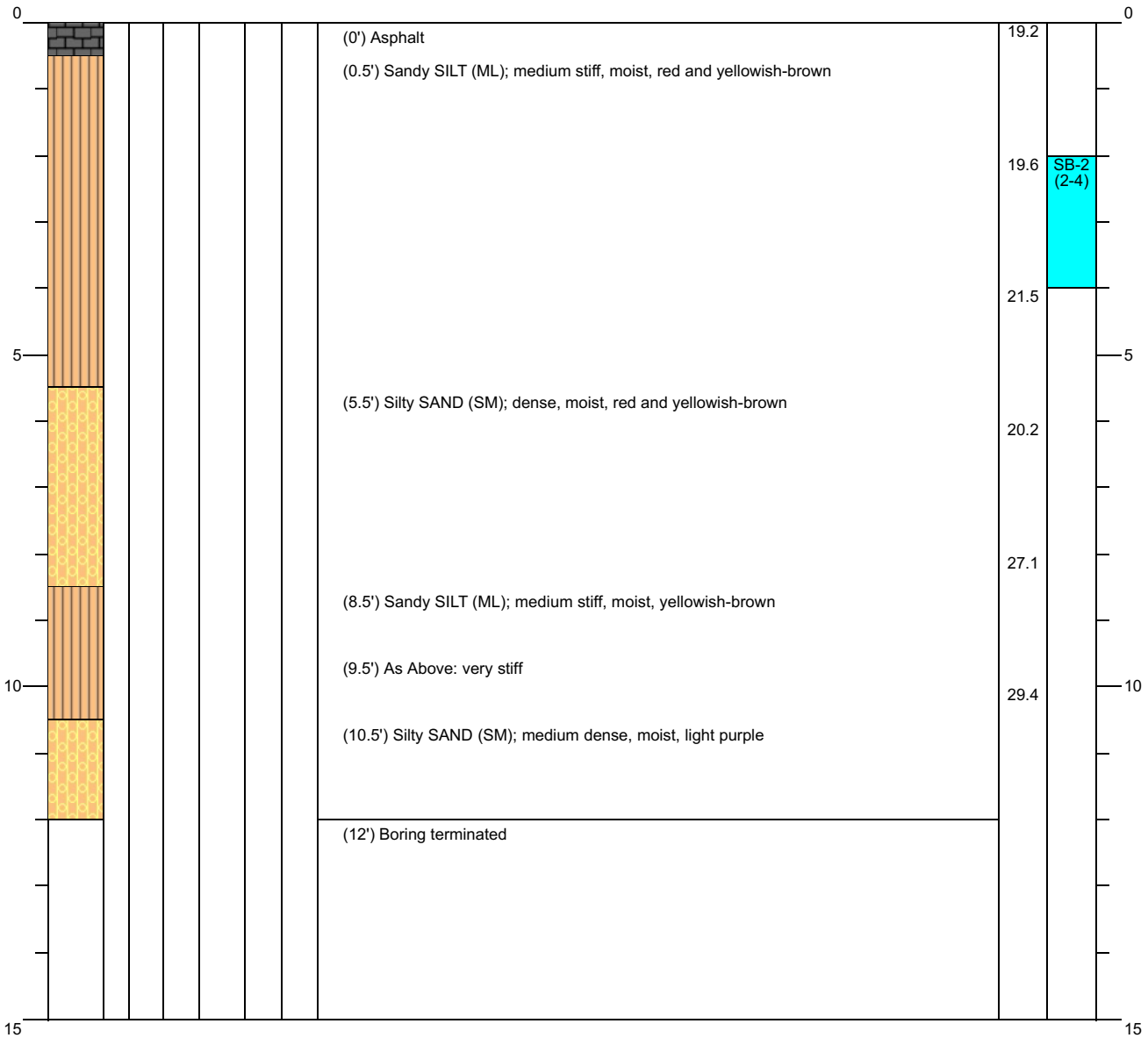
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-2**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



DEPTH (ft)	SOIL/ROCK VISUAL DESCRIPTION	MEASURE: PID (ppm)	MEASURE: Lab Sample	DEPTH (ft)
0	(0') Asphalt	19.2		0
	(0.5') Sandy SILT (ML); medium stiff, moist, red and yellowish-brown	19.6	SB-2 (2-4)	
		21.5		
5	(5.5') Silty SAND (SM); dense, moist, red and yellowish-brown	20.2		5
		27.1		
	(8.5') Sandy SILT (ML); medium stiff, moist, yellowish-brown			
	(9.5') As Above: very stiff	29.4		
10	(10.5') Silty SAND (SM); medium dense, moist, light purple			10
	(12') Boring terminated			
15				15

NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

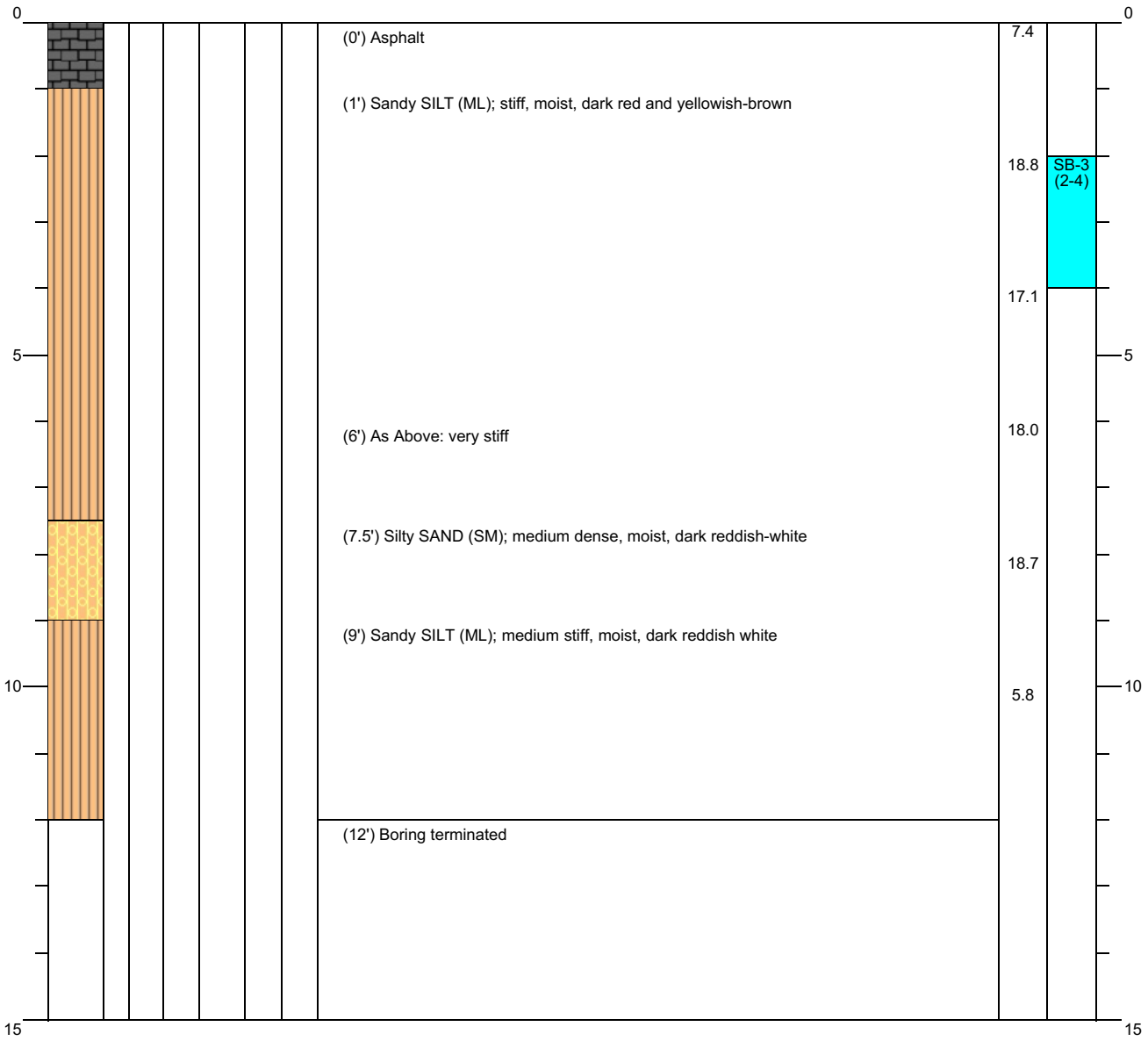
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-3**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

