North Carolina Department of Transportation

Phase II Investigation
State Project: U-4714B
WBS Element: 39078.1.1
Union County

Parcel 64
Hendley-Brewer Properties – Market Express
4303 Old Monroe Road
Indian Trail, North Carolina
July 28, 2021

Wood Environment & Infrastructure Solutions, Inc.
Project: 20478U4714



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1.0 INTRODUCTION

In response to the North Carolina Department of Transportation (NCDOT) Request for Proposal, dated April 30, 2021, Wood Environment & Infrastructure Solutions, Inc. (Wood) has performed a Phase II Investigation for Parcel 64 (Site). The investigation was conducted in accordance with Wood's Technical and Cost proposal dated May 12, 2021, and NCDOT's May 24, 2021 Notice to Proceed. NCDOT contracted Wood to perform the Phase II Investigation at the parcel, within areas that will be affected by the proposed widening of SR 1009 (John Street – Old Monroe Road) from west of Morningside Meadow Lane to east of SR 1377 (Wesley Chapel Stouts Road) in Indian Trail, North Carolina.

1.1 Site Description

The Site is in the eastern quadrant of the intersection of Old Monroe Road, Indian Trail Road South, and Waxhaw Indian Trail Road, as shown on the Vicinity Map, **Figure 1**. The Site, which is located at 4303 Old Monroe Road, is currently occupied by Market Express, a gasoline station and convenience store. The Site is identified as Parcel 64, Hendley-Brewer Properties, within the NCDOT MicroStation survey file and is in Indian Trail of Union County, North Carolina. The area of investigation at Parcel 64 is approximately 0.60-acres as shown on **Figure 2**. Reportedly, the parcel contains one 20,000-gallon gasoline UST, one 12,000-gallon diesel UST, and one 4,000-gallon kerosene UST. The gasoline and kerosene USTs are in a tank bed near the center of Parcel 64, directly north of the convenience store, and the associated four pump islands are under canopy on either side of the store. The diesel UST bed is near the southern corner of Parcel 64 with four associated dispensers under separate canopy nearby. The three current USTs were reportedly installed in January 1996 following the removal of three 1,000-gallon gasoline USTs in August 1990. No other reported USTs are associated with this parcel.

1.2 Site History

Wood reviewed available documentation on the North Carolina Department of Environmental Quality (NCDEQ) Laserfiche online database for Parcel 64 and select information is included as **Appendix A**. Reportedly, two past UST releases were identified at Parcel 64 and assigned incident numbers 13116 and 40868. Regarding incident number 13116, four groundwater monitoring wells were installed in 2010 near the western corner (the former location of the three 1,000-gallon USTs removed in August 1990) of Parcel 64 during previous assessment activities performed by others. Laboratory analysis of soil

samples collected during the installation of the monitoring wells did not identify petroleum impacts above the applicable NCDEQ Maximum Soil Contaminant Concentrations (MSCCs); however, analysis of groundwater samples collected from the four monitoring wells identified petroleum impacts above the North Carolina 2L Groundwater Quality Standards (NC 2L Standards) and benzene concentrations above the NCDEQ Gross Contamination Level (GCL) for benzene of 5,000 micrograms per liter (µg/L) in two of the monitoring wells. Depth to groundwater measured during the collection of groundwater samples ranged from approximately 21 feet below ground surface (bgs) to 28 feet bgs at Parcel 64. An Aggressive Fluid Vapor Recovery (AFVR) event occurred in 2011 when 420 gallons of petroleum water was removed from MW-1. Groundwater sampling events for the four monitoring wells occurred in June and November 2012. NC 2L Standards were exceeded in MW-1 and MW-2. The four wells were sampled in December 2014. Results were similar to previous, and MW-2 was reported to have the maximum concentrations. Based on the results of the groundwater sampling, a Notice of Residual Petroleum (NRP) was filed for Parcel 64 in May 2016 which prohibited the use of groundwater at the parcel as a water source. Following the completion of the NRP, the NCDEQ issued No Further Action (NFA) status for Incident Number 13116 in June 2016.

Regarding incident number 40868, reportedly, in August 2017, a leak in the diesel fuel flex piping at Parcel 64 was discovered. Following discovery of the leak, Resolve Environmental Services, PLLC (Resolve) performed a Site Check which included the collection of soil samples beneath flex piping which connected to the two diesel fuel dispensers. Analytical results of the two soil samples did not identify total petroleum hydrocarbon (TPH) concentrations above North Carolina Action Limits. Based on the results of the Site Check, the NCDEQ issued NFA status for the release in November 2017 and did not assign an Incident Number.

During an NCDEQ compliance inspection in October 2018, a spill bucket was found in need of repair/replacement on the current 20,000-gallon gasoline UST. Following the compliance inspection, Resolve collected a soil sample near the spill bucket as part of a Site Check in November 2018. The analytical results of the soil sample identified TPH concentrations above the North Carolina Action Limits. Based on the results of the November 2018 Site Check, the NCDEQ issued a Notice of Regulatory Requirements (NORR) and assigned NCDEQ Incident Number 40868 to the release. A Phase I LSA was performed by Resolve in January 2019 and included the installation of one monitoring well (MW-1) near the current

20,000-gallon gasoline UST. Soil samples were collected 10-foot intervals from 10-feet bgs to 30-feet bgs during the installation of the monitoring well. Laboratory analysis of the soil samples did not identify petroleum impacts above the applicable MSCCs; however, the laboratory analysis of the groundwater sample identified petroleum impacts above the NC 2L Standards. Based on the results of the Phase I LSA, the NCDEQ issued a NORR assigning residential land use to the site and requested an NRP be filed. No additional documentation was available on the Laserfiche database indicating an NRP had been filed for Incident Number 40868 and the incident remains open.

The following report describes a geophysical survey and subsurface field investigation at the Site, with results from our ultraviolet fluorescence (UVF) soil analyses and evaluation for potential soil contamination within the Site.

2.0 GEOLOGY

2.1 Regional Geology

The Site is located within the Charlotte Belt of the Piedmont Physiographic Province of North Carolina. According to the 1985 State Geologic Map of North Carolina, the area is underlain by phyllite and schist.

2.2 Site Geology

Site geology was observed through the advancement of 21 shallow soil borings (B1 to B21). The borings were advanced to an approximate depth of 10 to 15 feet below ground surface bgs. Groundwater was not encountered during boring advancement. Figure 2 presents the boring locations and Site layout. Soils encountered in the borings consisted mostly of red-orange to tan-brown silt overlying tan to gold sandy silt. Staining was not observed in the borings; however, a petroleum odor was observed in 2 of the 21 borings (B8 and B10). Based on observations of topography of the Site vicinity, the groundwater flow direction is inferred to be generally toward the northeast. Boring logs are presented in **Appendix B**.

3.0 FIELD ACTIVITIES

3.1 Preliminary Activities

Prior to commencing field sampling activities at the Site, several tasks were accomplished in preparation for the subsurface investigation. A Health and Safety Plan (HASP) was created including the Site-specific health and safety information necessary for the field activities, including protocol for COVID. North Carolina 811 was contacted on June 2, 2021 for the parcel.

Pyramid Geophysical Services of Greensboro, North Carolina (Pyramid) was retained to conduct a geophysical investigation and then to perform utility locating activities at the Site. Innovative Environmental Technologies, Inc. (IET) of Concord, North Carolina was retained by Wood to perform the direct push sampling for soil borings, and UVF instrumentation was rented from Red Lab, LLC (Red Lab) of Wilmington, North Carolina.

Boring locations were strategically placed within the parcel to maximize the opportunity to encounter potential contaminated soil.

3.2 Site Reconnaissance

Wood personnel visited the parcel on May 7, 2021, and observed manhole covers for the five previously installed monitoring wells. Upon removal of two manhole covers, the wells were found to be abandoned and filled with concrete. Wood was not able to remove the other three manhole covers and the bolts for the covers appeared to be set in concrete. Wood presumes these three monitoring wells have also been abandoned. During the May 7th visit, Wood personnel also observed numerous overhead utility lines (i.e., telephone, cable, electrical) within the area of investigation. In addition, site observations indicate numerous buried utility lines (i.e., gas, water, sewer, fiber optic, traffic control) are located within the area of investigation. A photographic log is included in **Appendix C**.

3.3 Geophysical Survey Results, Utility Locating, and Utility Strike

The geophysical survey was conducted by Pyramid personnel on June 7, 2021. Pyramid conducted a geophysical investigation using electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys across the NCDOT Right-of-Way

(ROW) investigation area. A total of eleven EM anomalies were identified, the majority of which were directly attributed to visible cultural features at the ground surface. The GPR survey confirmed that unknown buried structures were not present in the areas of metallic interference that seemed associated with vehicles, suspected utilities, and reinforced concrete. The geophysical survey did not identify USTs within the NCDOT ROW investigation area. The complete Pyramid geophysics report is included as **Appendix D**.

Utility locating was performed by Pyramid personnel on June 8, 2021. The utility locating effort identified a buried natural gas line, a water line section, power lines, sanitary sewer and communication lines. The natural gas line advances from Indian Trail Road to Market Express and then to the car wash north of the gas station. The sanitary sewer line advances from Indian Trail Road toward Market Express. Several power lines advance from Indian Trail Road and Old Monroe Road toward Market Express and the carwash. Communication lines and a water line advance from Old Monroe Road to Market Express.

During drilling activities on June 14, 2021 at 2:40 pm IET struck a private water line with the Geoprobe AMS PowerProbe that supplies the Market Express gas station. The water line was a 1.5" polyvinyl chloride (PVC) line located approximately 2 feet bgs. North Carolina 811 had been contacted June 2, 2021 but did not locate this line because it is a private line. The water meter was identified and water to the gas station was shut off. Market Express property owner contacted a plumber, and the line was repaired by end of day June 14, 2021. No injuries to Wood or IET personnel occurred.

Pyramid was used as the private utility locator and did not identify the water line at this location. Boring locations were discussed with the property owner who did not outline utility location.

3.4 Soil Sampling

On June 14 to 15, 2021, Wood and IET mobilized to the Site to advance 21 shallow soil borings (B1 to B21). The borings were advanced via stainless steel hand auger and direct-push technology to an approximate depth of 10 to 15 feet bgs. Boring locations targeted potential environmental sources at the Site and future drainage features.

The purpose of soil sampling was to assess if a petroleum release had impacted the Site and if so, to estimate the volume of impacted soil that might require special handling during NCDOT construction activities. IET advanced a soil sampler to the target depth at each boring location using an AMS PowerProbe. To minimize the potential for cross-contamination between samples, a new PVC sleeve (tube) was inserted into the sampler for each soil interval. Visual and olfactory observations relative to the soil cores were recorded by Wood personnel. The soil types encountered in the borings were recorded to prepare soil boring logs. Wood conducted field screening for volatile organic compounds (VOCs) of the soil borings with a photoionization detector (PID). A portion of the interval of the soil boring exhibiting the highest PID reading was retained for analysis of total petroleum hydrocarbons (TPH), diesel range organics (DRO), gasoline range organics (GRO), benzene, toluene, ethylbenzene, and xylene (BTEX), total aromatics, and polycyclic aromatic hydrocarbons (PAH) in UVF. Groundwater was not encountered in the borings. Fifty soil samples were collected from the borings at the Site for onsite UVF analysis.

4.0 SOIL SAMPLING RESULTS

Based on June 14 to 15, 2021 PID and UVF hydrocarbon analysis, evidence of petroleum hydrocarbon impacts was identified. The NCDEQ Action Levels of 100 milligrams per kilogram (mg/kg) for DRO and 50 mg/kg for GRO were exceeded in three borings advanced at the Site.

PID readings for the 21 borings ranged from 0.1 parts per million (ppm) in sample B13(0-2) collected from 0 to 2 feet bgs, to greater than 15,000 ppm (highest reading the PID will display) in sample B8(8-10) collected from 8 to 10 feet bgs. The PID field screening results for samples selected for UVF analysis are summarized in **Table 1** and the full list of PID readings are provided on the boring logs in Appendix A.

Results from the on-Site UVF petroleum soil analyses are presented in **Table 2**, with instrument generated tables in **Appendix E**. Several categories of analyses were measured such as: DRO, GRO, TPH, PAHs, and total aromatics. **Figure 3** presents the GRO and DRO results for the June 2021 investigation.

Elevated TPH values above the NCDEQ Action Level of 50 mg/kg for GRO or 100 mg/kg for DRO were reported in 3 of the 21 borings. These three borings (B7, B8, B10) were drilled on the western side of the former UST basin, which is near the western corner of the Site. In boring B7, results from the shallow 0 to 2 foot sample indicated a GRO exceedance of 81.7 mg/kg and a DRO detection but not exceedance. TPH concentrations lessoned or were not detected in the two deeper soil samples from 4 to 6 feet and 10 to 12 feet.

In boring B8, GRO and DRO were measured above their NCDEQ Action levels in the in the middle and deep soil samples from 4 to 6 and 10 to 12 feet bgs where the GRO values were 444 and 320 mg/kg, respectively. The corresponding DRO concentrations were 170.3 and 130.2 mg/kg/kg in the mid and deep sample intervals respectively. These values represent the highest TPH measured at Parcel 64.

In nearby boring B10, GRO and DRPO were identified in the shallow and mid depth interval soil samples but only in the deep interval, from 8 to 10 feet, were their NCDEQ Action Limits exceeded. In that deep sample GRO was reported at 71.5 and DRO at 274.3 mg/kg respectively.

No other GRO or DRO detections in the soil samples collected at the Site exceeded their respective NCDEQ Action Levels. The hydrocarbon results from the QED QROS Hydrocarbon Analyzer are provided in Appendix D.

5.0 CONCLUSIONS

Based on the Site observations and UVF analyses, petroleum-impacted soil contamination was identified as localized exceedances of the NCDEQ Action Levels of 50 mg/kg for GRO and 100 mg/kg for DRO on the western side of the former UST basin.

The following bulleted summary is based upon Wood's evaluation of field observations and on-Site quantitative analyses of samples collected from the Site June 14 to 15, 2021.

- The Site is occupied by one 20,000-gallon gasoline UST, one 12,000-gallon diesel UST, one 4,000-gallon kerosene UST and eight fuel dispensers outside the area of investigation.

- The former UST basin is in the western corner of the Site, which is within the area of investigation.

- A total of 21 soil borings were advanced in the NCDOT ROW investigation area to collect soil samples for on-Site UVF analysis. Fifty soil samples were collected for on-Site UVF analysis.

- UVF analysis of samples collected from the borings advanced near former UST basin identified GRO concentrations which exceeded their respective NCDEQ State Action Level in one sample from boring B7, two samples from B8, and two samples from B10. The exceedances were identified in the samples B7(2-4) from the 2 to 4 foot interval, B8(4-6) from the 4 to 6 foot interval, B8(8-10) from the 8 to 10 foot interval, B10(0-2) 0 to 2 foot interval, and B10(8-10) 8 to 10 foot interval.

- UVF analysis of samples collected from the borings advanced near former UST basin identified DRO concentrations which exceeded their respective NCDEQ State Action Level in two samples from boring B8 and one sample from boring B10. The exceedances were identified in the samples B8(4-6) from the 4 to 6 foot interval, B8(8-10) from the 8 to 10 foot interval, and B10(8-10) from the 8 to 10 foot interval.

  The estimated area of petroleum-impacted soil is shown on **Figure 4**. The estimated area of impacted soil near borings B7, B8, and B10 is approximately 586 square feet. With an investigated depth of impact of 10 feet, the calculated impacted soil volume is 217 cubic yards.

6.0 RECOMMENDATIONS

Based on these Phase II Investigation results, the lack of design features in the area of impacted soil and the impacted area not slated for cut, Wood recommends no further action.

TABLES

Table 1: Summary of PID Screening Results
U4714B, Parcel 64 - Hendley-Brewer Properties - Market Express
Indian Trail, North Carolina
Wood Project: 20478U4714

Boring ID	Depth of Sample Interval	PID Reading
B1	0-2	1.4
	4-6	0.0
B2	0-2	0.0
	4-6	0.0
B3	2-4	0.0
	6-8	0.0
B4	0-2	2.0
	2-4	0.0
	6-8	0.0
B5	2-4	0.0
	6-8	0.0
	12-14	0.0
B6	0-2	0.0
	6-8	0.0
	12-14	1.2
B7	2-4	50.1
	4-6	0.0
	10-12	3.3
B8	0-2	0.1
	4-6	>15,000
	8-10	>15,000
B9	0-2	0.3
	6-8	0.2
	14-15	8.2
B10	0-2	6.5
	4-6	9.2
	8-10	>15,000
B11	0-2	2.3
	4-6	0.8
B12	2-4	0.0
	6-8	0.1
B13	0-2	0.1
	4-6	1.2
	8-10	3.6
B14	2-4	1.2
	6-8	1.2
B15	2-4	0.7
	8-10	1.3
B16	2-4	1.0
	8-10	2.3
B17	0-2	2.0
	4-6	2.9
B18	0-2	1.1
	6-8	1.0
B19	0-2	0.9
	6-8	1.2
B20	0-2	0.7
	6-8	0.5
B21	0-2	5.0
	4-6	4.1

Notes:

1. Samples collected on June 14 and 15, 2021
2. Depths shown in feet below ground surface (bgs)
3. PID = Photoionization Detector
4. PID readings shown in parts per million (ppm)

Prepared By/Date: AJF 6/18/21
Checked By/Date: DRH 7/22/21

Table 2: UVF Hydrocarbon Soil Sampling Results
U4714B, Parcel 64 - Hendley-Brewer Properties - Market Express
Indian Trail, North Carolina
Wood Project: 20478U4714

Sample ID Number	Sample Depth (ft. bgs)	BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	PAHs (mg/kg)
B1(0-2)	0-2	<0.4	<0.4	15.1	0.4
B1(4-6)	4-6	<0.22	<0.22	0.3	0.008
B2(0-2)	0-2	<0.27	<0.27	2.8	0.07
B2(4-6)	4-6	<0.3	<0.3	0.8	0.018
B3(2-4)	2-4	<0.25	<0.25	0.09	0.002
B3(6-8)	6-8	<0.25	<0.25	0.6	0.015
B4(0-2)	0-2	<1.7	<1.7	61.8	1.3
B4(2-4)	2-4	<0.7	<0.7	0.3	0.008
B4(6-8)	6-8	<0.27	<0.27	0.2	0.019
B5(2-4)	2-4	<0.7	<0.7	0.3	0.008
B5(6-8)	8-10	<0.6	<0.6	<0.25	<0.013
B5(12-14)	12-14	<0.6	<0.6	0.4	0.007
B6(0-2)	0-2	<0.5	<0.5	24.7	0.18
B6(6-8)	6-8	<0.5	<0.5	0.5	0.009
B6(12-14)	12-14	<0.4	<0.4	0.17	0.004
B7(2-4)	2-4	<0.6	**81.7**	41.7	0.7
B7(4-6)	4-6	<0.4	<0.4	1.1	0.018
B7(10-12)	10-12	<0.4	<0.4	14.9	0.29
B8(0-2)	0-2	<0.8	<0.8	3.4	0.09
B8(4-6)	4-6	222.1	**444**	**170.3**	2.1
B8(8-10)	8-10	160.1	**320**	**130.2**	1.6
B9(0-2)	0-2	<0.6	<0.6	3.3	0.07
B9(6-8)	6-8	<0.6	<0.6	0.1	0.011
B9(14-15)	14-15	<0.6	<0.6	23	0.03
B10(0-2)	0-2	<0.6	**81.7**	26.2	0.18
B10(4-6)	4-6	<0.5	<0.5	25.3	0.09
B10(8-10)	8-10	<0.5	**75.1**	**274.3**	0.3
B11(0-2)	0-2	<1.8	<1.8	63.7	0.7
B11(4-6)	4-6	<0.5	<0.5	17.9	0.08
B12(2-4)	2-4	<0.4	<0.4	15	0.009
B12(6-8)	6-8	<0.7	<0.7	0.4	0.008
B13(0-2)	0-2	<0.6	<0.6	1.4	0.03
B13(4-6)	4-6	<0.5	<0.5	0.16	0.004
B13(8-10)	8-10	<0.6	<0.6	<0.25	<0.013
B14(2-4)	2-4	<0.7	<0.7	0.08	0.008
B14(6-8)	6-8	<0.3	<0.3	0.5	0.007
B15(2-4)	2-4	<0.22	<0.22	<0.09	<0.005
B15(8-10)	8-10	<0.5	<0.5	19.4	0.007
B16(2-4)	2-4	<0.6	<0.6	23.8	0.012
B16(8-10)	8-10	<0.15	<0.15	<0.06	<0.003

Table 2: UVF Hydrocarbon Soil Sampling Results
U4714B, Parcel 64 - Hendley-Brewer Properties - Market Express
Indian Trail, North Carolina
Wood Project: 20478U4714

Sample ID Number	Sample Depth (ft. bgs)	BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	PAHs (mg/kg)
B17(0-2)	0-2	<0.27	<0.27	3.3	0.05
B17(4-6)	4-6	<0.17	<0.17	0.018	0.002
B18(0-2)	0-2	<0.25	<0.25	0.4	0.009
B18(6-8)	6-8	<0.22	<0.22	<0.09	<0.005
B19(0-2)	0-2	<0.27	<0.27	9.7	0.06
B19(6-8)	6-8	<0.25	<0.25	<0.1	<0.005
B20(0-2)	0-2	<0.3	<0.3	1.8	0.031
B20(6-8)	6-8	<0.3	<0.3	<0.12	<0.006
B21(0-2)	0-2	<0.27	<0.27	9.7	0.05
B21(4-6)	4-6	<0.17	<0.17	6.2	0.005
NC State Action Level		**N/A**	**50**	**100**	**N/A**

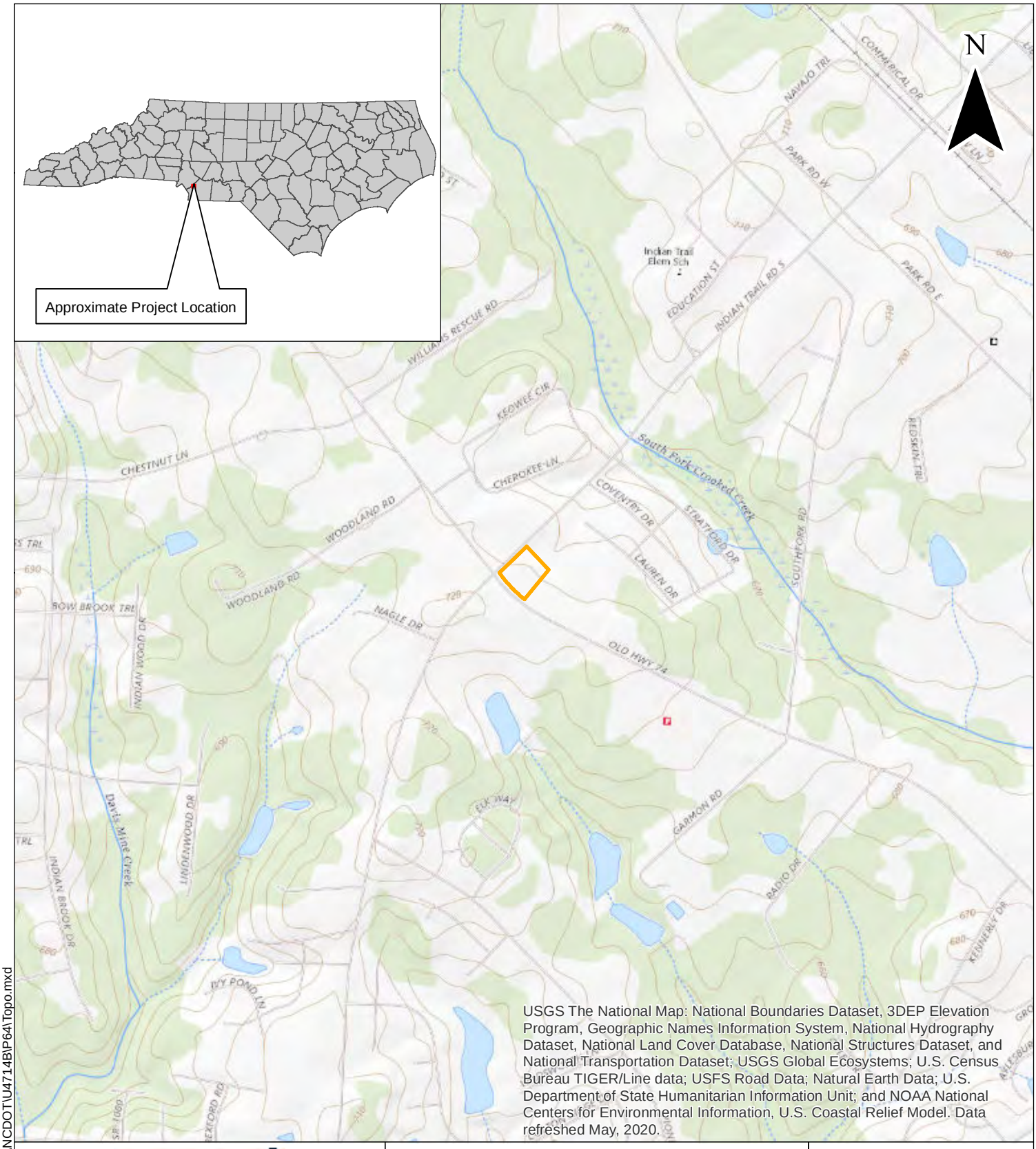
Notes:

1. Samples collected on June 14 and 15, 2021
2. Depths shown in feet below ground surface (bgs)
3. Concentrations shown in milligrams per kilogram (mg/kg)
4. BTEX = Benzene, toluene, ethylbenzene, xylene
5. GRO = Gasoline Range Organics
6. DRO = Diesel Range Organics
7. PAHs = Polycyclic aromatic hydrocarbons
8. N/A = Not applicable
9. Bold values exceed respective NC State Action Level

Prepared By/Date: AJF 7/8/2021

Checked By/Date: DRH 7/22/2021

FIGURES



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed May, 2020.

wood.
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VICINITY MAP
U4714B - PARCEL 64
HENDLEY BREWER PROPERTIES
OLD MONROE ROAD
INDIAN TRAIL, NORTH CAROLINA

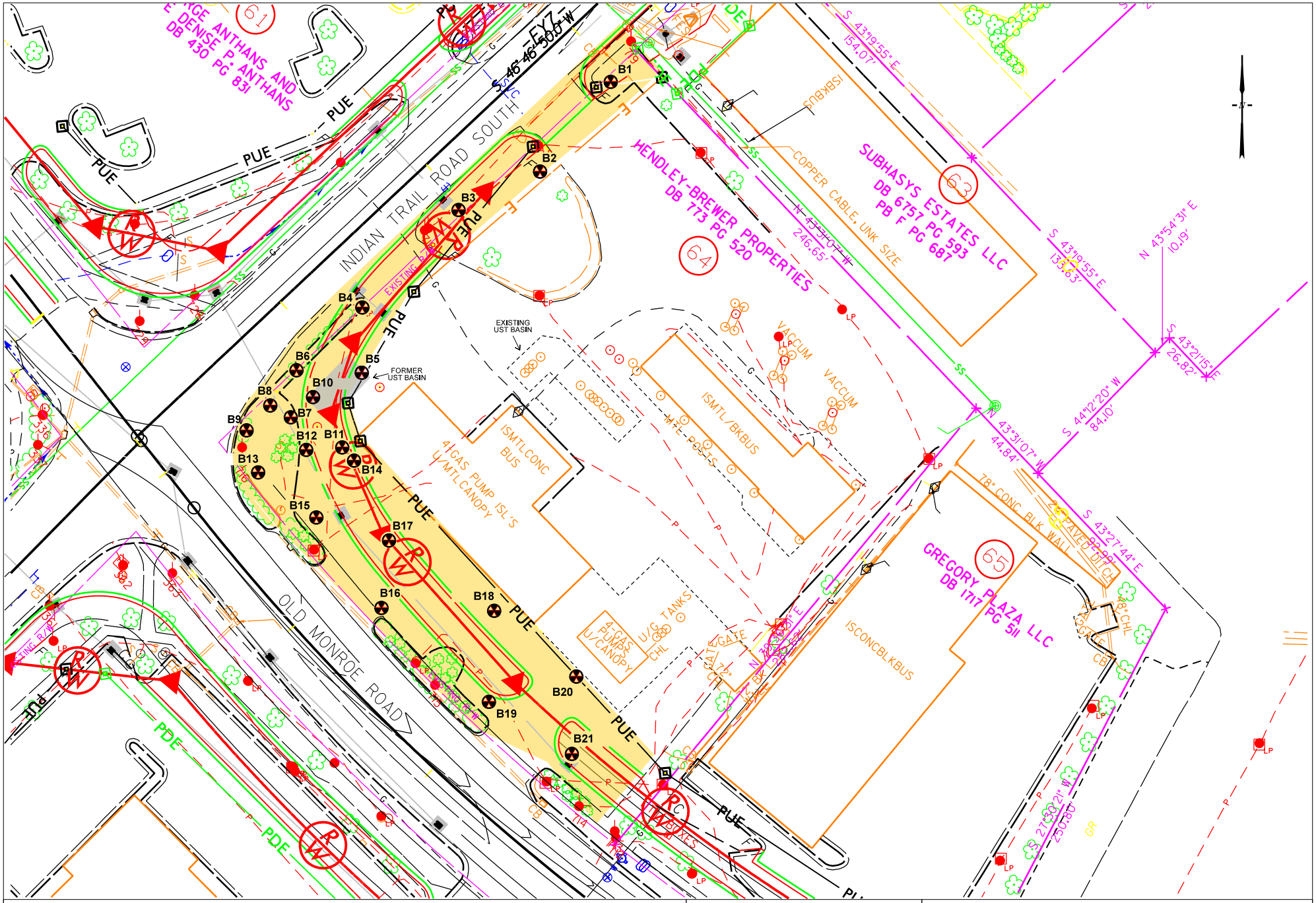
PREPARED BY:	LMM
DATE:	5/27/2021
CHECKED BY:	HPC
DATE:	5/27/2021
PROJECT NO:	2047U4714
FIGURE:	1

Legend

Site Boundary

0 1,000 2,000 Feet

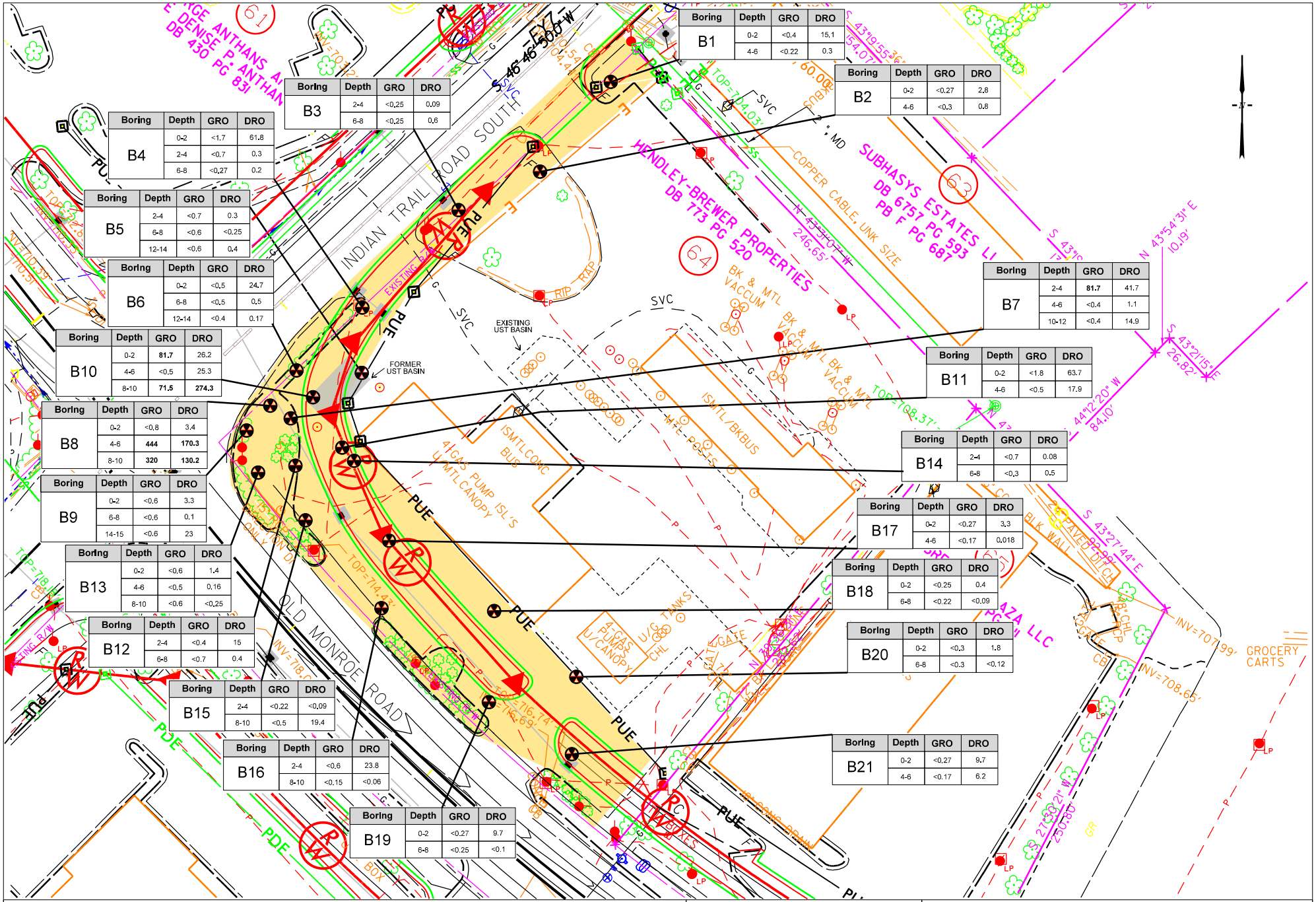
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wood.

