Preliminary Site Assessment

US 401 (Raeford Road) from West Hampton Oaks Drive to East of Fairway Drive in Fayetteville

Parcel 330 – V/D Neal Properties LLC Property

2602 Raeford Road, Fayetteville, North Carolina

State Project No. U-4405 WBS Element: 39049.1.1 December 16, 2016 Terracon Project No. 70167490



Prepared for: North Carolina Department of Transportation Raleigh, North Carolina

Prepared by:

Terracon Consultants, Inc. Raleigh, North Carolina

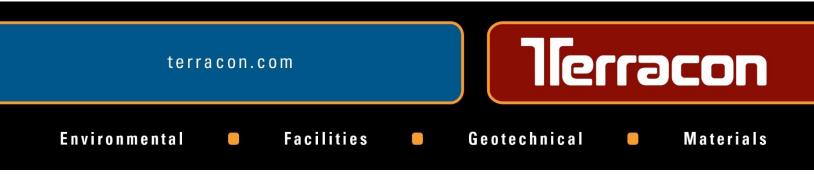


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- Appendix B: Soil Boring Logs
- Appendix C: Laboratory Analytical Reports and Chain-of-Custody Forms

December 16, 2016



North Carolina Department of Transportation Attention: Mr. Terry W. Fox, LG, GeoEnvironmental Engineering Unit Century Center Complex Building B 1020 Birch Ridge Road Raleigh, North Carolina 27610

Re: Preliminary Site Assessment (PSA)
 US 401 (Raeford Road) from West Hampton Oaks Drive to East of Fairway Drive in Fayetteville
 Parcel 330 – V/D Neal Properties LLC Property
 2602 Raeford Road, Fayetteville, North Carolina
 State Project No. U-4405
 WBS Element: 39049.1.1

Dear Mr. Fox:

Terracon Consultants, Inc. (Terracon) is pleased to submit a Preliminary Site Assessment (PSA) report for the above referenced site. This assessment was performed in accordance with our Proposal for Preliminary Site Assessment (Terracon Proposal No. P70167490) dated September 27, 2016. This report includes the findings of the investigation, and provides our conclusions and recommendations.

Terracon appreciates the opportunity to provide these services to the North Carolina Department of Transportation. If you have any questions concerning this report or need additional information, please contact us at 919-873-2211.

Sincerely,

Terracon Consultants, Inc.

Prepared by:

Ethan H. Smith Field Geologist

Reviewed by:

Michael T. Jordan, P.G. Environmental Department Manager

Terracon Consultants, Inc. 2401 Brentwood Road, Suite 107 Raleigh, NC 27604 P [919] 873 2211 F [919] 873 9555 terracon.com

PRELIMINARY SITE ASSESSMENT

US 401 (RAEFORD ROAD) FROM WEST HAMPTON OAKS DRIVE TO EAST OF FAIRWAY DRIVE IN FAYETTEVILLE, CUMBERLAND COUNTY, NORTH CAROLINA STATE PROJECT NO. U-4405 WBS ELEMENT: 39049.1.1 PARCEL 330 – V/D NEAL PROPERTIES LLC PROPERTY 2602 RAEFORD ROAD, FAYETTEVILLE, NORTH CAROLINA

1.0 INTRODUCTION

1.1 Site Description

Site Name	US 401 (Raeford Road) from West Hampton Oaks Drive to East of Fairway Drive in Fayetteville
Site Location/Address	2602 Raeford Road, Fayetteville, NC 28304 (Cumberland County Tax PIN: 0427-41-0841)
General Site Description	The site consists of a one-story commercial building that is currently operated as an Exxon gas station. The site is further improved with a paved access drive, parking areas, and pump islands.

1.2 Site History

The site is located at 2602 Raeford Road in Fayetteville, Cumberland County, North Carolina. At the time of the Preliminary Site Assessment (PSA), the site was operating as an Exxon gas station. This facility is listed as currently operating four (4) underground storage tanks (USTs) (NCDOT, 2016). According to the North Carolina Department of Environmental Quality (NCDEQ) – Division of Waste Management UST Section Registered Tank Database, the facility operates one 12,000-gallon diesel UST and three 12,000-gallon gasoline USTs that were reportedly installed in April 1988. Additionally, two 6,000-gallon gasolines USTs, one 4,000-gallon gasoline UST, and one 1,000-gallon UST were removed from the site in July 1986. The facility has been assigned Groundwater Incident #29840 that was opened on August 1, 2012 and closed on June 20, 2014. Additional details for the USTs and groundwater incident were not provided. However, during the assessment activities, six (6) groundwater monitoring wells were observed on the property. It appears that at least two (2) monitoring wells fall within the NCDOT right-of-way (ROW).



1.3 Scope of Work

Terracon conducted the following PSA scope of work (SOW) in accordance with Terracon's proposal for PSA (Proposal No. P70167490) dated September 27, 2016. This PSA is being completed prior to planned median improvements and lane widening along US 401 (Raeford Road) in Fayetteville, North Carolina (site). The scope of work included a geophysical investigation, collection of seven soil samples, and preparation of a report documenting our investigation activities. The PSA is not intended to delineate potential impacts. The PSA was performed within the proposed ROW as indicated by NCDOT provided plan sheets.

1.4 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either expressed or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These services were performed in accordance with our proposal for PSA (Terracon Proposal No. P70167490) dated September 27, 2016 and were not conducted in accordance with ASTM E1903-11.

1.5 Additional Scope Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, undetectable or not present during these services; thus, we cannot represent that the site is free of hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this PSA. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

1.6 Reliance

This report has been prepared for the exclusive use of the NCDOT. Authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the expressed written authorization of the client and Terracon.



2.0 FIELD ACTIVITIES

The following PSA activities are presented in the order that they were conducted in the field.

Exhibit 1 presents the topography of the site on a portion of the USGS topographic quadrangle map of Fayetteville, NC 1997. **Exhibit 2** is a site layout plan that indicates the approximate locations of the site features, soil boring locations, and analytical results.

2.1 Geophysical Survey

On October 19, October 26, and November 7, 2016, Geophysical Survey Investigations, PLLC conducted a geophysical investigation at the site in an effort to determine if unknown, metallic USTs were present beneath the proposed ROW area. The geophysical investigation included an electromagnetic (EM) induction survey using a Geonics EM61-MK2A metal detection instrument and a ground penetrating radar (GPR) survey using a Geophysical Survey Systems SIR-3000 unit.

The geophysical investigation did not reveal possible or probable metallic USTs within the investigated area, however the active (known) USTs are located immediately adjacent to the proposed ROW/Public Utility Easement (PUE) area. Probable buried lines, conduits, and vent pipes were located within the investigated area for this site. In addition to metal detection and GPR scans, NC One Call public utility locator identified several underground utility lines. A copy of the geophysical report is included in **Appendix A**.

2.2 Soil Sampling

Based on the findings of the geophysical investigation and Terracon's site observations, Terracon provided oversight for the advancement of seven soil borings (SB-17 through SB-23) along the south and eastern portion of Parcel 330 and within the NCDOT ROW. The borings were completed by a North Carolina Certified Well Contractor (Regional Probing Services) using a truck-mount Geoprobe® 5410 direct-push drill rig.

Soil samples were collected in 4-foot, disposable, Macro-Core® sampler tubes to document soil lithology, color, moisture content, and sensory evidence of impacts. Each soil sample was screened for organic vapors using an 11.7 eV photoionization detector (PID). The PID data were collected in order to corroborate laboratory data and assist in selection of sample intervals for laboratory analysis. PID readings from the borings ranged from less than 0.1 to 57.3 parts per million (ppm).

Based on the proposed disturbance depths and discussion with the NCDOT, each of the soil borings was advanced to a depth of approximately 15 feet below land surface (bls). Seven soil



samples, one from each boring, were collected from depths ranging between 9 to 15 feet bls and placed in laboratory provided sample containers and shipped to REDLAB/QROS, LLC – Environmental Testing for analysis by UVF. Soil samples were collected in the depth interval that was most likely to be impacted.