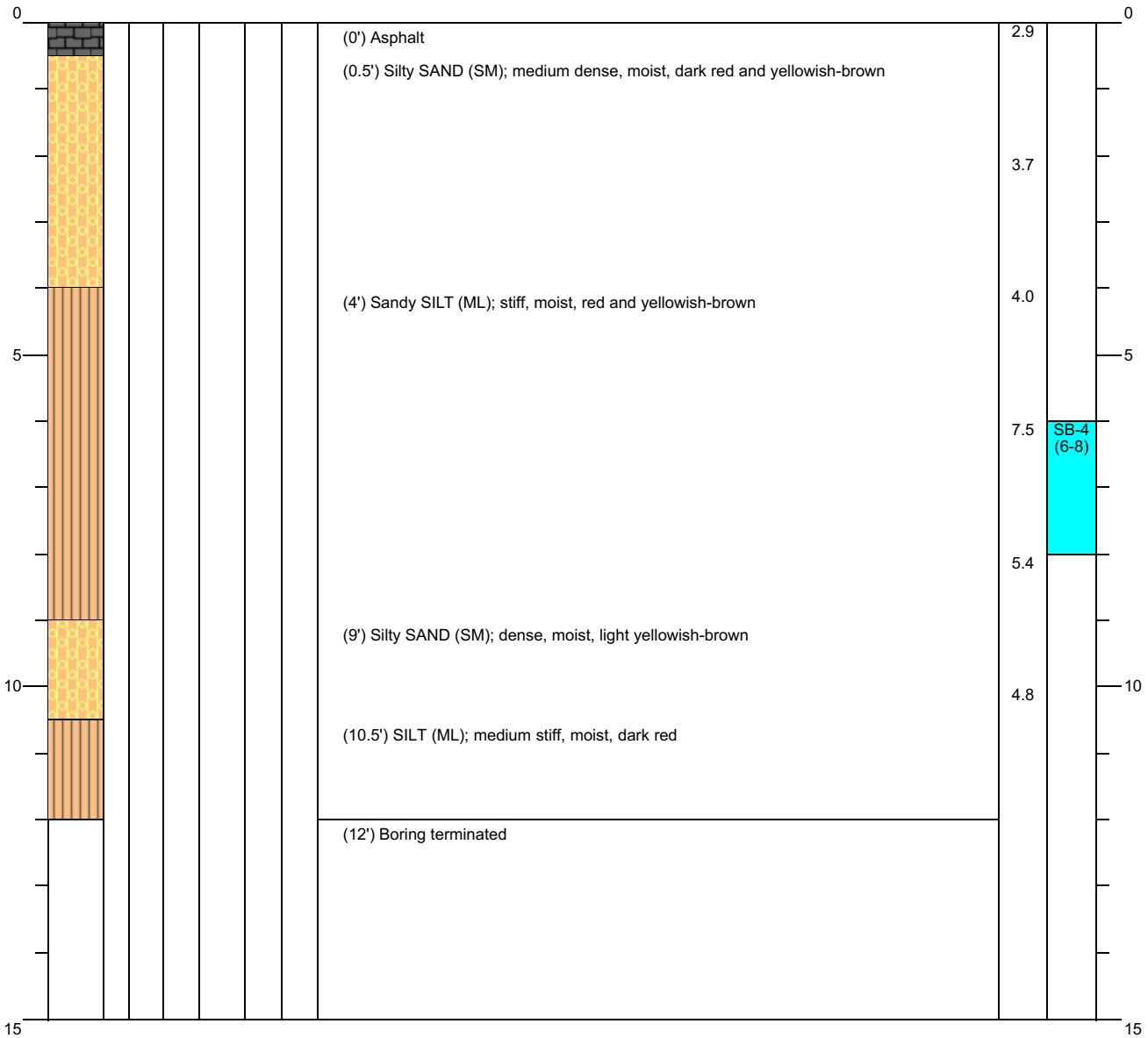
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-4**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

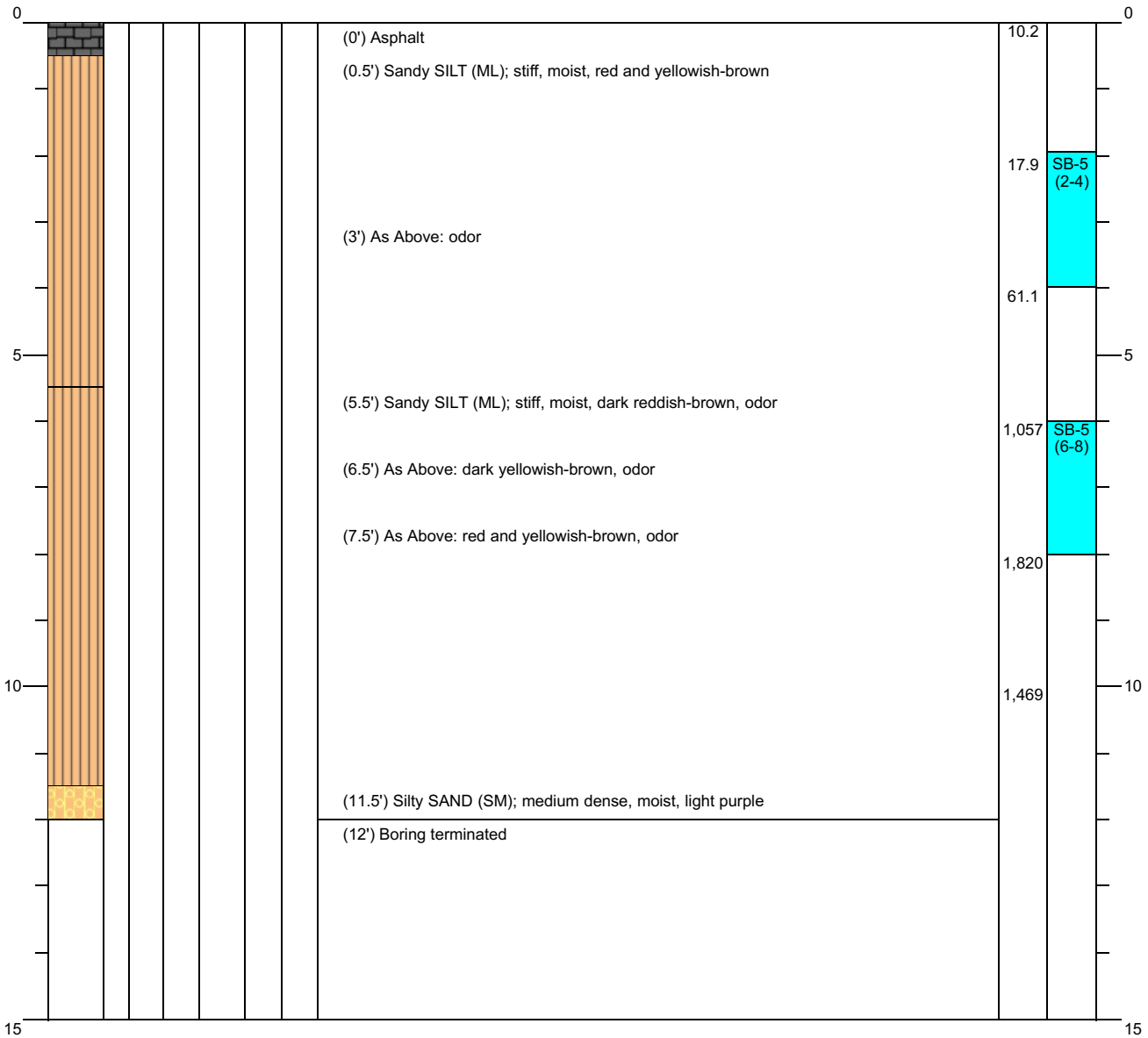
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-5**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