SITE MAP WITH BORING LOCATIONS
U-4714B - PARCEL 64
HENDLEY-BREWER PROPERTIES
OLD MONROE ROAD
INDIAN TRAIL, NORTH CAROLINA

PREPARED BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER	FIGURE
LMM	7/20/21	DRH	7/20/21	2047U4714	2



Boring	Depth	GRO	DRO
B1	0-2	<0.4	15.1
	4-6	<0.22	0.3

Boring	Depth	GRO	DRO
B2	0-2	<0.27	2.8
	4-6	<0.3	0.8

Boring	Depth	GRO	DRO
B3	2-4	<0.25	0.09
	6-8	<0.25	0.6

Boring	Depth	GRO	DRO
B4	0-2	<1.7	61.8
	2-4	<0.7	0.3
	6-8	<0.27	0.2

Boring	Depth	GRO	DRO
B5	2-4	<0.7	0.3
	6-8	<0.6	<0.25
	12-14	<0.6	0.4

Boring	Depth	GRO	DRO
B6	0-2	<0.5	24.7
	6-8	<0.5	0.5
	12-14	<0.4	0.17

Boring	Depth	GRO	DRO
B7	2-4	**81.7**	41.7
	4-6	<0.4	1.1
	10-12	<0.4	14.9

Boring	Depth	GRO	DRO
B8	0-2	<0.8	3.4
	4-6	**444**	**170.3**
	8-10	**320**	**130.2**

Boring	Depth	GRO	DRO
B9	0-2	<0.6	3.3
	6-8	<0.6	0.1
	14-15	<0.6	23

Boring	Depth	GRO	DRO
B10	0-2	**81.7**	26.2
	4-6	<0.5	25.3
	8-10	**71.5**	**274.3**

Boring	Depth	GRO	DRO
B11	0-2	<1.8	63.7
	4-6	<0.5	17.9

Boring	Depth	GRO	DRO
B12	2-4	<0.4	15
	6-8	<0.7	0.4

Boring	Depth	GRO	DRO
B13	0-2	<0.6	1.4
	4-6	<0.5	0.16
	8-10	<0.6	<0.25

Boring	Depth	GRO	DRO
B14	2-4	<0.7	0.08
	6-8	<0.3	0.5

Boring	Depth	GRO	DRO
B15	2-4	<0.22	<0.09
	8-10	<0.5	19.4

Boring	Depth	GRO	DRO
B16	2-4	<0.6	23.8
	8-10	<0.15	<0.06

Boring	Depth	GRO	DRO
B17	0-2	<0.27	3.3
	4-6	<0.17	0.018

Boring	Depth	GRO	DRO
B18	0-2	<0.25	0.4
	6-8	<0.22	<0.09

Boring	Depth	GRO	DRO
B19	0-2	<0.27	9.7
	6-8	<0.25	<0.1

Boring	Depth	GRO	DRO
B20	0-2	<0.3	1.8
	6-8	<0.3	<0.12

Boring	Depth	GRO	DRO
B21	0-2	<0.27	9.7
	4-6	<0.17	6.2

BORING LOCATION

AREA OF INVESTIGATION

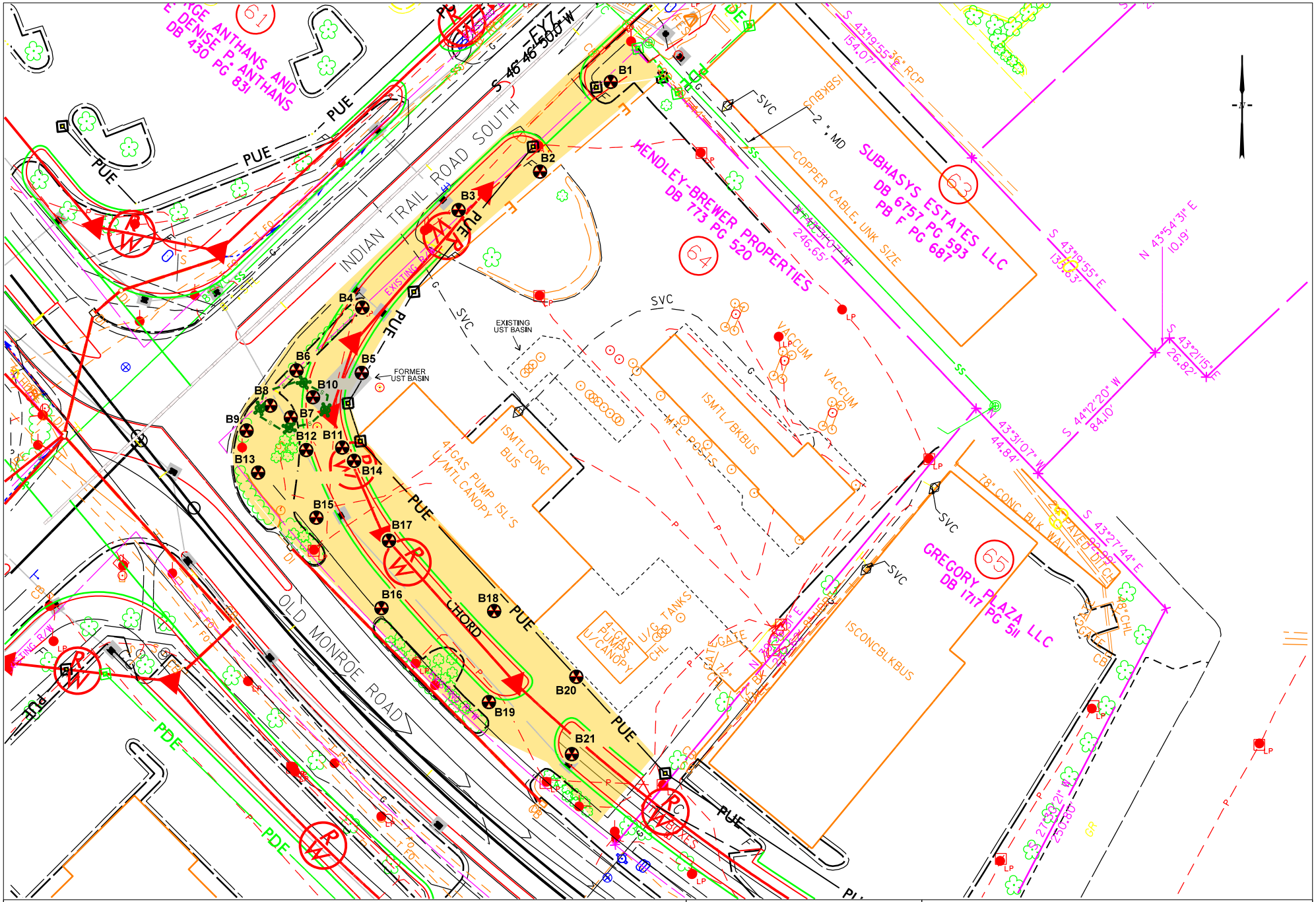
DEPTHS SHOWN IN FEET BELOW GROUND SURFACE
CONCENTRATIONS SHOWN IN MILLIGRAMS PER KILOGRAM (mg/kg)
GRO=GASOLINE RANGE ORGANICS
DRO=DIESEL RANGE ORGANICS
GRO STATE ACTION LEVEL = 50 mg/kg
DRO STATE ACTION LEVEL = 100 mg/kg
BOLD CONCENTRATION EXCEEDS RESPECTIVE STATE ACTION LEVEL

25' 0' 25' 50'
12.5'
(ENGLISH)

wood.

ANALYTICAL RESULTS MAP
U-4714B - PARCEL 64
HENDLEY-BREWER PROPERTIES
OLD MONROE ROAD
INDIAN TRAIL, NORTH CAROLINA

PREPARED BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER	FIGURE
LMM	5/20/21	AJF	5/20/21	2047U4714	3



wood.

AREA OF KNOWN SOIL CONTAMINATION
U-4714B - PARCEL 64
HENDLEY-BREWER PROPERTIES
OLD MONROE ROAD
INDIAN TRAIL, NORTH CAROLINA

PREPARED BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER	FIGURE
LMM	7/20/21	DRH	7/20/21	2047U4714	4

APPENDIX A

SELECT INFORMATION FROM FILE REVIEW

Agra Environmental

Limited Site Assessment Report Phase I

Former Godfrey Indian Trail Gulf
4303 Old Monroe Road
Indian Trail, Union County, NC

Risk Classification: Recommended High
UST Incident Number: 13116
Facility I.D.: Unknown

Date of Report:
March 31, 2010

Former UST Owner:
Brewer-Hendley Oil Company
PO Box 769
Marshville, NC 28103

Current UST Owner:
Brewer-Hendley Oil Company
PO Box 769
Marshville, NC 28103

Current Property Owner:
Brewer-Hendley Oil Company
PO Box 769
Marshville, NC 28103

Source of Release:
Three (3) 1,000-gallon USTs

Latitude and Longitude
35° 04.083 N
80° 40.712 W

Prepared By:
Agra Environmental, Inc
P. O. Box 5611
Cary, NC 27512
Phone: (919) 858-5350

Report Certification:
Raj B. Shah, P.E.



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4. City Personnel Contact Information
5. Well Construction Data
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1. Site Location Map
2. Site Map
3. Surrounding Property Map
4. Groundwater Results

Appendices

Risk Classification and Land Use Form
Well Construction Records
Laboratory Analytical Results
Site Photographs

A. Site History:

The subject site is located at 4303 Old Monroe Road in Indian Trail, Union County, North Carolina (Figure 1 and Figure 2). Three (3) 1,000-gallon underground storage tanks-USTs (UST-1, UST-2 and UST-3) were removed from the property on August 7, 1990. Soil samples collected during the closure revealed contamination exceeding the regulatory standard. One (1) active water supply well was identified approximately 700 ft from the site in May 2005.

Site Investigation Activities:

Agra Environmental, Inc. (Agra) performed a Limited Site Assessment (LSA) Phase I at the site on March 15, 2010. The property is currently an active Exxon gas station and Subway restaurant identified as Market Express. The site currently operates one (1) 12,000-gallon (UST-4), 20,000-gallon (UST-5), and 4,000-gallon (UST-5) USTs. UST information and UST ownership information are included in Table 1 and Table 2. Site photographs are included in the Appendix.

A door-to-door survey of the surrounding properties was conducted to identify active off-site private water supply wells within 1,000 ft of the subject site. One (1) active private water supply well (WSW-1) was identified approximately 700 ft form the site. An interview with the property owner, Mr. Jeff Turnbull, stated that WSW-1 is an active functional well. Additionally, the property associated with WSW-1 is not connected to the public water supply. Mr. Jeff Turnbull stated that the property is currently for sale. No other water supply wells were identified within 1,000 ft of the site.

An interview with Mr. Finley of the Union County Environmental Health Department revealed that all new water supply wells installed in the area are required to obtain a permit from the Union County Environmental Health Department. However, Mr. Finley stated that their records only date back to 2008. Mr. Finley indicated that his records only had a permit (dated 2008) for indicated one (1) water supply well (WSW-2), located approximately 1,300 ft from the site (Table 3 and Figure 3).

Mr. Scott Kaufold, Town Engineer for the Town of Indian Trail, stated that the city is currently planning on expanding the adjacent roadway of Old Monroe Road and Indian Trail Road as part of a Congestion Mitigation and Air Quality (CMAQ) project, #C4960. Mr. Kaufold stated that as part of the CMAQ project, the roadway would be expanded into the existing property in proximity to the former UST basin location. City and County contact information is included in Table 4.

Drainage ditches were identified along Indian Trail Road, approximately 100 ft from MW-1 (Figure 2). The drainage ditches appear to flow in the northeast direction and empty into the South Fork Crooked Creek, approximately 1,500 ft from the site. No other surface water bodies were identified within 1,000 ft of the site.

A water tower was identified approximately 400 ft to the southwest of the site. The Union County Public Works Department was contacted to confirm that public water is available to the

surrounding area and to determine if any public water supply wells were located within 1,000 ft of the site. Union County currently supplies drinking water to the site and surrounding properties. The water tower is only used to provide pressure for the surrounding water and there are no water supply wells associated with the water tower. The western portion of Union County (including the subject site) currently receives their drinking water from the Catawba River. The eastern portion of the county receives their drinking water from Anson County, who in turn receive their water from the Pee Dee River. As such, no public water supply wells are located within 1,000 ft of the subject site. City and county personnel contact information is included in Table 4.

Environmental Drilling and Probing Services of Charlotte, NC, (EDP) installed one (1) type II monitoring well (MW-1) at the site on March 15, 2010. Prior to the well installation, the Union County Water Department was contacted to mark off the location of the water line in proximity to the site. Public water supply lines are located underneath the roadway of Indian Trail Road. The closest water line is located approximately 50 ft from MW-1. Additionally, Mr. John Hendley, property owner, was contacted to locate the former UST basin. Mr. Hendley stated that one of his maintenance employees, Mr. Calvin Gordon, would be able to provide some information regarding the UST closure. Mr. Gordon stated that he remembered that the former USTs were grouped together into a single tank pit located at the west corner of the property. Mr. Gordon could not be present during the well installation, however, he did mark the center of the UST basin with a large "X" prior to the well installation activities. Photographs of the site are included in the Appendix.

MW-1 was installed in the center of the former UST basin of UST-1, UST-2 and UST-3 (Figure 2). MW-1 was installed to a depth of 30 ft below ground level (BGL). The soil encountered during the installation was primarily tight clay. During the well installation, the groundwater table was not initially identified at a depth of 25 ft. After over 1 hour of waiting, and as no water was identified to be recharging into the well, approval was obtained to advance up to 50 ft BGL. Water was still not identified at 50 ft depth. As a result, the well was left open for the rest of the day. At the end of the day, Agra and Environmental Drilling and Probing Services personnel returned to the site and the depth to groundwater was measured to be 23.5 ft below the top of the well casing. As such, MW-1 was set at 30 ft BGL. Well construction information is included in Table 5 and in the Appendix. Soil samples were collected during the well installation at 5 ft intervals (5 ft, 10 ft, 15 ft, and 20 ft), as there was no information in the file regarding backfill material used during the UST closure activities.

Agra personnel collected groundwater samples from MW-1on March 15, 2010. Depth to groundwater, from the top of the well casing was measured and recorded (Table 5). MW-1 was then purged of groundwater, three (3) times its well volume, prior to the collection of groundwater samples using disposable gloves and a disposable polyethylene bailer.

The groundwater samples were collected in 40-ml vials with hydrochloric acid (HCL) preservative, 1-liter amber jars, and 8-ounce high-density polyethylene (HDPE) bottles. Quality control and quality assurance samples were also collected during the sampling event. All the soil and groundwater samples were then placed on ice and shipped under chain-of-custody to Shealy Environmental Services for analysis.

Laboratory analysis of the soil samples revealed soil contamination in soil samples MW-1-15 and MW-1-20, which were collected at a depth of 15 ft and 20 ft, respectively. The contaminanation concentrations in the samples exceeded the method detection limit but not the respective Soil-to-Groundwater Maximum Soil Contaminant Level (MSCC) standards (Table 6). The lack of contaminated soils in the 5 ft and 10 ft samples may indicate that the backfill material used during the UST closure activities, consisted of clean fill material.

Laboratory analysis of the groundwater samples revealed several petroleum contaminants in MW-1 exceeding the 15A NCAC 2L groundwater standards. Additionally, benzene (5,100 parts per billion (ppb)) was detected exceeding its gross contamination level (GCL) of 5,000 ppb (Table 7 and Figure 4)

B. Risk Characterization

The Risk Classification and Land Use forms are attached in the Appendix.

C. Receptor Information

1. **Water Supply Wells**

   A door-to-door survey to identify off-site water supply wells was performed at properties within 1,000 ft of the subject site. One (1) active water supply well was identified approximately 700 ft from the site (Table 3 and Figure 3). An interview with the property owner, Mr. Jeff Turnbull, stated that WSW-1 is an active functional well. Mr. Jeff Turnbull stated that the property is currently for sale and that he was not interested in abandoning WSW-1, as that may delay the sale, and value, of his property. The Union County Water Department confirmed that the property associated with WSW-1 is not connected to the public water supply. No other water supply wells were identified within 1,000 ft of the site.

   All new private water supply wells installed in the area of the subject site must obtain a permit from the Union County Department of Environmental Health. However, an interview with Mr. David Finley of the Environmental Health Department revealed that only the records of new wells, installed after 2008, are maintained by their department and that they do not have any records of wells installed before 2008. Mr. Finley identified one (1) water supply well (WSW-2), installed in 2008, located approximately 1,300 ft from the site (Table 3 and Figure 3). City and county personnel contact information is included in Table 4.

2. **Public Water Supplies**

   A telephone interview with the Union County Water Department confirmed that public water is available to the site and surrounding area. A water tower was identified approximately 400 ft from the site, however, the tower is only used to provide pressure for the water in the area and is not associated with a well. The western portion of Union County (including the subject site) currently receives their drinking water from the Catawba River. The eastern portion of the county receives their drinking water from Anson County, who in turn receive their water from the Pee Dee River. As such, no public water

supply wells are located within 1,000 ft of the subject site. A public water supply line is located underneath the adjacent roadways of Old Monroe Road and Indian Trail Road, approximately 50 ft from MW-1. City and county personnel contact information is included in Table 4.

3. **Surface Water**
   Drainage ditches were observed in the DOT right-of-way, along Indian Trail Road (Figure 2). The closest ditch is located approximately 100 ft from MW-1. The drainage ditches appear to flow in the northeast direction and empty into the South Fork Crooked Creek, approximately 1,500 ft from the site (Figure 1). No other surface water bodies were identified within 1,000 ft of the site.

4. **Wellhead Protection Areas**
   A telephone interview with the Union County Water Department revealed that no wellhead protection areas are located within 1,000 ft of the site.

5. **Deep Aquifers in the Coastal Plain Physiographic Region**
   According to the Geologic Map of North Carolina (1985) the site is not located within the Coastal Plain Physiographic Region.

6. **Subsurface Structures**
   One 12,000-gallon UST, One (1) 20,000-gallon UST, and one (1) 4,000-gallon UST are located at the site. A public water line is located in the Department of Transpiration (DOT) right-of-way, approximately 50 ft from MW-1.

7. **Land Use**
   The surrounding area is a mixture of commercial businesses and residential properties.

8. **Property Owners and Occupants**
   The surrounding property ownership information is included in Table 3 and Figure 3.

D. Site Geology and Hydrogeology

According to the Geologic Map of North Carolina (1985) the site is located in the Cid Formation of the Carolina Slate Belt. Soils within this formation consist of thin to thick-bedded metamudstone and meta-argillite and interbedded with metasandstone, metaconglomerate, and metavolcanic rock. Soils encountered during the installation of MW-1 were tight red clay.

E. Sampling Results

Soil

During the installation of MW-1, four (4) soil samples, MW-1-5, MW-1-10, MW-1-15, and MW-1-20, were collected at depths of 5 ft, 10 ft, 15 ft, and 20 ft BGL, respectively. Petroleum contamination was detected in soil samples MW-1-15 and MW-1-20 exceeding the method detection limits but not the respective Soil-to-Groundwater MSCC standards (Table 6). The lack of petroleum contamination in the 5 ft and 10 ft soil samples may

indicate that the former UST basin was backfilled with clean fill material after the removal of UST-1, UST-2, and UST-3. Laboratory analytical results are included in Table 6 and in the Appendix.

Groundwater

Agra personnel installed one (1) type II monitoring well (MW-1) at the site on March 15, 2010 by Environmental Drilling and Probing Services of Charlotte, NC. MW-1 was installed to a depth of 30 ft BGL in the former UST basin. Depth to groundwater was measured to be 23.5 ft below the top of the well casing. Well construction information is included in Table 5 and in the Appendix.

Agra personnel collected groundwater samples from MW-1 on March 15, 2010. MW-1 was purged of groundwater, three (3) times its well volume, prior to the collection of groundwater samples using disposable gloves and a disposable polyethylene bailer. The groundwater samples were collected in 40-ml vials with hydrochloric acid (HCL) preservative, 1-liter amber jars, and 8-ounce high-density polyethylene (HDPE) bottles. Quality control and quality assurance samples were also collected during the sampling event. All the soil and groundwater samples were then placed on ice and shipped under chain-of-custody to Shealy Environmental Services for analysis.

Laboratory analysis of the groundwater samples revealed several petroleum contaminants in MW-1 exceeding the 15A NCAC 2L groundwater standards. Additionally, benzene (5,100 parts per billion (ppb)) was detected in MW-1 exceeding its GCL of 5,000 ppb (Table 7 and Figure 4)

Free Product Investigation

No free product was observed during this sampling event.

F. Conclusions and Recommendations

Laboratory analysis revealed petroleum contamination in MW-1 exceeding the 15A NCAC 2L groundwater standards. Additionally, benzene was detected in MW-1 (5,100 ppb) exceeding the GCL level of 5,000 ppb.

Public water is available to the surrounding area, however, one (1) active water supply well (WSW-1) was identified approximately 700 ft of the site. A drainage ditch, located approximately 100 ft from MW-1, appears to flow in the northwest direction and empties into the South Fork Crooked Creek, approximately 1,500 ft from the site. The contaminant concentration in MW-1 exceeds the surface water standard by a factor of 10.

Agra recommends that the site be ranked "High Risk". Agra recommends that a Comprehensive Site Assessment be performed at the site to determine the extent of the soil and groundwater contamination at the site.

TABLES

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 1
UST Information

Tank No.	UST Contents	Capacity (gallons)	Date Installed	Date Removed	Tank Dimensions	Associated with Release?
UST-1	Unknown	1,000	Unknown	8/7/1990	Unknown	Yes
UST-2	Unknown	1,000	Unknown	8/7/1990	Unknown	Yes
UST-3	Unknown	1,000	Unknown	8/7/1990	Unknown	Yes
UST-4	Gasoline	12,000	1996	NA	Unknown	No
UST-5	Gasoline	20,000	1996	NA	Unknown	No
UST-6	Diesel	4,000	1996	NA	Unknown	No

Table 2
UST Ownership Information

UST #	UST Owner	Address	Telephone #	Date of Ownership
UST-1 UST-2 UST-3	Brewer-Hendley Oil Company	PO Box 769 Marshville, NC 28103	704-233-2600	Unknown - 8/7/1990
UST-4 UST-5 UST-6	Brewer-Hendley Oil Company	PO Box 769 Marshville, NC 28103	704-233-2600	1996 - Present

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 3
Surrounding Property Owner Information

Map ID	Property Owner (WSW #)	Property Address*	Property Owner's Address	Contact #
1 SITE	HENDLEY-BREWER PROPERTIES	4303 OLD MONROE RD INDIAN TRAIL, NC 28079	P O BOX 769 MARSHVILLE, NC 28103	704-233-2600
2	GREGORY PLAZA LLC	4305 OLD MONROE RD INDIAN TRAIL, NC 28079	5640 SUNSTAR CT CHARLOTTE, NC 28226	704-540-9740
3	INDIAN TRAIL PROPERTIES LIMITED PARTNERSHIP	4423 OLD MONROE RD INDIAN TRAIL, NC 28079	6747-C FAIRVIEW RD CHARLOTTE, NC 28210	Not Listed
4	NIKOLAIDIS ILIAS & MARIA NIKOLAIDIS TRUSTEES	601 - 637 INDIAN TRIAL RD INDIAN TRAIL, NC 28079	8535 FOXBRIDGE DR WEDDINGTON, NC 28104	704-841-9025
5	NIKOLAIDIS ILIAS & MARIA NIKOLAIDIS TRUSTEES	553 INDIAN TRAIL RD INDIAN TRAIL, NC 28079	8535 FOXBRIDGE DR WEDDINGTON, NC 28104	704-841-9025
6	JLC ENTERPRISE LLC	NA	1409 ASHSTEAD LN MATTHEWS, NC 28105	Not Listed
7	ATHANS GEORGE & WF DENISE P ET AL	604 - 626 INDIAN TRAIL RD INDIAN TRAIL, NC 28079	PO BOX 1094 MATTHEWS, NC 28106	704-821-9947
8	ATHANS GEORGE &WIFE &GEORGE ATHANASI	NA	PO BOX 1094 MATTHEWS, NC 28106	704-821-7747
9	ATHANS GEORGE ET AL	596 WAXHAW INDIAN TRAIL RD INDIAN TRAIL, NC 28079	PO BOX 1094 MATTHEWS, NC 28106	704-821-9947
10	PRIVETTE GAY D & WIFE JANICE W	NA	5819 POPLIN RD INDIAN TRAIL, NC 28079	704-882-6023
11	HELMS CAMERON B & JEREMY R HARVEY & MICHAEL WALTERS	108 CHEROKEE LN INDIAN TRAIL, NC 28079	309 POST OFFICE DR INDIAN TRAIL, NC 28079	Not Listed
12	WILTSHIRE BRIAN & KATHRYN LOUISE	106 CHEROKEE LN INDIAN TRAIL, NC 28079	106 CHEROKEE LN INDIAN TRAIL, NC 28079	704-821-4959
13	RALEY VANESSA P	104 CHEROKEE LN INDIAN TRAIL, NC 28079	2010 FORMOSA DR MONROE, NC 28110	Not Listed
14	NARRON ESTHER G	NA	P O BOX 129 INDIAN TRAIL, NC 28079	704-531-0372
15	ALPHA OMEGA LAND DEVELOPMENT INC	4216 OLD CHARLOTTE HWY INDIAN TRAIL, NC 28079	PO BOX 3196 MATTHEWS, NC 28106	Not Listed
16	ALPHA OMEGA LAND DEVELOPMENT INC	NA	PO BOX 3196 MATTHEWS, NC 28106	Not Listed
17	RUSHING CONSTRUCTION COMPANY	NA	P O BOX 267 INDIAN TRAIL, NC 28079	704-821-6662

* Property addresses and property owner's addresses were obtained from the Union County Online GIS system.

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 3
Surrounding Property Owner Information

Map ID	Property Owner (WSW #)	Property Address*	Property Owner's Address	Contact #
18	INDIAN TRAIL PLAZA LLC	1016 WAXHAW INDIAN TRAIL RD INDIAN TRAIL, NC 28079	PO BOX 3196 INDIAN TRAIL, NC 28079	Not Listed
19	CVS Pharmacy	Not Listed	Not Listed	NA
20	UNION COUNTY PUBLIC WORKS	NA	400 N CHURCH ST MONROE, NC 28112-4804	704-296-4210
21	PMSV INDIAN TRAIL LP	1105 WAXHAW INDIAN TRAIL RD INDIAN TRAIL, NC 28079	3903 BELLAIRE BLVD HOUSTON, TX 77025	Not Listed
22	TWO COUSINS PROPERTIES LLC	NA	624 INDIAN TRAIL RD INDIAN TRAIL, NC 28079	Not Listed
23	CROOK HERMAN CLYDE & CAROLYN H	4332 OLD MONROE RD INDIAN TRAIL, NC 28079	202 MAPLEWOOD AVE THOMASVILLE, NC 27360	336-475-9623
24	CAH HOLDINGS LLC	4416 OLD MONROE RD INDIAN TRAIL, NC 28079	1521 E THIRD ST CHARLOTTE, NC 28204	704-384-4100
25	BOULEVARD EAST LLC	4432 OLD MONROE RD INDIAN TRAIL, NC 28079	1310 S TRYON ST CHARLOTTE, NC 28203	704-821-3066
26	HELMS CAMERON BRENT	NA	3712 LAWYERS RD MONROE, NC 28110	704-635-7393
27	OLD MONROE DEVELOPMENT LLC	NA	3712 LAWYERS RD MONROE, NC 28110	704-635-7393
28	PMSV INDIAN TRAIL LP	1105 WAXHAW INDIAN TRAIL RD INDIAN TRAIL, NC 28079	3903 BELLAIRE BLVD HOUSTON, TX 77025	704-635-7393
29	JEFF TURNBULL **(WSW-1 Active)**	1111 WAXHAW-INDIAN TRAIL RD INDIAN TRAIL, NC 28079	5438 MEADOW HAVEN LN CHARLOTTE, NC 28270	704-907-5218
30	ALPHA OMEGA LAND DEVELOPMENT INC	1014 WAXHAW INDIAN TRAIL RD INDIAN TRAIL, NC 28079	PO BOX 3196 MATTHEWS, NC 28106	704-845-1513
31	ALPHA OMEGA LAND DEVELOPMENT INC	1318 WAXHAW-INDIAN TRAIL RD INDIAN TRAIL, NC 28079	PO BOX 3196 MATTHEWS, NC 28106	704-684-6280
32	RADESKY MICHAEL O & PAMELA G	NA	8902 COTTON PRESS RD CHARLOTTE, NC 28277	Not Listed
33	ALPHA OMEGA LAND DEVELOPMENT INC	4218 OLD CHARLOTTE HWY INDIAN TRAIL, NC 28079	PO BOX 3196 MATTHEWS, NC 28106	Not Listed
34	HINSON ERNEST L HEIRS	4200 OLD MONROE RD INDIAN TRAIL, NC 28079	4200 OLD MONROE RD INDIAN TRAIL, NC 28079	704-821-8827
35	CLAYTON STEVE MAYNARD JR	115 WOODLAND RD INDIAN TRAIL, NC 28079	115 WOODLAND RD INDIAN TRAIL, NC 28079	Not Listed
36	MORRIS GEORGIA	117 WOODLAND RD INDIAN TRAIL, NC 28079	117 WOODLAND RD INDIAN TRAIL, NC 28079	704-821-3720
37	MULLIS ROBERT CHARLES & WIFE ROBIN S	NA	2506 POTTER RD S WAXHAW, NC 28173	Not Listed

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 3
Surrounding Property Owner Information

Map ID	Property Owner (WSW #)	Property Address*	Property Owner's Address	Contact #
38	RADESKY MICHAEL O & PAMELA G	NA	8902 COTTON PRESS RD CHARLOTTE, NC 28277	Not Listed
39	STILWELL KENNETH W & WIFE ELIZABETH	4213 OLD MONROE RD INDIAN TRAIL, NC 28079	4213 OLD MONROE RD INDIAN TRAIL, NC 28079	704-821-2820
40	HARTIS JERRY EDMOND & DOROTHY K	4205 OLD MONROE RD INDIAN TRAIL, NC 28079	4205 OLD MONROE RD INDIAN TRAIL, NC 28079	Not Listed
41	HENDERSON TERRY M & NANCY	100 CHEROKEE LN INDIAN TRAIL, NC 28079	100 CHEROKEE LN INDIAN TRAIL, NC 28079	Not Listed
42	YELTON DONALD & FRANCES	102 CHEROKEE LN INDIAN TRAIL, NC 28079	102 CHEROKEE LN INDIAN TRAIL, NC 28079	Not Listed
43	WEBB JAMES T & ANITA	4133 OLD MONROE RD	109 DUNDIN PL MATTHEWS, NC 28104	Not Listed
44	ESTEP NORMAN E & JACQUELYN	134 KEOWEE CIR INDIAN TRAIL, NC 28079	134 KEOWEE CIR INDIAN TRAIL, NC 28079	704-821-5417
45	EPPLEY DAVID ALWIN & MARIE	133 KEOWEE CIR INDIAN TRAIL, NC 28079	133 KEOWEE CIR INDIAN TRAIL, NC 28079	704-821-8230
46	HANNAN LEONA D	135 KEOWEE CIR INDIAN TRAIL, NC 28079	135 KEOWEE CIR INDIAN TRAIL, NC 28079	704-821-7857
47	TINDALL EDITH S	NA	113 CHEROKEE LN INDIAN TRAIL, NC 28079	704-821-7814
48	TINDALL EDITH S	NA	113 CHEROKEE LN INDIAN TRAIL, NC 28079	704-821-7814
49	TINDALL EDITH S	NA	113 CHEROKEE LN INDIAN TRAIL, NC 28079	704-821-7814
50	TINDALL EDITH S	113 CHEROKEE LN INDIAN TRAIL, NC 28079	113 CHEROKEE LN INDIAN TRAIL, NC 28079	704-821-7814
51	BYRUM WILLIAM L & JANICE E	115 CHEROKEE LN INDIAN TRAIL, NC 28079	115 CHEROKEE LN INDIAN TRAIL, NC 28079	Not Listed
52	SCHOTT KENNETH P & BARBARA	110 CHEROKEE LN INDIAN TRAIL, NC 28079	110 CHEROKEE LN INDIAN TRAIL, NC 28079	704-821-3981
53	SOUTHERN CLASSICS BUILDERS INC	NA	P O BOX 342 INDIAN TRAIL, NC 28079	Not Listed
54	SOUTHERN CLASSICS BUILDERS INC	NA	P O BOX 342 INDIAN TRAIL, NC 28079	Not Listed
55	NANCE WILMA DEHART	118 CHEROKEE LN INDIAN TRAIL, NC 28079	118 CHEROKEE LN INDIAN TRAIL, NC 28079	704-821-8035
56	NANCE WILMA DEHART	NA	118 CHEROKEE LN INDIAN TRAIL, NC 28079	704-821-8035
57	NANCE JAMES HENRY & JUNE	NOT LISTED	PO BOX 2578 INDIAN TRAIL, NC 28079	704-753-4224

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 3
Surrounding Property Owner Information

Map ID	Property Owner (WSW #)	Property Address*	Property Owner's Address	Contact #
58	SOUTHERN CLASSICS BUILDERS INC	NA	P O BOX 342 INDIAN TRAIL, NC 28079	Not Listed
59	POST JOSEPH MARTIN & JULIE LEA POST	NOT LISTED	117 CHEROKEE LN INDIAN TRAIL, NC 28079	704-821-1300
60	CRULL HENRY IV & WIFE CAROLYN	101 COVENTRY DR INDIAN TRAIL, NC 28079	101 COVENTRY DR INDIAN TRAIL, NC 28079	704-821-1518
61	CASON WESLEY E & NATALIE A	132 LAUREN DR INDIAN TRAIL, NC 28079	7207 KIDWELLY LN MATTHEWS, NC 28104	704-684-0055
62	PARKER THOMAS	134 LAUREN DR INDIAN TRAIL, NC 28079	134 LAUREN DR INDIAN TRAIL, NC 28079	Not Listed
63	HARBISON JAMES & NIKO GAITHER	135 LAUREN DR INDIAN TRAIL, NC 28079	135 LAUREN DR INDIAN TRAIL, NC 28079	704-821-7758
64	SMITH JANE L	133 LAUREN DR INDIAN TRAIL, NC 28079	133 LAUREN DR INDIAN TRAIL, NC 28079	Not Listed
65	BT SOUTH PROPERTIES LLC	131 LAUREN DR INDIAN TRAIL, NC 28079	4517 BINFORDS RIDGE RD CHARLOTTE, NC 28226	704-541-8835
66	BOLINGER STACIE P & ANNE D MUDABAI	129 LAUREN DR INDIAN TRAIL, NC 28079	129 LAUREN DR INDIAN TRAIL, NC 28079	Not Listed
67	STEGALL PAMELA A	127 LAUREN DR INDIAN TRAIL, NC 28079	P O BOX 1736 INDIAN TRAIL, NC 28079	Not Listed
68	MANRIQUE GABRIEL JOSE ZAVALA & BELLA	125 LAUREN DR INDIAN TRAIL, NC 28079	125 LAUREN DR INDIAN TRAIL, NC 28079	704-821-9899
69	TAYLOR SCOTT	123 LAUREN DR INDIAN TRAIL, NC 28079	1809 KILMONACK LN CHARLOTTE, NC 28270	Not Listed
70	FULTON DENISE L	121 LAUREN DR INDIAN TRAIL, NC 28079	121 LAUREN DR INDIAN TRAIL, NC 28079	704-684-5393
71	RUBIO JOSE PEDRO	119 LAUREN DR INDIAN TRAIL, NC 28079	119 LAUREN DR INDIAN TRAIL, NC 28079	704-684-5178
72	COPUS JOSEPH MILTON	205 LAUREN DR INDIAN TRAIL, NC 28079	205 LAUREN DR INDIAN TRAIL, NC 28079	704-821-7730
73	TAYLOR ELIZABETH LYNN	207 LAUREN DR INDIAN TRAIL, NC 28079	207 LAUREN DR INDIAN TRAIL, NC 28079	704-821-2719
74	HIGH HARRIS B & CAROLYN MCCALL	4431 OLD MONROE RD INDIAN TRAIL, NC 28079	PO BOX 1560 INDIAN TRAIL, NC 28079	704-821-2960
75	UNION MEMORIAL HOSPTIAL INC	4503 OLD MONROE RD INDIAN TRAIL, NC 28079	P O BOX 5003 MONROE, NC 28111	704-821-6900
76	POOLE SCOTT M	130 LAUREN DR INDIAN TRAIL, NC 28079	130 LAUREN DR INDIAN TRAIL, NC 28079	Not Listed
77	TOMBERLIN RANDY RYAN	128 LAUREN DR INDIAN TRAIL, NC 28079	128 LAUREN DR INDIAN TRAIL, NC 28079	704-821-0556

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 3
Surrounding Property Owner Information

Map ID	Property Owner (WSW #)	Property Address*	Property Owner's Address	Contact #
78	YAGHMAEI MAJID & WIFE BETTY	126 LAUREN DR INDIAN TRAIL, NC 28079	126 LAUREN DR INDIAN TRAIL, NC 28079	704-821-2692
79	BOWEN HELEN R	124 LAUREN DR INDIAN TRAIL, NC 28079	124 LAUREN DR INDIAN TRAIL, NC 28079	704-821-2644
80	WILSON ERIC D & WIFE SONIA C	122 LAUREN DR INDIAN TRAIL, NC 28079	122 LAUREN DR INDIAN TRAIL, NC 28079	Not Listed
81	FRANKS TRACEY A	120 LAUREN DR INDIAN TRAIL, NC 28079	120 LAUREN DR INDIAN TRAIL, NC 28079	Not Listed
82	HAYWOOD PENNY K	118 LAUREN DR INDIAN TRAIL, NC 28079	118 LAUREN DR INDIAN TRAIL, NC 28079	704-821-3525
83	LOCKREM ROBERT L & WIFE PATRICIA C	103 COVENTRY DR INDIAN TRAIL, NC 28079	103 COVENTRY DR INDIAN TRAIL, NC 28079	Not Listed
84	DARIENZO BEVERLY M	105 COVENTRY DR INDIAN TRAIL, NC 28079	105 COVENTRY DR INDIAN TRAIL, NC 28079	704-821-6503
85	GARCIA RENEE & ROSA ASENCIO	107 COVENTRY DR INDIAN TRAIL, NC 28079	107 COVENTRY DR INDIAN TRAIL, NC 28079	704-821-0810
86	ITZHAKI EDWARD A & LINDA M ITZHAKI T	109 COVENTRY DR INDIAN TRAIL, NC 28079	109 COVENTRY DR INDIAN TRAIL, NC 28079	704-821-3601
87	JENNINGS FRANCIS J	111 COVENTRY DR INDIAN TRAIL, NC 28079	111 COVENTRY DR INDIAN TRAIL, NC 28079	Not Listed
88	SIMPSON JOEL R & WF PAULA MCMURRAY	113 COVENTRY DR INDIAN TRAIL, NC 28079	113 COVENTRY DR INDIAN TRAIL, NC 28079	704-821-4548
89 WSW-2	Southern Equipment Company, Inc.	Not Listed	3610 Bush Street Raleigh, NC 27609	919-850-2025