The drilling equipment used at the site was decontaminated prior to use and between the advancement of each boring. Non-dedicated sampling equipment was decontaminated using a Liquinox®/water wash followed by a distilled water rinse. Each of the boreholes was backfilled with hydrated bentonite pellets and investigation derived waste (IDW) was containerized in a 55-gallon DOT approved drum. The drum was staged beside the dumpster north of the Dunkin Donuts located at 2628 Raeford Road, Fayetteville, NC 28303 (Dunkin Donuts contact - Matt Ellsworth [910-920-1992] for subsequent disposal by the NCDOT).

Soil generally consisted of clay and sand. Groundwater was not encountered in the seven borings. The soil boring logs are included in **Appendix B**. Sample locations were measured relative to site features and the locations depicted on **Exhibit 2** are approximate.

3.0 LABORATORY ANALYSES

Soil samples were submitted to QROS for analysis of the following:

- TPH-gasoline range organics (C₅-C₁₀) (GRO);
- TPH-diesel range organics (C₁₀-C₃₅) (DRO);
- Total petroleum hydrocarbons (C₅-C₃₅) (TPH);
- Benzene, toluene, ethylbenzene, and xylenes (BTEX);
- Total aromatics (C₁₀-C₃₅);
- 16 EPA Polycyclic Aromatic Hydrocarbons (16 EPA PAHs); and
- Benzo(a)pyrene (BaP).

Please refer to **Appendix C** for the laboratory analytical reports.

4.0 DATA EVALUATION

4.1 Soil Analytical Results

Laboratory analysis reported the following detections above the laboratory reporting limits in soil borings SB-17 through SB-23:

- TPH-GRO (C₅-C₁₀) was not detected above laboratory reporting limits;
- **TPH-DRO** (C₁₀-C₃₅) was reported between 0.32 and 32.4 milligrams per kilogram (mg/kg);
- TPH (C_5 - C_{35}) was reported between 0.32 and 32.4 mg/kg;

Parcel 330–V/D Neal Properties LLC Property Fayetteville, North Carolina December 16, 2016 Terracon Project No. 70167490



- BTEX was not detected above laboratory reporting limits;
- Total aromatics (C₁₀-C₃₅) was reported between 0.33 and 14.1 mg/kg;
- 16 EPA PAHs was reported between 0.07and 0.62 mg/kg; and
- BaP was reported between 0.004 and 0.008 mg/kg.

Laboratory analysis revealed that concentrations were not detected above the NCDEQ Action Levels for TPH in soil borings SB-17 through SB-23.

Table 1 summarizes the results of the analyses of the soil samples.**Exhibit 2** depicts the boringlocations and detected compounds.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The findings of this investigation are discussed below.

- The geophysical investigation did not reveal possible or probable metallic USTs, however the active (known) USTs are located immediately adjacent to the proposed ROW/PUE area. Probable buried lines, conduits, and vent pipes were located within the investigated area for this site.
- Laboratory analysis reported that concentrations were not detected above the NCDEQ Action Levels for TPH in soil borings SB-17 through SB-23.
- Terracon recommends NCDOT provide a copy of the results to the owner and/or operator of the site.
- If monitoring wells may be disturbed during construction; Terracon recommends that they be properly abandoned.
- Terracon does not recommend further assessment of the ROW at this site. However, based on detections of petroleum compounds, construction workers should be alert for potential soil and/or groundwater impacts in other locations at the site.



6.0 **REFERENCES**

NCDOT, 2016. Revised GeoEnvironmental Report for Preliminary Site Assessments. "Hazardous Material Report." August 30, 2016.

TABLES

Table 1 Summary of Soil Analytical Results Preliminary Site Assessment Parcel 330 - V/D Neal Properties LLC Property Fayetteville, Cumberland County, North Carolina Terracon Project No. 70167490

Sample ID: Sample Depth (ft bls):	SB-17 13-15	SB-18 9-11	SB-19 13-15	SB-20 13-15	SB-21 13-15	SB-22 11-13	SB-23 13-15	NCDEQ Action Level	MSCC Industrial/ Commercial
GRO (C ₅ -C ₁₀)	<1.1	<0.93	<0.96	<0.97	<0.98	<0.32	<0.36	100	NE
DRO (C ₁₀ -C ₃₅)	32.4	0.93	0.96	0.97	0.98	0.32	0.36	100	NE
TPH (C ₅ -C ₃₅)	32.4	0.93	0.96	0.97	0.98	0.32	0.36	NE	NE
BTEX	<1.1	<0.93	<0.96	<0.97	<0.98	<0.32	<0.36	NE	NE
Total Aromatics (C ₁₀ -C ₃₅)	14.1	<0.43	0.68	<0.3	<0.25	<0.13	0.33	NE	NE
16 EPA PAHs	0.62	0.05	0.07	<0.03	<0.03	<0.01	<0.02	NE	NE
Benzo(a)pyrene	0.008	0.004	0.004	<0.004	<0.004	<0.001	<0.001	NE	0.78

Notes:

Soil samples were collected on November 9, 2016.

Detected compounds are shown in the table.

Concentrations are reported in milligrams per kilogram (mg/kg).

ft bls - feet below land surface.

GRO - Gasoline Range Organics.

DRO - Diesel Range Organics.

TPH - Total Petroleuem Hydrocarbons.

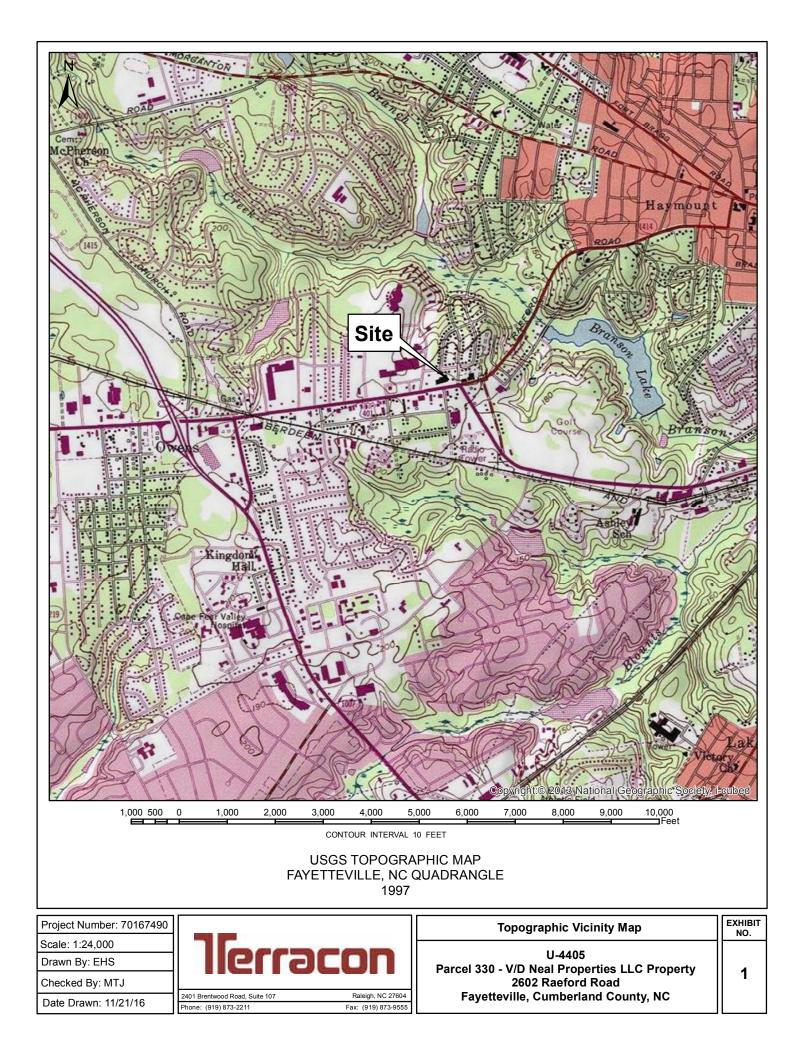
BTEX - Benzene, Toluene, Ethylbenzene, and Xylenes.