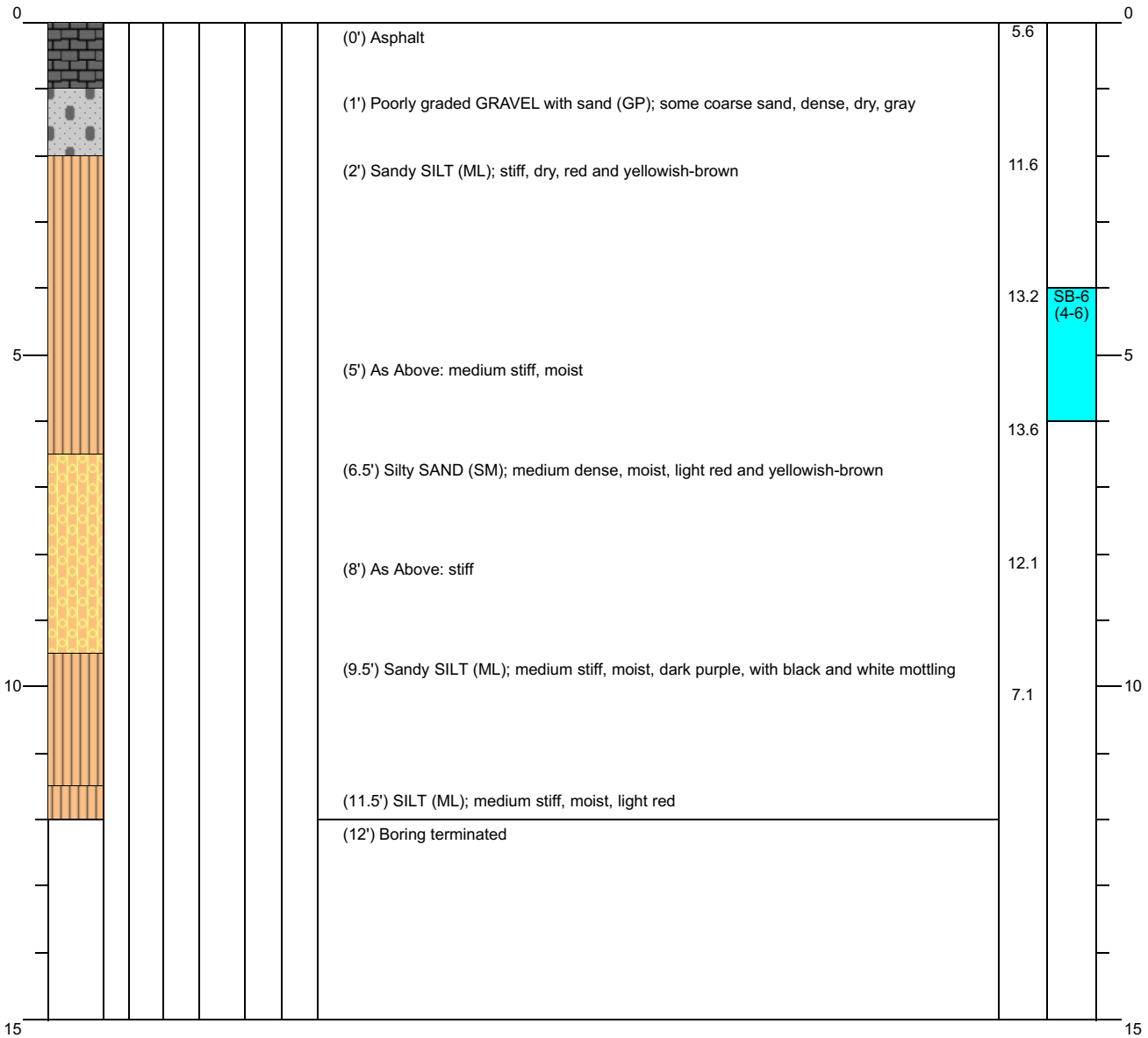
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-6**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

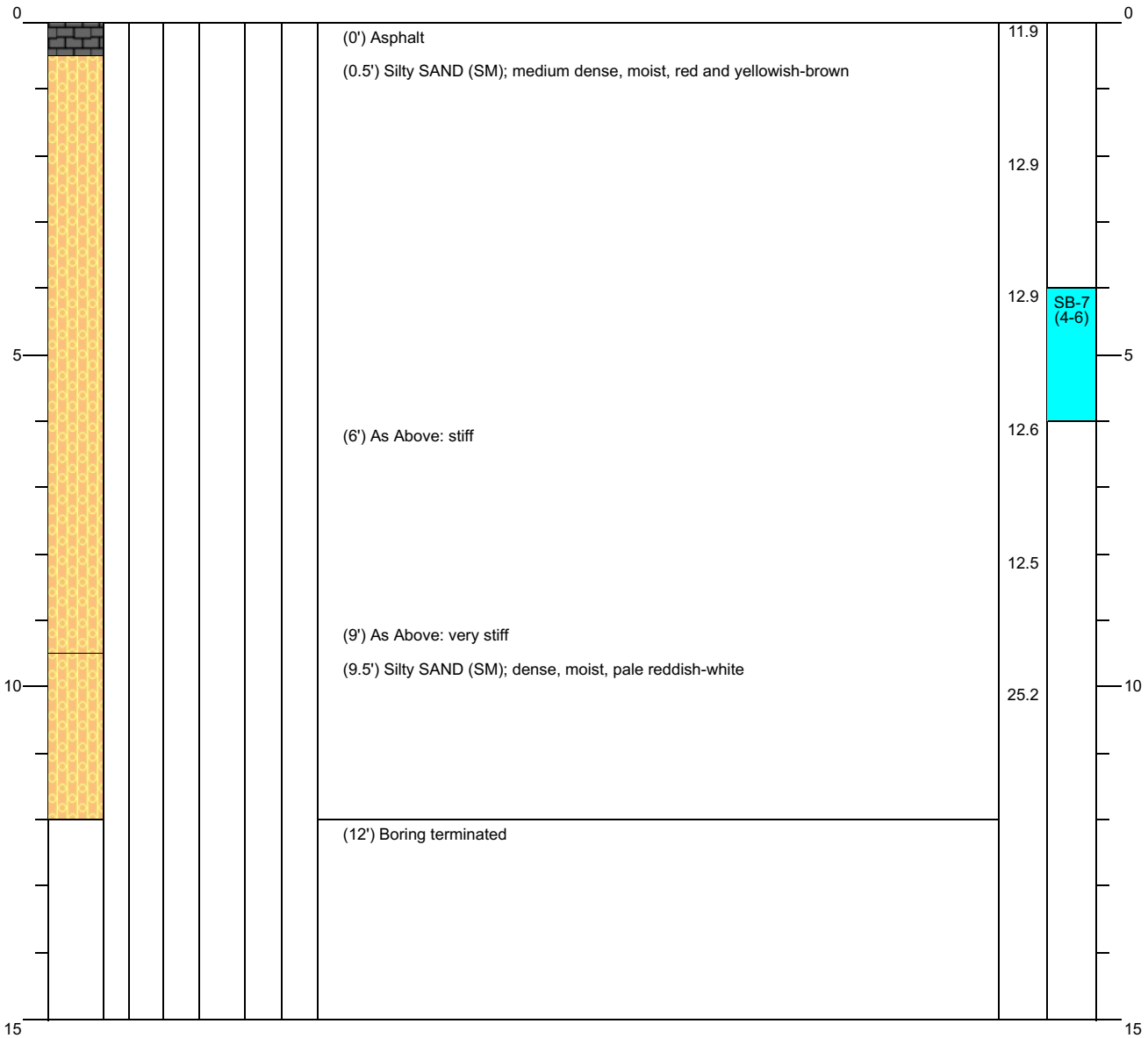
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-7**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