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 4
City and County Personnel Contact Information

Office	Title	Name	Contact #
Union County Public Works	NA	NA	704-296-4210
Union County Department of Environmental Health	NA	David Finley	704-283-3553
Town of Indian Trail	Town Engineer	Scott Kaufold	704-821-1314

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 5
Monitoring Well Construction Data

Well I.D.#	Date Constructed	Date Measured	Total Depth (ft)	Screened Interval (ft)	Top of Casing Elevation	Depth to Water	Groundwater Elevation
MW-1	3/15/10	3/15/10	30	15-30	NM	23.5	NM

NM= Not Measured

Table 6

Summary of Soil Sampling Results

Date: 3/31/10 Incident Number and Name: #13116 Godfrey Indian Trail Gulf

Analytical Method →			8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	VPH	VPH	VPH
Contaminant of Concern →			Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	1,2,4 Trimethylbenzene	1,3,5 Trimethylbenzene	n-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	C5-e8 Aliphatic Hydrocarbons	C9-C12 Aliphatic Hydrocarbons	C9-C10 Aromatic Hydrocarbons
Lab ID	Sample ID	Date Collected													
MW-1-5	MW-1-5	3/15/10	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<4.8	<4.8	<4.8
MW-1-10	MW-1-10	3/15/10	<0.0057	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<11	<11	<11
MW-1-15	MW-1-15	3/15/10	<0.0055	0.026	0.055	0.300	0.140	0.350	0.130	0.057	0.016	0.011	9.0	36	11
MW-1-20	MW-1-20	3/15/10	<0.0058	<0.0058	<0.0058	<0.0058	0.006	0.0064	0.0069	<0.0058	<0.0058	<0.0058	<12	<12	<12
Maximum Contaminant Concentration (mg/kg)			0.0056	4.3	4.9	4.6	0.16	8.5	8.3	4.3	1.7	NS	68	540	31
Residential Soil Cleanup Levels (mg/kg)			18	1200	1560	3129	313	782	782	626	1564	NS	939	1500	469

- Results reported in mg/kg
- NA = Not Analyzed
- NS = No Standard

Table 7

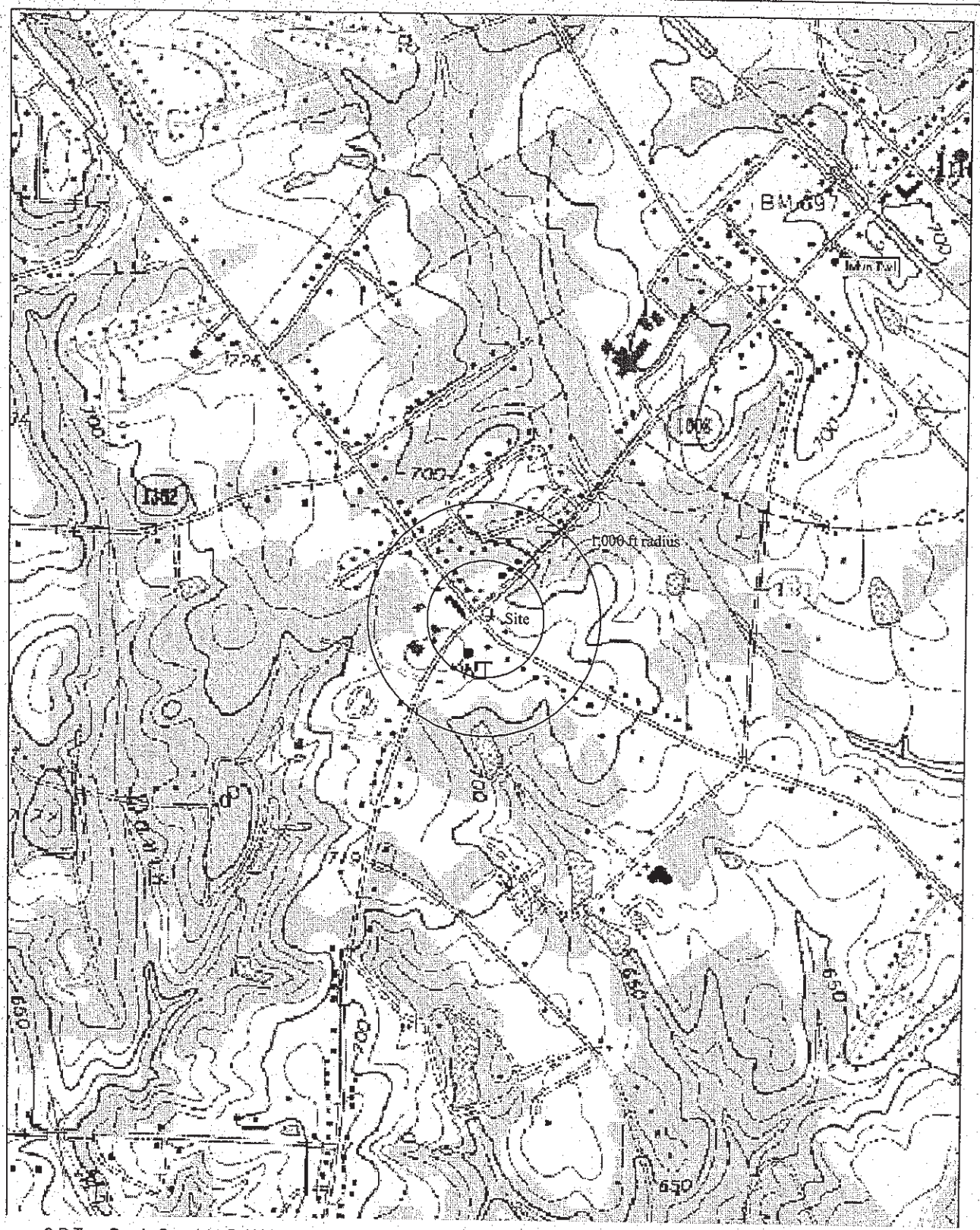
Summary of Groundwater Sampling Results

Date: 3/29/10 Incident Number and Name: #13116 Former Godfrey Indian Trail Gulf

Analytical Method →			6200B	6200B	6200B	6200B	6200B	3030C	6200B	VPH	VPH	EPH	EPH	VPH	EPH
Contaminant of Concern →			Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Lead	MTBE	C5-C8 Aliphatic	C9-C12 Aliphatic	C9-C18 Aliphatic	C19-C36 Aliphatic	C9-C10 Aromatic	C11-C22 Aromatic
Well ID	Sample ID	Date Collected													
MW-1	MW-1	3/15/10	**5,100**	450	150	**1,410**	**230**	14.0	**4,100**	**22,000**	**12,000**	<120	<120	**1,500**	**430**
2L Standard (ug/l)			1	600	600	500	6	15	20	420	4200		42000	210	
GCL (ug/l)			5000	260000	84500	85500	6000	15000	20000	NS	NS		NS	NS	

- Results reported in ug/l
- ug/L =micrograms per liter
- GCL = gross contamination level
- NS = No Groundwater Standard

FIGURES



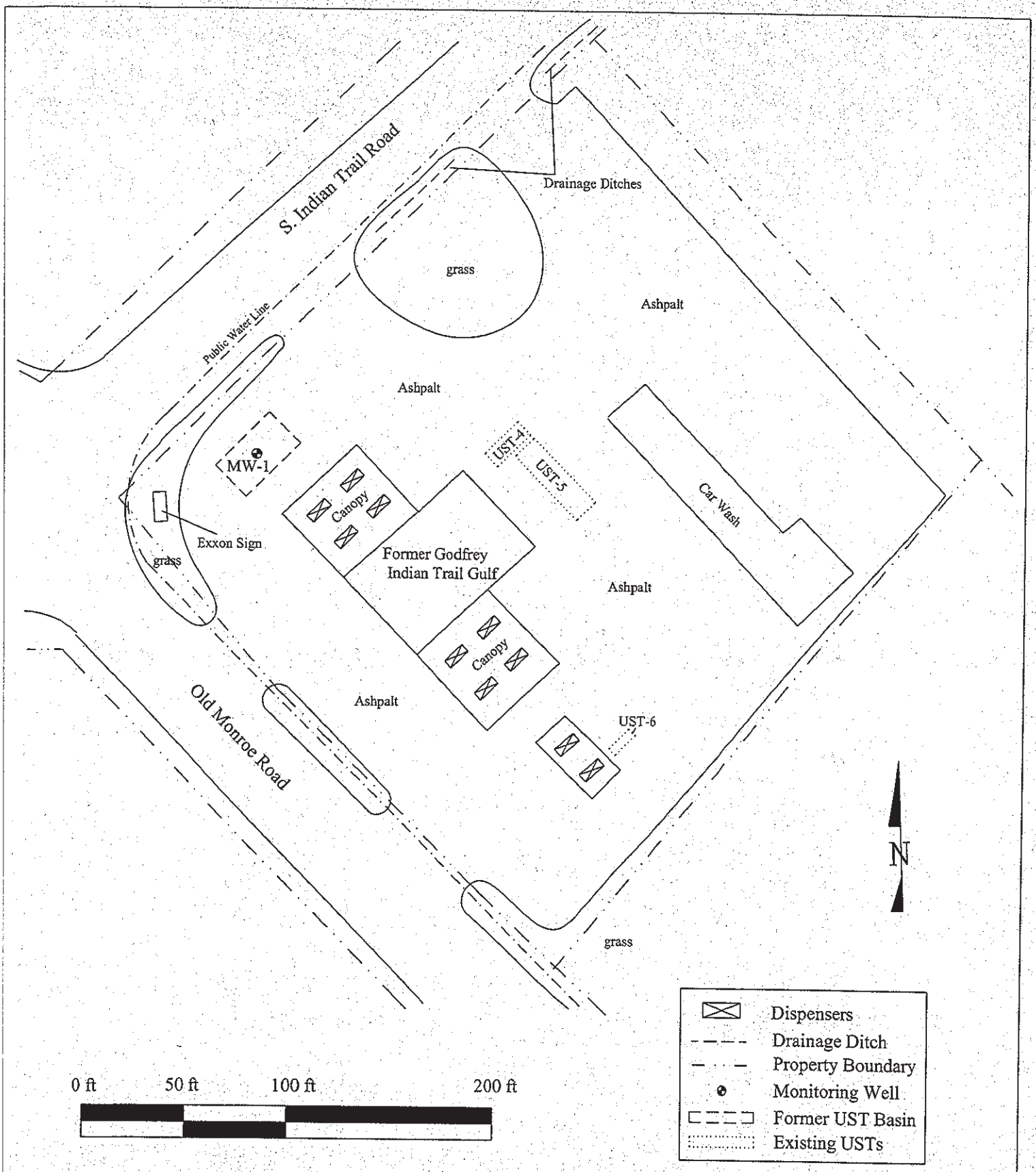
3-D TopoQuads Copyright @ 1999 Delorme Yarmouth ME 04096 Source Data USGS Scale: 1:12,800 Detail: 14-0 Datum: WGS84

0 ft 500 ft 1,000 ft

Site Location Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
P.O. Box 5611 Cary, NC 27512

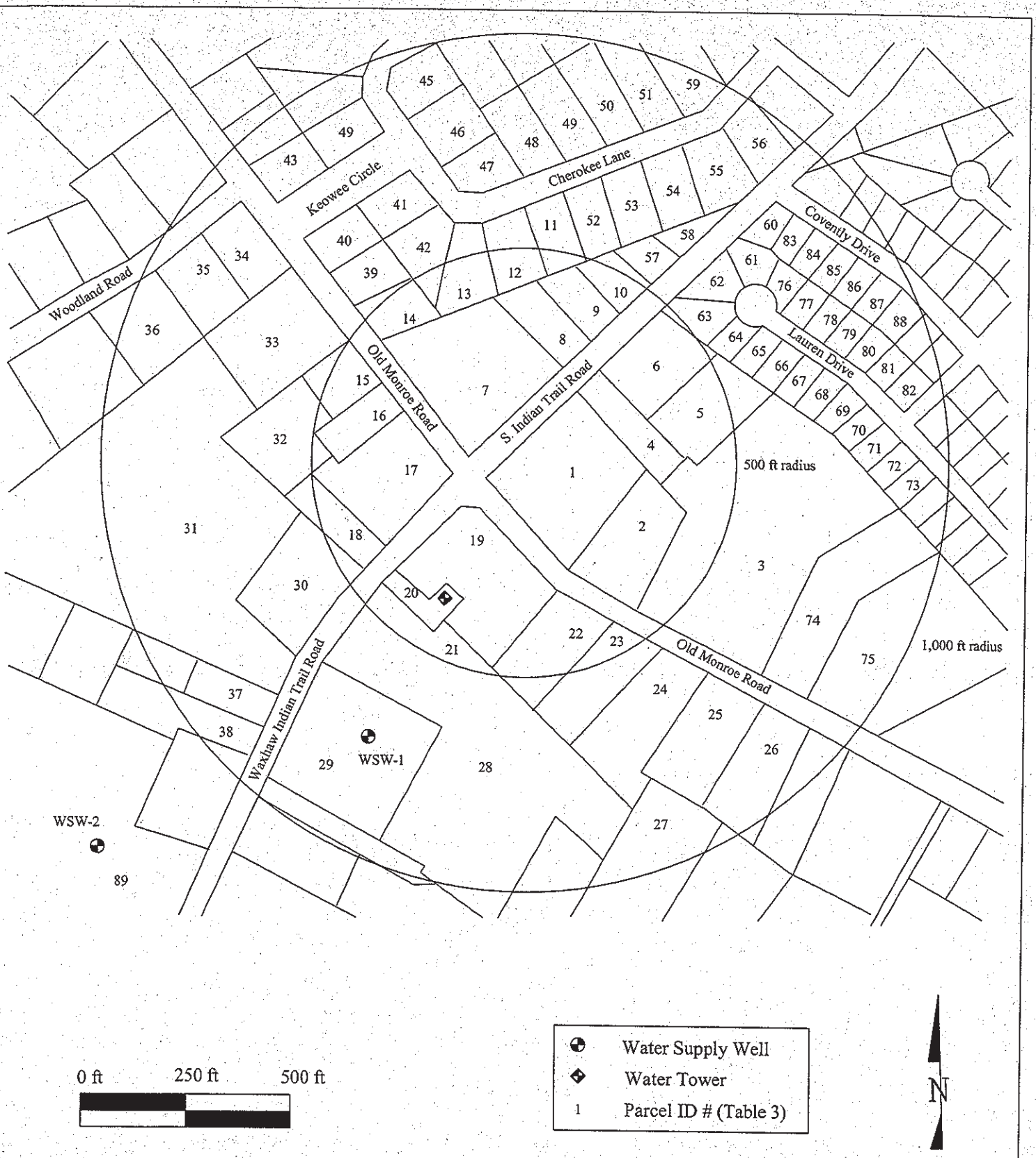
Figure No:	Scale:	Drawn By:	Checked By:	Date:	Project No:
1	As Shown	CJH	RS	3/29/10	



Site Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
P.O. Box 5611 Cary, NC 27512

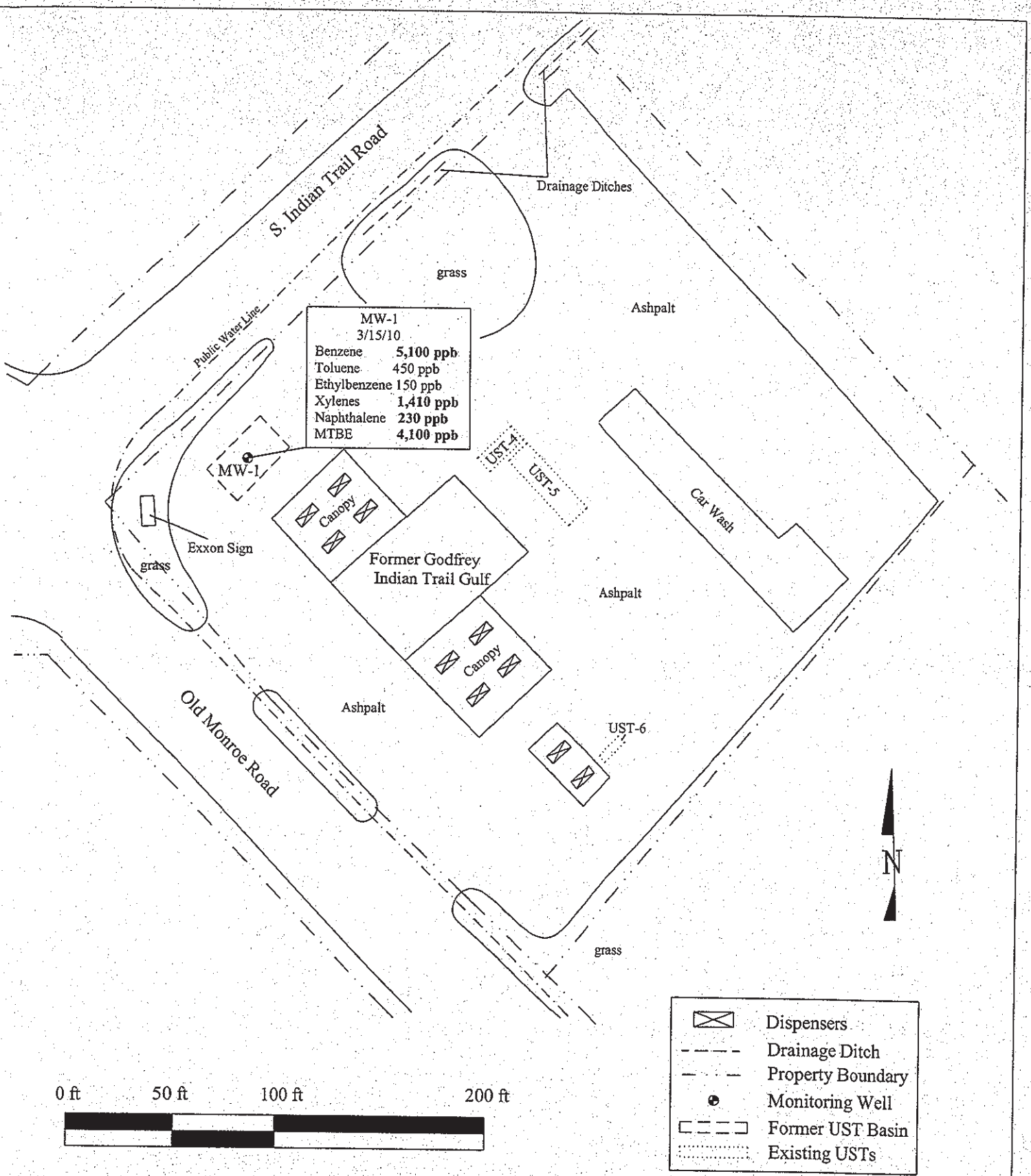
Figure No:	Scale:	Drawn By:	Checked By:	Date:	Project No:
2	As Shown	CJH	RS	3/29/10	



Surrounding Property Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
P.O. Box 5611 Cary, NC 27512

Figure No:	Scale:	Drawn By:	Checked By:	Date:	Project No:
3	As Shown	CJH	RS	3/31/10	



Groundwater Results
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
P.O. Box 5611 Cary, NC 27512

Figure No:	Scale:	Drawn By:	Checked By:	Date:	Project No:
4	As Shown	CJH	RS	3/29/10	

APPENDIX

WELL CONSTRUCTION RECORDS

NON RESIDENTIAL WELL CONSTRUCTION RECORD

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

WELL CONTRACTOR CERTIFICATION # 3307

1. WELL CONTRACTOR:

Tommy Bolyard
Well Contractor (Individual) Name

Environmental Drilling & Probing Services, LLC
Well Contractor Company Name

17538 Greenhill Road
Street Address

Charlotte NC 28278
City or Town State Zip Code

(704) 607-7529
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable) MW-1

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)

DATE DRILLED 3/12/10

4. WELL LOCATION:

Int. of Old Monore and Waxhaw Indian Trail Rd
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

CITY: Indian Trail COUNTY

TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☐Slope ☐Valley ☐Flat ☐Ridge ☐Other

LATITUDE 36 ° ' " DMS OR 3x.xxxxxxxx DD

LONGITUDE 75 ° ' " DMS OR 7x.xxxxxxxx DD

Latitude/longitude source: ☐GPS ☐Topographic map
(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)

Godfrey Indian Trail Gulf
Facility Name Facility ID# (if applicable)

Int. of Monroe/Waxhaw Indian Trail
Street Address

Indian Trail NC
City or Town State Zip Code

NA
Contact Name

Same
Mailing Address

Same
City or Town State Zip Code

( )
Area code Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 30'

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

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

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

e. **YIELD (gpm):** **METHOD OF TEST**

f. **DISINFECTION: Type** **Amount**

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

7. CASING:

Depth	Diameter	Thickness/ Weight	Material
Top 15 Bottom 0 Ft.	2	sch.40	PVC
Top Bottom Ft.			
Top Bottom Ft.			

8. GROUT:

Depth	Material	Method
Top 13 Bottom 11 Ft.	Bentonite	Tremie
Top 11 Bottom 0 Ft.	Grout	Tremie
Top Bottom Ft.		

9. SCREEN:

Depth	Diameter	Slot Size	Material
Top 30 Bottom 15 Ft.	2 in.	0.01 in.	PVC
Top Bottom Ft.	in.	in.	
Top Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth	Size	Material
Top 30 Bottom 13 Ft.	#2med	Sand
Top Bottom Ft.		
Top Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description

12. REMARKS:

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

SIGNATURE OF CERTIFIED WELL CONTRACTOR 3/22/10 DATE

Tommy Bolyard
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1b
Rev. 2/09

LAND USE AND RISK CLASSIFICATION FORM

Limited Site Assessment Risk Classification and Land Use Form

Part I – Groundwater/Surface Water/Vapor Impacts

High Risk

1. Has the release contaminated any water supply well including any well 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 of the release? **YES**
   One (1) active drinking water well is located approximately 700 ft from the site. The property associated with WSW-1 is not currently active and is in the process of being sold. However, WSW-1 is functional and the property is not connected to the public water supply.
3. Is a water supply well not used for drinking water (e.g., irrigation, washing cars, industrial cooling water, filling swimming pools) located within 250 feet of the source area of the release? **NO**
4. Does groundwater within 500 feet of the source area of the release have the potential for future use (there is no other source of water supply other than the groundwater)? **NO**
5. Do vapors from the 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**
   If yes, describe.
   _____
6. Are there any other factors that would cause the release to pose an imminent danger to public health, public safety, or the environment? **NO**
   If yes, describe.

Intermediate Risk

7. Is a surface water body located within 500 feet of the source area of the release? **YES**
   Drainage ditches are located along S. Indian Trail Road, approximately 100 ft from MW-1.

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

8. Is the source area of the release located within an approved or planned wellhead protection area as defined in 42 USC 300h-7(e)? **NO**
   If yes, describe.

9. Is the 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 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? **NO**
   If YES, describe.

10. Do the levels of groundwater contamination for any contaminant exceed the gross contamination levels (see Table 9) established by the Department? **YES**
    Benzene was detected in MW-1 (5,000 ppb) at the GCL of 5,000 ppb.

Part II - Land Use

Property Containing Source Area of 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**
   Describe.
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**
   Describe. The site is an active gas station.
4. Do children visit the property? **YES**
   Explain.
   The site is an gas station and may be visited by children.
5. Is access to the property reliably restricted consistent with its use (e.g., by fences, security personnel or both)? **NO**
   Explain. The property is not fenced or restricted.
6. Do pavement, buildings, or other structures cap the contaminated soil? **NO**
   Describe.

   If yes, what mechanisms are in place or can be put into place to ensure that the contaminated soil will remain capped in the foreseeable future?
7. What is the zoning status of the property?
   The zoning status of the property is Commercial.
8. Is the use of the property likely to change in the next 20 years? **NO**
   The property has been and is currently being used as a commercial gas station and there is no reason it would not continue to be used as such.

Property Surrounding Source Area of Release

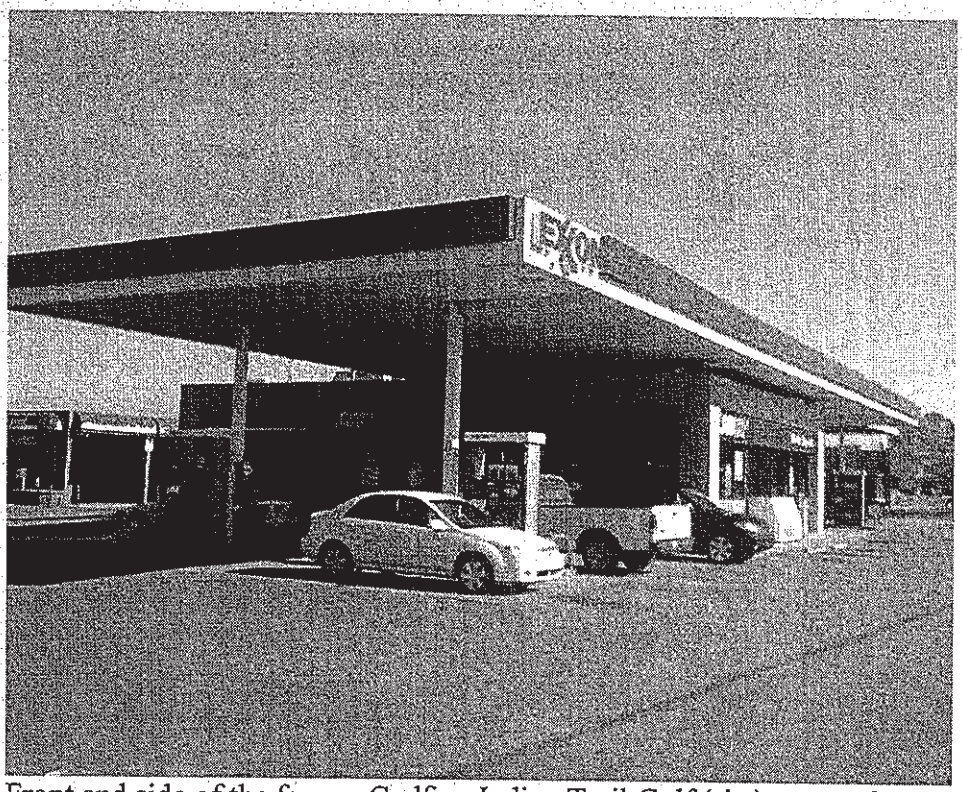
The questions below pertain to the area within 1,500 feet of the source area of the release (excludes property containing source area of the release):

1. What is the distance from the source area of the release to the **nearest** primary or secondary residence (permanent or temporary)?
   The closest off-site residence is located approximately 450 ft north MW-1.
2. 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?
   Union Memorial Hospital is located approximately 950 ft southeast of the site.
3. What is the zoning status of properties in the surrounding area?

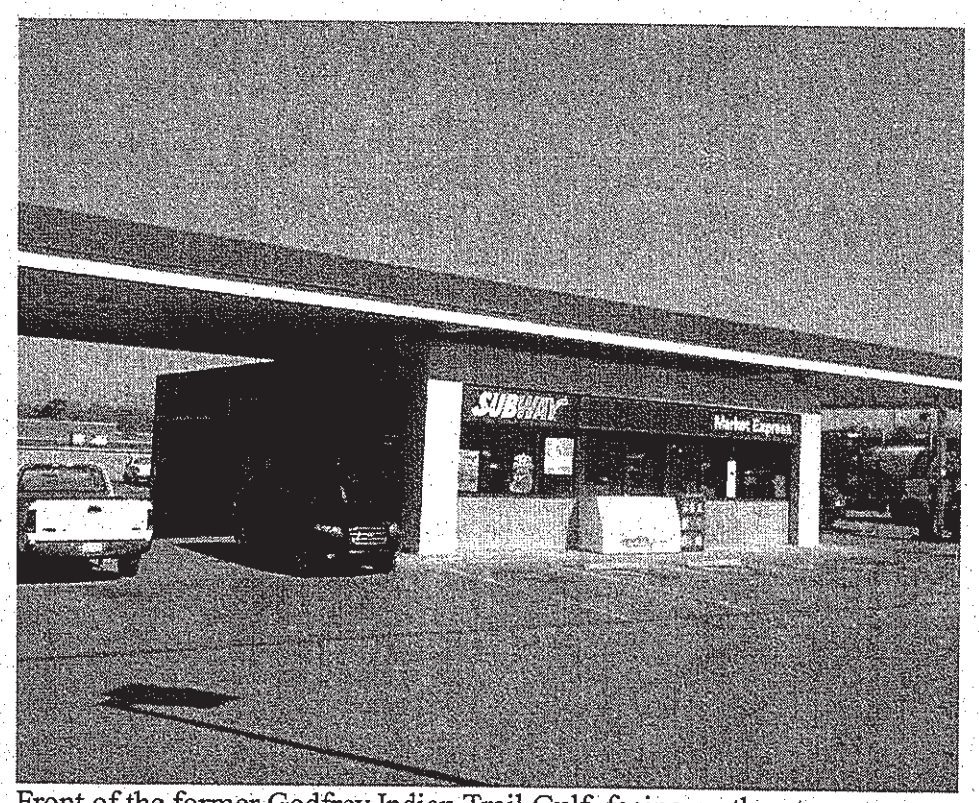
The zoning status of all the surrounding properties is a mixture of Commercial and Residential.

4. Briefly characterize the use and activities of the land in the surrounding area.
The property is an active gas station. The surrounding area is primarily commercial businesses with residential properties located between 500 and 1,000 ft from the site.

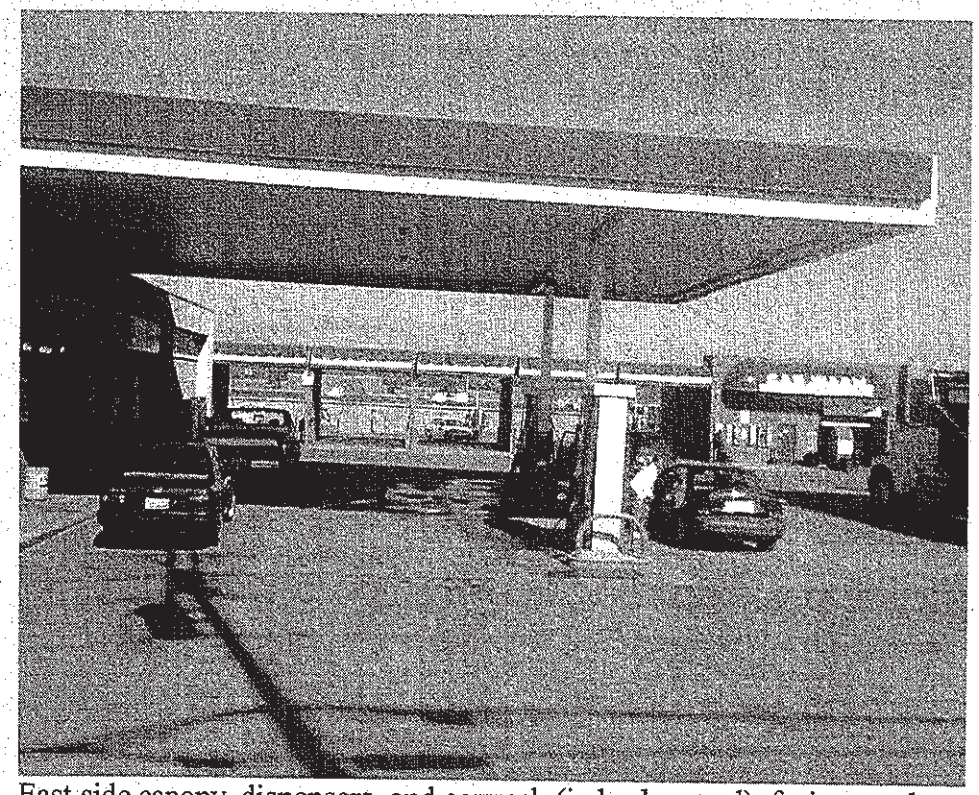
SITE PHOTOGRAPHS



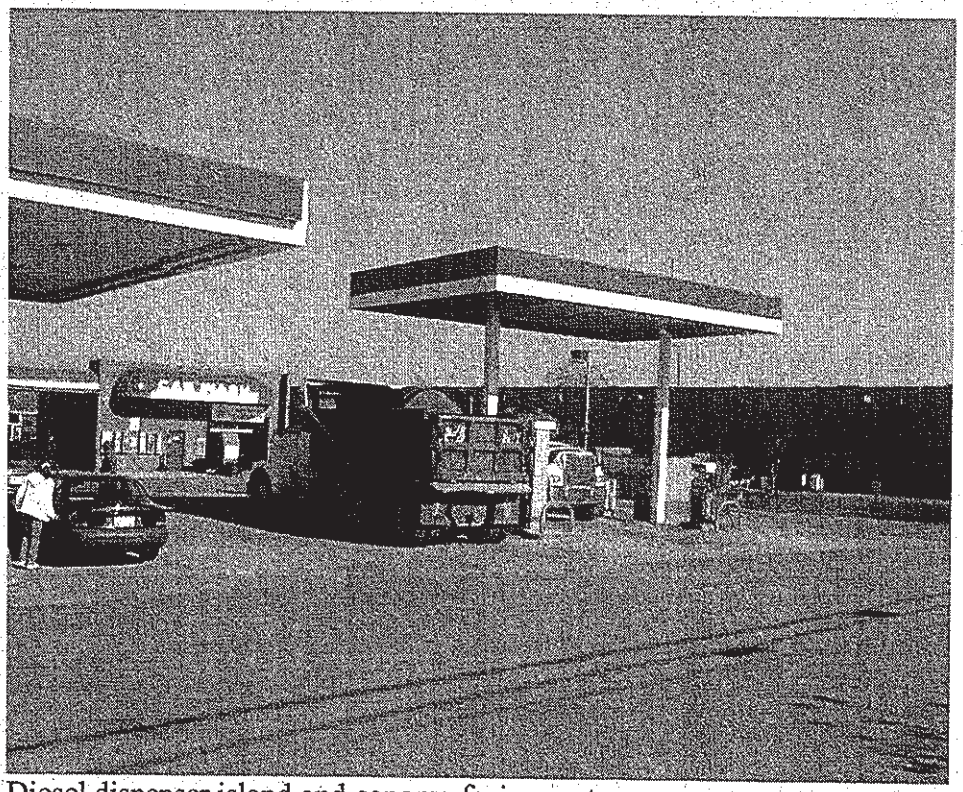
Front and side of the former Godfrey Indian Trail Gulf (site), currently an Exxon Station/Subway identified as Market Express, facing east.