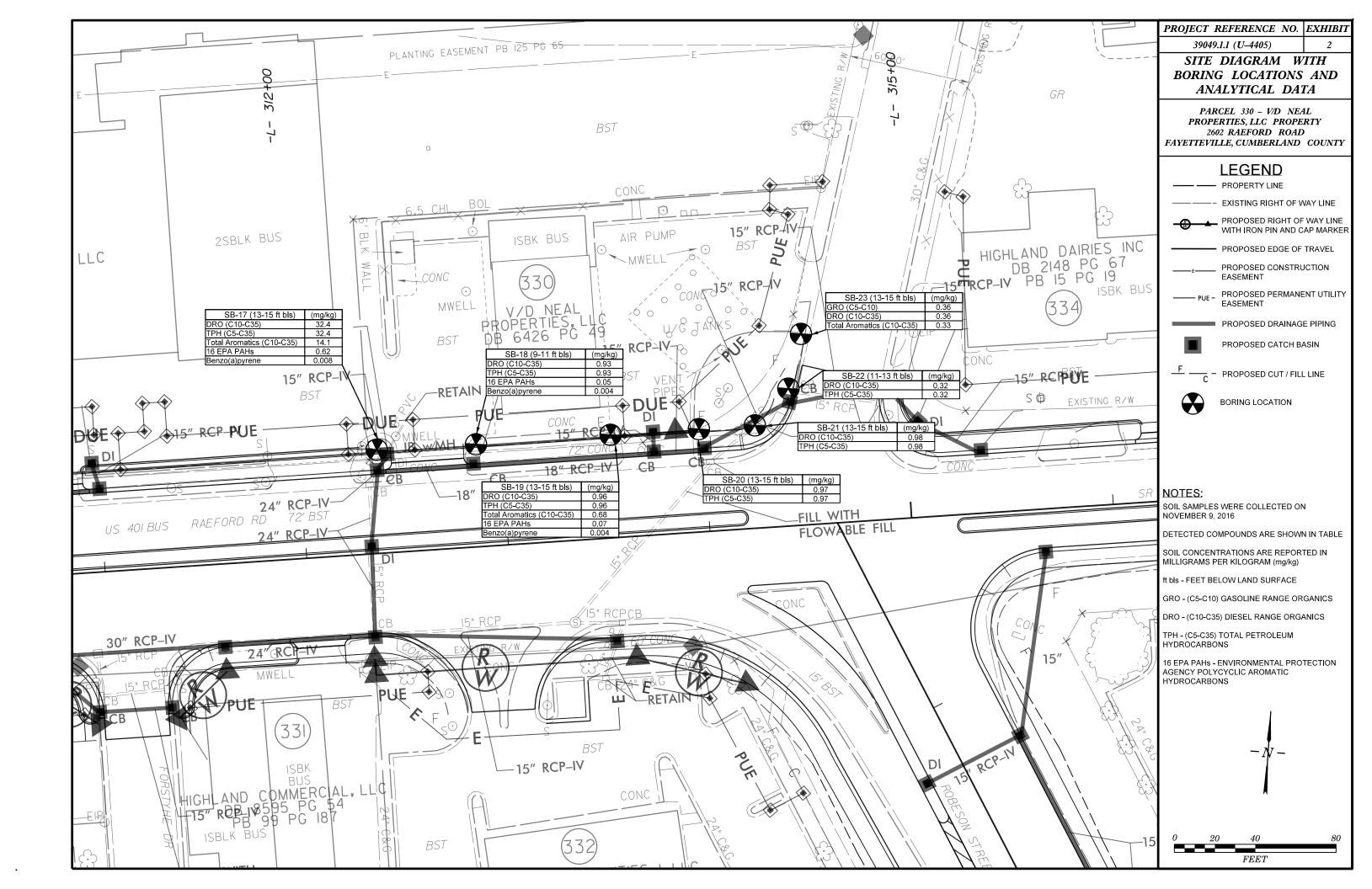
16 EPA PAHs - Environmental Protection Agency Polycyclic Aromatic Hydrocarbons (acenaphthene, acenaphthylene, antrancene, benz[a]anthrancene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[g,h,i]perylene, benzo[a]pyrene,

chrysene, dibenz[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-c,d]pyrene, naphthalene, phenanthrene, pyrene). NE - Standard not established.

Detections shaded in gray exceed the North Carolina Department of Environmental Quality (NCDEQ) Action Level.

MSCC Industrial/Commercial - Maximum Soil Contaminant Concentration Levels Industrial/Commercial soil cleanup levels. Bold: Constituent concentration reported above the method detection limit. **EXHIBITS**





APPENDIX A

GEOPHYSICAL SURVEY REPORT

Terracon Consultants, Inc.

GEOPHYSICAL INVESTIGATION TO LOCATE METALLIC USTS

V/D Neal Properties LLC Property (Parcel 330) 2602 Raeford Road Fayetteville, North Carolina



November 10, 2016 Geophysical Survey Investigations, PLLC Project No. 2016-37



Terracon Consultants, Inc. GEOPHYSICAL INVESTIGATION TO LOCATE METALLIC USTS V/D Neal Properties LLC Property (Parcel 330) 2602 Raeford Road Fayetteville, North Carolina

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5.0	LIMITATIONS	4

FIGURES

Figure 1	Geophysical Equipment & Site Photographs
Figure 2	EM61-MK2A Metal Detection – Early Time Gate Results
Figure 3	EM61-MK2A Metal Detection – Differential Results

Report prepared for:

Stephen J. Kerlin, PG Terracon Consultants, Inc. 2401 Brentwood Road, Suite 107 Raleigh, North Carolina 27604

Prepared by:

aub f. Denil

Mark J. Denil/P.G. Geophysical Survey Investigations, PLLC

1.0 INTRODUCTION

Geophysical Survey Investigations, PLLC (GSI) conducted an electromagnetic (EM) metal detection survey, ground penetrating radar (GPR) scanning and utility line clearance search for Terracon Consultants, Inc. on October 19, October 26 and November 7, 2016 across a portion of the V/D Neal Properties LLC property (Parcel 330) located at 2602 Raeford Road in Fayetteville, North Carolina. The geophysical investigation was performed as part of the North Carolina Department of Transportation (NCDOT) preliminary site assessment for State Project U-4405 (WBS Element 39049.1.1) US 401 (Raeford Road) from West of SR-1409 to US 401 Business (Robeson Street).

The geophysical investigation was conducted to determine if buried, metallic, underground, storage tanks (USTs) are present beneath the proposed Right-of-Way (ROW) and PUE areas of the site. The perimeter of the ROW/PUE area is shown as a red polygon in the aerial photograph presented in **Figure 1**. Presently, an Exxon gas station and convenient store operates on this property.

Terracon representative Mr. Stephen Kerlin, PG provided guidance and site maps to Geophysical Survey Investigations, PLLC personnel prior to conducting the geophysical field work. The geophysical survey area at Parcel 330 has a maximum length and width of 190 feet and 125 feet, respectively. Please note that the ROW and PUE areas at this site were not marked or the survey markers were not visible at the time the geophysical investigation was conducted.

2.0 FIELD METHODOLOGY

The EM investigation was performed across the geophysical survey area (proposed ROW and PUE areas) using a Geonics EM61-MK2A metal detection instrument with a Trimble AG-114 GPS unit. EM61 metal detection data and GPS coordinates were digitally collected in latitude and longitude geodetic format (NAD83) using a Juniper data recorder at approximately 1.0 foot intervals along survey lines spaced approximately five feet apart. The Trackmaker NAV61MK2 software program was used with the data recorder to view the relative positions of the survey lines in real time during data acquisition.

According to the instrument specifications, the EM61-MK2A can detect a metal drum down to a maximum depth of approximately 8 to 10 feet. Objects less than one foot in size can be detected to a maximum depth of 4 or 5 feet. The EM61 and GPS data were downloaded to a computer and processed in the field using the Trackmaker61MK2 and Surfer for Windows software programs. GPS coordinates were converted during data processing to Universal Transverse Mercator (UTM) coordinates (in feet) which are used as location control in this report.

GPR scans were performed along northerly-southerly and easterly-westerly directions spaced primarily 3 to 5 feet apart across selected EM61differential anomalies and areas containing steel reinforced concrete using the Geophysical Survey Systems SIR-3000 unit equipped with a 400 MHz antenna. GPR data were viewed in real time in a continuous mode using a vertical scan of 512 samples, at a sampling rate of 48 scans per second. A 70 MHz high pass filter and an 800 MHz low pass filter were used during data acquisition with the 400 MHz antenna. GPR data were viewed to a maximum investigating depth of approximately 5.0 feet based on an estimated two-way travel time of 8.0 nanoseconds per foot.