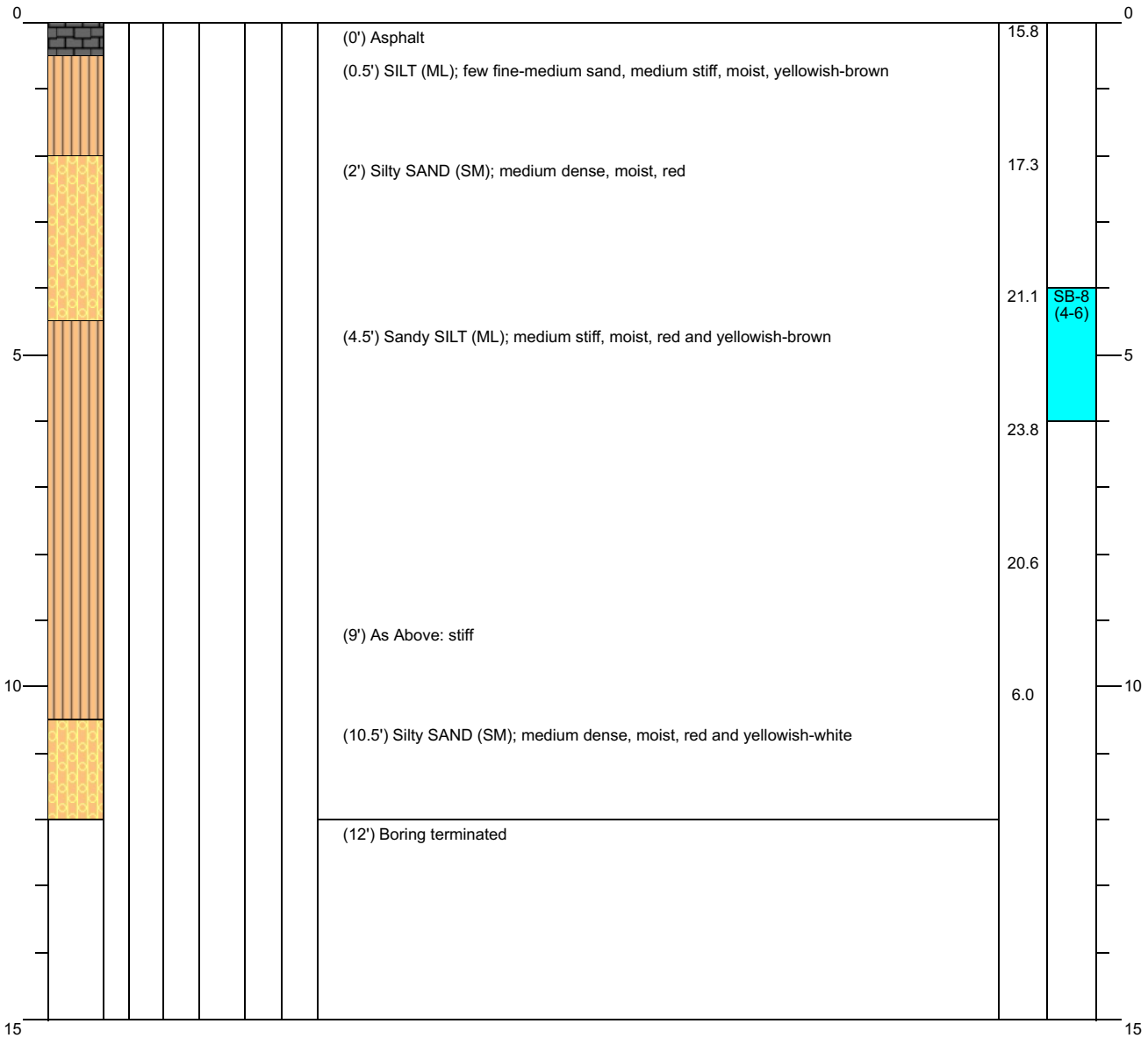
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-8**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