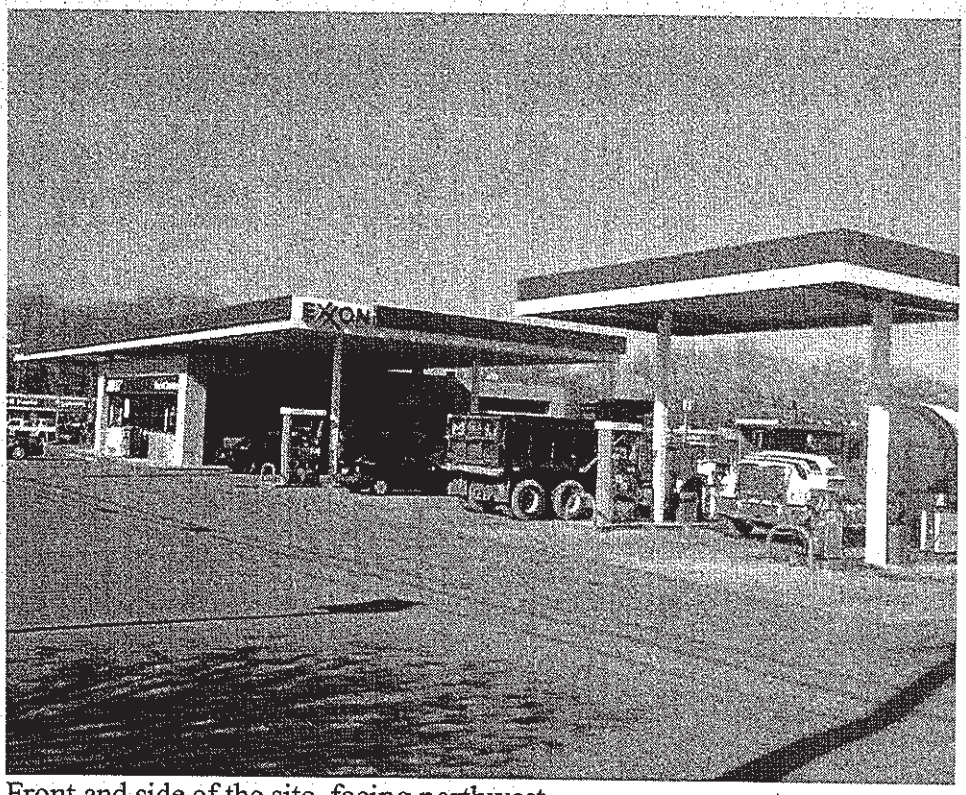
Front of the former Godfrey Indian Trail Gulf, facing northeast.



East side canopy, dispensers, and carwash (in background), facing northeast.

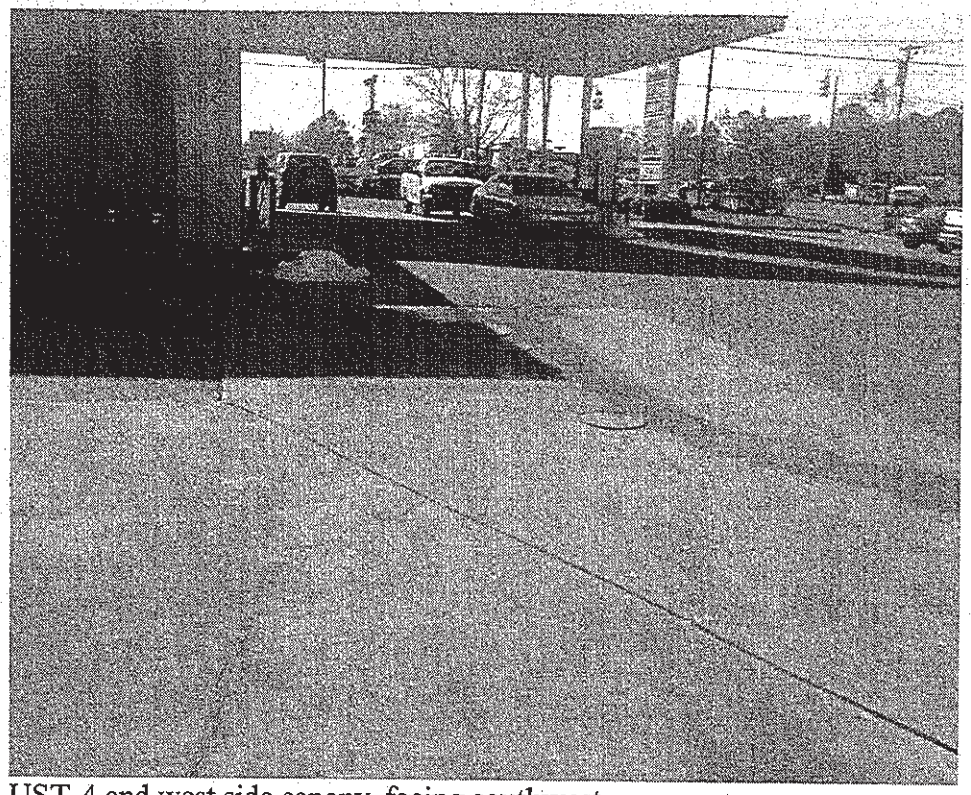


Diesel dispenser island and canopy, facing east.

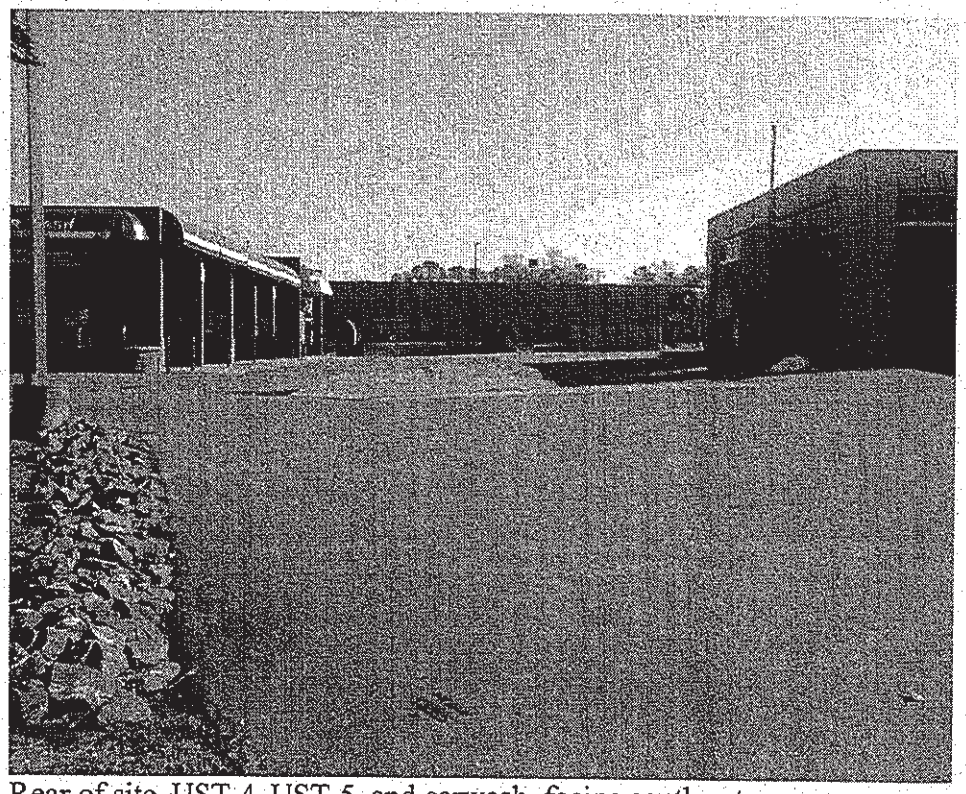


Front and side of the site, facing northwest.


UST-5, located behind the store, facing northwest.



UST-4 and west side canopy, facing southwest.



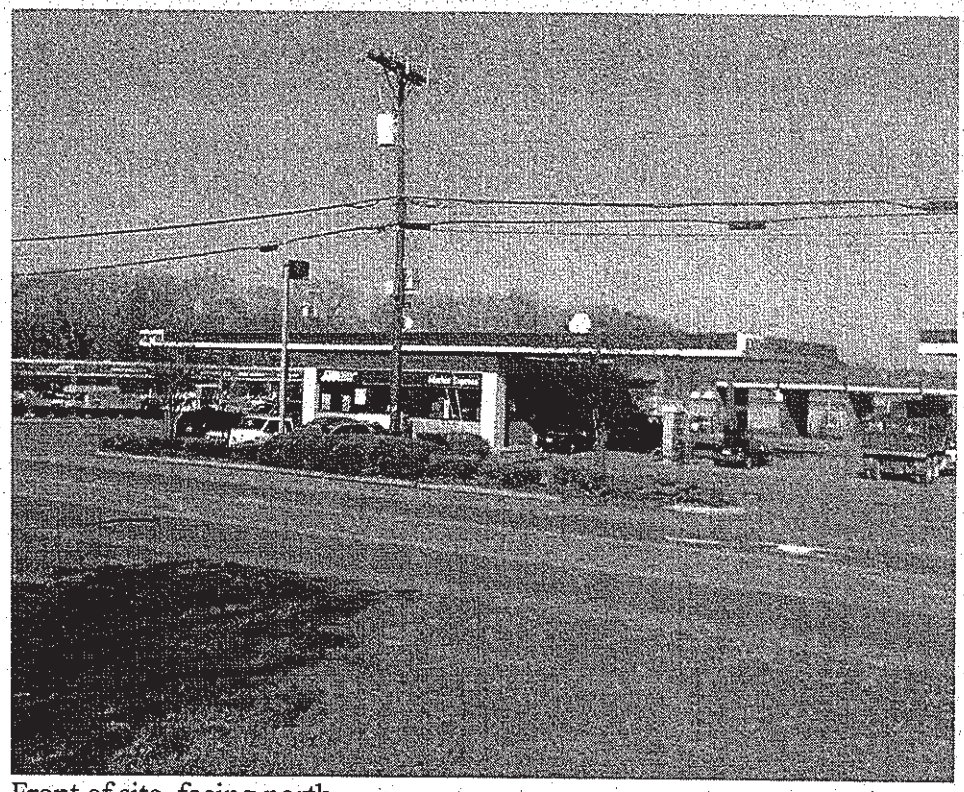
Rear of site, UST-4, UST-5, and carwash, facing southeast.



UST-6, facing southeast.



Center of former UST basin (marked with an X) just before installation of MW-1, facing southwest.



Front of site, facing north.

Agra Environmental

Limited Site Assessment Report Phase II

Former Godfrey Indian Trail Gulf
4303 Old Monroe Road
Indian Trail, Union County, NC

Risk Classification: Recommended High
UST Incident Number: 13116
Facility I.D.: Unknown

Date of Report:
June 11, 2010

Former UST Owner:
Unknown

Current UST Owner:
Brewer-Hendley Oil Company
PO Box 769
Marshville, NC 28103

Current Property Owner:
Brewer-Hendley Oil Company
PO Box 769
Marshville, NC 28103

Source of Release:
Three (3) 1,000-gallon USTs

Latitude and Longitude
35° 04.083 N
80° 40.712 W

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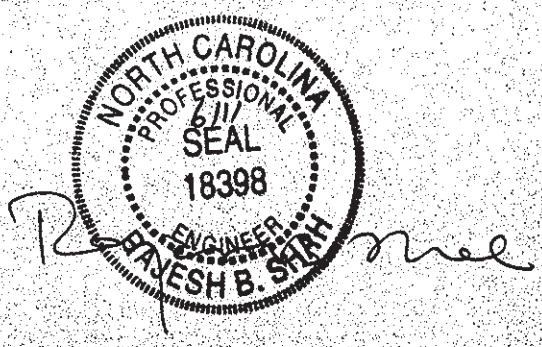


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A. Site History:

The subject site is located at 4303 Old Monroe Road in Indian Trail, Union County, North Carolina (Figure 1 and Figure 2). Three (3) 1,000-gallon underground storage tanks-USTs (UST-1, UST-2 and UST-3) were removed from the property on August 7, 1990. A letter from the DEHNR to the Brewer-Hendley Oil Company (dated December 17, 2005) listed the Brewer-Hendley Oil Company as the owner of the USTs. The NCDENR file contains limited information regarding the past history of the site and no additional information regarding UST ownership was included in the file. Soil samples collected during the closure revealed contamination exceeding the regulatory standard. One (1) active water supply well was identified approximately 700 ft from the site in May 2005.

Site Investigation Activities:

Agra Environmental, Inc. (Agra) performed a Limited Site Assessment (LSA) Phase I at the site on March 15, 2010. The property is currently an active Exxon gas station and Subway restaurant identified as Market Express. The site currently operates one (1) 12,000-gallon (UST-4), 20,000-gallon (UST-5), and 4,000-gallon (UST-5) USTs. Available UST information and UST ownership information are included in Table 1 and Table 2. Site photographs are included in the Appendix.

A door-to-door survey of the surrounding properties was conducted to identify active off-site private water supply wells within 1,000 ft of the subject site. One (1) active private water supply well (WSW-1) was identified approximately 750 ft form the site. An interview with the property owner, Mr. Jeff Turnbull, stated that WSW-1 is an active functional well, but that the property is currently inactive and in the process of being sold. The property associated with WSW-1 is not connected to the public water supply. Mr. Jeff Turnbull stated that the presence of a private water supply well on the property increases its value and indicated that once the property is sold, the well will be used as a primary drinking water source. Mr. Turnbull did not allow Agra to collect a groundwater sample from WSW-1 as he believed that it could potentially delay the sale of his property. A second water supply well (WSW-2) was identified approximately 1,300 ft from the subject site. A third water supply well (WSW-3) was previously located approximately 750 ft from the site. However, in 2008 the property associated with WSW-3 was sold and WSW-3 was abandoned and the associated structures removed. The property is now an active commercial business (AutoZone). An interview with the manager of the AutoZone store revealed that no private water supply wells are currently located on the property. No other water supply wells were identified within 1,500 ft of the site. Surrounding property ownership information is included in Table 3 and Figure 3.

An interview with Mr. Finley of the Union County Environmental Health Department revealed that all new water supply wells installed in the area are required to obtain a permit from the Union County Environmental Health Department. Mr. Finley stated that their records only date back to 2008. The only water supply well permit on file was for WSW-2 (dated 2008), which is located 1,300 ft from the subject site (Table 3 and Figure 3).

Mr. Scott Kaufold, Town Engineer for the Town of Indian Trail, stated that the city is currently planning on expanding the adjacent roadway of Old Monroe Road and Indian Trail Road as part of a Congestion Mitigation and Air Quality (CMAQ) project, #C4960. Mr. Kaufold stated that as part of the CMAQ project, the roadway would be expanded into the existing property in proximity to the former UST basin location. City and County contact information is included in Table 4.

Drainage ditches were identified along Indian Trail Road, approximately 100 ft from MW-1 (Figure 2). The drainage ditches appear to flow in the northeast direction and empty into the South Fork Crooked Creek, approximately 1,500 ft from the site. No other surface water bodies were identified within 1,000 ft of the site.

A water tower was identified approximately 400 ft to the southwest of the site. The Union County Public Works Department was contacted to confirm that public water is available to the surrounding area and to determine if any public water supply wells were located within 1,000 ft of the site. Union County currently supplies drinking water to the site and surrounding properties. The water tower is only used to provide pressure for the surrounding water and there are no water supply wells associated with the water tower. The western portion of Union County (including the subject site) currently receives their drinking water from the Catawba River. The eastern portion of the county receives their drinking water from Anson County, who in turn receive their water from the Pee Dee River. As such, no public water supply wells are located within 1,000 ft of the subject site. City and county personnel contact information is included in Table 4.

Environmental Drilling and Probing Services of Charlotte, NC, (EDP) installed one (1) type II monitoring well (MW-1) at the site on March 15, 2010. Prior to the well installation, the Union County Water Department was contacted to mark off the location of the water line in proximity to the site. Public water supply lines are located underneath the roadway of Indian Trail Road. The closest water line is located approximately 50 ft from MW-1. The remaining public utilities were contacted through the "one call service" prior to the well installation.

Additionally, Mr. John Hendley, property owner, was contacted to locate the former UST basin. Mr. Hendley stated that one of his maintenance employees, Mr. Calvin Gordon, would be able to provide some information regarding the UST closure. Mr. Gordon stated that he remembered that the former USTs were grouped together into a single tank pit located at the west corner of the property. Mr. Gordon could not be present during the well installation, however, he did mark the center of the UST basin with a large "X" prior to the well installation activities. Photographs of the site are included in the Appendix.

MW-1 was installed at the location identified by Mr. Gordon as the center of the former UST basin of UST-1, UST-2 and UST-3 (Figure 2). MW-1 was installed to a depth of 30 ft below ground level (BGL). The soil encountered during the installation was primarily tight clay. During the well installation, the groundwater table was not initially identified at a depth of 25 ft. After over 1 hour of waiting, and as no water was identified to be recharging into the well, approval was obtained to advance up to 50 ft BGL. Water was still not identified at 50 ft depth. As a result, the well was left open for the rest of the day. At the end of the day, Agra and

Environmental Drilling and Probing Services personnel returned to the site and the depth to groundwater was measured to be 23.5 ft below the top of the well casing. As such, MW-1 was set at 30 ft BGL. Well construction information is included in Table 5 and in the Appendix. Soil samples were collected during the well installation at 5 ft intervals (5 ft, 10 ft, 15 ft, and 20 ft), as there was no information in the file regarding backfill material used during the UST closure activities.

Agra personnel collected groundwater samples from MW-1 on March 15, 2010. Depth to groundwater, from the top of the well casing, was measured and recorded (Table 5). MW-1 was then purged of groundwater, three (3) times its well volume, prior to the collection of groundwater samples using disposable gloves and a disposable polyethylene bailer.

The groundwater samples were collected in 40-ml vials with hydrochloric acid (HCL) preservative, 1-liter amber jars, and 8-ounce high-density polyethylene (HDPE) bottles. Quality control and quality assurance samples were also collected during the sampling event. All the soil and groundwater samples were then placed on ice and shipped under chain-of-custody to Shealy Environmental Services for analysis.

Laboratory analysis of the soil samples revealed soil contamination in soil samples MW-1-15 and MW-1-20, which were collected at a depth of 15 ft and 20 ft, respectively. The contaminanation concentrations in the samples exceeded the method detection limit but not the respective Soil-to-Groundwater Maximum Soil Contaminant Level (MSCC) standards (Table 6).

Laboratory analysis of the groundwater samples collected from MW-1 revealed several petroleum contaminants in MW-1 exceeding the 15A NCAC 2L groundwater standards. Additionally, benzene (5,100 parts per billion (ppb)) was detected exceeding its gross contamination level (GCL) of 5,000 ppb (Table 7, Figure 5, and Figure 6).

Based on the presence of an active water supply well within 1,000 ft of the site and petroleum contamination in the on-site monitoring well exceeding the GCLs, Agra and Environmental Drilling & probing returned to the site on May 14, 2010 to install three (3) additional type II monitoring wells (MW-2, MW-3, and MW-4) as part of a LSA Phase II. MW-2, MW-3, and MW-4 were each installed to a depth of 30 ft BGL. No soil samples were collected during the installation of MW-2, MW-3, or MW-4.

Agra personnel collected groundwater samples from MW-2, MW-3, and MW-4 on May 17, 2010. Depth to groundwater, from the top of the well casings, were measured and recorded (Table 5). Monitoring wells MW-1, MW-2, MW-3, and MW-4 were later surveyed for top of casing elevations and re-gauged for depth to groundwater measurements on June 9, 2010. The local groundwater flow is in the northeasterly direction. A groundwater potentiometric map is included in Figure 4.

MW-2, MW-3, and MW-4 were purged of groundwater, three (3) times their well volumes, prior to the collection of groundwater samples using disposable gloves and disposable

polyethylene bailers. The groundwater samples were then placed on ice and shipped under chain-of-custody to Shealy Environmental Services for analysis.

Laboratory analysis of the groundwater samples revealed several petroleum contaminants in MW-2 exceeding the 15A NCAC 2L groundwater standards. Additionally, benzene (5,400 ppb) was detected in MW-2 exceeding the GCL of 5,000 ppb. No petroleum contaminants were detected in MW-3 or MW-4 exceeding the method detection limits. Laboratory analytical results are included in Table 7, Figures 5-9, and in the Appendix.

Based on the local groundwater flow direction, MW-2 was installed upgradient of MW-1, while MW-3 and MW-4 were installed down gradient of MW-1. However, laboratory results indicate that the contaminant concentrations detected in MW-2 were slightly higher than the concentrations detected in MW-1, while no contaminates were detected in MW-3 or MW-4.

B. Risk Characterization

The Risk Classification and Land Use forms are attached in the Appendix.

C. Receptor Information

1. Water Supply Wells

A door-to-door survey to identify off-site water supply wells was performed at properties within 1,000 ft of the subject site. One (1) active water supply well was identified approximately 750 ft from the site (Table 3 and Figure 3). An interview with the property owner, Mr. Jeff Turnbull, stated that WSW-1 is an active functional well. Mr. Jeff Turnbull stated that the property is currently for sale and that he was not interested in abandoning WSW-1, as that may delay the sale, and value, of his property. Mr. Turnbull indicated that after the property has been sold, WSW-1 would likely be used as a primary drinking water source. Mr. Turnbull would not allow a groundwater sample to be collected from WSW-1 as this may delay the sale of his property. The Union County Water Department confirmed that the property associated with WSW-1 is not connected to the public water supply.

A second water supply well (WSW-2) was identified approximately 1,300 ft from the subject site. A third water supply well (WSW-3) was previously located approximately 750 ft from the site. However, in 2008 the property associated with WSW-3 was sold and WSW-3 was abandoned and the associated structures removed. The property is now an active commercial business (AutoZone). An interview with the manager of the AutoZone business revealed that no private water supply wells are currently located on the property. No other water supply wells were identified within 1,500 ft of the site.

All new private water supply wells installed in the area of the subject site must obtain a permit from the Union County Department of Environmental Health. However, an interview with Mr. David Finley of the Environmental Health Department revealed that only the records of new wells, installed after 2008, are maintained by their department and that they do not have any records of wells installed before 2008. Mr. Finley stated that only one (1) water supply well permit was on file for properties within 1,500 ft of the site. The permit was for WSW-2, which was installed in 2008, and is located approximately 1,300 ft

from the site (Table 3 and Figure 3). City and county personnel contact information is included in Table 4.

2. **Public Water Supplies**
   A telephone interview with the Union County Water Department confirmed that public water is available to the site and surrounding area. A water tower was identified approximately 400 ft from the site. However, the Union County Water Department stated that the tower is only used to provide pressure for the water in the area and is not associated with a water supply well. The Union County Water Department also stated that the western portion of Union County (including the subject site) currently receives their drinking water from the Catawba River. The eastern portion of the county receives their drinking water from Anson County, who in turn receive their water from the Pee Dee River. The Union County Water Department stated that they do not operate any water supply wells, and as such, no public water supply wells are located within 1,000 ft of the subject site. A public water supply line is located underneath the adjacent roadways of Old Monroe Road and Indian Trail Road, approximately 50 ft from MW-1 (Figure 2). City and county personnel contact information is included in Table 4.

3. **Surface Water**
   Drainage ditches were observed in the DOT right-of-way, along Indian Trail Road (Figure 2). The closest ditch is located approximately 100 ft from MW-1. The drainage ditches appear to flow in the northeast direction and empty into the South Fork Crooked Creek, located approximately 1,500 ft from the site (Figure 1). There was previously an unnamed creek (a tributary of the South Fork Crooked Creek) located approximately 600 ft northeast of the site and a small pond located approximately 900 ft south of the site, as indicated in Figure 1. However, due to recent development in these areas, the creek and pond no longer exist. No other surface water bodies were identified within 1,000 ft of the site.

4. **Wellhead Protection Areas**
   A telephone interview with the Union County Water Department and the Town of Indian Trail revealed that no wellhead protection areas are located within 1,000 ft of the site. A water tower is located approximately 400 ft from the subject site. However, the tower is only used to provide pressure for the surrounding water lines and is not associated with any public or private water supply wells.

5. **Deep Aquifers in the Coastal Plain Physiographic Region**
   According to the Geologic Map of North Carolina (1985) the site is not located within the Coastal Plain Physiographic Region. The site is located within the Carolina Slate Belt within the Piedmont Physiographic Region.

6. **Subsurface Structures**
   One 12,000-gallon UST, one (1) 20,000-gallon UST, and one (1) 4,000-gallon UST are located at the site. A public water line is located adjacent to the site, beneath the adjacent roadway within the Department of Transpiration (DOT) right-of-way, approximately 50 ft from MW-1.

7. **Land Use**
The surrounding area is a mixture of commercial businesses and residential properties.

8. **Property Owners and Occupants**
The surrounding property ownership information is included in Table 3 and Figure 3.

D. Site Geology and Hydrogeology

According to the Geologic Map of North Carolina (1985) the site is located in the Cid Formation of the Carolina Slate Belt. Soils within this formation consist of thin to thick-bedded metamudstone and meta-argillite and interbedded with metasandstone, metaconglomerate, and metavolcanic rock.

The on-site monitoring wells were installed using a rotary air rig. Soil cuttings from the wells consisted of tan clay between 1 and 20 ft BGL and brown clay between 20 and 50 ft BGL. The tight clay soil resulted in a slow recharge rate for the associated monitoring wells.

Depths to groundwater measurements were recorded on March 15, 2010, May 17, 2010, and June 9, 2010 (Table 5). The on-site monitoring wells were surveyed for elevation on June 9, 2010. A potentiometric groundwater flow map, based on the depth to groundwater measurements recorded on June 9, 2010, indicates that the local groundwater flows in the northeasterly direction (Figure 4).

E. Sampling Results

Soil

During the installation of MW-1, four (4) soil samples, MW-1-5, MW-1-10, MW-1-15, and MW-1-20, were collected at depths of 5 ft, 10 ft, 15 ft, and 20 ft BGL, respectively. Petroleum contamination was detected in soil samples MW-1-15 and MW-1-20 exceeding the method detection limits but not the respective Soil-to-Groundwater MSCC standards (Table 6). No soil samples were collected during the installation of MW-2, MW-3, or MW-4. Laboratory analytical results are included in Table 6 and in the Appendix.

Groundwater

One (1) type II monitoring well (MW-1) was installed at the site on March 15, 2010 by Environmental Drilling and Probing Services of Charlotte, NC. MW-1 was installed to a depth of 30 ft BGL in the former UST basin. After allowing significant time for the well to recharge, depth to groundwater was measured to be 23.5 ft below the top of the well casing. Well construction information is included in Table 5 and in the Appendix.

Agra personnel collected groundwater samples from MW-1 on March 15, 2010. MW-1 was purged of groundwater, three (3) times its well volume, prior to the collection of groundwater samples using disposable gloves and a disposable polyethylene bailer. The groundwater samples were collected in 40-ml vials with hydrochloric acid (HCL) preservative, 1-liter amber jars, and 8-ounce high-density polyethylene (HDPE) bottles. Quality control and quality assurance samples were also collected during the sampling

event. All the soil and groundwater samples were then placed on ice and shipped under chain-of-custody to Shealy Environmental Services for analysis.

Laboratory analysis of the groundwater samples revealed several petroleum contaminants in MW-1 exceeding the 15A NCAC 2L groundwater standards. Additionally, benzene (5,100 parts per billion (ppb)) was detected in MW-1 exceeding its GCL of 5,000 ppb (Table 7, Figure 5, and Figure 6).

Environmental Drilling and Probing Services returned to the site on May 14, 2010 and installed three (3) additional type II monitoring wells (MW-2, MW-3, and MW-4) as part of a LSA Phase II assessment. Agra personnel collected groundwater samples from MW-2, MW-3, and MW-4 on May 17, 2010. Depth to groundwater measurements were collected from each well prior to being purged of groundwater, three (3) times their well volumes. Groundwater samples collected from MW-2, MW-3, and MW-4 were submitted to Shealy Environmental Services for analysis.

Laboratory analysis revealed several petroleum contaminants in MW-2 exceeding the 15A NCAC 2L groundwater standards. Additionally, benzene (5,400 ppb) was detected in MW-2 exceeding its GCL of 5,000 ppb. No petroleum contaminants were detected in MW-3 or MW-4. Laboratory analytical results are included in Table 7, Figure 5, and in the Appendix. Benzene, toluene, ethylbenzene, and xylene contaminant plume maps are included in Figures 6 through 9. Several additional petroleum contaminants were detected in MW-1 and MW-2. However, plume maps for the remaining petroleum contaminants have not been included as their plumes mirror the plumes of benzene, toluene, ethylbenzene, and xylene.

The top of casings of the on-site monitoring wells were surveyed for elevation on June 9, 2010. Depth to groundwater measurements were re-measured at that time (Table 5). A groundwater potentiometric map (Figure 4) indicates the local groundwater flow direction to be in the northeasterly direction. Based on the local groundwater flow direction, MW-2 is located upgradient of MW-1 (Figure 4). MW-1 was thought to have been installed in the former UST basin based on the information provided by the property owner's representative. However, petroleum contamination was found to be slightly higher in the upgradient monitoring well MW-2 than in MW-1.

Free Product Investigation

No free product was observed during this sampling event.

F. Conclusions and Recommendations

Laboratory analysis revealed petroleum contamination in MW-1 and MW-2 exceeding the 15A NCAC 2L groundwater standards. Additionally, benzene was detected in MW-1 (5,100 ppb) and MW-2 (5,400 ppb) exceeding the GCL level of 5,000 ppb.

Public water is available to the surrounding area, however, one (1) active water supply well (WSW-1) was identified approximately 750 ft of the site. The owner of WSW-1 stated that WSW-1 was active and functional. However, the associated property is inactive and in the

process of being sold. Once the property has been sold, the current owner indicated that WSW-1 would likely be used as a primary drinking water source, as the associated property is not connected to the public water supply. The owner of WSW-1 would not allow a groundwater sample to be collected from WSW-1 and stated that he was not interested in abandoning WSW-1 as it adds value to his property.

A drainage ditch, located approximately 100 ft from MW-1, appears to flow in the northeasterly direction and empties into the South Fork Crooked Creek, approximately 1,500 ft from the site. The contaminant concentrations in MW-1 and MW-2 exceed the surface water standards by a factor of 10.

The local groundwater direction flow is to the northeasterly direction. However, contaminant concentration detected in MW-2 (which is upgradient of MW-1) were slightly higher than MW-1.

Due to the high level of contaminant concentrations detected in MW-1, if MW-1 were installed in the source area, contaminated soils would be expected to have been encountered between the bottom of the former excavation and the water table. However no soil contaminants, exceeding the regulatory standards, were detected during the installation of MW-1. Additionally, slightly higher concentrations of petroleum contaminants were detected in MW-2, which is located slightly upgradient of MW-1. No soil samples were collected during the installation of MW-2. As such, it is possible that the property owner's representative was slightly off in his estimated location of the former UST basin. The current contaminant concentrations, based on the local groundwater flow direction, would be expected if the former UST basin was located in proximity to MW-2, rather than MW-1, or if the source of the contamination was located off-site in the upgradient direction.

Agra recommends that the site be ranked "High Risk" due to the presence of a water supply well within 1,000 ft of the site and petroleum contamination in MW-1 and MW-2 exceeding the 15A NCAC 2L groundwater standards and the GCL standards.

The two (2) downgradient monitoring wells (MW-3 and MW-4) did not reveal any petroleum contamination exceeding the method detection limits. As such, the plume has been defined in the downgradient direction. However, as petroleum contaminants were detected in MW-1 and MW-2 exceeding the 15A NCAC 2L groundwater standards and the GCL standards, the contaminant plume has not been defined to the southeast, southwest, or northwest directions. As such, Agra recommends that, in accordance with the regulatory guidelines, a Comprehensive Site Assessment (CSA) be performed at the site, including the installation of monitoring wells to the southeast, southwest, and northwest of MW-2 to determine the extent of the groundwater contamination. Due to the proximity of the adjacent roadways, two (2) of the monitoring wells (northwest and southwest) would have to be installed off-site, each approximately 125 ft from MW-2. Additionally, a type III monitoring well should be installed downgradient of MW-1 in order to define the vertical extent of the groundwater contamination.

To confirm the location of the source area, Agra also recommends that one (1) soil boring be installed in proximity to MW-2 down to the water table. Soil samples should be collected at 5 ft intervals to be screened with a PID, with the hottest sample being submitted to the laboratory for analysis.

TABLES

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 1
UST Information

Tank No.	UST Contents	Capacity (gallons)	Date Installed	Date Removed	Tank Dimensions	Associated with Release?
UST-1	Unknown	1,000	Unknown	8/7/1990	Unknown	Yes
UST-2	Unknown	1,000	Unknown	8/7/1990	Unknown	Yes
UST-3	Unknown	1,000	Unknown	8/7/1990	Unknown	Yes
UST-4	Gasoline	12,000	1996	NA	Unknown	No
UST-5	Gasoline	20,000	1996	NA	Unknown	No
UST-6	Diesel	4,000	1996	NA	Unknown	No

Table 2
UST Ownership Information

UST #.	UST Owner	Address	Telephone #	Date of Ownership
UST-1 UST-2 UST-3	Unknown	Unknown	Unknown	Unknown – 8/7/90
UST-4 UST-5 UST-6	Brewer-Hendley Oil Company	PO Box 769 Marshville, NC 28103	704-233-2600	1996 - Present

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 3
Surrounding Property Owner Information

Map ID	Property Owner (WSW #)	Property Address*	Property Owner's Address	WSW Distance From Site	Contact #
1 SITE	HENDLEY-BREWER PROPERTIES	4303 OLD MONROE RD INDIAN TRAIL, NC 28079	P O BOX 769 MARSHVILLE, NC 28103		704-233-2600
2	GREGORY PLAZA LLC	4305 OLD MONROE RD INDIAN TRAIL, NC 28079	5640 SUNSTAR CT CHARLOTTE, NC 28226		704-540-9740
3	INDIAN TRAIL PROPERTIES LIMITED PARTNERSHIP	4423 OLD MONROE RD INDIAN TRAIL, NC 28079	6747-C FAIRVIEW RD CHARLOTTE, NC 28210		Not Listed
4	NIKOLAIDIS ILIAS & MARIA NIKOLAIDIS TRUSTEES	601 - 637 INDIAN TRIAL RD INDIAN TRAIL, NC 28079	8535 FOXBRIDGE DR WEDDINGTON, NC 28104		704-841-9025
5	NIKOLAIDIS ILIAS & MARIA NIKOLAIDIS TRUSTEES	553 INDIAN TRAIL RD INDIAN TRAIL, NC 28079	8535 FOXBRIDGE DR WEDDINGTON, NC 28104		704-841-9025
6	JLC ENTERPRISE LLC	NA	1409 ASHSTEAD LN MATTHEWS, NC 28105		Not Listed
7	ATHANS GEORGE & WF DENISE P ET AL	604 - 626 INDIAN TRAIL RD INDIAN TRAIL, NC 28079	PO BOX 1094 MATTHEWS, NC 28106		704-821-9947
8	ATHANS GEORGE &WIFE &GEORGE ATHANASI	NA	PO BOX 1094 MATTHEWS, NC 28106		704-821-7747
9	ATHANS GEORGE ET AL	596 WAXHAW INDIAN TRAIL RD INDIAN TRAIL, NC 28079	PO BOX 1094 MATTHEWS, NC 28106		704-821-9947
10	PRIVETTE GAY D & WIFE JANICE W	NA	5819 POPLIN RD INDIAN TRAIL, NC 28079		704-882-6023
11	HELMS CAMERON B & JEREMY R HARVEY & MICHAEL WALTERS	108 CHEROKEE LN INDIAN TRAIL, NC 28079	309 POST OFFICE DR INDIAN TRAIL, NC 28079		Not Listed
12	WILTSHIRE BRIAN & KATHRYN LOUISE	106 CHEROKEE LN INDIAN TRAIL, NC 28079	106 CHEROKEE LN INDIAN TRAIL, NC 28079		704-821-4959
13	RALEY VANESSA P	104 CHEROKEE LN INDIAN TRAIL, NC 28079	2010 FORMOSA DR MONROE, NC 28110		Not Listed
14	NARRON ESTHER G	NA	P O BOX 129 INDIAN TRAIL, NC 28079		704-531-0372
15	ALPHA OMEGA LAND DEVELOPMENT INC	4216 OLD CHARLOTTE HWY INDIAN TRAIL, NC 28079	PO BOX 3196 MATTHEWS, NC 28106		Not Listed
16	ALPHA OMEGA LAND DEVELOPMENT INC	NA	PO BOX 3196 MATTHEWS, NC 28106		Not Listed
17	RUSHING CONSTRUCTION COMPANY	NA	P O BOX 267 INDIAN TRAIL, NC 28079		704-821-6662

* Property addresses and property owner's addresses were obtained from the Union County Online GIS system.