Following the UST investigation, areas around the proposed Terracon soil borings were scanned with the GPR unit and a DitchWitch 910 utility locator for buried utility line clearance and no further discussion regarding the utility clearance work will be made in this report. Photographs of the geophysical equipment used for the investigation and of the site are presented in Figure 1.

3.0 DISCUSSION OF RESULTS

Contour plots of the EM61 early time gate results and the EM61 differential results are presented in **Figures 2 and 3**, respectively. The early time gate results represent the most sensitive component of the EM61 instrument and detect metal objects regardless of size. The early time gate response can be used to delineate metallic conduits or utility lines, small, isolated, metal objects and areas containing insignificant metal debris. The differential results are obtained from the difference between the early time gate channel and late time gate channel of the EM61 instrument. The differential results focus on the larger metal objects such as drums and UST-size objects and ignore the smaller, insignificant, metal objects or debris.

The linear, EM61 early time gate anomalies intersecting UTM coordinates 2262858-E 12730142-N, 2262873-E 12730143-N, 2262990-E 12730148-N, and 2263009-E 12730142-N are probably in response to buried lines or conduits. GPR data suggest the large EM61 anomaly centered near coordinates 2262914-E 12730137-N is in response to steel reinforced concrete and buried conduits. GPR data suggest that the high amplitude, EM61 anomalies centered near coordinates 2262996-E 12730184-N are in response to the vent pipes, bollards, and the steel reinforced concrete UST pad. The active (known) USTs are located immediately adjacent to the proposed ROW/PUE area and centered near coordinates 2262977-E 12730198-N. Please note that GPR scans across the UST pad suggest that the active USTs are nonmetallic in composition.

GPR scans suggest the remaining EM61 differential anomalies are in response to utility line-related equipment or miscellaneous, metal objects/debris. The EM61 and GPR investigation suggests the proposed ROW/PUE area does not contain metallic USTs. Please refer to Figures 2 and 3 for additional (detailed) information regarding the geophysical findings at this site.

4.0 SUMMARY & CONCLUSIONS

Our evaluation of the EM61 and GPR data collected across the geophysical survey area at the V/D Neal Properties LLC property (Parcel 330) located at 2602 Raeford Road in Fayetteville, North Carolina provides the following summary and conclusions:

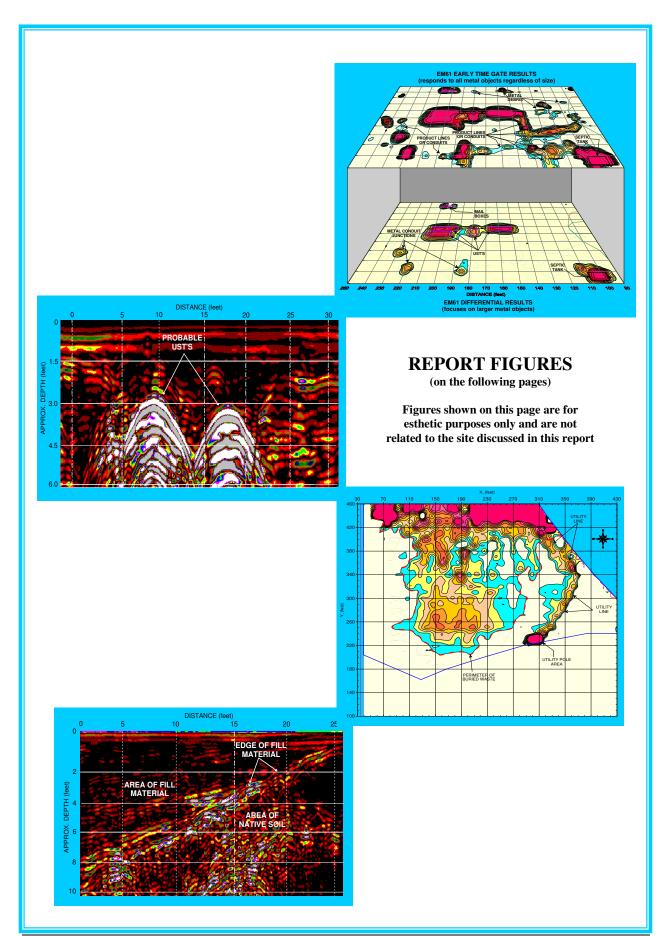
- The combination of EM61 and GPR surveys provided reliable results for the detection of metallic USTs across the survey area within the depth interval of 0 to 6 feet.
- The linear, EM61 early time gate anomalies intersecting UTM coordinates 2262858-E 12730142-N, 2262873-E 12730143-N, 2262990-E 12730148-N, and 2263009-E 12730142-N are probably in response to buried lines or conduits.
- GPR data suggest that the high amplitude EM61 anomalies centered near coordinates 2262996-E 12730184-N are in response to the vent pipes and the steel reinforced concrete

UST pad. The active (known) UST's are located immediately adjacent to the proposed ROW/PUE area and centered near coordinates 2262977-E 12730198-N.

• The EM61 and GPR investigation suggests the proposed ROW/PUE area does not contain metallic USTs.

5.0 LIMITATIONS

EM61 and GPR surveys have been performed and this report prepared for Terracon Consultants, Inc. in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the geophysical surveys are non-unique and may not represent actual subsurface conditions. Some of the EM61 and GPR anomalies interpreted as possible/probable USTs, utility lines, conduits, steel reinforced concrete, or miscellaneous, metal debris may be attributed to other surface or subsurface features and/or interference from cultural features.



Geophysical Investigation Report – V/D Neal Properties LLC Property (Parcel 330) Geophysical Survey Investigations, PLLC



DITCHWITCH UTILITY LOCATOR

EM61 METAL DETECTOR

GROUND PENETRATING RADAR UNIT

The photographs show the DitchWitch 910 utility line locator, the Geonics EM61-MK2A metal detector and the GSSI SIR-3000 ground penetrating radar (GPR) unit that were used to conduct the geophysical investigation across the area of interest at Parcel 330.



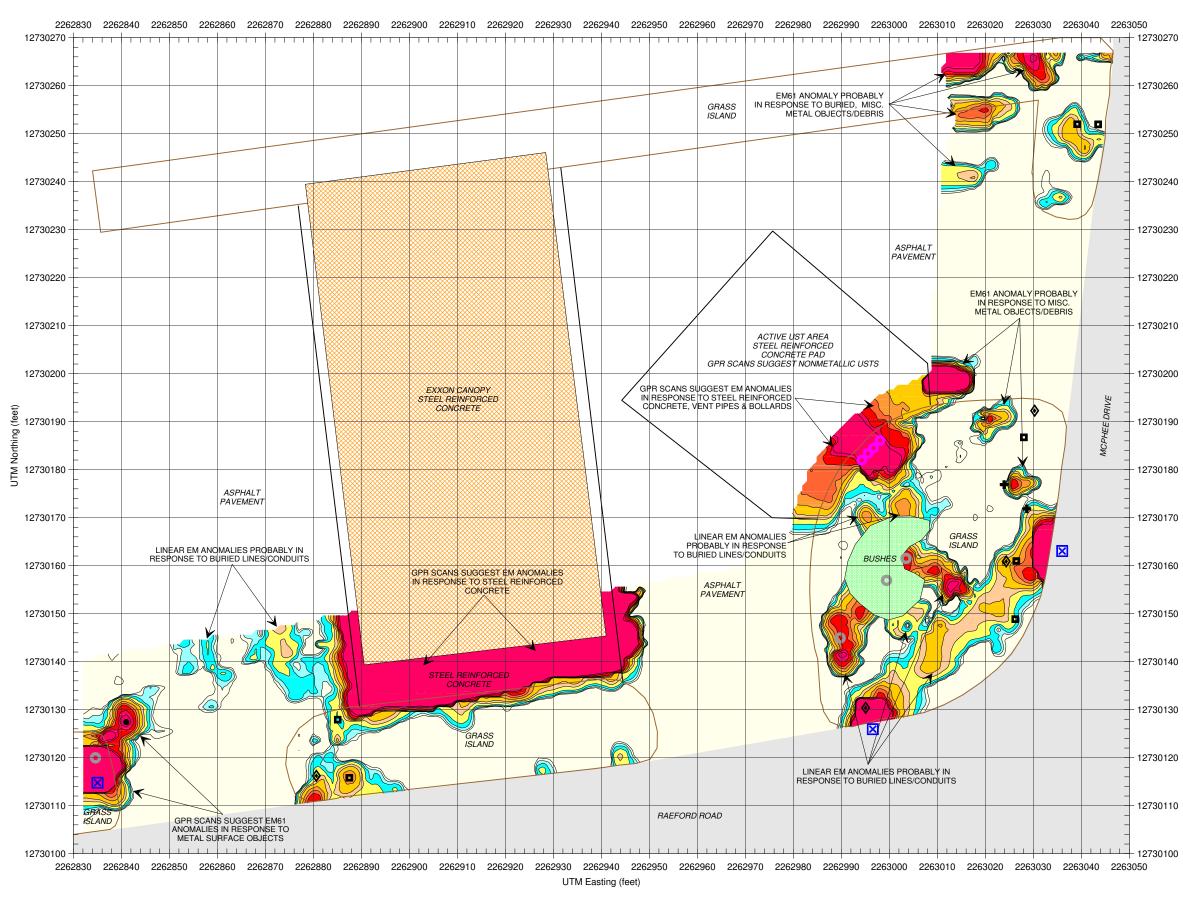
The red polygon in the aerial photograph represents the approximate perimeter of the geophysical survey area at the V/D Neal Properties LLC property (Parcel 330) located along Raeford Road in Fayetteville, North Carolina.