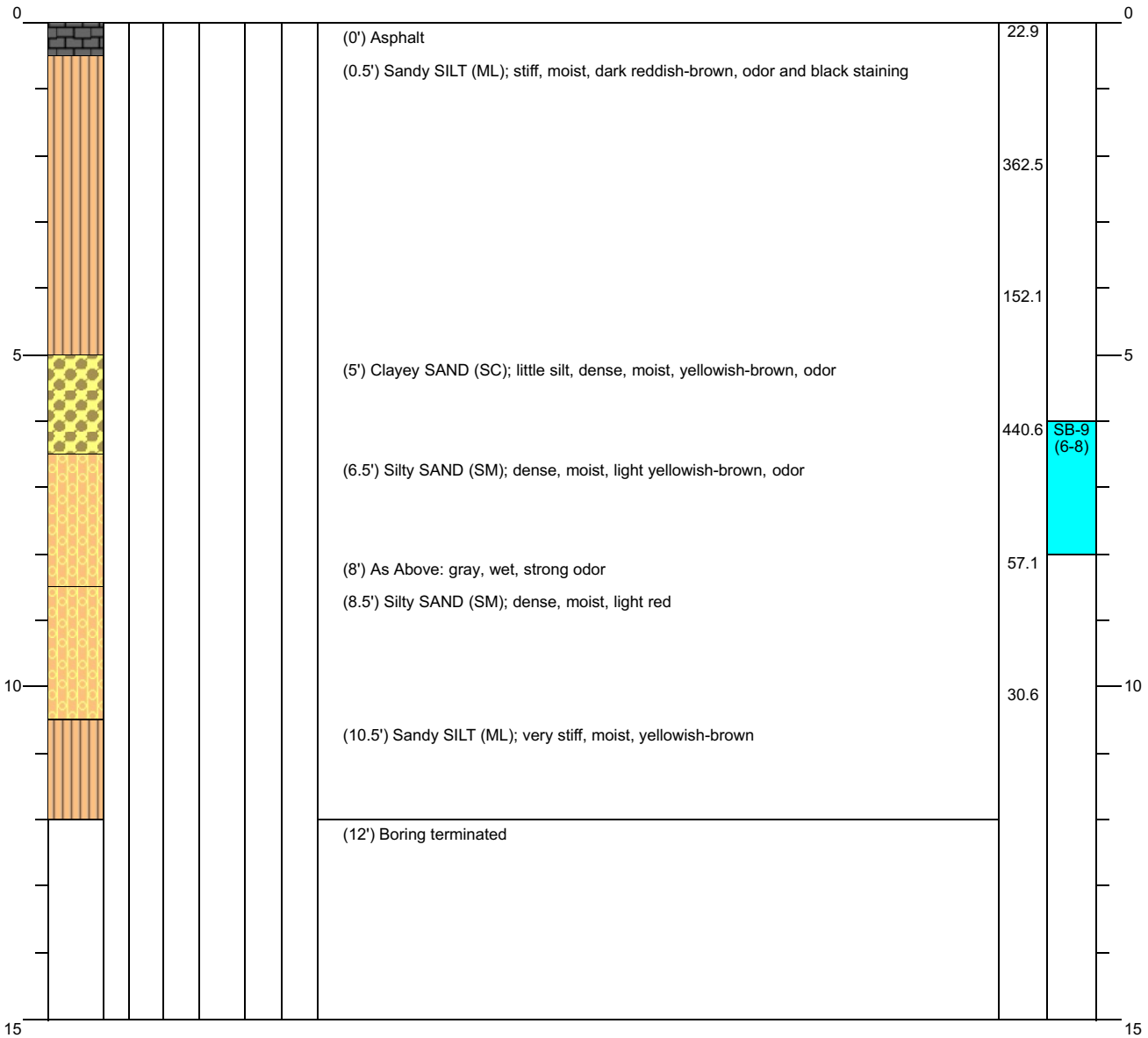
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-9**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

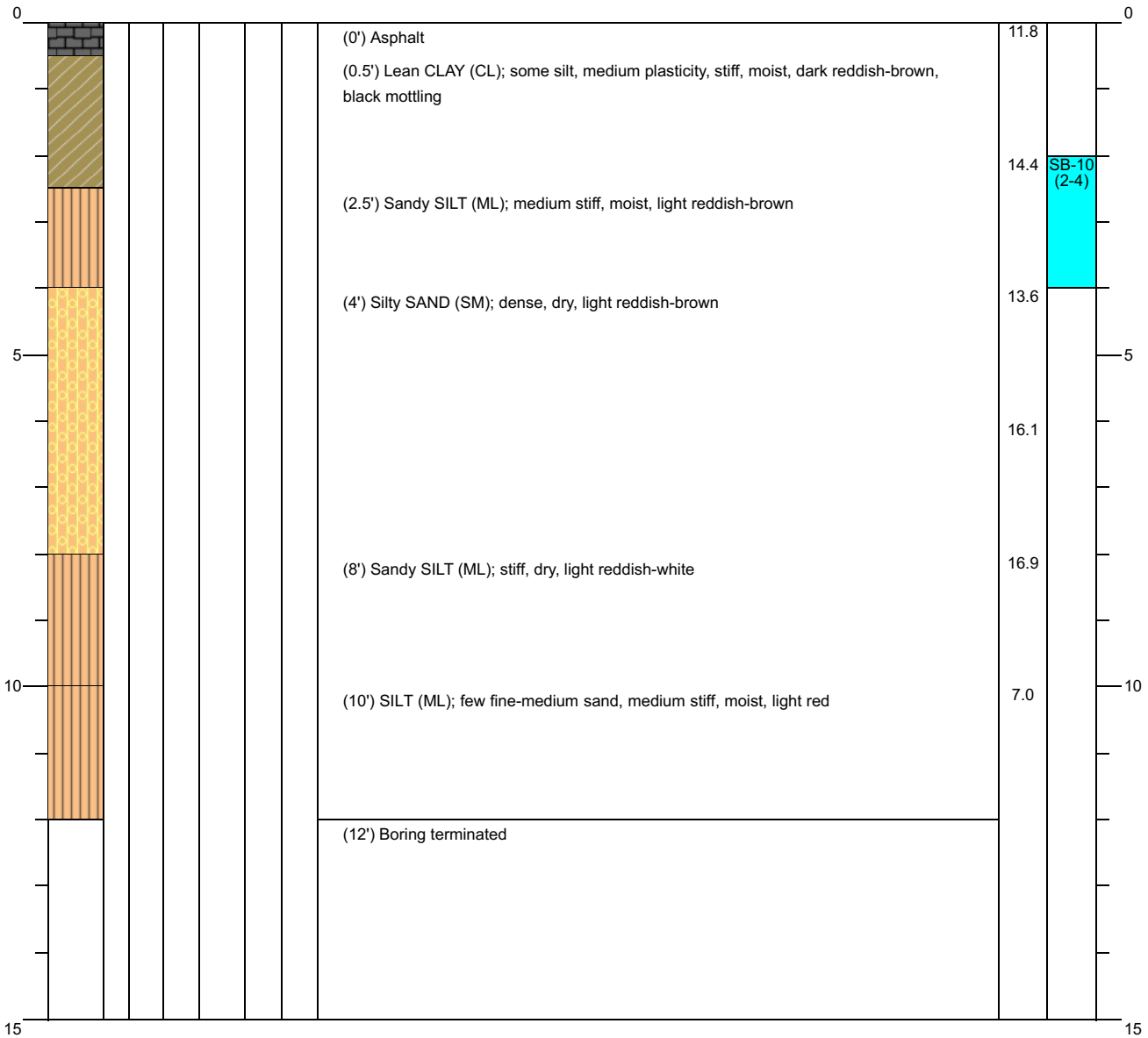
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-10**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