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 3
Surrounding Property Owner Information

Map ID	Property Owner (WSW #)	Property Address*	Property Owner's Address	WSW Distance From Site	Contact #
18	INDIAN TRAIL PLAZA LLC	1016 WAXHAW INDIAN TRAIL RD INDIAN TRAIL, NC 28079	PO BOX 3196 INDIAN TRAIL, NC 28079		Not Listed
19	CVS Pharmacy	Not Listed	Not Listed		NA
20	UNION COUNTY PUBLIC WORKS	NA	400 N CHURCH ST MONROE, NC 28112-4804		704-296-4210
21	PMSV INDIAN TRAIL LP	1105 WAXHAW INDIAN TRAIL RD INDIAN TRAIL, NC 28079	3903 BELLAIRE BLVD HOUSTON, TX 77025		Not Listed
22	TWO COUSINS PROPERTIES LLC	NA	624 INDIAN TRAIL RD INDIAN TRAIL, NC 28079		Not Listed
23	CROOK HERMAN CLYDE & CAROLYN H	4332 OLD MONROE RD INDIAN TRAIL, NC 28079	202 MAPLEWOOD AVE THOMASVILLE, NC 27360		336-475-9623
24	CAH HOLDINGS LLC	4416 OLD MONROE RD INDIAN TRAIL, NC 28079	1521 E THIRD ST CHARLOTTE, NC 28204		704-384-4100
25	BOULEVARD EAST, LLC. (AUTOZONE) **(WSW-3 Abandoned)**	4432 OLD MONROE RD INDIAN TRAIL, NC 28079	1310 S TRYON ST CHARLOTTE, NC 28203	750 ft	704-821-3066
26	HELMS CAMERON BRENT	NA	3712 LAWYERS RD MONROE, NC 28110		704-635-7393
27	OLD MONROE DEVELOPMENT LLC	NA	3712 LAWYERS RD MONROE, NC 28110		704-635-7393
28	PMSV INDIAN TRAIL LP	1105 WAXHAW INDIAN TRAIL RD INDIAN TRAIL, NC 28079	3903 BELLAIRE BLVD HOUSTON, TX 77025		704-635-7393
29	JEFF TURNBULL **(WSW-1 Active)**	1111 WAXHAW-INDIAN TRAIL RD INDIAN TRAIL, NC 28079	5438 MEADOW HAVEN LN CHARLOTTE, NC 28270	750 ft	704-907-5218
30	ALPHA OMEGA LAND DEVELOPMENT INC	1014 WAXHAW INDIAN TRAIL RD INDIAN TRAIL, NC 28079	PO BOX 3196 MATTHEWS, NC 28106		704-845-1513
31	ALPHA OMEGA LAND DEVELOPMENT INC	1318 WAXHAW-INDIAN TRAIL RD INDIAN TRAIL, NC 28079	PO BOX 3196 MATTHEWS, NC 28106		704-684-6280
32	RADESKY MICHAEL O & PAMELA G	NA	8902 COTTON PRESS RD CHARLOTTE, NC 28277		Not Listed
33	ALPHA OMEGA LAND DEVELOPMENT INC	4218 OLD CHARLOTTE HWY INDIAN TRAIL, NC 28079	PO BOX 3196 MATTHEWS, NC 28106		Not Listed
34	HINSON ERNEST L HEIRS	4200 OLD MONROE RD INDIAN TRAIL, NC 28079	4200 OLD MONROE RD INDIAN TRAIL, NC 28079		704-821-8827
35	CLAYTON STEVE MAYNARD JR	115 WOODLAND RD INDIAN TRAIL, NC 28079	115 WOODLAND RD INDIAN TRAIL, NC 28079		Not Listed
36	MORRIS GEORGIA	117 WOODLAND RD INDIAN TRAIL, NC 28079	117 WOODLAND RD INDIAN TRAIL, NC 28079		704-821-3720
37	MULLIS ROBERT CHARLES & WIFE ROBIN S	NA	2506 POTTER RD S WAXHAW, NC 28173		Not Listed

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 3
Surrounding Property Owner Information

Map ID	Property Owner (WSW #)	Property Address*	Property Owner's Address	WSW Distance From Site	Contact #
38	RADESKY MICHAEL O & PAMELA G	NA	8902 COTTON PRESS RD CHARLOTTE, NC 28277		Not Listed
39	STILWELL KENNETH W & WIFE ELIZABETH	4213 OLD MONROE RD INDIAN TRAIL, NC 28079	4213 OLD MONROE RD INDIAN TRAIL, NC 28079		704-821-2820
40	HARTIS JERRY EDMOND & DOROTHY K	4205 OLD MONROE RD INDIAN TRAIL, NC 28079	4205 OLD MONROE RD INDIAN TRAIL, NC 28079		Not Listed
41	HENDERSON TERRY M & NANCY	100 CHEROKEE LN INDIAN TRAIL, NC 28079	100 CHEROKEE LN INDIAN TRAIL, NC 28079		Not Listed
42	YELTON DONALD & FRANCES	102 CHEROKEE LN INDIAN TRAIL, NC 28079	102 CHEROKEE LN INDIAN TRAIL, NC 28079		Not Listed
43	WEBB JAMES T & ANITA	4133 OLD MONROE RD	109 DUNDIN PL MATTHEWS, NC 28104		Not Listed
44	ESTEP NORMAN E & JACQUELYN	134 KEOWEE CIR INDIAN TRAIL, NC 28079	134 KEOWEE CIR INDIAN TRAIL, NC 28079		704-821-5417
45	EPPLEY DAVID ALWIN & MARIE	133 KEOWEE CIR INDIAN TRAIL, NC 28079	133 KEOWEE CIR INDIAN TRAIL, NC 28079		704-821-8230
46	HANNAN LEONA D	135 KEOWEE CIR INDIAN TRAIL, NC 28079	135 KEOWEE CIR INDIAN TRAIL, NC 28079		704-821-7857
47	TINDALL EDITH S	NA	113 CHEROKEE LN INDIAN TRAIL, NC 28079		704-821-7814
48	TINDALL EDITH S	NA	113 CHEROKEE LN INDIAN TRAIL, NC 28079		704-821-7814
49	TINDALL EDITH S	NA	113 CHEROKEE LN INDIAN TRAIL, NC 28079		704-821-7814
50	TINDALL EDITH S	113 CHEROKEE LN INDIAN TRAIL, NC 28079	113 CHEROKEE LN INDIAN TRAIL, NC 28079		704-821-7814
51	BYRUM WILLIAM L & JANICE E	115 CHEROKEE LN INDIAN TRAIL, NC 28079	115 CHEROKEE LN INDIAN TRAIL, NC 28079		Not Listed
52	SCHOTT KENNETH P & BARBARA	110 CHEROKEE LN INDIAN TRAIL, NC 28079	110 CHEROKEE LN INDIAN TRAIL, NC 28079		704-821-3981
53	SOUTHERN CLASSICS BUILDERS INC	NA	P O BOX 342 INDIAN TRAIL, NC 28079		Not Listed
54	SOUTHERN CLASSICS BUILDERS INC	NA	P O BOX 342 INDIAN TRAIL, NC 28079		Not Listed
55	NANCE WILMA DEHART	118 CHEROKEE LN INDIAN TRAIL, NC 28079	118 CHEROKEE LN INDIAN TRAIL, NC 28079		704-821-8035
56	NANCE WILMA DEHART	NA	118 CHEROKEE LN INDIAN TRAIL, NC 28079		704-821-8035
57	NANCE JAMES HENRY & JUNE	NOT LISTED	PO BOX 2578 INDIAN TRAIL, NC 28079		704-753-4224

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 3
Surrounding Property Owner Information

Map ID	Property Owner (WSW #)	Property Address*	Property Owner's Address	WSW Distance From Site	Contact #
58	SOUTHERN CLASSICS BUILDERS INC	NA	P O BOX 342 INDIAN TRAIL, NC 28079		Not Listed
59	POST JOSEPH MARTIN & JULIE LEA POST	NOT LISTED	117 CHEROKEE LN INDIAN TRAIL, NC 28079		704-821-1300
60	CRULL HENRY IV & WIFE CAROLYN	101 COVENTRY DR INDIAN TRAIL, NC 28079	101 COVENTRY DR INDIAN TRAIL, NC 28079		704-821-1518
61	CASON WESLEY E & NATALIE A	132 LAUREN DR INDIAN TRAIL, NC 28079	7207 KIDWELLY LN MATTHEWS, NC 28104		704-684-0055
62	PARKER THOMAS	134 LAUREN DR INDIAN TRAIL, NC 28079	134 LAUREN DR INDIAN TRAIL, NC 28079		Not Listed
63	HARBISON JAMES & NIKO GAITHER	135 LAUREN DR INDIAN TRAIL, NC 28079	135 LAUREN DR INDIAN TRAIL, NC 28079		704-821-7758
64	SMITH JANE L	133 LAUREN DR INDIAN TRAIL, NC 28079	133 LAUREN DR INDIAN TRAIL, NC 28079		Not Listed
65	BT SOUTH PROPERTIES LLC	131 LAUREN DR INDIAN TRAIL, NC 28079	4517 BINFORDS RIDGE RD CHARLOTTE, NC 28226		704-541-8835
66	BOLINGER STACIE P & ANNE D MUDABAI	129 LAUREN DR INDIAN TRAIL, NC 28079	129 LAUREN DR INDIAN TRAIL, NC 28079		Not Listed
67	STEGALL PAMELA A	127 LAUREN DR INDIAN TRAIL, NC 28079	P O BOX 1736 INDIAN TRAIL, NC 28079		Not Listed
68	MANRIQUE GABRIEL JOSE ZAVALA & BELLA	125 LAUREN DR INDIAN TRAIL, NC 28079	125 LAUREN DR INDIAN TRAIL, NC 28079		704-821-9899
69	TAYLOR SCOTT	123 LAUREN DR INDIAN TRAIL, NC 28079	1809 KILMONACK LN CHARLOTTE, NC 28270		Not Listed
70	FULTON DENISE L	121 LAUREN DR INDIAN TRAIL, NC 28079	121 LAUREN DR INDIAN TRAIL, NC 28079		704-684-5393
71	RUBIO JOSE PEDRO	119 LAUREN DR INDIAN TRAIL, NC 28079	119 LAUREN DR INDIAN TRAIL, NC 28079		704-684-5178
72	COPUS JOSEPH MILTON	205 LAUREN DR INDIAN TRAIL, NC 28079	205 LAUREN DR INDIAN TRAIL, NC 28079		704-821-7730
73	TAYLOR ELIZABETH LYNN	207 LAUREN DR INDIAN TRAIL, NC 28079	207 LAUREN DR INDIAN TRAIL, NC 28079		704-821-2719
74	HIGH HARRIS B & CAROLYN MCCALL	4431 OLD MONROE RD INDIAN TRAIL, NC 28079	PO BOX 1560 INDIAN TRAIL, NC 28079		704-821-2960
75	UNION MEMORIAL HOSPTIAL INC	4503 OLD MONROE RD INDIAN TRAIL, NC 28079	P O BOX 5003 MONROE, NC 28111		704-821-6900
76	POOLE SCOTT M	130 LAUREN DR INDIAN TRAIL, NC 28079	130 LAUREN DR INDIAN TRAIL, NC 28079		Not Listed
77	TOMBERLIN RANDY RYAN	128 LAUREN DR INDIAN TRAIL, NC 28079	128 LAUREN DR INDIAN TRAIL, NC 28079		704-821-0556

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 3
Surrounding Property Owner Information

Map ID	Property Owner (WSW #)	Property Address*	Property Owner's Address	WSW Distance From Site	Contact #
78	YAGHMAEI MAJID & WIFE BETTY	126 LAUREN DR INDIAN TRAIL, NC 28079	126 LAUREN DR INDIAN TRAIL, NC 28079		704-821-2692
79	BOWEN HELEN R	124 LAUREN DR INDIAN TRAIL, NC 28079	124 LAUREN DR INDIAN TRAIL, NC 28079		704-821-2644
80	WILSON ERIC D & WIFE SONIA C	122 LAUREN DR INDIAN TRAIL, NC 28079	122 LAUREN DR INDIAN TRAIL, NC 28079		Not Listed
81	FRANKS TRACEY A	120 LAUREN DR INDIAN TRAIL, NC 28079	120 LAUREN DR INDIAN TRAIL, NC 28079		Not Listed
82	HAYWOOD PENNY K	118 LAUREN DR INDIAN TRAIL, NC 28079	118 LAUREN DR INDIAN TRAIL, NC 28079		704-821-3525
83	LOCKREM ROBERT L & WIFE PATRICIA C	103 COVENTRY DR INDIAN TRAIL, NC 28079	103 COVENTRY DR INDIAN TRAIL, NC 28079		Not Listed
84	DARIENZO BEVERLY M	105 COVENTRY DR INDIAN TRAIL, NC 28079	105 COVENTRY DR INDIAN TRAIL, NC 28079		704-821-6503
85	GARCIA RENEE & ROSA ASENCIO	107 COVENTRY DR INDIAN TRAIL, NC 28079	107 COVENTRY DR INDIAN TRAIL, NC 28079		704-821-0810
86	ITZHAKI EDWARD A & LINDA M ITZHAKI T	109 COVENTRY DR INDIAN TRAIL, NC 28079	109 COVENTRY DR INDIAN TRAIL, NC 28079		704-821-3601
87	JENNINGS FRANCIS J	111 COVENTRY DR INDIAN TRAIL, NC 28079	111 COVENTRY DR INDIAN TRAIL, NC 28079		Not Listed
88	SIMPSON JOEL R & WF PAULA MCMURRAY	113 COVENTRY DR INDIAN TRAIL, NC 28079	113 COVENTRY DR INDIAN TRAIL, NC 28079		704-821-4548
89	Southern Equipment Company, Inc. **(WSW-2 Active)**	Not Listed	3610 Bush Street Raleigh, NC 27609	1,300 ft	919-850-2025

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 4
City and County Personnel Contact Information

Office	Title	Name	Contact #
Union County Public Works	NA	NA	704-296-4210
Union County Department of Environmental Health	NA	David Finley	704-283-3553
Town of Indian Trail	Town Engineer	Scott Kaufold	704-821-1314

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

Table 5
Monitoring Well Construction Data

Well I.D.#	Date Constructed	Date Measured	Total Depth (ft)	Screened Interval (ft)	Top of Casing Elevation*	Depth to Water	Groundwater Elevation
MW-1	3/15/10	3/15/10	30	15-30	98.49	23.60	74.89
MW-1	3/15/10	6/9/10	30	15-30	98.49	23.21	75.28
MW-2	5/14/10	5/17/10	30	15-30	98.49	22.98	75.51
MW-2	5/14/10	6/9/10	30	15-30	98.49	23.01	75.48
MW-3	5/14/10	5/17/10	30	15-30	98.59	23.12	75.47
MW-3	5/14/10	6/9/10	30	15-30	98.59	23.38	75.21
MW-4	5/14/10	5/17/10	30	15-30	97.54	22.14	75.40
MW-4	5/14/10	6/9/10	30	15-30	97.54	22.24	75.30

*Top of casing elevations are based on an assumed on-site benchmark of 100 ft.

Table 6 Summary of Soil Sampling Results

Date: 3/31/10 Incident Number and Name: #13116 Godfrey Indian Trail Gulf

Analytical Method →			8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	VPH	VPH	VPH
Contaminant of Concern →			Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	1,2,4 Trimethylbenzene	1,3,5 Trimethylbenzene	n-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	C5-c8 Aliphatic Hydrocarbons	C9-C12 Aliphatic Hydrocarbons	C9-C10 Aromatic Hydrocarbons
Lab ID	Sample ID	Date Collected													
MW-1-5	MW-1-5	3/15/10	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<4.8	<4.8	<4.8
MW-1-10	MW-1-10	3/15/10	<0.0057	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<11	<11	<11
MW-1-15	MW-1-15	3/15/10	<0.0055	0.026	0.055	0.300	0.140	0.350	0.130	0.057	0.016	0.011	9.0	36	11
MW-1-20	MW-1-20	3/15/10	<0.0058	<0.0058	<0.0058	<0.0058	0.006	0.0064	0.0069	<0.0058	<0.0058	<0.0058	<12	<12	<12
Maximum Contaminant Concentration (mg/kg)			0.0056	4.3	4.9	4.6	0.16	8.5	8.3	4.3	1.7	NS	68	540	31
Residential Soil Cleanup Levels (mg/kg)			18	1200	1560	3129	313	782	782	626	1564	NS	939	1500	469

- Results reported in mg/kg
- NA = Not Analyzed
- NS = No Standard

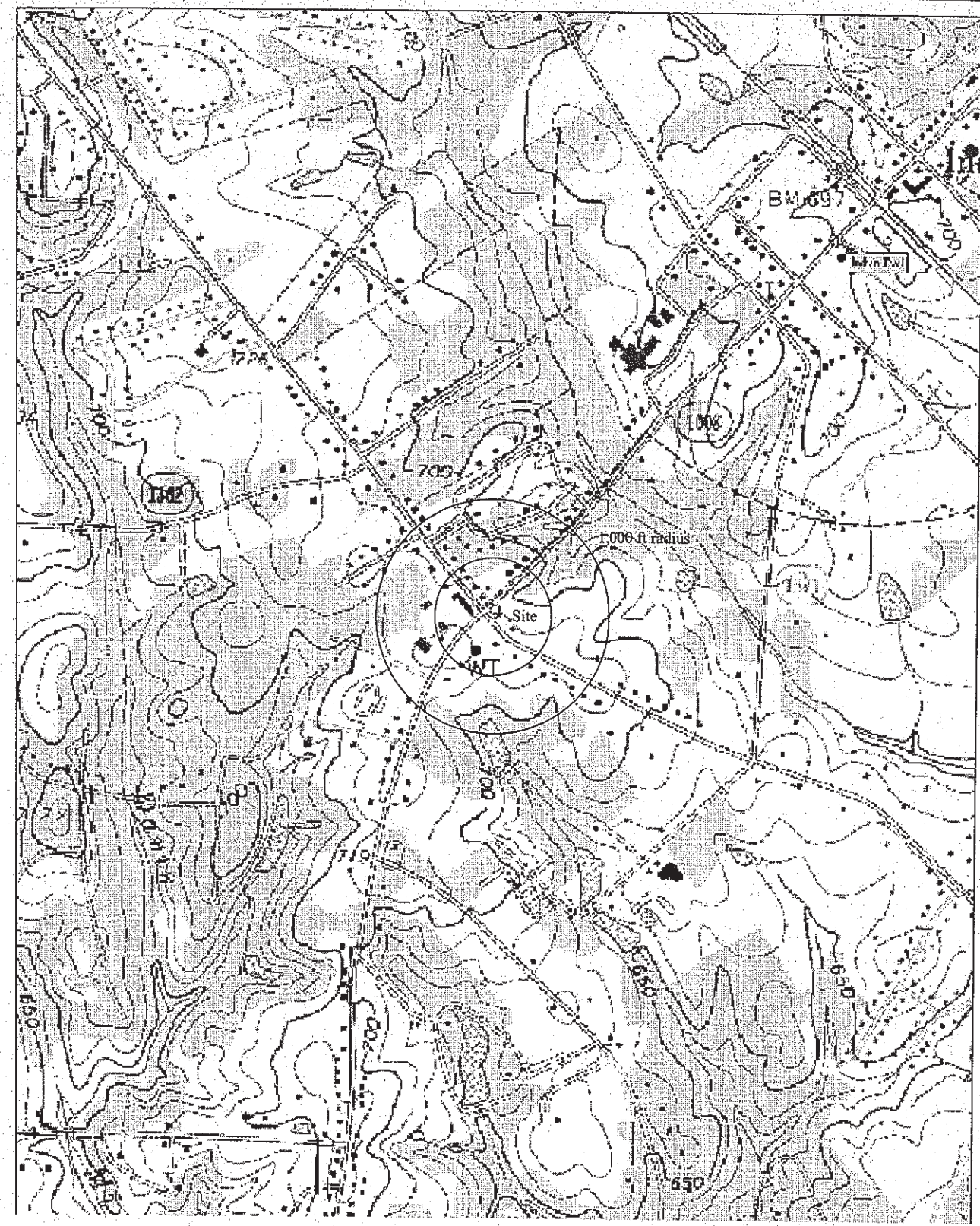
Table 7 Summary of Groundwater Sampling Results

Date: 6/7/10 Incident Number and Name: #13116 Former Godfrey Indian Trail Gulf

Analytical Method →			6200B	6200B	6200B	6200B	6200B	3030C	6200B	VPH	VPH	EPH	EPH	VPH	EPH
Contaminant of Concern →			Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Lead	MTBE	C5-C8 Aliphatic	C9-C12 Aliphatic	C9-C18 Aliphatic	C19-C36 Aliphatic	C9-C10 Aromatic	C11-C22 Aromatic
Well ID	Sample ID	Date Collected													
MW-1	MW-1	3/15/10	**5,100**	450	150	**1,410**	**230**	14.0	**4,100**	**22,000**	**12,000**	<120	<120	**1,500**	**430**
MW-2	MW-2	5/17/10	**5,400**	**4700**	**900**	**3600**	**460**	<10.0	**4200**	**43000**	**20000**	540	<100	**3500**	**600**
MW-3	MW-3	5/17/10	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<75	<75	<100	<100	<25	<100
MW-4	MW-4	5/17/10	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<75	<75	<100	<100	<25	<100
2L Standard (ug/l)			1	600	600	500	6	15	20	420	4200		42000	210	
GCL (ug/l)			5000	260000	84500	85500	6000	15000	20000	NS	NS		NS	NS	

- Results reported in ug/l
- ug/L =micrograms per liter
- GCL = gross contamination level
- NS = No Groundwater Standard

FIGURES



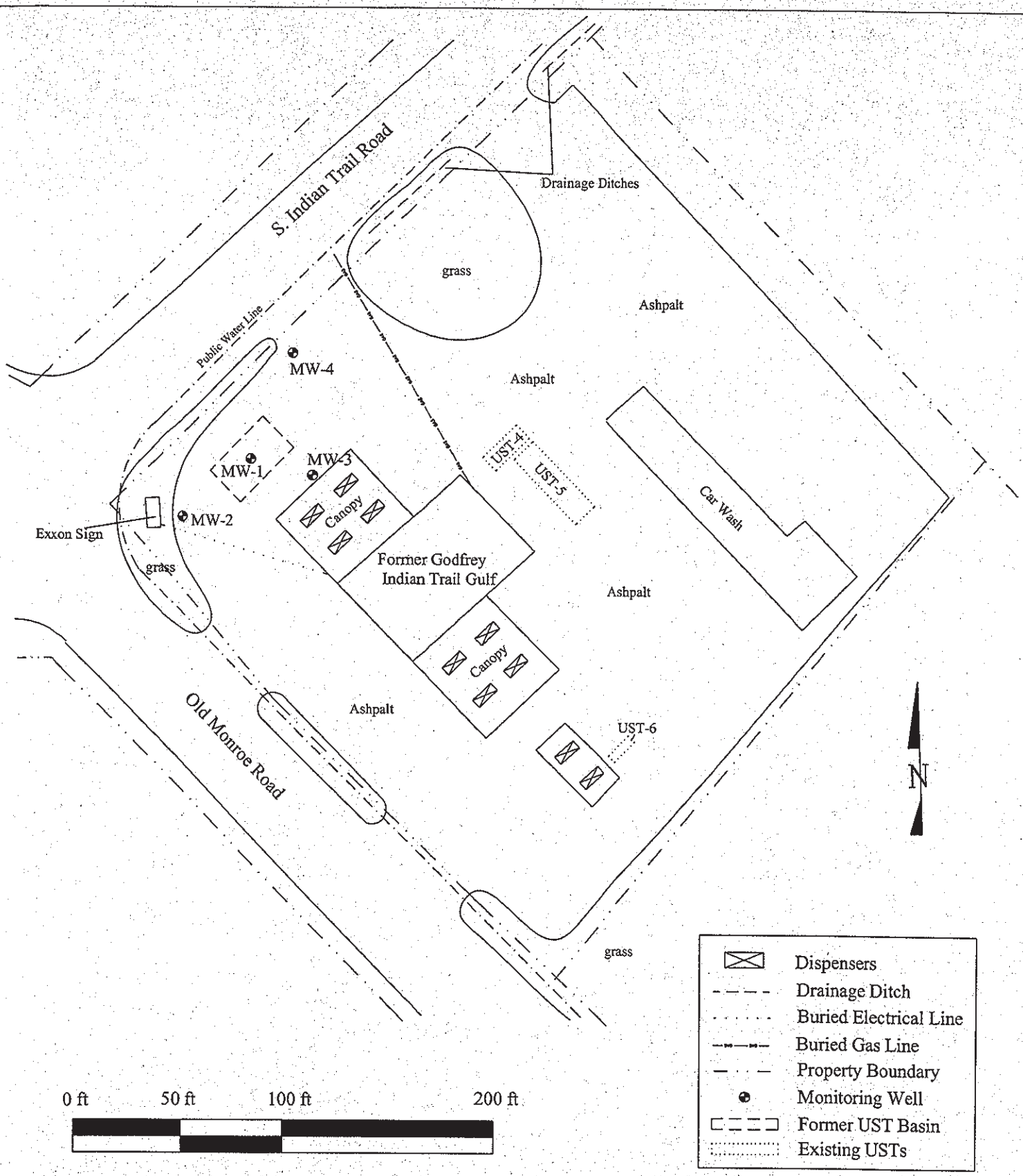
3-D TopoQuads Copyright @ 1999 Delorme Yarmouth ME 04096 Source Data USGS Scale: 1:12,800 Detail: 14-0 Datum: WGS84

0 ft 500 ft 1,000 ft

Site Location Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
P.O. Box 5611 Cary, NC 27512

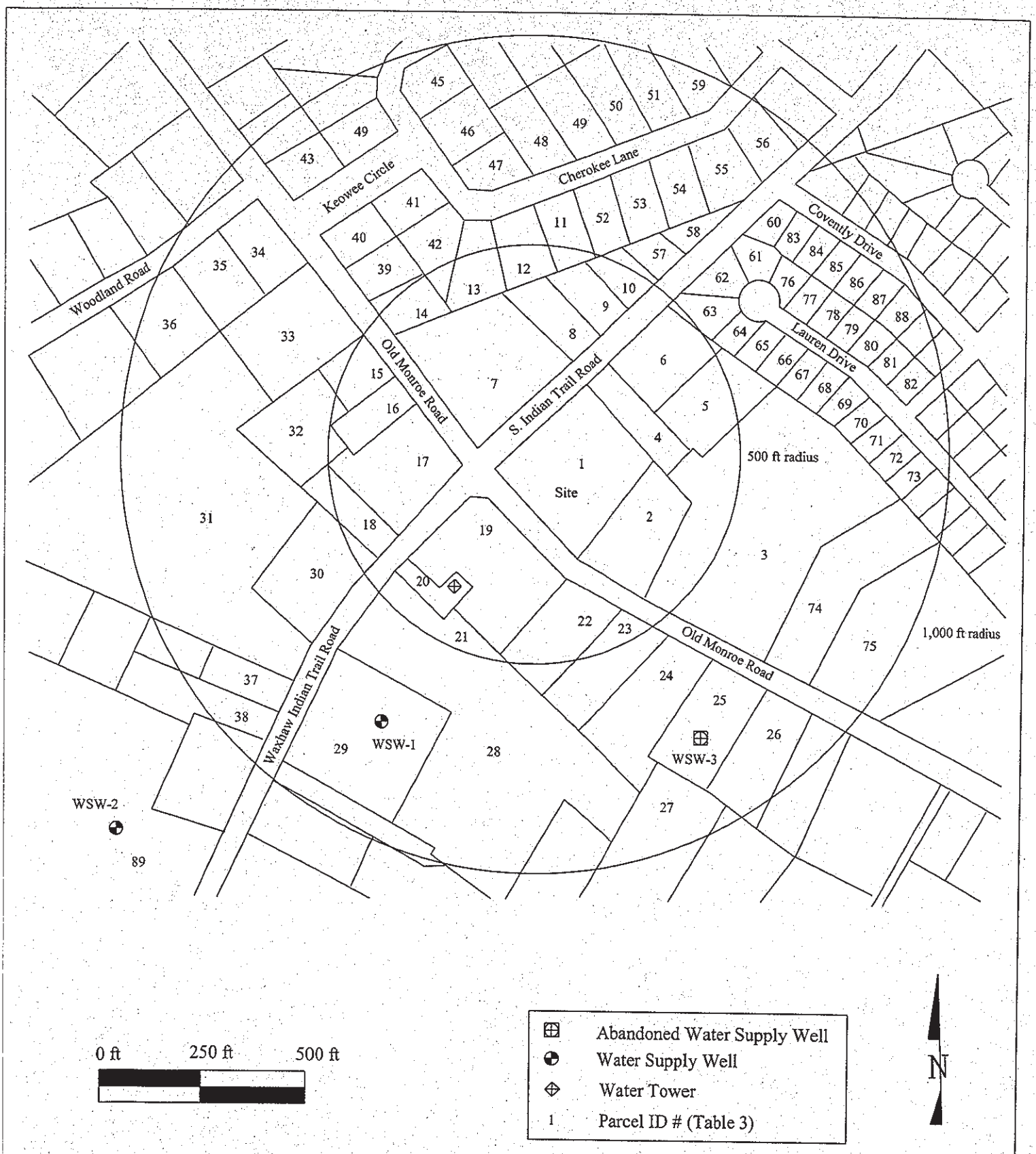
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1	As Shown	CJH	RS	6/8/10	



Site Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

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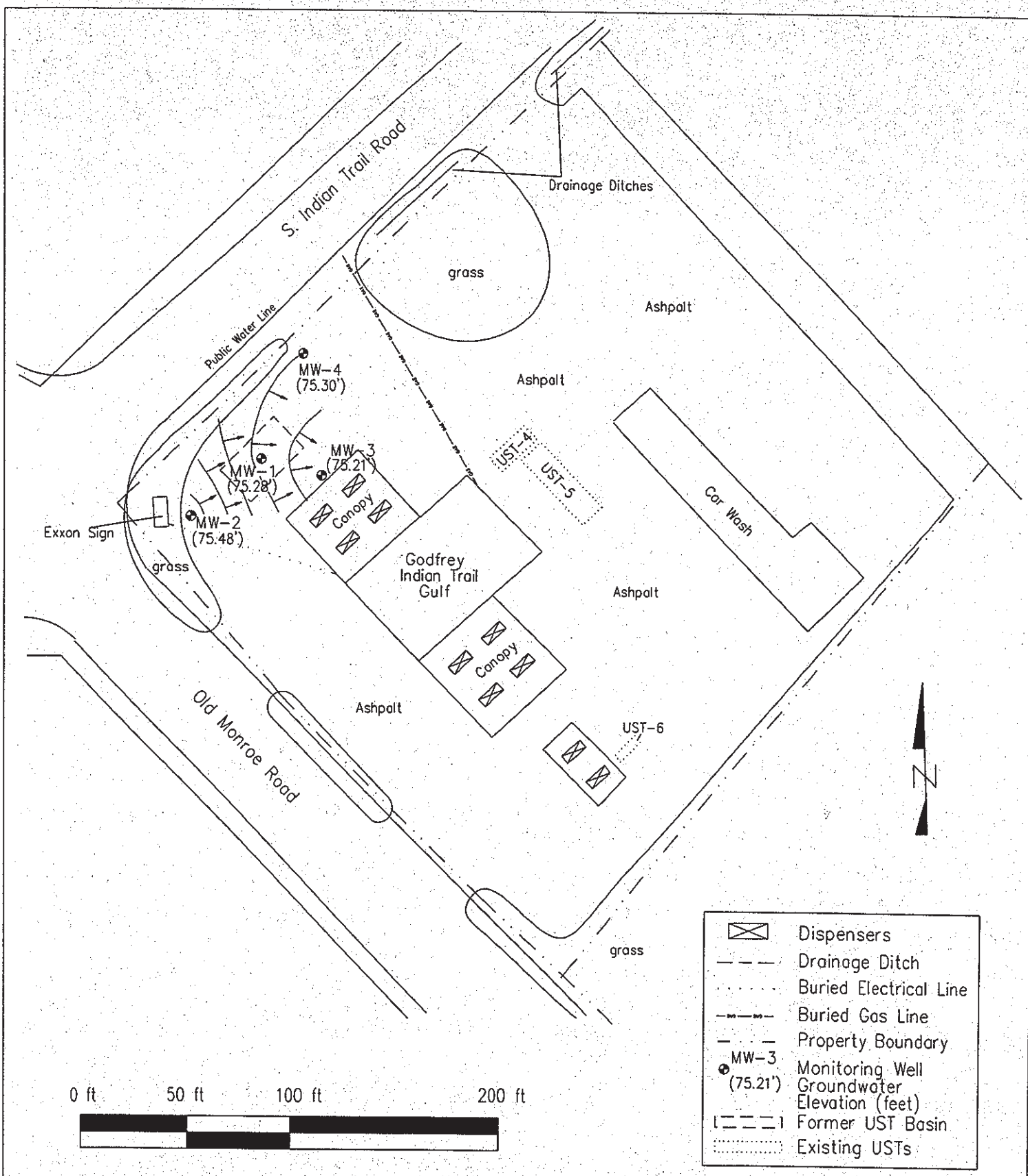
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Surrounding Property Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
P.O. Box 5611 Cary, NC 27512

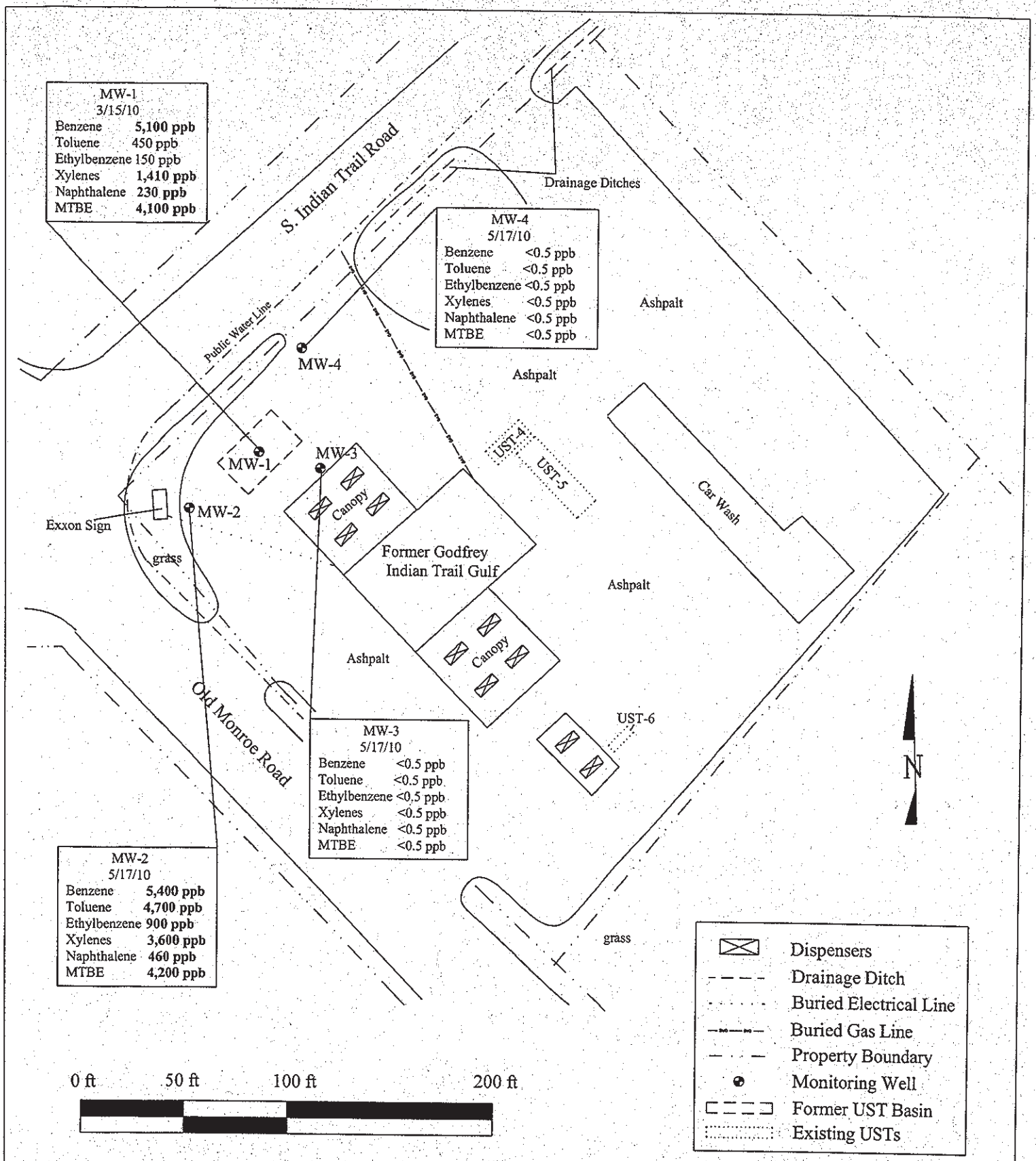
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3	As Shown	CJH	RS	6/7/10	