<u>Terracon Consultants, Inc.</u> V/D Neal Properties LLC Property Parcel 330 Fayetteville, North Carolina

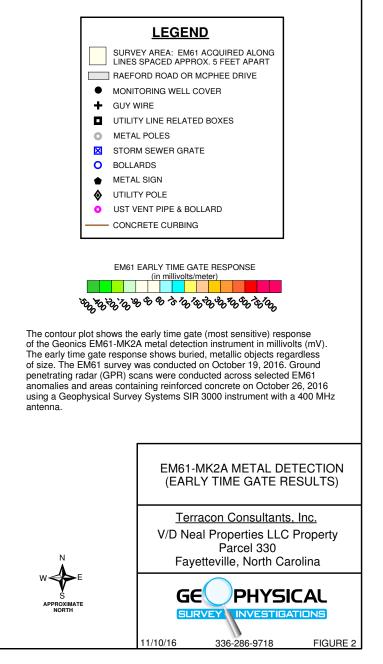
GEOPHYSICAL EQUIPMENT & SITE PHOTOGRAPHS

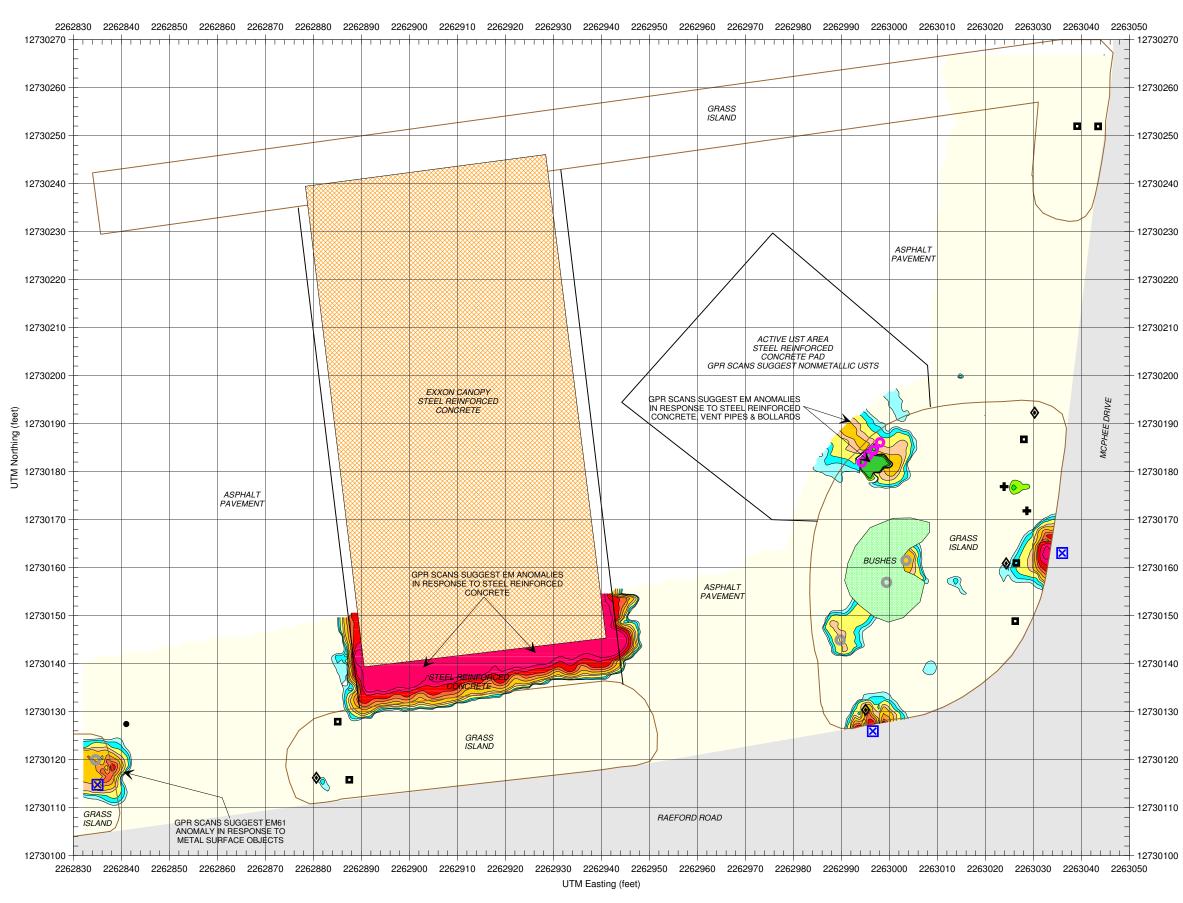
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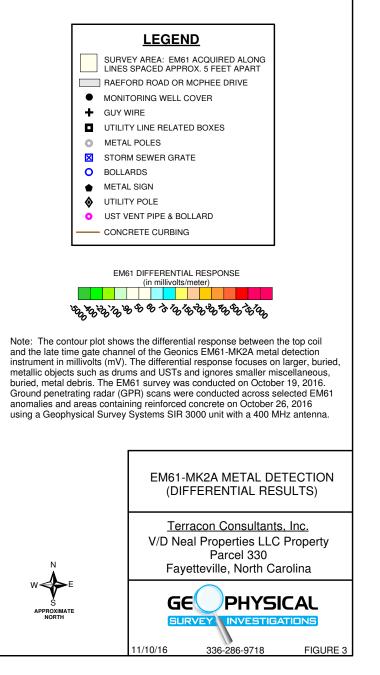
The red polygon in the aerial photograph represents the approximate perimeter of the geophysical survey area at Parcel 330.







The red polygon in the aerial photograph represents the approximate perimeter of the geophysical survey area at Parcel 330.