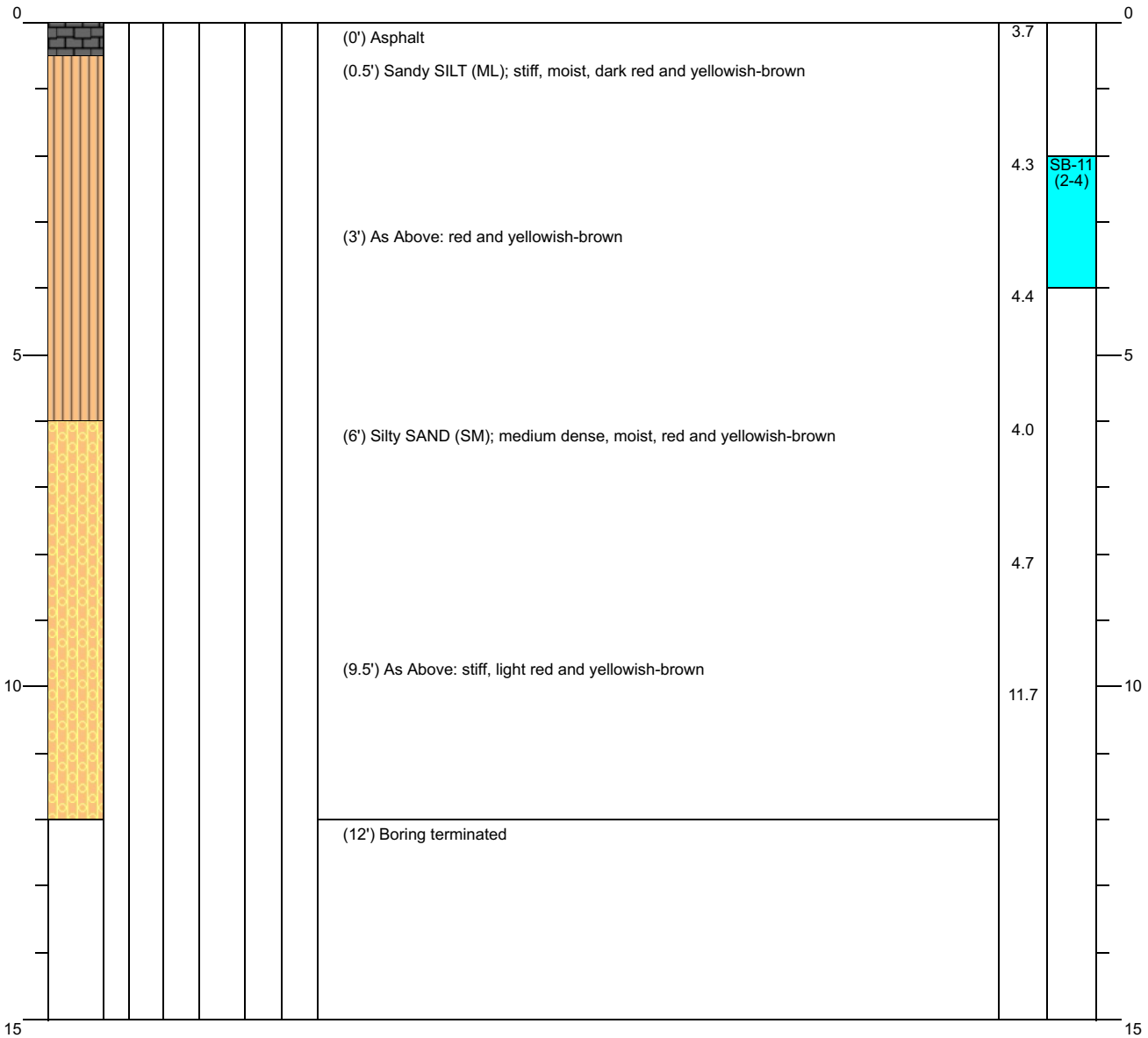
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-11**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



NOTES: Hole precleared to 5.0' using hand auger.

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

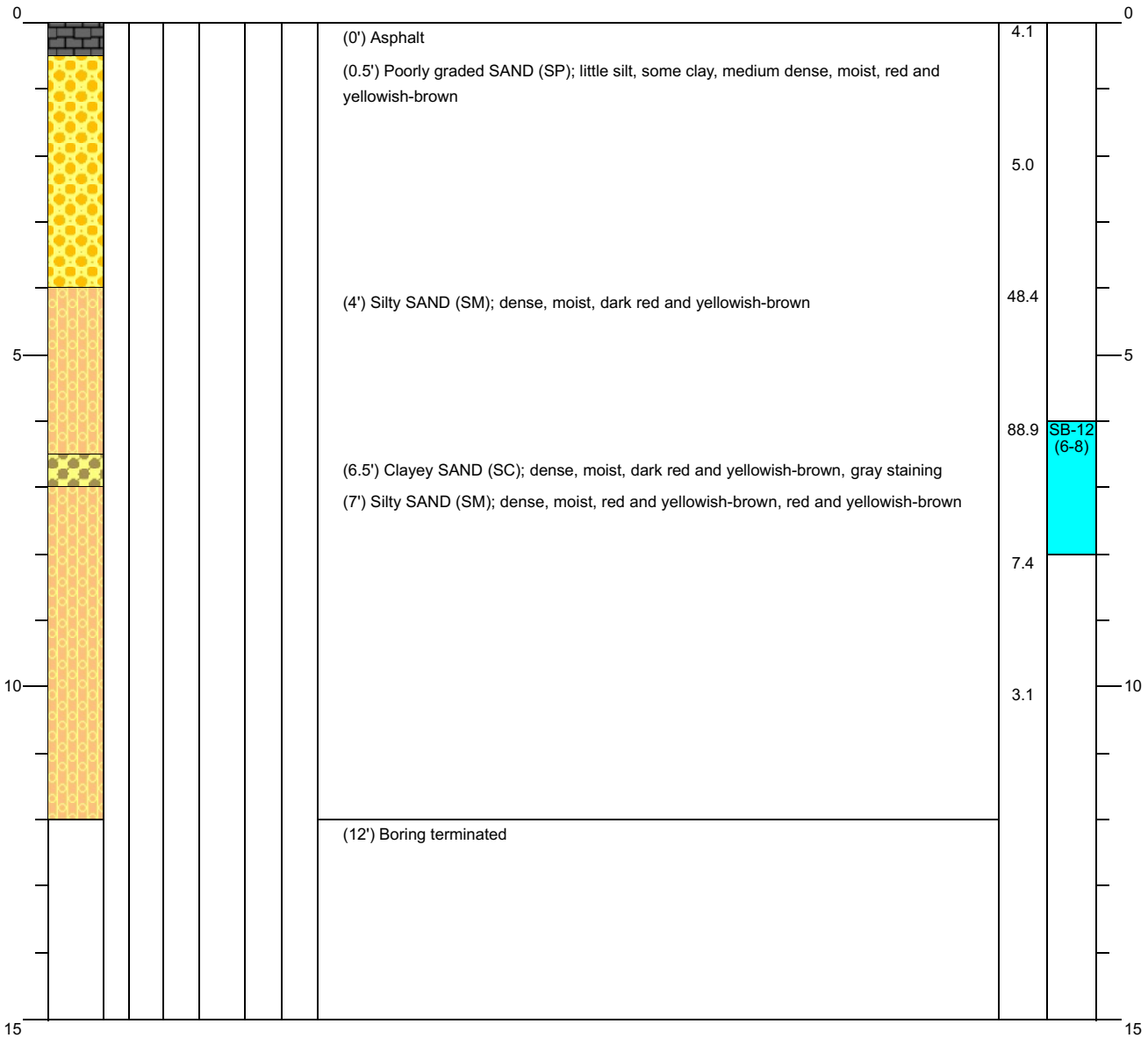
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-12**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



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hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