Groundwater Potentiometric Surface Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

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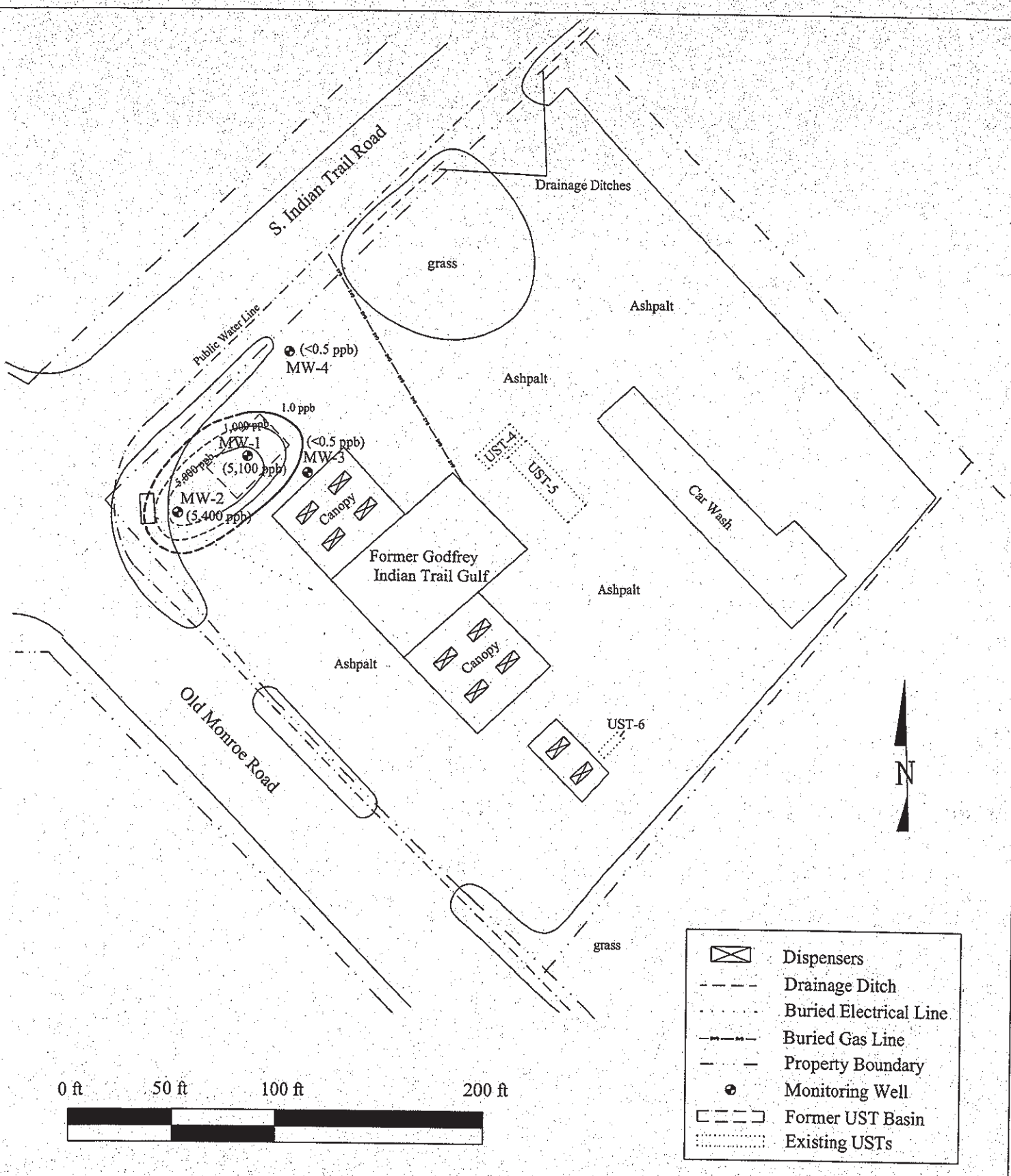
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4	As Shown	CJH	RS	6/10/10	



Groundwater Analytical Results Summary
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
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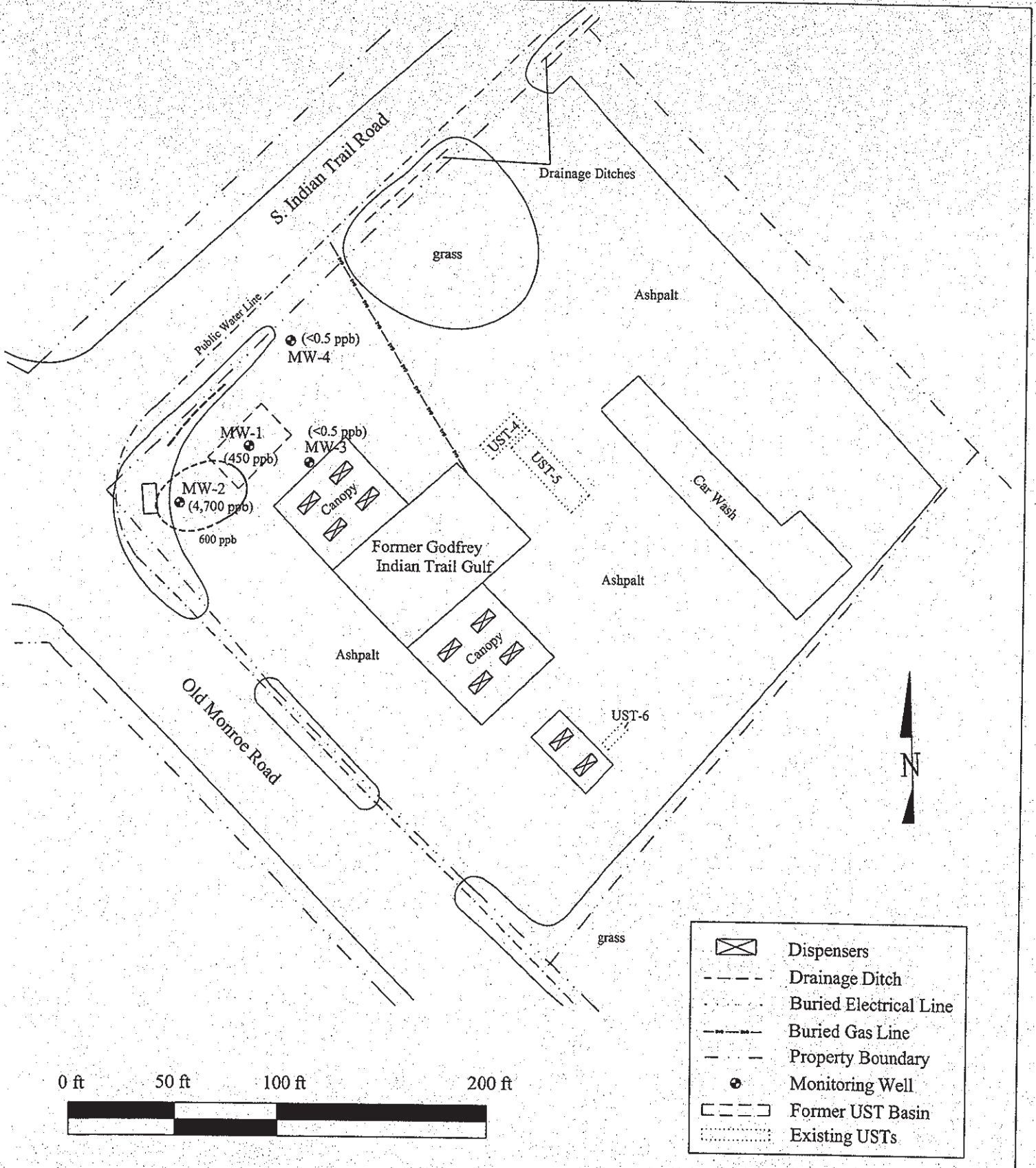
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Benzene Contamination Plume Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

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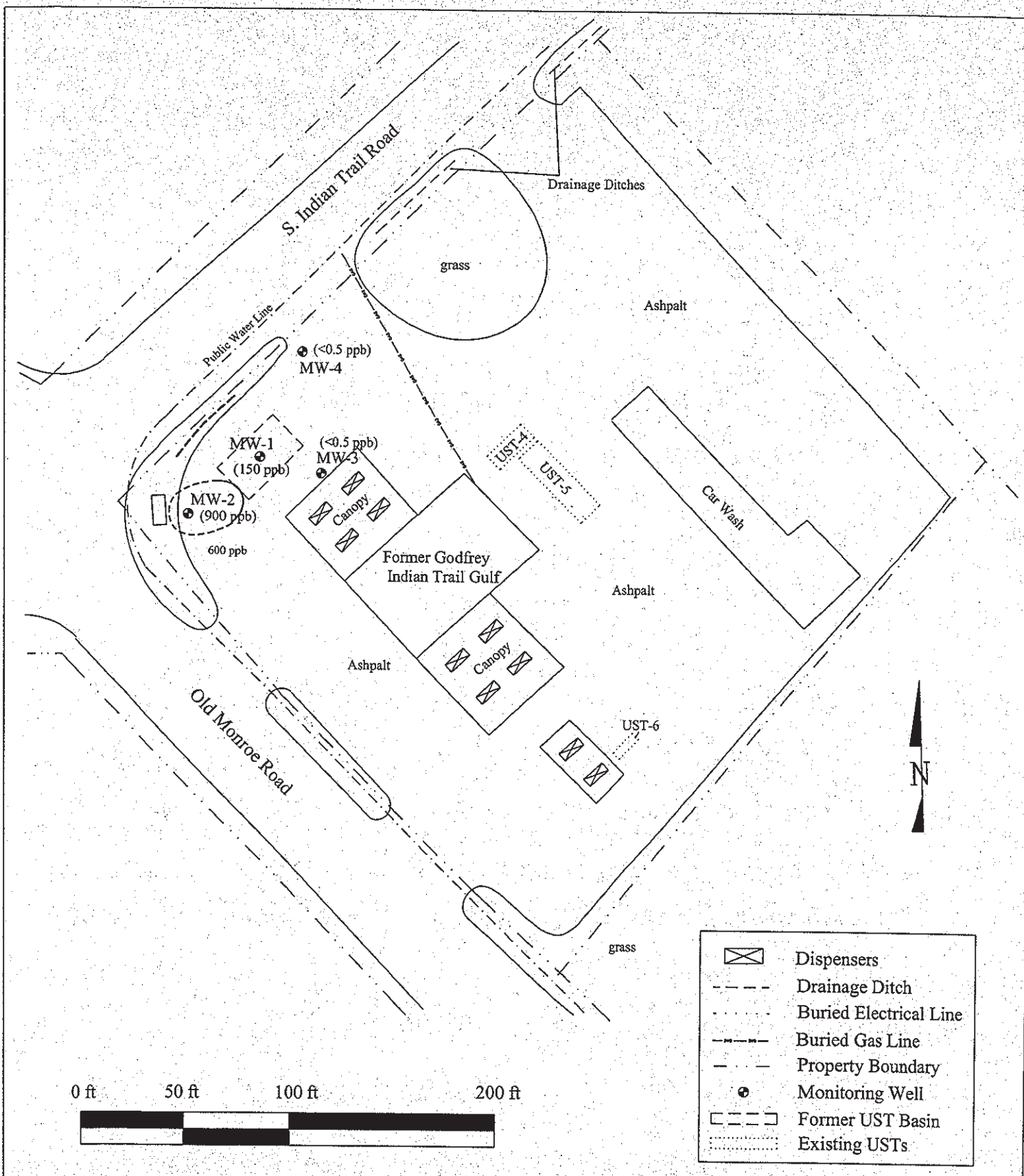
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Toluene Contamination Plume Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

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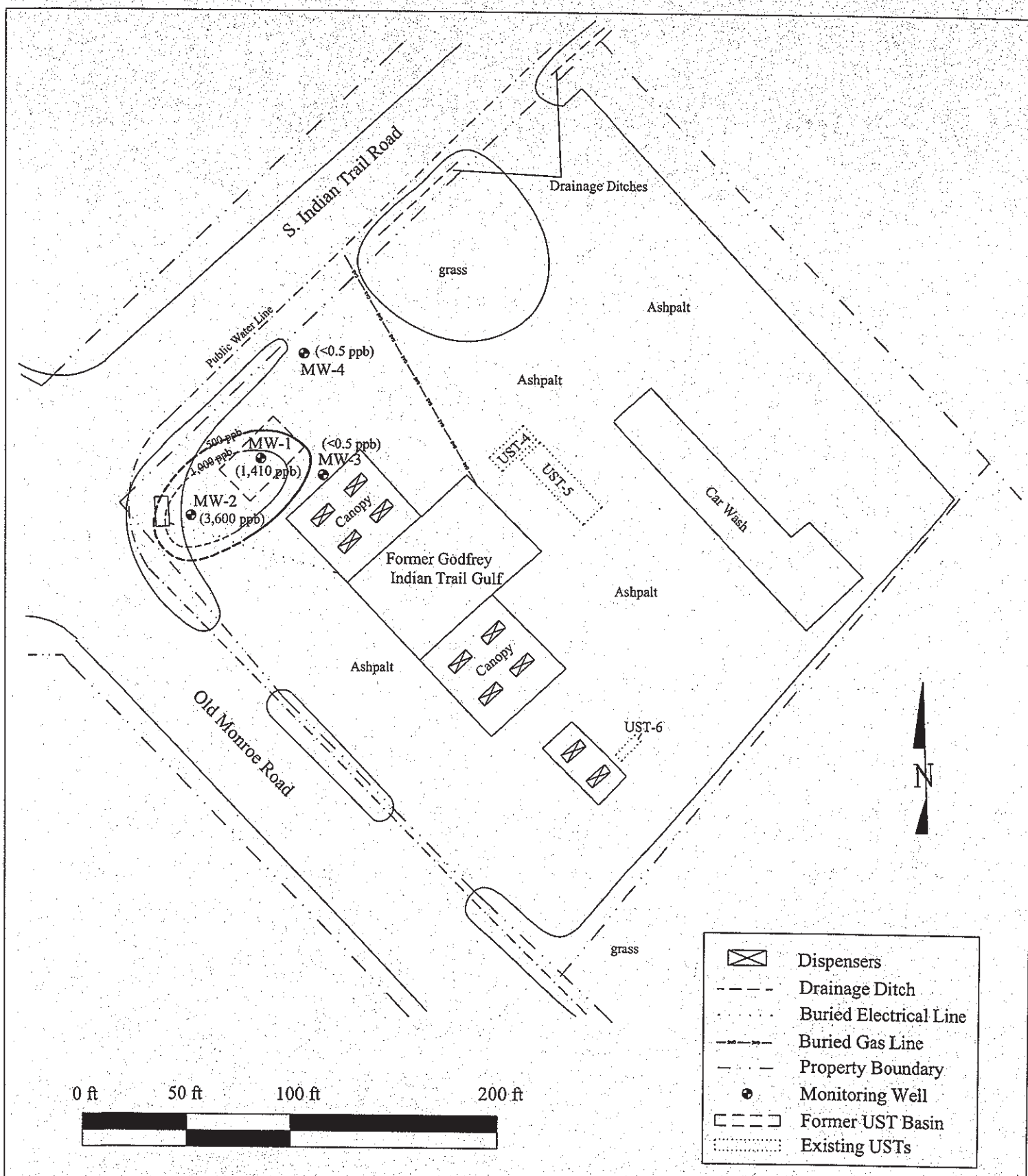
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Ethylbenzene Contamination Plume Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
P.O. Box 5611 Cary, NC 27512

Figure No:	Scale:	Drawn By:	Checked By:	Date:	Project No:
8	As Shown	CJH	RS	6/7/10	



Xylenes Contamination Plume Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
P.O. Box 5611 Cary, NC 27512

Figure No:	Scale:	Drawn By:	Checked By:	Date:	Project No:
9	As Shown	CJH	RS	6/7/10	

APPENDIX

RISK CLASSIFICATION AND LAND USE FORM

Limited Site Assessment Risk Classification and Land Use Form

Part I – Groundwater/Surface Water/Vapor Impacts

High Risk

1. Has the release contaminated any water supply well including any well 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 of the release? **YES**
   One (1) active drinking water well is located approximately 750 ft from the site. The property associated with WSW-1 is not currently active. However, the property is in the process of being sold, WSW-1 is functional, and the property is not connected to the public water supply. Once sold, it is believed that WSW-1 will likely be used as a primary drinking water source.
3. Is a water supply well not used for drinking water (e.g., irrigation, washing cars, industrial cooling water, filling swimming pools) located within 250 feet of the source area of the release? **NO**
4. Does groundwater within 500 feet of the source area of the release have the potential for future use (there is no other source of water supply other than the groundwater)? **NO**
5. Do vapors from the 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**
   If yes, describe.

   _____
6. Are there any other factors that would cause the release to pose an imminent danger to public health, public safety, or the environment? **NO**
   If yes, describe.

Intermediate Risk

7. Is a surface water body located within 500 feet of the source area of the release? **YES**
   Drainage ditches are located along S. Indian Trail Road, approximately 100 ft from MW-1.

   If **YES**, does the maximum groundwater contaminant concentration exceed the surface water quality standards and criteria found in 15A NCAC 2B .0200 by a factor of 10? **YES**
8. Is the source area of the release located within an approved or planned wellhead protection area as defined in 42 USC 300h-7(e)? **NO**
   If yes, describe.
9. Is the 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 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? **NO**
   If YES, describe.
10. Do the levels of groundwater contamination for any contaminant exceed the gross contamination levels (see Table 9) established by the Department? **YES**
    Benzene was detected in MW-1 (5,100 ppb) and MW-2 (5,400 ppb) exceeding the GCL of 5,000 ppb.

Part II - Land Use

Property Containing Source Area of 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**
   Describe.
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**
   Describe. The site is an active gas station.
4. Do children visit the property? **YES**
   Explain.
   The site is an gas station and may be visited by children.
5. Is access to the property reliably restricted consistent with its use (e.g., by fences, security personnel or both)? **NO**
   Explain. The property is not fenced or restricted.
6. Do pavement, buildings, or other structures cap the contaminated soil? **NO**
   Describe.

   If yes, what mechanisms are in place or can be put into place to ensure that the contaminated soil will remain capped in the foreseeable future?
7. What is the zoning status of the property?
   The zoning status of the property is Commercial.
8. Is the use of the property likely to change in the next 20 years? **NO**
   The property has been and is currently being used as a commercial gas station and there is no reason it would not continue to be used as such.

Property Surrounding Source Area of Release

The questions below pertain to the area within 1,500 feet of the source area of the release (excludes property containing source area of the release):

1. What is the distance from the source area of the release to the **nearest** primary or secondary residence (permanent or temporary)?
   The closest off-site residence is located approximately 450 ft north of MW-1.
2. 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?
   Union Memorial Hospital is located approximately 950 ft southeast of the site.

3. What is the zoning status of properties in the surrounding area?
   The zoning status of all the surrounding properties is a mixture of Commercial and Residential.

4. Briefly characterize the use and activities of the land in the surrounding area.
   The property is an active gas station. The surrounding area is primarily commercial businesses with residential properties located between 500 and 1,000 ft from the site.

WELL CONSTRUCTION INFORMATION

NON RESIDENTIAL WELL CONSTRUCTION RECORD

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

WELL CONTRACTOR CERTIFICATION # 3307

1. WELL CONTRACTOR:
Tommy Bolyard
Well Contractor (Individual) Name
Environmental Drilling & Probing Services, LLC
Well Contractor Company Name
17538 Greenhill Road
Street Address
Charlotte NC 28278
City or Town State Zip Code
(704) 607-7529
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT#
OTHER ASSOCIATED PERMIT#(if applicable)
SITE WELL ID #(if applicable) MW-1

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)
DATE DRILLED 3/12/10

4. WELL LOCATION:
Int. of Old Monore and Waxhaw Indian Trail Rd
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
CITY: Indian Trail COUNTY
TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☐Slope ☐Valley ☐Flat ☐Ridge ☐Other
LATITUDE 36 ° ' " DMS OR 3x.xxxxxxxx DD
LONGITUDE 75 ° ' " DMS OR 7x.xxxxxxxx DD
Latitude/longitude source: ☐GPS ☐Topographic map
(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)
Godfrey Indian Trail Gulf
Facility Name Facility ID# (if applicable)
Int. of Monroe/Waxhaw Indian Trail
Street Address
Indian Trail NC
City or Town State Zip Code
NA
Contact Name
Same
Mailing Address
Same
City or Town State Zip Code
( )
Area code Phone number

6. WELL DETAILS:
a. **TOTAL DEPTH:** 30'
b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑
c. **WATER LEVEL** Below Top of Casing: FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. **YIELD (gpm):** **METHOD OF TEST**
f. **DISINFECTION: Type** **Amount**
g. **WATER ZONES** (depth):
Top Bottom Top Bottom
Top Bottom Top Bottom
Top Bottom Top Bottom

7. CASING:

Depth	Diameter	Thickness/ Weight	Material
Top 15 Bottom 0	Ft 2	sch.40	PVC
Top Bottom	Ft		
Top Bottom	Ft		

8. GROUT:

Depth	Material	Method
Top 13 Bottom 11	Ft Bentonite	Tremie
Top 11 Bottom 0	Ft Grout	Tremie
Top Bottom	Ft	

9. SCREEN:

Depth	Diameter	Slot Size	Material
Top 30 Bottom 15	Ft 2 in.	0.01 in.	PVC
Top Bottom	Ft in.	in.	
Top Bottom	Ft in.	in.	

10. SAND/GRAVEL PACK:

Depth	Size	Material
Top 30 Bottom 13	Ft #2med	Sand
Top Bottom	Ft	
Top Bottom	Ft	

11. DRILLING LOG

Top	Bottom	Formation Description

12. REMARKS:

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

SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE 3/22/10

Tommy Bolyard
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1b
Rev. 2/09

NON RESIDENTIAL WELL CONSTRUCTION RECORD

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

WELL CONTRACTOR CERTIFICATION # 2911

1. WELL CONTRACTOR:
Gary Skoglund
Well Contractor (Individual) Name
Environmental Drilling & Probing Services, LLC
Well Contractor Company Name
17538 Greenhill Road
Street Address
Charlotte NC 28278
City or Town State Zip Code
(704) 607-7529
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT# NA
OTHER ASSOCIATED PERMIT#(if applicable) NA
SITE WELL ID #(if applicable) MW-2

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)
DATE DRILLED 5/14/10

4. WELL LOCATION:
Int. of Old Monore and Waxhaw Indian Trail Rd
(Street Name, Numbers, Community Subdivision, Lot No., Parcel, Zip Code)
CITY Indian Trail COUNTY
TOPOGRAPHIC / LAND SETTING (check appropriate box)
☐ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other
LATITUDE 36 ° ' " DMS OR 3x.xxxxxxxx DD
LONGITUDE 75 ° ' " DMS OR 7x.xxxxxxxx DD
Latitude/longitude source ☐ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)
Godfrey Indian Trail Gulf
Facility Name Facility ID# (if applicable)
Int. of Monroe/Waxhaw Indian Trail
Street Address
Indian Trail NC
City or Town State Zip Code
Contact Name
Mailing Address
City or Town State Zip Code
( ) Area code Phone number

6. WELL DETAILS:
a. TOTAL DEPTH: 30'
b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☑
c. WATER LEVEL Below Top of Casing: FT.
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. YIELD (gpm): METHOD OF TEST
f. DISINFECTION: Type Amount
g. WATER ZONES (depth):
Top Bottom Top Bottom
Top Bottom Top Bottom
Top Bottom Top Bottom

7. CASING:

Depth			Diameter	Thickness/ Weight	Material
Top 15	Bottom 0	Ft.	2	sch 40	PVC
Top	Bottom	Ft.			
Top	Bottom	Ft.			

8. GROUT:

Depth			Material	Method
Top 13	Bottom 11	Ft.	Bentonito	Tremie
Top 11	Bottom 0	Ft.	Grout	Tremie
Top	Bottom	Ft.		

9. SCREEN:

Depth			Diameter	Slot Size	Material
Top 30	Bottom 15	Ft.	2 in.	0.01 in	PVC
Top	Bottom	Ft.	in	in.	
Top	Bottom	Ft.	in.	in	

10. SAND/GRAVEL PACK:

Depth			Size	Material
Top 30	Bottom 13	Ft.		
Top	Bottom	Ft.		
Top	Bottom	Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description

12. REMARKS:

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

SIGNATURE OF CERTIFIED WELL CONTRACTOR 5/18/10 DATE

Gary Skoglund
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161. Phone : (919) 807-6300

Form GW-1b
Rev. 2/09

NON RESIDENTIAL WELL CONSTRUCTION RECORD

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

WELL CONTRACTOR CERTIFICATION # 2911

1. WELL CONTRACTOR:
Gary Skoglund
Well Contractor (Individual) Name
Environmental Drilling & Probing Services, LLC
Well Contractor Company Name
17538 Greenhill Road
Street Address
Charlotte NC 28278
City or Town State Zip Code
(704) 607-7529
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT# NA
OTHER ASSOCIATED PERMIT#(if applicable) NA
SITE WELL ID #(if applicable) MW-3

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)
DATE DRILLED 5/14/10

4. WELL LOCATION:
Int. of Old Monore and Waxhaw Indian Trail Rd
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
CITY: Indian Trail COUNTY:
TOPOGRAPHIC / LAND SETTING (check appropriate box)
☐ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other
LATITUDE 36 ° ' " DMS OR 3x.xxxxxxxx DD
LONGITUDE 75 ° ' " DMS OR 7x.xxxxxxxx DD
Latitude/longitude source: ☐ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)
Godfrey Indian Trail Gulf
Facility Name Facility ID# (if applicable)
Int. of Monroe/Waxhaw Indian Trail
Street Address
Indian Trail NC
City or Town State Zip Code
Contact Name
Mailing Address
City or Town State Zip Code
( ) Area code Phone number

6. WELL DETAILS:
a. TOTAL DEPTH: 30'
b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☑
c. WATER LEVEL Below Top of Casing: FT.
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. YIELD (gpm): METHOD OF TEST
f. DISINFECTION: Type Amount
g. WATER ZONES (depth):
Top Bottom Top Bottom
Top Bottom Top Bottom
Top Bottom Top Bottom

7. CASING:

Depth	Diameter	Thickness/ Weight	Material
Top 15 Bottom 0 Ft.	2	sch 40	PVC
Top Bottom Ft.			
Top Bottom Ft.			

8. GROUT:

Depth	Material	Method
Top 13 Bottom 11 Ft.	Bentonite	Tremie
Top 11 Bottom 0 Ft.	Grout	Tremie
Top Bottom Ft.		

9. SCREEN:

Depth	Diameter	Slot Size	Material
Top 30 Bottom 15 Ft.	2 in.	0.01 in	PVC
Top Bottom Ft.	in	in	
Top Bottom Ft.	in	in	

10. SAND/GRAVEL PACK:

Depth	Size	Material
Top 30 Bottom 13 Ft.		
Top Bottom Ft.		
Top Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description

12. REMARKS:

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

SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE 5/18/10

Gary Skoglund
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1b
Rev. 2/09

Agra Environmental, Inc.

AFVR Report

Former Godfrey Indian Trail Gulf
4303 Old Monroe Road
Indian Trail, Union County, NC

Risk Classification: Recommended High
UST Incident Number: 13116
Facility I.D.: Unknown

Date of Report:
January 15, 2012

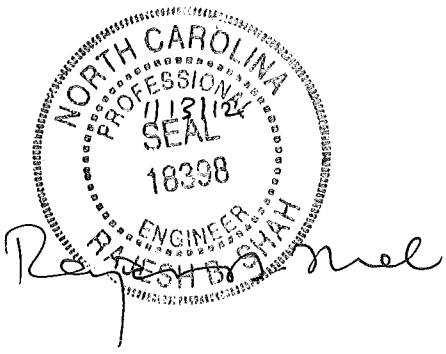
Current UST Owner:
Brewer-Hendley Oil Company

Current Property Owner:
Brewer-Hendley Oil Company
PO Box 769
Marshville, NC 28103

Source of Release:
Three (3) 1,000-gallon USTs

Latitude and Longitude
35° 04.083 N, 80° 40.712 W

Prepared By:
Agra Environmental, Inc
P. O. Box 5611
Cary, NC 27512
Phone: (919) 858-5350



Report Certification:
Raj B. Shah, P.E.

I, RAJESH B. SHAH, a Licensed Geologist for Agra Environmental Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

Agra Environmental Inc. is licensed to practice engineering in North Carolina. The certification number of the corporation is C-934

Executive Summary

The Godfrey Indian Trail site (Incident # 13116) is located at 4303 Old Monroe Road in Indian Trail, Union County, North Carolina (Figure 1 and Figure 2). Agra Environmental Inc. (Agra) personnel supervised an aggressive fluid vapor recovery (AFVR) event on December 5, 2011. Agra also attempted to sample the onsite monitoring wells at the site on January 9, 2012.

During the eight hour AFVR event, approximately 420 gallons of petroleum and water were removed from monitoring well MW-1 and properly disposed of by Shamrock Environmental.

Four (4) monitoring wells (MW-1, MW-2, MW-3, and MW-4) were identified by Agra at the Godfrey Indian Trail site on January 9, 2012. All the wells were dry except MW-4 which had approximately 9 inches of water. Since only a small amount of groundwater could be collected from the well, at the request of the UST section, Agra did not submit any groundwater samples for analysis.

If the wells continue to be dry during subsequent sampling events, Agra recommends replacing the wells. Agra recommends that the site remain ranked as a "high risk".

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Figures

1. **Site Location Map**
2. **Site Map**

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Field Notes

AFVR Manifest, Worksheet, and Field Notes

Site History and Characterization

Agra performed a Limited Site Assessment (LSA) Phase I at the site on March 15, 2010. The property is currently an active Exxon gas station and Subway restaurant identified as Market Express. The site currently operates one (1) 12,000-gallon (UST-4), 20,000-gallon (UST-5), and 4,000-gallon (UST-5) USTs. Available UST information and UST ownership information are included in Table 1 and Table 2.

A door-to-door survey of the surrounding properties was conducted to identify active off-site private water supply wells within 1,000 ft of the subject site. One (1) active private water supply well (WSW-1) was identified approximately 750 ft form the site. An interview with the property owner, Mr. Jeff Turnbull, stated that WSW-1 is an active functional well, but that the property is currently inactive and in the process of being sold. The property associated with WSW-1 is not connected to the public water supply. Mr. Turnbull did not allow Agra to collect a groundwater sample from WSW-1 as he believed that it could potentially delay the sale of his property. A second water supply well (WSW-2) was identified approximately 1,300 ft from the subject site. A third water supply well (WSW-3) was previously located approximately 750 ft from the site. However, in 2008 the property associated with WSW-3 was sold and WSW-3 was abandoned and the associated structures removed. The property is now an active commercial business (AutoZone).

Drainage ditches were identified along Indian Trail Road, approximately 100 ft from MW-1 (Figure 2). The drainage ditches appear to flow in the northeast direction and empty into the South Fork Crooked Creek, approximately 1,500 ft from the site. No other surface water bodies were identified within 1,000 ft of the site.

A water tower was identified approximately 400 ft to the southwest of the site. The Union County Public Works Department was contacted to confirm that public water is available to the surrounding area and to determine if any public water supply wells were located within 1,000 ft of the site. Union County currently supplies drinking water to the site and surrounding properties. The water tower is only used to provide pressure for the surrounding water and there are no water supply wells associated with the water tower.

Environmental Drilling and Probing Services of Charlotte, NC, (EDP) installed one (1) type II monitoring well (MW-1) at the site on March 15, 2010. Prior to the well installation, the Union County Water Department was contacted to mark off the location of the water line in proximity to the site. Public water supply lines are located underneath the roadway of Indian Trail Road. The closest water line is located approximately 50 ft from MW-1. The remaining public utilities were contacted through the "one call service" prior to the well installation.

Agra personnel collected groundwater samples from MW-1 on March 15, 2010. Laboratory analysis of the groundwater samples collected from MW-1 revealed several petroleum contaminants in MW-1 exceeding the 15A NCAC 2L groundwater standards. Additionally, benzene (5,100 parts per billion (ppb)) was detected exceeding its gross contamination level (GCL) of 5,000 ppb

Based on the presence of an active water supply well within 1,000 ft of the site and petroleum contamination in the on-site monitoring well exceeding the GCLs, Agra and Environmental Drilling & probing returned to the site on May 14, 2010 to install three (3) additional type II monitoring wells (MW-2, MW-3, and MW-4) as part of a LSA Phase II. MW-2, MW-3, and MW-4 were each installed to a depth of 30 ft BGL. No soil samples were collected during the installation of MW-2, MW-3, or MW-4.

Agra personnel collected groundwater samples from MW-2, MW-3, and MW-4 on May 17, 2010. Laboratory analysis of the groundwater samples revealed several petroleum contaminants in MW-2 exceeding the 15A NCAC 2L groundwater standards. Additionally, benzene (5,400 ppb) was detected in MW-2 exceeding the GCL of 5,000 ppb. No petroleum contaminants were detected in MW-3 or MW-4 exceeding the method detection limits.

AFVR and Attempted Groundwater Sampling

Agra personnel supervised an AFVR event conducted by Shamrock Environmental on December 5, 2011. Agra also attempted to sample the onsite monitoring wells at the site on January 9, 2012. The site is an active Exxon gas station.

During the eight hour AFVR event, approximately 420 gallons of petroleum and water (petroleum-water mixture) were removed from monitoring well MW-1 and properly disposed of by Shamrock Environmental. The manifest, worksheet, and field notes are included in the Appendix. During the event, monitoring wells MW-2 and MW-3 were found to be dry. MW-1 and MW-4 had approximately 5 inches of water.

Agra attempted to collect groundwater samples from MW-1, MW-2, MW-3 and MW-4 during the groundwater sampling event on January 9, 2012.

All the wells at the site were dry except MW-4 which had approximately 9 inches of water. Only a small amount of groundwater could be collected from the well (after a two hour wait after which the well had not recharged). At the request of the UST section, Agra did not submit any groundwater samples for analysis.

Free Product

No free product was discovered in any of the monitoring wells during the AFVR or attempted sampling events.

Groundwater Laboratory Analytical Results

Agra did not submit any groundwater samples for analysis.

Conclusions and Recommendations

If the wells continue to be dry during subsequent sampling events, Agra recommends replacing the wells. Agra recommends that the site remain ranked as "high risk".