APPENDIX B

SOIL BORING LOGS

Terracon

$1 \frac{1}{2}$ $-\frac{1}{6}$ <	Project Number:70167490Site Location:Fayetteville, NCWeather: $QO_{+}OVET(aST)$ Logged By:Regional Probing ServicesDrilling Sub:Regional Probing ServicesDrill Rig: $TVUCK Mlouth Ore ProbeTVUCK Mlouth Ore ProbeTVICK Mlouth Ore ProbeTVICK Mlouth Ore ProbeTVICK Mlouth Ore ProbeTVICK Mlouth Ore ProbeTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOTIOT$	End Date/Time: 1/4/14 [010 Boring Diameter: 2" Total Depth: 15/1445 Water Level: Na Well Installed: No (Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining (0-1) ASPHHALT+ FILL. black/ten. div (1-3) SHA- MOIST (3-5) CLAY. ton. medium plusticity MOIST (5-7) CLAY. ton/gray/recl. Mottiked. high plassicity MOIST (7-9) SHA	Hand Auger Macro-Core Split Spoon Shelby Tube Lab Sample:	X DPT HSA Mud Rotary Air Rotary Rock Core Drilling method,
Image: Include: Expertenting: IC Indiana Expertenting: IC Indiana Indi <thi< td=""><td>Fayetteville, NC Site Location: Fayetteville, NC Weather: Logged By: Drilling Sub: Regional Probing Services Drilling Sub: TWLCK Mault Greenolog 54100 THICK Mau</td><td>End Date/Time: 1/4/14 [010 Boring Diameter: 2" Total Depth: 15/1445 Water Level: Na Well Installed: No (Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining (0-1) ASPHHALT+ FILL. black/ten. div (1-3) SHA- MOIST (3-5) CLAY. ton. medium plusticity MOIST (5-7) CLAY. ton/gray/recl. Mottiked. high plassicity MOIST (7-9) SHA</td><td>X Macro-Core Split Spoon Shelby Tube Lab Sample:</td><td> HSA Mud Rotary Air Rotary Rock Core Drilling method,</td></thi<>	Fayetteville, NC Site Location: Fayetteville, NC Weather: Logged By: Drilling Sub: Regional Probing Services Drilling Sub: TWLCK Mault Greenolog 54100 THICK Mau	End Date/Time: 1/4/14 [010 Boring Diameter: 2" Total Depth: 15/1445 Water Level: Na Well Installed: No (Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining (0-1) ASPHHALT+ FILL. black/ten. div (1-3) SHA- MOIST (3-5) CLAY. ton. medium plusticity MOIST (5-7) CLAY. ton/gray/recl. Mottiked. high plassicity MOIST (7-9) SHA	X Macro-Core Split Spoon Shelby Tube Lab Sample:	 HSA Mud Rotary Air Rotary Rock Core Drilling method,
Wester Up - 0.0000000000000000000000000000000000	Weather: $QO : OVEY (ast - EHS)$ Logged By: EHS Drilling Sub: Regional Probing Services Drill Rig: OVEY (ast - EHS) Drill Rig: OVEY (ast - EHS) Drill Rig: OVEY (ast - OVEY (as	Total Depth: 151445 Water Level: Na Well Installed: No (Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining (0-1) ASPHIFILT* FILL.black/ten. <u>any</u> (1-3) SHA. moist (3-5) CLAY.ton.modium plusticity moist (5-7) CLAY.ton/gny/red. Motiled.high plassicity Moist (7-9) SAA	 Split Spoon Shelby Tube Lab Sample: 	 Mud Rotary Air Rotary Rock Core Drilling method,
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Logged By: Drilling Sub: Drilling Sub: Drill Rig: 1×10^{-3} $1 $	Water Level: Na Well Installed: No (Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining (0-1) ASPHHALT* FILL. black/ten. any (1-3) SALA. moist (3-5) CLAY. ton. modium plusticity moist (5-7) CLAY. ton/gny/red. Motiled. high plassicity Moist (7-9) SALA	 Shelby Tube Lab Sample: 	 Air Rotary Rock Core Drilling method,
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Drill Rig: Twick Mault Greptone 5410 raching reprind to the second se	Well Installed: No (Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining (0-1) ADPHALT+ FILL. black/ten. any (1-3) SAIA- moist (3-5) CLAY. ton. medium plusticity moist (5-7) CLAY. ton/gry/reel. Motiled. high plassicity Muist (7-9) SAIA	Lab Sample:	 Rock Core Drilling method,
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining (0-1) ADPHHILT+ FILL. black/ten. div (1-3) SHA- moist (3-5) CLAY. ton. medium plusticity moist (5-7) CLAY. ton/gry/reel. motiled. high plassicity moist (7-9) SHA		and a second
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	component(s), structure, moisture, angularity, odor, staining (0-1)ASPHALT*FILL.black/ten. any (1-3)SAA.moist (3-5)CLAY.ton.modium plusticity moist (5-7)CLAY.ton/gny/red. motiled.high plassicity moist (7-9)SAA		and a second
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	(3-5)CLAY ton modium plusticity moist (5-7)CLAY ten/gray/real motiled high plassicity moist (7-9) SAA		
$\frac{24/24}{5} \frac{24}{24} - \frac{40.1}{0.3} = \frac{10}{10} \frac{10}{24} - \frac{10.1}{0.3} = \frac{10}{10} \frac{10}{10$	$3-5 \frac{24}{24} - 40.1$ CL	(3-5)CLAY ton modium plusticity moist (5-7)CLAY ten/gray/real motiled high plassicity moist (7-9) SAA		
$\frac{-5}{2} \frac{2^{2}}{2^{2}} \frac{-6}{2^{2}} -6$	$-5 \frac{24}{24} - 0.1 CL$	(5-7)CLAY. ten/gray/red. mottled. high plassicity moist (7-9) SAA		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	5-7 24/24 - 0,3 CL	(7-9) SHA		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		(7-9) SHA		
-11 724 - 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 <t< td=""><td></td><td>19,11) 5417</td><td></td><td></td></t<>		19,11) 5417		
1.3 7.24 2.11 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.12	9-11 24/24 - 1.9 CL			
Notes:				
Notes:	$13-15 \frac{24}{24} - 3.7$ SM	(13-13) SAND. pink/ten/guy moist	Sample QROS	
NA= Not applicable bls = below land surface		bony terminded at 15.56615		
NA= Not applicable bls = below land surface				
NA= Not applicable bls = below land surface				
NA= Not applicable bls = below land surface				
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ppm: parts per million	Notes:			
ppm: parts per million ppb: parts per billion NA= Not applicable bls = below land surface				
ppm: parts per million ppb: parts per billion NA= Not applicable bls = below land surface				
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	ppm: parts per million ppb: parts per billion	Inn- Not applicable 513-56		



LITIOIOBY LOG	6	A 19	,					llerracol		
Boring ID:	0	6-18)	70167490	1				Sample Method	Drilling Method
Project Number: Site Location:				vetteville,				End Date/Time: 1/9/16 1035	Hand Auger	X DPT
Weather:		6		rencas				Boring Diameter: 2"	X Macro-Core	HSA HSA HSA
Logged By:			- /	EHS				Total Depth: 15 Mbls	Split Spoon Shelby Tube	 Mud Rotary Air Rotary
Drilling Sub:				Probing	Services		16	Water Level: Nature Well Installed: No		Rock Core
Drill Rig:		- Truc	K MU	w/+ (recepto	12 54	10			
Depth (ft bls) Recovery (inches)	Blow Counts (n)	. qdd / udd Cld	CH₄	CO2	°0	H ₂ S	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, analysis, time	Drilling method, tooling, depth
)-1 1/12		<0.1					SM	(0-1) SAND-Alle gravel ten. dry		
1-3 12/24		<0.[SC	(1-3) SHINDY CLAY. red ton moist		i.
3-5 24/24	4	0.1					CL	(3-5) CLAY.ton.sdiff moist		
5-7 24/24		6.4					CL	(5-7) (CHY gray/red/ton. motified, moist		
7-9 24/24	-	0.8					CL	(7-9) SAH		
9-11 24/24	-	7.5		-			CL	(9-11)SAH	simply at 1045	
11-13 24/24		4,4					CL	(9~11-13) SAA		
13-15 24/24	-	4.4	ŭ				CL	(13-15) SAA		
c								boing terminated at 15 ftbls		201 2 1 2 ^{860 13} V
					2			12 2 - <u>1</u> 2 - 11		
							· · .		3 2	
										ä
								8		
Notes:										
notes.										
1										
								MA No - the life black	low land surface	
ppm: parts per mil	ion	ppb: pa	rts per bi	llion				NA= Not applicable bls = be	alow failu sulface	
Letter parts ber this					1144					