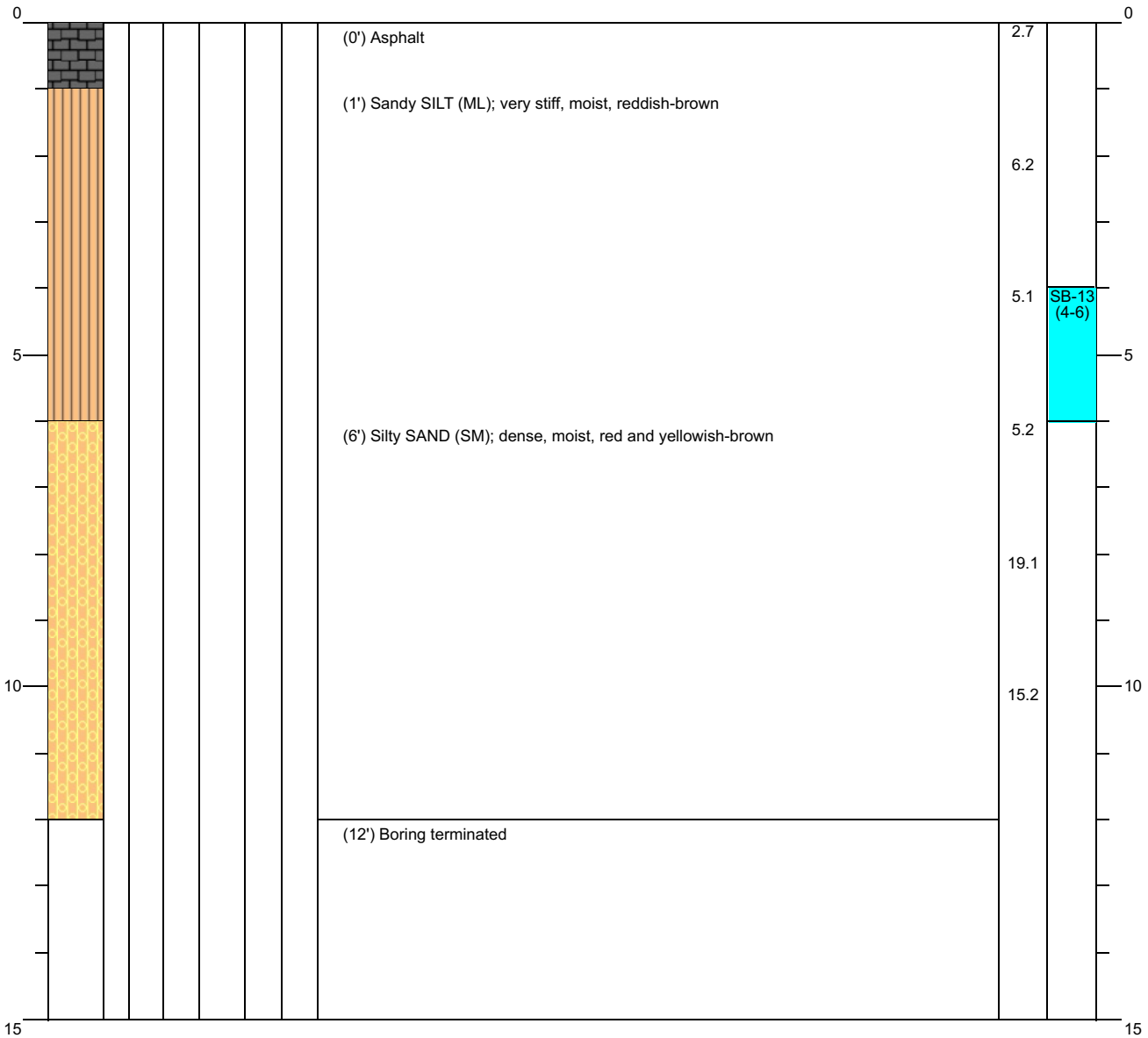
Client:	**NC DOT**
Project:	**ROW-606**
Address:	**3100 Old Hollow Road, Walkertown, NC**

BORING LOG

Boring No. **SB-13**

Page: **1 of 1**

Drilling Start Date:	**3/11/20**	Boring Depth (ft):	**12.0**
Drilling End Date:	**3/11/20**	Boring Diameter (in):	**2.50**
Drilling Company:	**IET**	Sampling Method(s):	
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	
Drilling Equipment:	**AMS Power Probe**	DTW After Drilling (ft):	
Driller:	**IET**	Ground Surface Elev. (ft):	
Logged By:	**Sean Horgan**	Location (X,Y):	



NOTES: Hole precleared to 5.0' using hand auger.

Appendix E

Laboratory Analytical Report

Hydrocarbon Analysis Results

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

Contact: SEAN HORGAN / DAVID GRAHAM

Project: ROW . 606

REDLAB™ RAPID ENVIRONMENTAL DIAGNOSTICS

Samples taken Wednesday, March 11, 2020
Samples extracted Wednesday, March 11, 2020
Samples analysed Monday, March 16, 2020

Operator MAX MOYER

T03308

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 C5:10	% Ratios C10:C18	% Ratios C18+	HC Fingerprint Match
Soil	SB-1 (2-4')	24.0	<0.6	<0.6	11.7	11.7	5.4	0.3	0.008	0	84.6	15.4	V.Deg.Light Fuel 98.3%,(FCM)
Soil	SB-2 (2-4')	20.0	<0.5	<0.5	<0.2	<0.5	<0.01	<0.01	<0.006	0	0	100	Residual HC
Soil	SB-3 (2-4')	21.0	<0.5	<0.5	<0.21	<0.5	<0.011	<0.011	<0.006	0	0	0	PHC ND,(FCM)
Soil	SB-4 (6-8')	20.0	<0.5	<0.5	<0.2	<0.5	<0.01	<0.01	<0.006	0	0	100	Residual HC
Soil	SB-5 (2-4')	18.0	<0.4	<0.4	0.07	0.07	0.06	0.007	<0.005	0	100	0	Residual HC
Soil	SB-5 (6-8')	19.0	2	68.8	26.1	94.9	1.9	0.03	<0.001	97.7	2.2	0.1	Waste Oil 79.1%,(FCM)
Soil	SB-6 (4-6')	19.0	<0.4	<0.4	<0.19	<0.4	<0.01	<0.01	<0.006	0	0	0	PHC ND,(FCM)
Soil	SB-7 (4-6')	19.0	<0.4	<0.4	<0.19	0.025	0.025	<0.0	<0.006	0	34	66	Residual HC
Soil	SB-8 (4-6')	20.0	<0.5	<0.5	0.17	0.17	0.17	0.016	<0.006	0	78.5	21.5	Residual HC
Soil	SB-9 (6-8')	249.0	90.7	1151	1174	2325	109.9	4.3	<0.07	92.7	7.3	0	Deg.Gas 83.7%,(FCM)

Initial Calibrator QC check OK Final FCM QC Check OK 93.0%

Analysis by QED HC-1 Analyser

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

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

HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only : % Ratios estimated carbon number proportions : (OCR)/(Q) = Outside cal range, values and HC match estimates : ND = Not Detected

(B) = Blank Drift : (M) = Adjusted value : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : SB = sample selected as site background

Hydrocarbon Analysis Results

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

Contact: SEAN HORGAN / DAVID GRAHAM

Project: ROW . 606

REDLAB™ RAPID ENVIRONMENTAL DIAGNOSTICS

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Operator MAX MOYER

T03308

Matrix	Sample ID	Dilution used	BTEX C6-C9	GRO C5-C10	DRO C10-C35	TPH C5-C35	Total Aromatics C10-C35	16 EPA PAHs	BaP	% Ratios			HC Fingerprint Match
										C5:10	C10:C 18	C18+	
Soil	SB-10 (2-4')	23.0	<0.5	<0.5	5.2	5.2	4.8	0.29	0.003	0	94.1	5.9	Deg Fuel 80.4%,(FCM),(PFM)
Soil	SB-11 (2-4')	20.0	<0.5	<0.5	0.9	0.9	0.3	0.011	<0.003	0	86.4	13.6	V.Deg.PHC 81.8%,(FCM)
Soil	SB-12 (6-8')	264.0	335	3156	2146	5302	208.4	7.8	<0.07	94.8	5.2	0	Deg.Gas 85%,(FCM)
Soil	SB-13 (4-6')	20.0	<0.5	<0.5	0.3	0.3	0.24	0.008	<0.006	0	100	0	Residual PHC