TABLES

Former Godfrey Indian Trail Gulf, #13116
Indian Trail, Union County, North Carolina

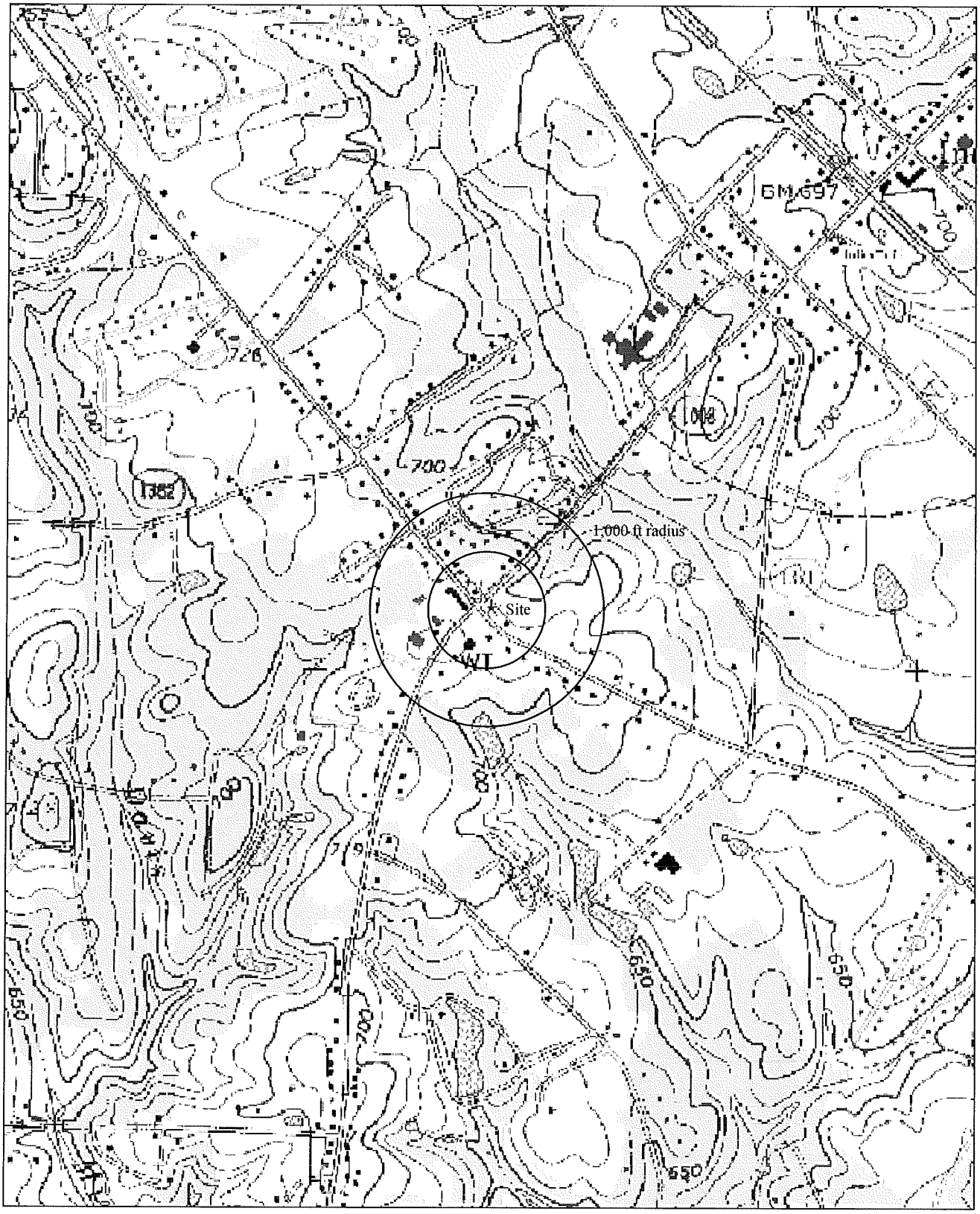
Table 1
UST Information

Tank No.	UST Contents	Capacity (gallons)	Date Installed	Date Removed	Tank Dimensions	Associated with Release?
UST-1	Unknown	1,000	Unknown	8/7/1990	Unknown	Yes
UST-2	Unknown	1,000	Unknown	8/7/1990	Unknown	Yes
UST-3	Unknown	1,000	Unknown	8/7/1990	Unknown	Yes
UST-4	Gasoline	12,000	1996	NA	Unknown	No
UST-5	Gasoline	20,000	1996	NA	Unknown	No
UST-6	Diesel	4,000	1996	NA	Unknown	No

Table 2
UST Ownership Information

UST #	UST Owner	Address	Telephone #	Date of Ownership
UST-1 UST-2 UST-3	Unknown	Unknown	Unknown	Unknown – 8/7/90
UST-4 UST-5 UST-6	Brewer-Hendley Oil Company	PO Box 769 Marshville, NC 28103	704-233-2600	1996 - Present

FIGURES



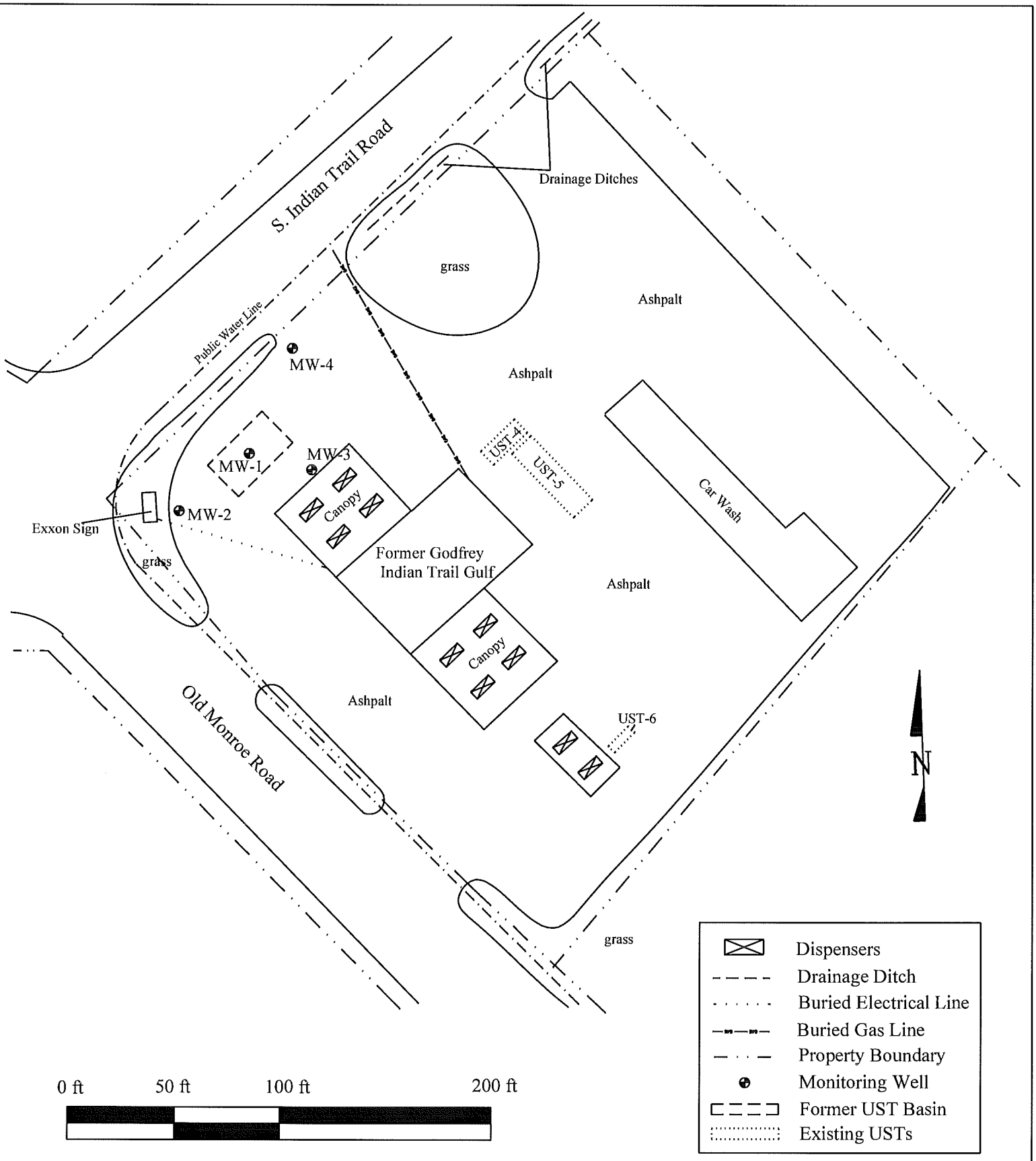
3-D TopoQuads Copyright @ 1999 Delorme Yarmouth ME 04096 Source Data USGS Scale: 1:12,800 Detail: 14-0 Datum: WGS84

0 ft 500 ft 1,000 ft

Site Location Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
P.O. Box 5611 Cary, NC 27512

Figure No:	Scale:	Drawn By:	Checked By:	Date:	Project No:
1	As Shown	CJH	RS	6/8/10	



Site Map
Godfrey Indian Trail Gulf, #13116
4303 Old Monroe Road
Indian Trail, Union County, NC

Agra Environmental, Inc.
P.O. Box 5611 Cary, NC 27512

Figure No:	Scale:	Drawn By:	Checked By:	Date:	Project No:
2	As Shown	CJH	RS	6/7/10	

APPENDIX

SHAMROCK
ENVIRONMENTAL CORPORATION

December 16, 2011

Jim Rousch
AGRA Environmental
1507 Old Apex Road, Suite 100
Cary, NC 27512

Re: Summary Report for Aggressive Fluid Vapor Recovery Event
Site Name: Godfrey Indian Trail Gulf #13116
Job Location: Indian Trail, NC
Date of Event: December 5, 2011

Dear Mr. Rousch:

Shamrock Environmental Corporation (SEC) is pleased to provide AGRA Environmental (AGRA) with this summary report documenting Aggressive Fluid Vapor Recovery (AFVR) operations for the above referenced project. SEC utilized a Hydro-Vac Series 2000 high vacuum positive displacement blower vacuum truck capable of a maximum of 800 CFM (640 CFM at 15 inches of mercury) and maximum of 27 inches of mercury. This report documents the AFVR event recently performed at the above referenced site.

The following table provides the duration and the total volume of fluids recovered during the event, the amount of separated free product recovered during the event and the amount of calculated gallons of free product recovered as a result of vapor recovery.

Date of AFVR Event	Event Duration (Consecutive Hours)	Total Fluids Recovered (Gallons)	Total Separated Free Product (Gallons)	Total Calculated Free Product Recovered (Gallons)
12/5/11	8	420	None	0.478

Attachment A contains a copy of the manifest used to document recovered fluids transportation and disposal. Attachment B contains the Total Emissions Table used to calculate the Petroleum Mass Recovery for the event.

Attachment C contains the Field Data Record used to document the pertinent information collected during the event. The Field Data Record includes the following information:

1. Date of data recordation.
2. Time of data recordation.
3. Effluent stack VOC concentration collected using a photoionization detector.
4. Stack velocity in feet per minute.
5. Stack temperature in DRY degrees Fahrenheit.
6. Relative humidity of stack effluent.
7. Vacuum of the vacuum unit in inches of mercury.
8. Wellhead vacuum in inches of mercury for each well used for AFVR recovery.

The following tables provide pre-recovery and post recovery depth to water and depth to product levels in specific on-site monitoring wells. The product/water levels were determined using an interface probe.

Pre/Post Event Water Levels
Date of Event:

Well ID	Pre-Event		Post Event	
	DTP	DTW	DTP	DTW
MW-01	NFP	29.60	NFP	29.95

DTW=Depth to Water in feet below well casing.
DTP=Depth to Product in feet below well casing.
NFP=No Free Product detected.

Should you have any questions regarding this report, please contact me at (336) 375-1989.

Sincerely,
Shamrock Environmental Corporation

Terri Goode
Customer Service Representative

cc: Mark Wise

Sheet: Field Data Record
Customer: AGRA Environmental
Project: Godfrey Indian Trail Gulf #13116 - Indian Trail, NC
Date of Event: 12/5/2011
Date of Report: 12/16/2011
Unit ID: VT

Time	SEC Unit	VOCS	Temp	Relative Humidity	Velocity	MW-01									H2O Meter	Pipe ID
24-HOUR	Inches HG	PPM	DEG F	%	FPM	Inches HG									GALS	INCHES
9:00	24.0	152.3	100	30.6	3960	19.0										6
9:30	22.0	150.1	110	19.8	3510	22.0										6
10:00	21.0	136.9	130	16.6	3330	22.0										6
10:30	21.0	130.2	135	14.8	2960	20.0										6
11:00	21.0	139.1	135	16.5	3020	20.0										6
11:30	21.0	126.2	135	15.6	2970	20.0										6
12:00	21.0	124.6	140	15.4	2850	22.0										6
12:30	21.0	132.6	140	15.7	2470	21.0										6
13:00	21.0	134.4	140	16.9	2620	20.0										6
13:30	21.0	131.6	140	17.3	2530	20.0										6
14:00	21.0	137.9	145	16.6	2690	20.0										6
14:30	21.0	145.9	140	19.0	2710	20.0										6
15:00	21.0	138.6	140	22.7	2980	20.0										
15:30	21.0	120.4	140	21.8	2870	20.0										
16:00	21.0	119.1	140	20.3	2610	20.0										
16:30	21.0	118.3	140	19.1	2860	20.0										
17:00	21.0	121.6	140	19.4	2670	20.0										

Water Level Measurements				
Well ID	Pre-Event		Post-Event	
	DTP	DTW	DTP	DTW
MW-01	NFP	29.60	NFP	29.95

Product Measurements in Tank		
Measurement	DTP	DTW
At Site (ft)		
Total Gals	420	
Product Gals	None	
At Plant (ft)		
Total Gals		
Product Gals		

OL=Off Line
DTW=Depth to Water in feet below well casing
DTP=Depth to Product in feet below well casing
NFP=No Free Product Detected

Sheet: Calculations

Customer: AGRA Environmental

Project: Godfrey Indian Trail Gulf #13116 - Indian Trail, NC

Date of Event: 12/5/2011

Date of Report: 12/16/2011

Total Emissions Data

Observation Time	Elapsed Time (min)	Water Vapor (%)	Flow (ACFM)	Flow (DSCFM)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
9:00	0	0%	777.2	732.7	152.3	810	0.00005	2.223	1.111
9:30	30	80%	688.8	126.3	150.1	798	0.00005	0.378	0.189
10:00	60	83%	653.5	97.1	136.9	728	0.00005	0.265	0.132
10:30	90	85%	580.9	76.3	130.2	692	0.00004	0.198	0.099
11:00	120	84%	592.7	86.8	139.1	740	0.00005	0.240	0.120
11:30	150	84%	582.9	80.7	126.2	671	0.00004	0.203	0.101
12:00	180	85%	559.3	75.8	124.6	663	0.00004	0.188	0.094
12:30	210	84%	484.7	67.0	132.6	705	0.00004	0.177	0.088
13:00	240	83%	514.2	76.5	134.4	715	0.00004	0.205	0.102
13:30	270	83%	496.5	75.6	131.6	700	0.00004	0.198	0.099
14:00	300	83%	527.9	76.5	137.9	733	0.00005	0.210	0.105
14:30	330	81%	531.8	88.9	145.9	776	0.00005	0.258	0.129
15:00	360	77%	584.8	116.8	138.6	737	0.00005	0.323	0.161
15:30	390	78%	563.2	108.1	120.4	640	0.00004	0.259	0.130
16:00	420	80%	512.2	91.5	119.1	633	0.00004	0.217	0.109
16:30	450	81%	561.3	94.3	118.3	629	0.00004	0.222	0.111
17:00	480	81%	524.0	89.5	121.6	647	0.00004	0.217	0.108
	510								
						Total emissions in pounds			2.990
						Total emission in gallons			0.478

K=number of carbons in calibration gas
ppm=parts per million of VOC's measured in stack
Cg:m=mass concentration of VOC emissions as carbon
Cg=mass concentration of VOC emissions as carbon, dry basis, at STP
PRMg=pollutant mass removal rate of VOC's, as gasoline
PRMg=pollutant mass removal rate of VOC's, as carbon

Recovery Data

Date of Event	Event Duration (Consecutive Hours)	Total Fluids Recoverd (Gallons)	Total Separated Free Product (Gallons)	Total Calculated Free Product Recovered (Gallons)
12/5/2011	8.0	420	None	0.478

CONTAINS HAZARDOUS MATERIALS

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

00001

Shipper's No.

Carrier Shamrock Environmental Corporation SCAC Carrier's No. NC0000942144

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at , date from

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination, and as to each party at any time interested in all or any said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: Shamrock Environmental Corp	FROM: Godfrey Indian Trail Gulf 13116
Consignee Shamrock Environmental Corporation	Shipper Trail Gulf #13116
Street 6106 Corporate Park Drive 6106 Corporate Park Drive	Street 4303 Monroe Road 4303 Monroe Rd
City Browns Summit NC Zip 27214	City Indian Trail NC Zip 28079
Destination Carrier	Vehicle Number U.S. DOT 061511552 010T

Number and Type of Containers	HM	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (Gross volume, or density)	Weight (subject to correction)	Class or Rate
001 TT X UN1203 Gasoline Mixture		Gasoline Mixture	3	III	420	G	

Shamrock Approval Code: 2011-057

Shamrock Job No. 02-AFV-11-1033

12/6/11

420 gal gs

Mon Mon 3 FP-20

Return to: Zip:

Subject to Section 7 of conditions of this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement. The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

For

CHARGES:

COD FEE:

Prepaid

Collect

FREIGHT CHARGES:

Prepaid

Collect

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ per

NOTE: Liability limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

PLACARDS REQUIRED

BY SHIPPER

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER: DATE: 12/5/11

CARRIER: DRIVER: DATE:

EMERGENCY RESPONSE TELEPHONE NUMBER

Monitored at all times the hazardous material is in transportation, including storage incidental to the transportation (172.604).

SHAMROCK AFVR
FIELD DATA

TRUCK NO. V1-9

WELL NUMBERS:

Time	Vac/Truck	VOC	Temp	Humidity	Velocity	MW-1 Vac In	Vac In	Vac In	Vac In	Vac In	Vac In	Vac In	Vac In
9:00	24	152.3	100°	30.6	3960	19							
9:30	22	150.1	110	19.8	3510	22							
10:00	21	136.9	130	16.6	3390	22							
10:30	21	130.2	135	14.4	2960	20							
11:00	21	139.1	135	16.5	3020	20							
11:30	21	126.2	135	15.6	2970	20							
12:00	21	124.6	140	15.4	2850	22							
12:30	21	132.6	140	15.7	2470	21							
1:00	21	134.4	140	16.9	2620	20							
1:30	21	131.6	140	17.3	2530	20							
2:00	21	137.9	145	16.6	2690	20							
2:30	21	145.9	140	19.0	2710	20							
3:00	21	138.6	140	22.7	2980	20							
3:30	21	120.4	140	21.8	2870	20							
4:00	21	119.1	140	20.3	2610	20							
4:30	21	118.3	140	19.1	2860	20							
5:00	21	121.6	140	19.4	2620	20							

CUSTOMER: AGRA Environmental SITE: Godfrey Hwy & Trail Gulf #13116 Indian Trail NC 28079 DATE: 12/5/11

EVENT START ONSITE

Well No.	DTP	DTW
MW-1		29.60

EVENT FINISH ONSITE

Well No.	DTP	DTW
MW-1		29.95

TOTAL GALLONS: 420
PRODUCT: No Product

PRODUCT MEASUREMENT (from tank)

FIELD MEASUREMENT (on site)

DTP	DTW

TOTAL GALLONS: 420
PRODUCT: None

AT PLANT (prior to off-loading)

DTP	DTW

TOTAL GALLONS: 420
PRODUCT: 4

GODFREY INDIAN TRAIL.

8:55 AM. 12/5/11

→ MW-1 was dry & has only 4 inches of water.
→ ~~from~~ No Free product was identified in MW-1.
→ AFVR was started @ 09:00 A.M.
→ MW-2, MW-3 are completely dry.
→ found about +5 inches of water in MW-1
→ AFVR finished @ 5:00 P.M.

→ closed all MW's & Measured the water tet/levels of MW-1 at the end of AFVR Event.

Jan 09, 2012 Wind Chill 40°F

→ All the wells @ the site are found to be Dry.

→ MW-1 @ which AFVR was conducted ~~was~~ is found to be completely Dry.

→ MW-4 has few inches of water in it. MW-4 was attempted to sample by ~~re~~ retrieving water. after the first attempt there was no water left in the well. managed to get ~~only~~ Enough water to fill only 6 (six) Small Sample vials

→ 2-hours were given to see if the water can Recuperate, if's negative.

→ Field parameters were not recorded due to Inadequate amount of water in the wells!

Monitoring Well Field Data

Site Name: GODFREY INDIAN TRAIL
Site Location: MONROE.

12/5

53°F wind chill.

Monitoring Well ID	Date	Time	Depth to Water (ft BGL)	Total Depth (ft)	Height of Water Column	Water Volume to be Purged (gal)	Water Volume Purged (gal)	pH	Temp	Conductivity (us/cm)	DO (mg/L)	VOC (PID)
MW-1	12/5	8:55	29.6	30	(NO Product)		Drywell.		53°F			
MW-2	"	9:15	DRY	30					"			
MW-3	"	9:15	DRY	30					"			
MW-4	"	9:30	29.63	30					"			
MW-2	12/5	10:15	DRY						55°F			
MW-3		10:15	DRY.						"			
MW-4		10:20	29.65						"			
MW-2		11:15	DRY						58°F			
MW-3		11:15	DRY.						"			
MW-4		11:15	29.66						"			
MW-2		12:15	DRY						59°F			
MW-3		12:15	DRY						"			
MW-4		12:20	29.67						"			
MW-2		1:15	DRY						62°F			
MW-3		1:15	DRY						62°F			
MW-4		1:20	29.65						62°F			
MW-2		2:15	DRY						61°F			
MW-3		2:15	DRY						61°F			
MW-4		2:20	29.66						61°F			

ANY

0-

Purging Calculation:
2-inch well: (Height of Water Column) x 0.16 gal/ft x 3 well volumes = _____ gal to be purged
4-inch well: (Height of Water Column) x 0.65 gal/ft x 3 well volumes = _____ gal to be purged

Monitoring Well Field Data

Site Name: GODFREY INDIAN TRAIL

Site Location: MONROE, INDIAN TRAIL

12/5

61°F Rainy

Monitoring Well ID	Date	Time	Depth to Water (ft BGL)	Total Depth (ft)	Height of Water Column	Water Volume to be Purged (gal)	Water Volume Purged (gal)	pH	Temp	Conductivity (us/cm)	DO (mg/L)
MW-2	12/5	3:15	Dry	30ft					61°F		
MW-3		3:15	Dry	30					"		
MW-4		3:20	29.68						"		
MW-2	12/5	4:15	Dry	"					62°F		
MW-3		4:15	Dry						"		
MW-4		4:15	29.68	"					"		
MW-2	12/5	5:00	Dry						61°F		
MW-3		5:00	Dry	"					"		
MW-4		5:00	29.68						"		
MW-1		5:00		"					"		

VOCs CPID

0.0 PPM

Purging Calculation:

2-inch well: (Height of Water Column) x 0.16 gal/ft x 3 well volumes = _____ gal to be purged

4-inch well: (Height of Water Column) x 0.65 gal/ft x 3 well volumes = _____ gal to be purged

CRAWFORD
ENVIRONMENTAL
SERVICES

FINAL DRAFT

July 24, 2012

Mr. Scott Ryals, Environmental Engineer
North Carolina Department of Environment and Natural Resources
DWM/UST Section
1637 Mail Service Center
Raleigh, North Carolina 27699-1637

RE: Groundwater Monitoring Event Letter/Report: June, 2012
Indian Trail Gulf
4303 Old Monroe Road
Indian Trail, Union County, North Carolina
IN: TF-13116
Contract Number: 4353-6C

Dear Mr. Ryals:

Crawford Environmental Services (CES) personnel were at the referenced site located at 4303 Old Monroe Road in Indian Trail, Union County, NC on June 6, 2012, to sample monitoring wells MW-1, MW-2, MW-3 and MW-4, and sample water supply well WSW-1.

Prior to sampling, a depth to water measurements was obtained from each well using an electronic water level meter. The water level meter was thoroughly decontaminated utilizing an Alconox® and deionized water solution prior to use. An attempt to purge three volumes from each well was attempted using separate, new bailers; however, the wells were purged to dry states after less than one gallon of water was removed from each well. Upon purging, groundwater samples were collected from the wells using the dedicated bailers. While it was the intention of CES to obtain a water sample from supply well WSW-1, CES personnel could not locate the well; all structures on the property have been razed and there is no evidence of the well on the property. For these reasons, no sample was retained from supply well WSW-1. Samples collected from MW-1, 2, 3 and 4 were transferred to laboratory prepared containers, immediately placed on ice in a cooler and transported under chain-of-custody to Shealy Environmental Services, Inc., an NC Certified laboratory. The samples were analyzed for volatile organic compounds by EPA Method 6200B + IPE, MTBE and EDB. Based upon the analytical report, benzene, MTBE, EDB, naphthalene, 1,2,4-trimethylbenzene, 1,2-dichloroethane and n-propylbenzene were detected at concentrations exceeding 2L Standards in the samples collected from monitoring wells MW-1 and MW-2. Several other compounds were also detected in these wells at levels exceeding the 2L Standard. No compounds were detected at levels in excess of their respective GCLs. No targeted compounds were detected in the samples

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retained from monitoring wells MW-3 and MW-4.

The water supply well ownership information is summarized in Table 1, but the status of this well is believed to be "out of use" or "abandoned". The monitoring well details and depth to water measurements are included in Table 2. A summary of the analytical results is included in Table 3. Figures showing the site location and the locations of the water supply well and monitoring wells at the site as presented in the Agra Environmental "Limited Site Assessment Report Phase II", dated June 11, 2010 are included in Appendix A. The laboratory analytical report is included in Appendix B.

Best Regards,

David P. Kwiatkowski, P.G.
NC Division Manager

Enclosures

TABLES

TABLE 1
WATER SUPPLY WELL INFORMATION
FORMER INDIAN TRAIL GULF
INDIAN TRAIL, UNION COUNTY
INCIDENT NO. 13116

Well ID	Property Owner(s)	Property Address	Owner Address	Estimated Distance and Direction from Source	Usage
WSW-1	Jeff Turnbull	1014 Waxhaw-Indian Trail Rd., Indian Trail, NC 28079	5438 Meadow Haven Ln., Charlotte, NC 28270	750 ft.	Potable[1]

[1] Well identified as active in Agra Environmental "Limited Site Assessment Report Phase II", dated June 10, 2011. CES was unable to identify the location and existence of the well on June 6, 2012. The property is owergrown with vegetation and does not have electric service. The 2012 Google Earth® map of the site shows that all structures on the parcel have been demolished. CES assumes that the well is out of use and may have been abandoned.

TABLE 2
MONITORING WELL CONSTRUCTION INFORMATION
FORMER INDIAN TRAIL GULF
INDIAN TRAIL, UNION COUNTY
INCIDENT NO. 13116

Well Identification	Top of Casing (ft)[1]	Total Depth (ft)	Date Measured	Depth to Water (ft)	Relative Groundwater Elevation (ft)
MW-1	98.49	30.0	3/15/2010	23.60	74.89
			6/9/2010	23.21	75.28
			6/6/2012	27.41	71.08
MW-2	98.49	30.0	5/17/2010	22.98	75.51
			6/9/2010	23.01	75.48
			6/6/2012	26.98	71.51
MW-3	98.59	30.0	5/17/2010	23.12	75.47
			6/9/2010	23.38	75.21
			6/6/2012	27.54	71.05
MW-4	97.54	30.0	5/17/2010	22.14	75.40
			6/9/2010	22.24	75.30
			6/6/2012	26.25	71.29

[1] Top of casing elevations from AGRA Environmental, "Limited Site Assessment Report Phase II", June 11, 2010, based on "assumed on-site benchmark of 100 ft." Water level measurements pre-dating June 6, 2012 from Agra "Phase II" report.

TABLE 3
SUMMARY OF GROUNDWATER SAMPLING ANALYTICAL RESULTS
FORMER INDIAN TRAIL GULF
INDIAN TRAIL, UNION COUNTY
INCIDENT NO. 13116

Well Identification	Sample Date	Benzene[1]	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	IPE	EDB	Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	n-Butylbenzene	sec-Butylbenzene	2-Chlorotoluene	1,2-Dichloroethane	Hexachlorobutadiene	p-Isopropyltoluene	Isopropylbenzene	n-Propylbenzene	C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics	Lead
MW-1	3/15/2010	**5,100**	450	150	**1,410**	**4,100**	ND[2]	ND	**230**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**22,000**	**12,000**	ND	**19,430**	14.0
	6/6/2012	**1,200.0**	54	540	**2,800**	**130**	ND	**7.4 J**[5]	**250**	**1,000**	290	45.0	9.7 J	ND	**42**	**3.4 J**	9.3 J	30	**72**	NA[3]	NA	NA	NA	NA
MW-2	5/17/2010	**5,400**	**4,700**	**900**	**3,600**	**4,200**	ND	ND	**460**	ND	ND	ND	ND	ND	ND	ND	N	ND	ND	**43,000**	**20,540**	ND	**3,610**	ND
	6/6/2012	**2,200**	17	480	524	**2,900**	18.0	**6.2 J**	**350**	**690**	200	30	8.7 J	52	**180**	ND	9.6 J	39	**97**	NA	NA	NA	NA	NA
MW-3	5/17/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/6/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-4	5/17/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/6/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
15A NCAC 2L .0202 (2		1	600	600	500	20	70	0.02	6	400	400	70	70	NE[4]	6	0.4	NE	70	70	400	700	10,000	200	15
Gross Contamination L		5,000	260,000	84,500	85,500	20,000	70,000	50	6,000	28,500	25,000	6,900	8,500	NE	6,000	400	NE	25,000	30,000	NE	NE	NE	NE	15,000

[1] VOCs, MTBE, & IPE analysis via Standard Method 6200B; reported in micrograms per liter (µg/L).

[2] Not Detected

3 Not Analyzed

[4] Standard not established

[5] Estimated concentration

FINAL DRAFT

CRAWFORD ENVIRONMENTAL SERVICES

January 14, 2013

Mr. Scott Ryals, Environmental Engineer
North Carolina Department of Environment and Natural Resources
DWM/UST Section
1637 Mail Service Center
Raleigh, North Carolina 27699-1637

RE: Groundwater Monitoring Event Letter/Report: November 2012
Indian Trail Gulf
4303 Old Monroe Road
Indian Trail, Union County, North Carolina
IN: TF-13116
Contract Number: 4353-6C

Dear Mr. Ryals:

Crawford Environmental Services (CES) personnel were at the referenced site located at 4303 Old Monroe Road in Indian Trail, Union County, NC on November 26, 2012, to sample monitoring wells MW-1, MW-2, MW-3 and MW-4, and sample water supply well WSW-1.

Prior to sampling, a depth to water measurements was obtained from each well using an electronic water level meter. The water level meter was thoroughly decontaminated utilizing an Alconox® and deionized water solution prior to use. At this time it was determined that all four wells were dry and therefore, were not sampled.

While it was the intention of CES to obtain a water sample from supply well WSW-1, CES personnel could not locate the well; all structures on the property have been razed and there is no evidence of the well on the property. For these reasons, no sample was retained from supply well WSW-1.

The water supply well ownership information is summarized in Table 1, but the status of this well is believed to be "out of use" or "abandoned". The monitoring well details and depth to water measurements are included in Table 2. A summary of the analytical results is included in Table 3. Figures showing the site location and the locations of the water supply well and monitoring wells at the site as presented in the Agra Environmental "Limited Site Assessment Report Phase II", dated June 11, 2010 are included in Appendix A. The field notes are included in Appendix B.

Best Regards,

David P. Kwiatkowski, P.G.
NC Division Manager

Enclosures

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TABLES

TABLE 1
WATER SUPPLY WELL INFORMATION
FORMER INDIAN TRAIL GULF
INDIAN TRAIL, UNION COUNTY
INCIDENT NO. 13116

Well ID	Property Owner(s)	Property Address	Owner Address	Estimated Distance and Direction from Source	Usage
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Well identified as active in Agra Environmental "Limited Site Assessment Report Phase II", dated June 10, 2011. CES was unable to identify the location and existence of the well on June 6, 2012. The property is owergrown with vegetation and does not have electric service. The 2012 Google Earth® map of the site shows that all structures on the parcel have been demolished. CES assumes that the well is out of use and may have been abandoned.

TABLE 2
MONITORING WELL CONSTRUCTION INFORMATION
FORMER INDIAN TRAIL GULF
INDIAN TRAIL, UNION COUNTY
INCIDENT NO. 13116

Well Identification	Top of Casing (ft)[1]	Total Depth (ft)	Date Measured	Depth to Water (ft)	Relative Groundwater Elevation (ft)
MW-1	98.49	30.0	3/15/2010	23.60	74.89
			6/9/2010	23.21	75.28
			6/6/2012	27.41	71.08
			11/26/2012	DRY	DRY
MW-2	98.49	30.0	5/17/2010	22.98	75.51
			6/9/2010	23.01	75.48
			6/6/2012	26.98	71.51
			11/26/2012	DRY	DRY
MW-3	98.59	30.0	5/17/2010	23.12	75.47
			6/9/2010	23.38	75.21
			6/6/2012	27.54	71.05
			11/26/2012	DRY	DRY
MW-4	97.54	30.0	5/17/2010	22.14	75.40
			6/9/2010	22.24	75.30
			6/6/2012	26.25	71.29
			11/26/2012	DRY	DRY

[1] Top of casing elevations from AGRA Environmental, "Limited Site Assessment Report Phase II", June 11, 2010, based on "assumed on-site benchmark of 100 ft." Water level measurements pre-dating June 6, 2012 from Agra "Phase II" report.

TABLE 3
SUMMARY OF GROUNDWATER SAMPLING ANALYTICAL RESULTS
FORMER INDIAN TRAIL GULF
INDIAN TRAIL, UNION COUNTY
INCIDENT NO. 13116

WELL ID	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	IPE	EDB	Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	n-Butylbenzene	sec-Butylbenzene	2-Chlorotoluene	1,2-Dichloroethane	Hexachlorobutadiene	p-Isopropyltoluene	Isopropylbenzene	n-Propylbenzene	C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics	Lead
MW-1	3/15/2010	**5,100**	450	150	**1,410**	**4,100**	ND	ND	**230**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**22,000**	**12,000**	ND	**19,430**	14.0
	6/6/2012	**1,200**	54	540	**2,800**	**130**	ND	**7.4 J**	**250**	**1,000**	290	45.0	9.7 J	ND	**42**	**3.4 J**	9.3 J	30	**72**	NA	NA	NA	NA	NA
	11/26/2012	**NOT SAMPLED - WELL DRY**																						
MW-2	5/17/2010	**5,400**	**4,700**	**900**	**3,600**	**4,200**	ND	ND	**460**	ND	ND	ND	ND	ND	ND	ND	N	ND	ND	**43,000**	**20,540**	ND	**3,610**	ND
	6/6/2012	**2,200**	17	480	524	**2,900**	18.0	**6.2 J**	**350**	**690**	200	30	8.7 J	52	**180**	ND	9.6 J	39	**97**	NA	NA	NA	NA	NA
	11/26/2012	**NOT SAMPLED - WELL DRY**																						
MW-3	5/17/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/6/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	11/26/2012	**NOT SAMPLED - WELL DRY**																						
MW-4	5/17/2010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/6/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	11/26/2012	**NOT SAMPLED - WELL DRY**																						
2L STANDARDS		1	600	600	500	20	70	0.02	6	400	400	70	70	NE	6	0.4	25	70	70	400	700	10,000	200	15
GCL'S		5,000	260,000	84,500	85,500	20,000	70,000	50	6,000	28,500	25,000	6,900	8,500	NE	6,000	400	11,700	25,000	30,000	NE	NE	NE	NE	15,000

ND - Not Detected J - Estimated Value

BOLD - Concentration exceeds soil to groundwater MSCC

Shaded - concentration exceeds Residential MSCC

GROUNDWATER MONITORING REPORT
INDIAN TRAIL GULF, INCIDENT #13116
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION CO., NC
S&ME PROJECT # 4305-14-260
January 15, 2015

Prepared For:

North Carolina Department of Environment and Natural Resources
Division of Waste Management
Underground Storage Tank Section
1637 Mail Service Center
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Prepared by:

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S&ME is licensed to practice geology/engineering in North Carolina. Geology License Certification #C-145 and Engineering License Certification #F-0176.