Litholog	gy Log								Terraco		
	oring ID:	\leq	3B-1	19						Comple Method	Drilling Mothod
	t Number: e Location:				70167490 vetteville,				Start Date/Time: 1/9/16 1160 End Date/Time: 1/9/16 1170	Sample Method	Drilling Method X DPT
	Weather:		U		verca				Boring Diameter:	X Macro-Core	□ HSA
	ogged By: illing Sub:			Regiona	EHS I Probing	Services			Total Depth: 15 Faths Water Level: Nu	 Split Spoon Shelby Tube 	 Mud Rotary Air Rotary
	Drill Rig:	1	VUCK	Man		oprob	54	10	Well Installed: No		Rock Core
Depth (ft bls)	Recovery (inches)	Blow Counts (n)	PID ppm / ppb	CH₄	CO ₂	°0	H ₂ S	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, analysis, time	Drilling method, tooling, depth
0-1	12/12	-	0,1					SM	(0-1)SAND.orang/ton. dry		
1-3	24/24		4.2						(1-3) SAND. ten. moist five grained		
3-5	24/24	-	2.6					SM	(3-5) SAA		
5-7	24/24	-	1.7					CL	(5-7) CLAY-ton, moist medium plusticity		
7-9	24/24	-	4,3					CL	(7-9) CLAY. gravy/tow/red. moist		
9-11	24/24		0,2					CL	(9-11)SAA		
11-13	24/24	-	3.7					CL	(11-13) SAA		2
13-15	24/24	1	9.7	-				CL	(13-15) SAA noticuble oday	Sompli QRC 1115	·
									(13-15) SAA noticuble odor Boring termineld at 15 ftbls		а.
								54	÷ .		Ŭ
				~	D.						
									,		
									â		
Notes:											I
ppm: part	s per millio	n	ppb: part	ts per billio	on				NA= Not applicable bls = belo	w land surface	



Boring ID: Project Number:	X	5-2		70167490				Start Date/Time: 1/9/16 1125	Sample Method	Drilling Method X DPT
Site Location:				vetteville,				End Date/Time: 1/01/16 1135 Boring Diameter: 2" 1	 Hand Auger X Macro-Core 	X DPT □ HSA
Weather: Logged By:			00,0	EHS				Total Depth: 15 filds	Split Spoon	Mud Rotary
Drilling Sub:				Probing				Water Level: Na	Shelby Tube	□ Air Rotary
Drill Rig:	6	INICK.	Mart		"CQ robe	5410	<u>ÿ</u>	Well Installed: NO		Rock Core
Depth (ft bls) Recovery (inches)	Blow Counts (n)	qdd /wdd Old	CH4	CO2	0,	H ₂ S	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, analysis, time	Drilling method, tooling, depth
7-1 1/12	-	0,1	-			a constantino de la c	SM	(0-1)SAND.ton.fine. dry		
-3 12/24		4.5			5		SM	(1-3) SAA		
3-5 24/24	-	14.0					CL	(3-5)CLAY. red. stiff moist		
5-7 24/24	4	5.9					CL	(5.7) SALA, noticable Odor		
7-9 24/24		8.9					CL	(7-9) StAl. noticable odor		
1-11 2%/24	· •	15.0			1	21 U 22 U 11	CL	(9-11) SAM. noticable odor		-
1-13 24/24	.	47.1					50	(11-13) SANDY CLAY. Am/ovany, moist noticable pendeun odor		
3.15 24/24		57.3		2 4 .		83	S((13-15) STAFA. perholeum odor	Somple QROS at 1140	
								boring terminetal at 15 ftbls		
									1	
- 10								а. 1	5	
								5		1
Notes:										



$\frac{1}{172} - 0.2$ $\frac{3}{2724} - 0.1$ $\frac{1}{72} - 0.2$ $\frac{3}{2724} - 0.1$ $\frac{1}{72} - 0.1$	Boring ID:	Db-d						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			70167400			Start Date/Time:1/0/10 155	Sample Method	Drilling Method
Weather: UOC _ DVM_(COS)L Being Stands Z/T X March of the standard product of the							Hand Auger	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $					-	Boring Diameter: 2"		(1997) - Helder C. C. Manager and C.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $						Total Depth: 15 BL15	· · · · · · · · · · · · · · ·	
$\frac{1}{24} = \frac{1}{24} + \frac{1}{24} $			onal Probing Services	F.11				
$ \frac{1}{2} 1$			unt Geograph	2 54	10			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Depth (ft bls) Recovery (inches) Blow	PID PID CH4	CO ₂	H ₂ S	U.S.C.S	component(s), structure, moisture, angularity, odor,		and the second second second second second
$\frac{1}{2} = 5 \frac{2}{2} \frac{2}{2} \frac{1}{4} = -\frac{1}{2} \frac{1}{2} \frac{1}{4} = -\frac{1}{4} \frac{1}{3} = -\frac{1}{2} \frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{3} = -\frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{3} = -\frac{1}{4} \frac{1}{3} \frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{3} = -\frac{1}{4} \frac{1}{3} \frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{3} = -\frac{1}{4} \frac{1}{3} \frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{4} $	0-1 12/2 -							
$\frac{1}{2} = 5 \frac{2}{2} \frac{2}{2} \frac{1}{4} = -\frac{1}{2} \frac{1}{2} \frac{1}{4} = -\frac{1}{4} \frac{1}{3} = -\frac{1}{2} \frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{3} = -\frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{3} = -\frac{1}{4} \frac{1}{3} \frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{3} = -\frac{1}{4} \frac{1}{3} \frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{3} = -\frac{1}{4} \frac{1}{3} \frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{4} \frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{4} $	1-3 24/24 -	20 - (CL	(1-3) CLIAY. red. modum plusticiny. moist		
$\frac{1}{29} \frac{7}{24} - \frac{1}{7.7} \qquad CL (7-9)CLNY. tar/grav/red. motifuld. moist noticable smell -11 \frac{24}{24} - \frac{1}{4.3} \qquad CL (9-11) SAP = \frac{1}{13} \frac{24}{24} - \frac{1}{4.3} \qquad CL (9-11) SAP = \frac{1}{13} \frac{24}{24} - \frac{1}{4.7} \qquad Son per QROS at a solution grained at a solution grained at 1210 = \frac{1}{1210} = \frac{1}$	3-5 24/24 -	<0.1			CL	(3-5) SHA		
$\frac{19}{724} = 7.7$ $\frac{12}{724} = 7.7$ $\frac{11}{724} = 4.3$ $\frac{11}{724} = 4.3$ $\frac{11}{724} = 2.6$ $\frac{11}{724} = 14.7$ $\frac{11}{724} = $	5-7 24 -	2.7	. /		CL	(5-7) SAA		
$\frac{-11}{24} \frac{24}{24} - \frac{43}{24} - \frac{26}{26} - \frac{11}{210} \frac{24}{24} - \frac{26}{26} - \frac{11}{210} \frac{24}{24} - \frac{26}{24} - \frac{11}{14.7} - \frac{11}{1210} \frac{11}$	7-9 24/24 -	7,7	×.	·	CL	(7-9) CLAY. ton/grap/red. mottled. moist noticable smell		
Arts 24 - 14.7 Sm (13-15) StIND. tar/gray. Senple at 1210 Borny terminated at 15 fibbs IS fibbs Notes:	9-11 24/24 -	4,3			CL	(9-11) SAA	.	
3-15 24 - H.7 Sm (13-15) SHIND. taygray. Moisi. wedun grained noticelle peisteum oder Set os at 1210 Boi my terminadel at 15 f4b15 IS IS	11-13 24/24 -	26		all and a second				
Notes:	13-15 24 -	14.7			SM	(13-15) SHIND. ten/gray. Motst. wediin grainel noticalle petisteum ador	CRUS at 1210	×
Notes:						Boing terminated		
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No. Not any light provide the state of the s	Notes:							
nom: parts per million ppb: parts per billion NA= Not applicable bls = below land surface								
nom: parts per million ppb: parts per billion NA= Not applicable bls = below land surface	· · · · · · · · · · · · · · · · · · ·							
nom: parts per million ppb: parts per billion NA= Not applicable bls = below land surface							S	
	nom: narts nor million	pph: parts per	billion			NA= Not applicable bls = be	low land surface	
	ppm: parts per million	hhn, hai is hai						