Initial Calibrator QC check OK

Final FCM QC Check OK 99.4%

Analysis by QED HC-1 Analyser

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

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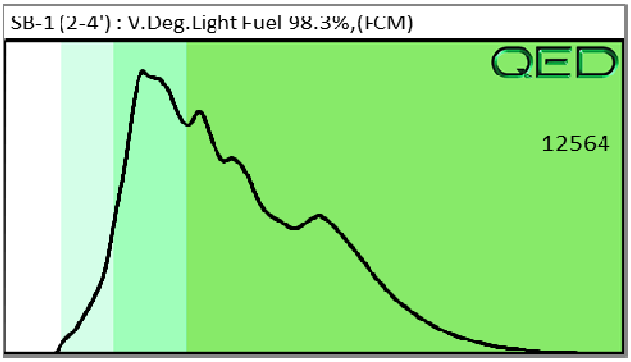
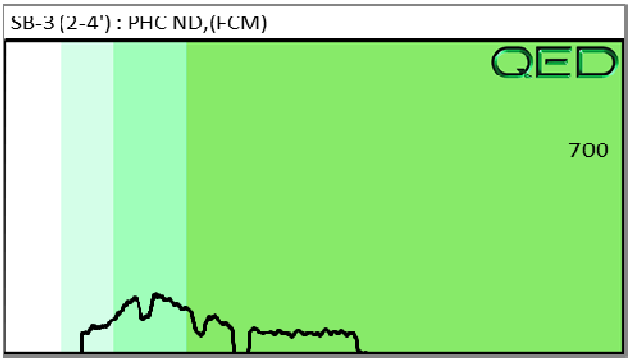
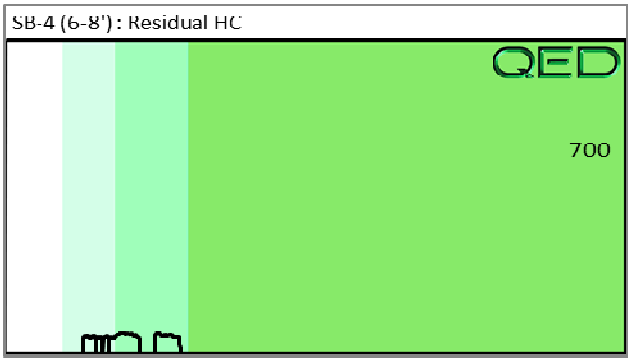
QED Hydrocarbon Fingerprints

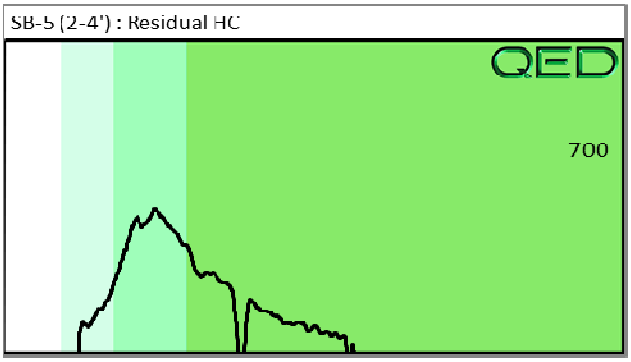
Project: ROW . 606

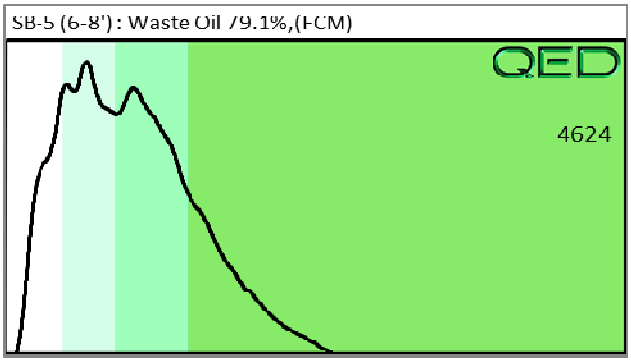
Monday, March 16, 2020

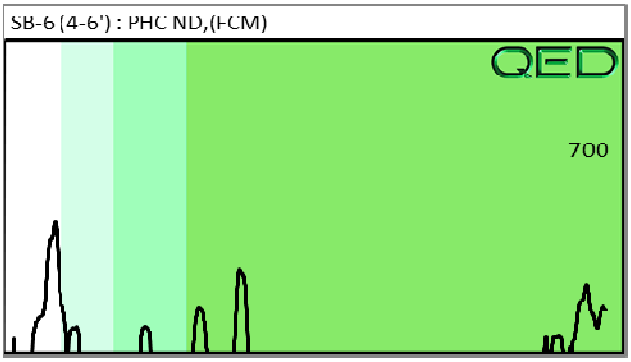


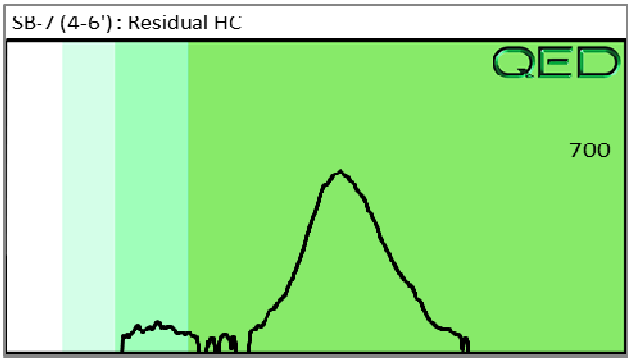


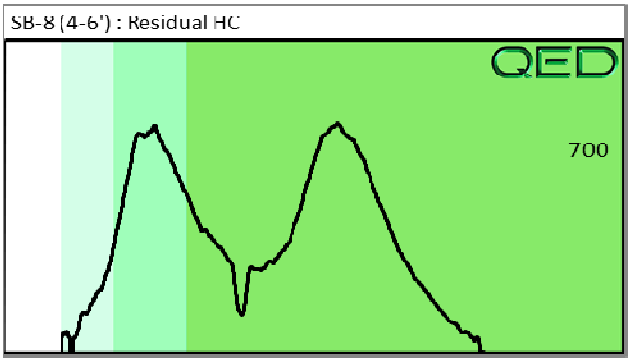


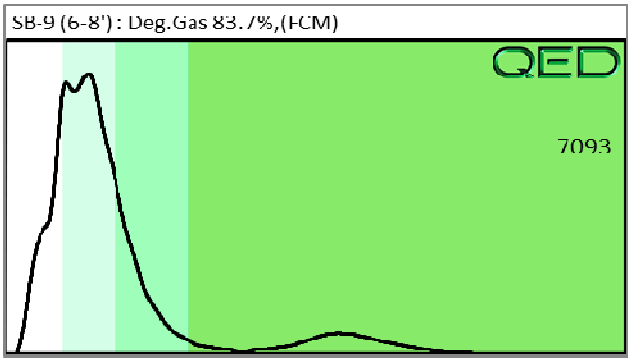












QED Hydrocarbon Fingerprints

Project: ROW . 606

Monday, March 16, 2020