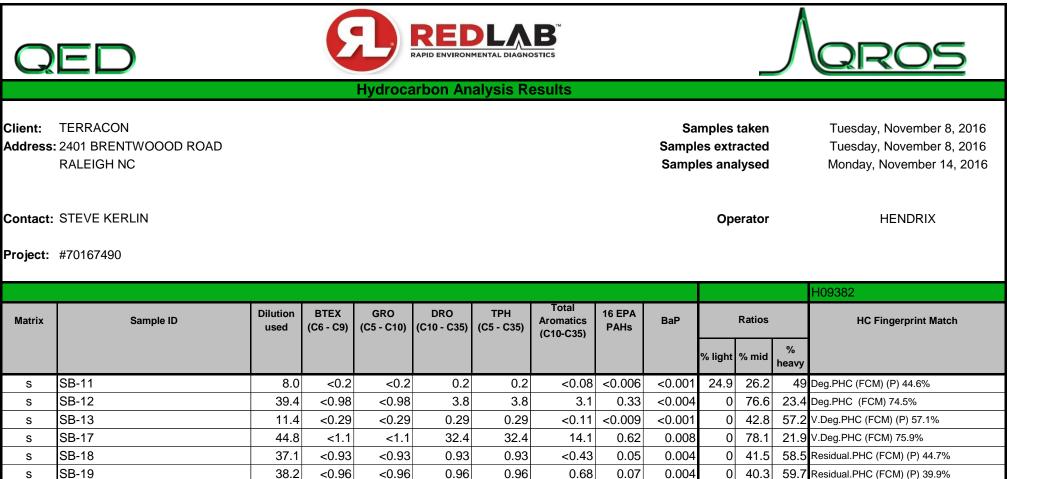
р.		58	5-22)					llettacol		
	ring ID: t Number:	N) 00		70167490)			Start Date/Time: 1/0/16 1220	Sample Method	Drilling Method
	Location:				etteville,				End Date/Time: 1/9/14/1230	Hand Auger	X DPT
	Weather:		UC) OVE	ras	t			Boring Diameter:	X Macro-Core	□ HSA
	ogged By:				EHS				Total Depth: 15 Jabs	Split Spoon Shallow Tube	Mud Rotary Air Potany
Dr	illing Sub:		1 10 11/2		I Probing		r. (772	Water Level: NA Well Installed: No	🗆 Shelþy Tube	 Air Rotary Rock Core
	Drill Rig:		Truck	Mas	F C	hecpiol	28 5	110			
Depth (ft bls)	Recovery (inches)	Blow Counts (n)	dqq \mqq	CH₄	CO2	02	H ₂ S	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, analysis, time	Drilling method, tooling, depth
Ő-(12/12		0.1					SM	(0-1) SAND -ton. dry		
1-3	24/24		0,2					CL	(1-3)CLAY. red. moist low plasticity		r.
3-5	24/24	-	2.7		Managana ayan an			CL	(3-5) SAA	ä	
5-7	24/24	-	9.6		_			CL	(5-7) SAA		
7-9	24/24	-	11.9					CL	(7-9) SAA		
9-11	24/24	-	22.9					CL	(9-11) CLAY. gry/tov/red motified, moist. noticable odor		
11-13	24/24	~	29,6					CL	(11-13) SAA	somple allos at 1235	
13-15	² /24	-	285				1., 3.	SC	(13-15) SANDY CLAY. red/orong/ton. moist. notirater snet noticular persoleun ador		7
							20		Boring termineted at 15 Abbs	r X	
Notes: ppm: par	s per millio	 אר	ppb: part	s per billi	on				NA= Not applicable bls = belo	w land surface	



		52	-23						jjerracol		0.000
	ring ID:	DD	2)	0. 	0167490				Start Date/Time: 1/9/10 1235	Sample Method	Drilling Method
	Number: Location:				etteville, l	NC			End Date/Time: 1/0/16 1245	 Hand Auger X Macro-Core 	X DPT
1.7.5.5.5	Weather:		100	NO, CV	CUS !	Γ			Boring Diameter: 2" Total Depth: 15 5465	☐ Split Spoon	Mud Rotary
	ogged By:				EHS Probing S				Water Level: No	Shelby Tube	Air Rotary
Dri	Illing Sub: Drill Rig:		TWC		2unt	Caper	arabe	5410	Well Installed:		Rock Core
Depth (ft bls)	Recovery (inches)	Blow Counts (n)	GI4 DI4 DI4	CH4	ő	02	H ₂ S	U.S.C.S	(Depth interval) Color, MAIN COMPONENT, minor component(s), structure, moisture, angularity, odor, staining	Lab Sample: ID, analysis, time	Drilling method, tooling, depth
0-1	12/12	-	<0,1					SM	(0-1) SAND. ton.dry "3in & ASPHALT"		
1-3	24/24	-	<0.1					CL	(1-3) CLAY, red. 100 plastian moist		
3.5	24/24	-	4.3			2		CL	(3-5)SAA		
5-7	24/24	-	1.9					CL	(5-7) CLAY, mottled. gray/tay/real. moist		e.
7-9	24/24	-	5.8					CL	(7-9) SAA		
7-11	24/24	-	23.1					CL	(9-11) Still, noticable petroleum odoc		
11-13	24/24	-	11.9					CL	(1(-13) SAA		
13-15	24/24	-	37.4					S((13-15) SANDY CLAY. Vel/oraze/ton. file grouved holicable petroleum odor	somple QROS at 1250	
	4								Boing terminated at 15 ftbls		
						0	1				â.
			×								
									-		
Notes:									NA= Not applicable bls = b	elow land surface	
ppm: pa	arts per mil	lion	ppb: pa	arts per bi	mon						

APPENDIX C

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORMS



0.97

0.98

0.32

0.36

< 0.03

< 0.03

< 0.01

< 0.02

< 0.3

< 0.25

< 0.13

0.33

< 0.004

< 0.004

< 0.001

< 0.001

0

0

0

0 74.5

Final FCM QC Check

33.8

44.9

44.3

OK

66.2 V.Deg.PHC (FCM) 49.9%

55.7 V.Deg.PHC (FCM) 66.6%

25.5 V.Deg.PHC (FCM) 72.9%

91.2 %

55.1 V.Deg.PHC (FCM) 63%

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

0.97

0.98

0.32

0.36

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

< 0.97

< 0.98

< 0.32

< 0.36

< 0.97

< 0.98

< 0.32

< 0.36

OK

38.8

39.4

12.7

14.3

Initial Calibrator QC check

SB-20

SB-21

SB-22

SB-23

s

s

s

S

	(Date/Time	وترجيع والمستخدمات والمعاولان والمراولا والمعاولات والمعادية والمحادث	Accepted by	te/Ti		Relinquished by	Relinqu	
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EONLY	RED Lab USE ONLY								nts:	Comments:
5.6	HHIG	50.5		×	2458-23			1250	1335	11/9
6.3	44.6	50.9		1	58-22			235	1225	1V9
6.6	45.2	51.8	ne de la contra de l	~	SR-21				1210	1/9
6.7	44.7	51.4			SB-20				140	1/9
8.9	44.4	51.2		1 J	SB-19				115	1/9
7.0	44.6	51.6		1	28-18		N O		1645	19
8.2	44.9	50.7		2	56-17				1015	10
7.0	45.0	52.0		~	56-15		1 0		1500	8/1
6.6	4.8	51.4		1	21-9S		V 0		1440	18
5.3	448	50.6		~	58-11	, , , , , , , , , , , , , , , , , , ,			1405	81
6.6	45.0	51.6		~	58-10		S S	~	1350	18
6.1	45.0	51.1		1	58-09	>	S 1	<	1320	18
7.3	44.9	52.2		~	80-95S		2	<	1255	18
5.7	45.0	50.7		\checkmark	58-07		2 7	~	1240	18
5.4	45.2	50.6		~	53-06		S N		1130	100
6.0	44.9	50.9		1	5B-05		2		1/05	18
6.6	45.5	521		<	56-04				1045	1/8/16
6.7	したり	110		\checkmark	80-93			V	5101	01/18
8.9	7.44.7	5.5			28-02	V		K	0955	01/18
5.2	450	503		~	58-01	V			0925	9/16
Sample Wt.	Tare Wt.	Total Wt.	GC BTEX	UVF	Sample ID	Matrix (S/W)	5	TAT Requested 24 Hour 48 Ho	Sample Collection Date/Time	ample (
				ĨM	REQUEST FORM		Junth	tethan	lby:	Collected by:
aromatics and BaP	aromatics and BaP	BIEA, ON	HICAL		CHAIN OF CUSIODY AND ANALY	СПА	1000-	- COS (HIL		Phone #:
Each sample will be analyzed for	ple will be	Each sam					in @ Terricon, cam	leve Kerline To	678	Email:
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