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I Photographs
II Field Notes
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1. STATE-LEAD MONITORING REPORT

1. Site Identification:
   - Date of Report: 1/15/2015
   - Facility I.D.: 00-0-0000009444
   - Site Risk: High UST Incident Number: 13116
   - Site Name: Indian Trail Gulf Site Rank: H150D Land Use Category: Commercial
   - Site Street Address: 4303 Old Monroe Road City/Town: Indian Trail Zip Code: 28079 County: Union
   - Description of Geographical Data (e.g., diesel fill port): Approximate location of MW-1
   - Location Method (GPS, Topographical map, other): Google Earth
   - Latitude (decimal degrees): 34.068218 Longitude (decimal degrees): -80.678389
2. Information about Contacts Associated with the Leaking UST System
   - Former UST Owner/Operator: Unknown
     Address: Unknown Telephone: Unknown
   - Former UST Operator: Unknown
     Address: Unknown Telephone: Unknown
   - Current Property Owner: Hendley-Brewer Properties
     Address: P.O. Box 769 Mashville, NC 28103 Telephone: Unknown
   - Property Occupant: Brewer-Hendley Oil Company (Active Service Station)
     Address: P.O. Box 769 Mashville, NC 28103 Telephone: None
   - Consultant/Contractor: S&ME, Inc.
     Address: 9751 Southern Pine Blvd., Charlotte, NC 28273 Telephone: 704-523-4726
   - Analytical Laboratory: Pace Analytical Services, Inc. State Certification No.: 12
     Address: 9800 Kincey Ave., Ste 100, Huntersville, NC 28078 Telephone: 704-875-9092
3. Information about Release
   - Date Reported: 12/19/1994
   - Estimated Quantity of Release: Unknown
   - Cause of Release: Unknown
   - Source of Release (Dispenser/Piping/UST): Former USTs system
   - Sizes and contents of UST system(s) from which the release occurred: Three (3) 1,000 gallon USTs with unknown contents
   - Criteria Used to Classify Risk: Exceedances of 2L Standards, and a water supply well reportedly used for drinking within 1,000 feet of source area; however, the water supply well is presumed to be "out of use" or "abandoned as the previous structures on the parcel have been razed and there are no indications of the well.
4. Information about the Monitoring Report
   - Date(s) of Groundwater Monitoring Event: 12/18/14
5. Certification

I, Al Quarles, a Licensed Geologist for S&ME, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.



Al Quarles, L.G.

S&ME, Inc. is licensed to practice geology/engineering in North Carolina. Geology License Certification #C-145 and Engineering License Certification #P0326.

2. EXECUTIVE SUMMARY

1. Free product thickness:

   Maximum thickness (ft): None Measured
   Monitoring well: Not Applicable
   Date: December 18, 2014

2. Maximum concentrations of groundwater contaminants exceeding 2L Standards:

Contaminant	2L Standard (µg/L)	Concentration (µg/L)	Well ID	Date
Benzene	1	1,770	MW-2	12/18/14
Ethylbenzene	600	669	MW-2	12/18/14
Methyl tert-butyl ether	20	3,230	MW-2	12/18/14
Naphthalene	6	629	MW-2	12/18/14
1,2-Dichloroethane	0.4	160	MW-2	12/18/14
n-Propylbenzene	70	112	MW-2	12/18/14
1,2,4-Trimethylbenzene	400	482	MW-2	12/18/14

3. Current extents of free product and dissolved groundwater contamination and compare to the historical extents:
   Free product has not been previously reported at the site and was not encountered during the December 2014 sampling event. Contaminant concentrations in samples from monitoring wells MW-1 and MW-2 exceed the 15A NCAC 2L .0202 Groundwater Quality Standards (2L Standards), but do not exceed the Gross Contamination Levels (GCLs). No compound concentrations greater than the laboratory detection limits were present in the samples collected from monitor wells MW-3 and MW-4. The December 2014 contaminant concentrations are generally less than the maximum concentrations detected in 2010 and 2012, with a few exceptions. The extent of contamination is not defined to the south, west, and northwest.

4. Potential receptors and risk of impact:
   According to a groundwater Monitoring Report, prepared by Crawford Environmental Services of North Carolina, PC, dated January 14, 2013, the formerly identified WSW-1 was not located and is believed to be “out of use” or “abandoned”. The former structures on the property for WSW-1 have been razed and there was no indication of the well. Municipal water is available to the area.

5. Feasible pathway to closing the UST Incident.
   a) Confirm the presence/absence of the previously reported water supply well WSW-1.
   b) Abandon water supply well WSW-1 if present, and if the property is not connected to municipal water.

c) Close the incident with a Notice of No Further Action and file a Notice of Residual Petroleum on the property.

3. SCOPE OF SERVICES

3.1 Contract Information

The scope of services for this report was performed in general accordance with S&ME's proposal number 43-1401035, dated November 19, 2014. The scope of services was authorized by the North Carolina Department of Environment & Natural Resources (NCDENR's) Task Authorization 13116-01, dated November 26, 2014, and within contract number N14005i.

3.2 Approved Scope of Services

S&ME's approved Scope of Services for this Task Authorization included collecting groundwater samples from monitoring wells MW-1, MW-2, MW-3, and MW-4. These services were completed as proposed.

4. SITE HISTORY AND CHARACTERIZATION

The Indian Trail Gulf site, identified as NCDENR Incident Number 13116, is located at 4303 Old Monroe Road, Indian Trail, Union County, North Carolina (**Figures 1** and **2**). The site is currently an active retail automotive fueling station. The currently active USTs include one (1) 12,000-gallon (UST-4), 20,000-gallon (UST-5), and 4,000-gallon (UST-6) USTs. Three 1,000-gallon USTs (UST-1, UST-2, and UST-3) of unknown installation dates and unknown contents were removed in August 1990. Available UST information and UST ownership information are included in **Table 1** and **Table 2**. The onsite release is attributed to UST-1, UST-2, and UST-3. Photographs of the site are included in **Appendix I**.

The NCDENR provided S&ME with the following reports:

- March 31, 2010: Phase I, Limited Site Assessment, by Agra Environmental, Inc. (Agra)
- June 11, 2010: Phase II, Limited Site Assessment, by Agra
- January 15, 2012: Groundwater Monitoring Report, by Agra
- July 24, 2012: Groundwater Monitoring Report, By Crawford Environmental Services (Crawford)
- January 14, 2013: Groundwater Monitoring Report, by Crawford

Based on the referenced reports, monitoring well (MW-1) was installed in March 2010, at a located suspected to be the location of the basin for UST-1, UST-2, and UST-3. Monitoring wells MW-2, MW-3, and MW-4 were installed in May 2010. Groundwater sampling results indicated the greatest contaminant concentrations in monitoring well MW-2, with exceedances of the 2L Standards and the GCLs (benzene only) in monitoring wells MW-1 and MW-2. No contaminants were detected in monitoring wells MW-3 or MW-4. Groundwater flow is to the northeast (toward MW-3 and MW-4) with MW-2 being the upgradient monitoring well.

One water supply well (WSW-1) was identified within 1,000 feet of the source area, and is located approximately 750 feet southwest on a vacant property (no structures). The presence of the well was not confirmed by Agra or by Crawford. Municipal water is available to the property, but is not connected. The prior owner of the property indicated that the buyers of the property may use the water supply well for drinking water purposes.

One Aggressive Fluid Vapor Recovery (AFVR) event was conducted in December 2011 using monitoring well MW-1. The total quantity of water removed was 420 gallons, and approximately 3 pounds (0.5 gallons) of hydrocarbon vapors were removed.

4.1 UST Owner and Operator Information

The former USTs were removed from the site in May 1990. The former owner/operator of the USTs is unknown. The site is an active retail automotive fueling station currently owned and operated by Brewer-Hendley Oil Company.

4.2 UST Information

The former UST system at the site included three 1,000-gallon USTs with unknown contents. The USTs were permanently closed by removal in August 1990. The current UST system consists of a 12,000-gallon gasoline UST, a 20,000-gallon gasoline UST, and a 4,000-gallon

diesel UST. The current USTs were installed in 1996. Information regarding the current and former USTs is summarized in **Table 1** and the locations of the current USTs are depicted on **Figure 2**.

4.3 Description of the UST Release

- Date discovered: August 1990

- Cause and Source (including tank identification number and contents): The former UST system consisting of three 1,000-gallon USTs with unknown contents.

4.4 Site Characteristics

- Land Use of Site: The site is an active retail automotive fueling station and restaurant. Historically the site was utilized as a retail automotive fueling station.

- Land Use of Surrounding Area: The land use of the surrounding area is predominantly a mix of commercial and residential uses.

- Topography: The site is approximately 710 feet above the National Geodetic Vertical Datum of 1929. Based upon the topographic map reviewed, the area of the subject property slopes predominantly to the northeast. Refer to **Figure 1** for a USGS Topographic Map.

- Vegetation/Surface Cover: The site is covered mostly by concrete, and the on-site buildings. The site is covered by grass at the parking lot islands of the parcel.

- Surface Water: No surface water bodies were noted within 1,000 feet of the source area.

  Wells: According to a groundwater Monitoring Report, prepared by Crawford, dated July 24, 2012; the structures on the parcel for WSW-1 were observed to be razed and no indications of the water supply well were observed. Thus, WSW-1 is believed to be "out of use" or "abandoned". Municipal water is available to the area.

- Buildings: The site contains an approximately 2,000-square foot structure which is currently used as a fueling station and associated canopies, and a 2,400-square foot self-serve carwash.

- Soil Type: Soils underlying the site are the Tarrus-Urban Land, which are characterized as having two to eight percent slopes.

- Depth to and Nature of Bedrock: According to the 1985 USGS Geologic Map of the North Carolina, the site is underlain by the Carolina Slate Belt of the Piedmont Physiographic Province. Bedrock in this area is metamudstone and meta-argillite, which is characterize by thin to thick bedded; bedding plane and axial-planar cleave common; interbedded with metasandstone, metaconglommerate, and metavolcanic rock.

- Depth to Groundwater in Source Area: Based upon data collected on December 18, 2014, depth to groundwater measurements at the site for the monitoring wells ranged from 27.98 feet below top of casing (ft-BTOC) in monitoring well MW-4 to 28.52 ft-BTOC in monitoring well MW-3. Groundwater depth and elevation measurements are summarized in **Table 2**.

- Direction of Groundwater Flow: Based upon measurements collected on December 18, 2014, groundwater at the site flows northeast. **Figure 3** graphically depicts the approximate groundwater flow at the site based on the December 18, 2014 measurements.

4.5 Owners and Occupants of Adjoining/Nearby Properties and Land Use

The land use of the surrounding area is predominantly a mix of commercial and residential. Details regarding the adjacent properties are summarized in **Table 3.**

4.6 Receptors/Potential Receptor Information

One water supply well was reportedly located at 1111 Waxhaw-Indian Trail Road, approximately 750 feet southwest of the source area. The property has no structures and the presence of the water supply well has not been confirmed. Municipal water is available to the area. No surface water bodies were noted within 1,000 feet of the source area.

5. CURRENT SITE ASSESSMENT INFORMATION

5.1 Current Liquid Levels

On November 18, 2014, S&ME was onsite to gauge liquid levels in monitoring wells MW-1, MW-2, MW-3, and MW-4. The depth-to-water for the monitoring wells ranged from 27.98 feet below top of casing (ft-BTOC) in monitoring well MW-4 to 28.52 ft-BTOC in monitoring well MW-3. A summary of current and historic groundwater levels is included in **Table 2** and the groundwater elevations based on the November 18, 2014 measurements are depicted in **Figure 3**.

5.2 Groundwater Monitoring Events

After measuring the depth-to-water, S&ME personnel purged monitoring wells MW-1, MW-2, MW-3, and MW-4 with disposable polyethylene bailers by evacuating at least three well volumes. The monitoring wells were allowed to recharge and suspended sediments allowed to settle.

After completing the well purging, S&ME personnel collected a groundwater sample from the monitoring wells. The groundwater samples were placed in laboratory-supplied containers, stored in a cooler with ice, and shipped under chain-of-custody procedures to Pace Analytical Services, Inc. (Pace), a North Carolina certified laboratory for laboratory analysis. The groundwater samples were analyzed for volatile organic compounds (VOCs) by Standard Method 6200B.

Copies of the monitoring well forms are included in **Appendix II.**

5.3 Summary of Groundwater Assessment Information

The monitoring well sampling results are summarized in **Table 4.** Review of the laboratory analytical results for the samples collected on November 18, 2014, indicated concentrations of various compounds in the samples collected from monitoring wells MW-1 and MW-2 at concentrations greater than their respective 2L Standards. Additional compounds were detected in the samples collected from monitoring wells MW-1 and MW-2 at concentrations greater than the laboratory method detection limits, but less than their respective 2L Standards. None of the contaminant concentrations exceeded the GCLs. No compounds were detected at concentrations greater than the laboratory method detection limits in the samples collected from monitoring wells MW-3 and MW-4. As the site is an active retail automotive fueling station, ethanol was added to the list of constituents to be analyzed. No ethanol was detected above the laboratory detection limits in any of the onsite monitoring well samples. **Figure 5** graphically depicts the contaminants detected at concentrations greater than the 2L Standards in the groundwater samples collected on December 18, 2014.

A copy of the laboratory report for the samples collected on December 18, 2014, is included in **Appendix III.**

5.4 Regional and Site Geology and Hydrogeology

5.4.1 Soil and Bedrock

Soils underlying the site are the Tarrus-Urban Land, which are characterized as having two to eight percent slopes. According to the 1985 USGS Geologic Map of the North Carolina, the site is underlain by the Carolina Slate Belt of the Piedmont Physiographic Province. Bedrock in this area is metamudstone and meta-argillite, which is characterize by thin to thick bedded; bedding plane and axial-planar cleave common; interbedded with metasandstone, metaconglommerate, and metavolcanic rock.

5.4.2 Hydrogeology

Based upon measurements collected on November 18, 2014, groundwater flow at the site is to the northeast (**Figure 3**).

5.5 Evaluation of Groundwater and Free Product Assessment Information

5.5.1 Current Extent and Severity of Contamination

Groundwater contamination is present at concentrations greater than the 2L Standards in the samples collected from monitoring wells MW-1 and MW-2. Contaminant concentrations have generally decreased with time. None of the November 18, 2014 sample results were greater than the GCLs.

5.5.2 Cleanup Levels Achieved

- Soil (*soil-to-groundwater maximum soil contaminant concentrations)* **Unknown**
- Groundwater *(2L standard concentrations*) **No**

6. CONCLUSIONS AND RECOMMENDATIONS

Based on the current and historical assessment information for the site, the following conclusions are presented:

1. The UST Incident meets the following conditions for a High Risk classification:
    a. One water supply well (WSW-1) is located within 1,000 feet of the source area. The property with the well currently has no structures, and thus the well is not currently used. However, it is unknown if the property is connected to municipal water.
    b. Municipal water is available to the area surrounding the site.
    c. Contaminant levels in the groundwater exceed the 2L Standards, but do not exceed the GCLs.
2. The extent of groundwater contamination at the site is to the south, southwest, and west is not defined.
3. Groundwater flow is to the northeast.

Based on the above, the following recommendations are presented:

1. Confirm the presence/absence of the previously reported water supply well WSW-1.
2. Pursue abandonment of water supply well WSW-1 if present, and if the property is not connected to municipal water.
3. Close the incident with a Notice of No Further Action and file a Notice of Residual Petroleum on the property.
4. If the above cannot be accomplished, conduct annual sampling of the monitoring wells.

FIGURES



GRAPHIC SCALE

2,000 1,000 0 2,000

SCALE: 1" = 2,000'

SOURCE: MATTHEWS, NC QUADRANGLE, 7.5-MINUTE SERIES
USGS TOPOGRAPHIC MAP (2013)
OBTAINED FROM http://www.nconemap.com

SCALE:	AS SHOWN
DATE:	JAN. 2015
DRAWN BY:	RDM
PROJECT NO:	4305-14-260

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VICINITY MAP

INDIAN TRAIL GULF TF #13116
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY, NORTH CAROLINA

FIGURE NO.

1



LEGEND
APPROXIMATE MONITORING WELL LOCATION

GRAPHIC SCALE

60 30 0 60

SCALE: 1" = 60'

SOURCE: 2010 AERIAL PHOTOGRAPH OBTAINED FROM http://www.nconemap.com. PARCEL DATA OBTAINED FROM UNION COUNTY, NC GIS WEBSITE.

MAP SOURCE: *LIMITED SITE ASSESSMENT REPORT PHASE II, FORMER GODFREY INDIAN TRAIL GULF, 4303 OLD MONROE ROAD, INDIAN TRAIL, UNION COUNTY, NORTH CAROLINA*, by Agra Environmental. Figure 2, dated June 11, 2010.

SCALE:	AS SHOWN
DATE:	JAN. 2015
DRAWN BY:	RDM
PROJECT NO:	4305-14-260

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SITE MAP
INDIAN TRAIL GULF TF #13116
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY, NORTH CAROLINA

FIGURE NO.
2



SOURCE: 2010 AERIAL PHOTOGRAPH OBTAINED FROM http://www.nconemap.com. PARCEL DATA OBTAINED FROM UNION COUNTY, NC GIS WEBSITE.

MAP SOURCE: *LIMITED SITE ASSESSMENT REPORT PHASE II, FORMER GODFREY INDIAN TRAIL GULF, 4303 OLD MONROE ROAD, INDIAN TRAIL, UNION COUNTY, NORTH CAROLINA*, by Agra Environmental. Figure 2, dated June 11, 2010.

LEGEND

- APPROXIMATE MONITORING WELL LOCATION
- (70.07) GROUNDWATER ELEVATION (FEET RELATIVE)
- 70.0 GROUNDWATER CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION

SCALE:	AS SHOWN
DATE:	JAN. 2015
DRAWN BY:	RDM
PROJECT NO:	4305-14-260

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GROUNDWATER CONTOUR MAP

INDIAN TRAIL GULF TF #13116
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY, NORTH CAROLINA

FIGURE NO.
3



LEGEND

▼ APPROXIMATE WATER SUPPLY WELL LOCATION (SEE TABLE 3)

(1) ADJACENT PROPERTIES (SEE TABLE 3)

SAMPLES COLLECTED ON DECEMBER 18, 2014

GRAPHIC SCALE

500 250 0 500

SCALE: 1" = 500'

SOURCE: 2010 AERIAL PHOTOGRAPH OBTAINED FROM http://www.nconemap.com. PARCEL DATA OBTAINED FROM UNION COUNTY, NC GIS WEBSITE.

SCALE:	AS SHOWN
DATE:	JAN. 2015
DRAWN BY:	RDM
PROJECT NO:	4305-14-260

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POTENTIAL RECEPTOR MAP

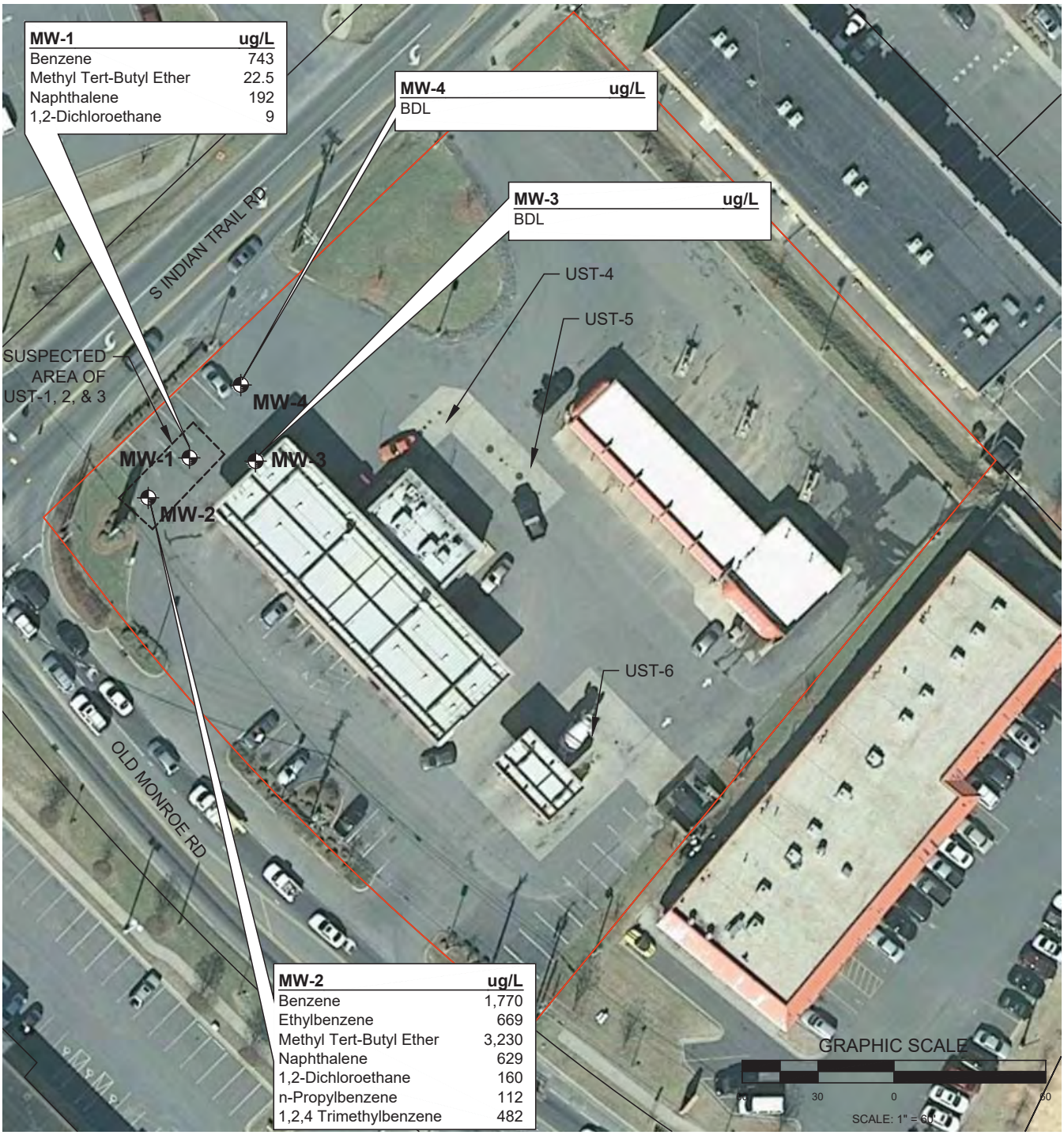
INDIAN TRAIL GULF TF #13116

4303 OLD MONROE ROAD

INDIAN TRAIL, UNION COUNTY, NORTH CAROLINA

FIGURE NO.

4



LEGEND
⌖ APPROXIMATE MONITORING WELL LOCATION
ug/L MICROGRAMS PER LITER
BDL BELOW DETECTION LIMITS
SAMPLES COLLECTED ON DECEMBER 18, 2014

NOTE: ONLY CONSTITUENTS EXCEEDING 2L STANDARDS ARE SHOWN

SOURCE: 2010 AERIAL PHOTOGRAPH OBTAINED FROM http://www.nconemap.com. PARCEL DATA OBTAINED FROM UNION COUNTY, NC GIS WEBSITE.

MAP SOURCE: *LIMITED SITE ASSESSMENT REPORT PHASE II, FORMER GODFREY INDIAN TRAIL GULF, 4303 OLD MONROE ROAD, INDIAN TRAIL, UNION COUNTY, NORTH CAROLINA*, by Agra Environmental. Figure 2, dated June 11, 2010.

SCALE:	AS SHOWN
DATE:	JAN. 2015
DRAWN BY:	RDM
PROJECT NO:	4305-14-260

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GROUNDWATER CONSTITUENT MAP

INDIAN TRAIL GULF TF #13116
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY, NORTH CAROLINA

FIGURE NO.
5

TABLES

Table 1
UST SYSTEM INFORMATION
Indian Trail Gulf
4304 Old Monroe Road
Indian Trail, Union County, North Carolina
NCDENR Incident No. 13116
S&ME Project No. 4305-14-60

UST ID Number	Product	Capacity (gallons)	Owner/Operator	Date Installed	Date Closed	Was Release Associated With UST System?
1	Unknown	1,000	Unknown	Unknown	8/7/90	Yes
2	Unknown	1,000		Unknown	8/7/90	Yes
3	Unknown	1,000		Unknown	8/7/90	Yes
4	Diesel	12,000	Brewer-Hendley Oil Company P.O. Box 769 Marshville, NC 28103 704-233-2600	1/1/1996	NA	No
5	Gasoline	20,000*		1/1/1996	NA	No
6	Diesel	4,000		1/1/1996	NA	No

NOTES:

UST Information from *NCDENR's UST Database and from NCDENR Registered UST database*

NA : Not Applicable

TABLE 2
MONITOR WELL CONSTRUCTION AND LIQUID LEVEL DATA
Indian Trail Gulf
4304 Old Monroe Road
Inidan Trail, Union County, North Carolina
NCDENR Incident No. 13116
S&ME Project No. 4305-14-60

Well ID	Date Installed	Top of Casing Elevation (ft)	Well Diameter (in)	Well Casing Depth (ft-BGS)	Screen Interval (ft-BGS)	Date of Measurement	Depth to Product (ft-BTOC)	Depth To Water (ft-BTOC)	Product Thickness (ft)	Groundwater Elevation (ft)
MW-1	03/15/10	98.49	2.00	15.00	15.00 to 30.00	03/15/10	NP	23.60	NA	74.89
						06/09/10	NP	23.21	NA	75.28
						06/06/12	NP	27.41	NA	71.08
						11/26/12	NP	DRY	NA	DRY
						12/18/14	NP	28.31	NA	70.18
MW-2	05/14/10	98.49	2.00	15.00	15.00 to 30.00	05/17/10	NP	22.98	NA	75.51
						06/09/10	NP	23.01	NA	75.48
						06/06/12	NP	26.98	NA	71.51
						11/26/12	NP	DRY	NA	DRY
						12/18/14	NP	28.03	NA	70.46
MW-3	05/14/10	98.59	2.00	15.00	15.00 to 30.00	05/17/10	NP	23.12	NA	75.47
						06/09/10	NP	23.38	NA	75.21
						06/06/12	NP	27.54	NA	71.05
						11/26/12	NP	DRY	NA	DRY
						12/18/14	NP	28.52	NA	70.07
MW-4	05/14/10	97.54	2.00	15.00	15.00 to 30.00	05/17/10	NP	22.14	NA	75.40
						06/09/10	NP	22.24	NA	75.30
						06/06/12	NP	26.25	NA	71.29
						11/26/12	NP	DRY	NA	DRY
						12/18/14	NP	27.98	NA	69.56

NOTES:
All measurements based on an estimated topographic elevation of 100 feet at an assumed site datum
ft : feet
in : inches
ft-BGS : feet below ground surface
NP : Not Present
NA : Not Applicable

TABLE 3
PUBLIC AND PRIVATE WATER SUPPLY WELL AND OTHER RECEPTOR INFORMATION
Indian Trail Gulf
4304 Old Monroe Road
Inidan Trail, Union County, North Carolina
NCDENR Incident No. 13116
S&ME Project No. 4305-14-60

Adjacent Property Owners

Map ID	Parcel Number	Description	Location	Usage	Contact	Distance from source area of release (feet)
SITE	7114073	Indian Trail Gulf	4303 Old Monroe Road Inidan Trail, NC	Active Service Station	Hendley-Brewer Properties P.O. Box 769 Mashville, NC 28103	0
1	7114064	Commerical shopping center	604-626 Indian Trail Road Inidan Trail, NC	Commercial	George Athans & Denise P Athans Et. Al. P.O. Box 1094 Matthews, NC 28106	60
2	7114072R	Commerical shopping center	601-637 Indian Trail Road Inidan Trail, NC	Commercial	Fidias LLC 8535 Fox Bridge Road Weddington, NC 28104	150
3	7114081	Commercial	4305 A-K Old Monroe Road Indian Trail, NC	Commercial	Gregory Plaza LLC 5640 Sunstar Court Charlotte, NC 28226	115
4	7114020 01	CVS Pharmacy	4300 Old Mopnroe Road Indian Trail, NC	Commercial	George A Karagounis & Evanelina Z. Karagounis & IT Partners 6747-C Fairview Road	235
5	07114038F	Bank	Old Charlotte Highway Indian Trail, NC	Commercial	Rushing Construction Company & Fifth Third Bank 38 Fountain Square Plaza MD 10ATA1 Cincinnati, Oio 45263	160

Public and Private Water Supply Wells

Well ID	Parcel Number	Well Owner	Property Address	Owner Address	Phone Number	Latitude / Longitude	Well Use	Distance from source area of release (feet)	Comment
WSW-1	74114022	Park Tae Kyu Et Al	1111 Waxhaw-Indian Trail Road Inidian Trail, NC 28079	3216 Old Monroe Road Stallings, NC 28104	Unknown	35.066466/ -80.679631	Potable	750	The structures on the parcel for WSW-1 were observed to be razed and no indications of the water supply well were observed. Thus, WSW-1 is believed to be “out of use” or “abandoned”.

NOTES:

Well inoformation obtained from Groundwater Monitoring Event Leter/ Report: November 2012, by Crawford Environmental, dated January 14, 2013.

.Refer to **Figure 4** for Adjacent Property Owner Locations

Parcel information obtained from Union County GIS website (http://maps.co.union.nc.us/gomaps/map/Index.cfm).

Latitude/Longitude information obtained from Google Earth.

Water supply well depths and diameters are unknown.

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Indian Trail Gulf
4303 Old Monroe Road
Indian Trial, Union County, North Carolina
NCDENR Incident No. 13116
S&ME Project No. 4305-14-260

Sample ID	Volatile Organic Compounds by Standard Method 6200B or equivalent																		MADEP VPH			3030C
	Compounds of Concern / Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Diisopropyl ether	1,2 Dibromoethane	Naphthalene	n-Butylbenzene	sec-Butylbenzene	p-Isopropyltoluene	1,2-Dichloroethane	Hexachloro(-1,3-)butadiene	Isopropylbenzene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2-Chlorotoluene	C5-C8 Aliphatics	C9-C18 Aliphatics	C9-C22 Aromatics	Lead
MW-1	03/15/10	5,100	450	150	1,410	4,100	ND	ND	230	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22,000	12,000	1,930	14
	06/06/12	1,200	54	540	2,800	130	ND	7.4 J	250	45	9.7 J	9.3 J	42	3.4 J	30	72	1,000	290	ND	NA	NA	NA	NA
	11/26/12	Not Sampled-Well Dry																					
	12/18/14	743	1.9 J	262	45	22.5	<2.5	<2.5	192	<2.5	<2.5	<2.5	9	<10	22.9	43.9	238	91.9	<2.5	NA	NA	NA	NA
MW-2	05/17/10	5,400	4,700	900	3,600	4,200	ND	ND	460	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	43,000	20,540	3,600	ND
	06/06/12	2,200	17	480	524	2,900	18	6.2 J	350	30	8.7 J	9.6 J	180	ND	39	97	690	200	52	NA	NA	NA	NA
	11/26/12	Not Sampled-Well Dry																					
	12/18/14	1,770	40.3	669	374	3,230	25.5	<25	629	<25	<25	<25	160	<100	46.8	112	482	168	<25	NA	NA	NA	NA
MW-3	05/17/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/06/12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	11/26/12	Not Sampled-Well Dry																					
	12/18/14	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	NA	<0.50	<2	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA
MW-4	05/07/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/06/12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	11/26/12	Not Sampled-Well Dry																					
	12/18/14	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	NA	<0.50	<2	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA
2L Standard		1	600	600	500	20	70	0.02	6	70	70	25	0.4	0.4	70	70	400	400	NE	420	4,200	210	15
Gross Contamination Level		5,000	260,000	84,500	85,500	20,000	70,000	50	6,000	6,900	8,500	11,700	400	400	25,000	30,000	28,500	25,000	NE	NE	NE	NE	15,000

NOTES:

Analytes that are not shown were not detected
Data presented in micrograms per liter or µg/L
2L Standard: North Carolina Groundwater Quality Standards: 15A NCAC 2L.0202
J: Estimated concentration between method detection limit and method reporting limit
ND: Not detected at a concentration greater than the laboratory method detection limit

NA: Not analyzed for constituent
NE: No standard established
Value: Concentration exceeds the 2L Standards
Value: Concentration exceeds the Gross Contamination Levels

APPENDICES

APPENDIX I

Photographs

Indian Trail Gulf, Incident # 13116
Indian Trail, NC
Project #: 4305-14-260
Sheet 1 of 2

S&ME
9751 Southern Pine Blvd.
Charlotte, NC 28273

Photo 1	
	**Date:** 12/18/14 **Photographer:** Jeff Niewald
Location	4303 Old Monroe Road, Indian Trail, NC
Remarks	View of the monitoring well MW-2.

Photo 2	
	**Date:** 12/18/14 **Photographer:** Jeff Niewald
Location	4303 Old Monroe Road, Indian Trail, NC
Remarks	View of monitoring wells MW-1(right) and MW-3 (left).

S&ME
9751 Southern Pine Blvd.
Charlotte, NC 28273

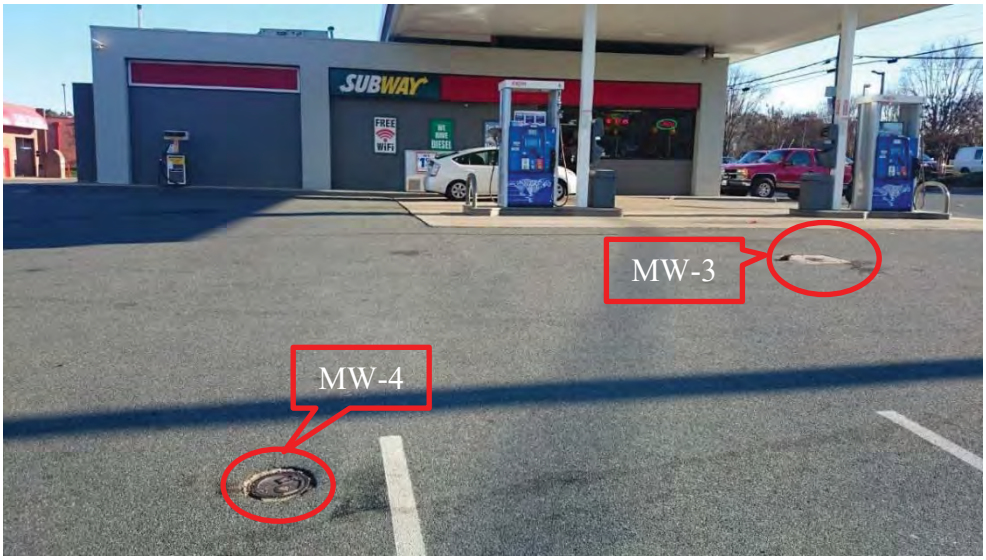
Photo 3	
	**Date:** 12/18/14 **Photographer:** Jeff Niewald
Location	4303 Old Monroe Road, Indian Trail, NC
Remarks	View of monitoring wells MW-4(right) and MW-3 (left).

Photo 4	
	**Date:** 12/18/14 **Photographer:** Jeff Niewald
Location	4303 Old Monroe Road, Indian Trail, NC
Remarks	View of the damaged well cap in monitoring well MW-3.

APPENDIX II

Field Notes

Monitor Well Sampling Form

S&ME

Client:	NCDENR		S&ME Project No.:		4305-14-260		Weather Conditions:	Sunny 50's				
Site Name:	TF-13116 Indian Trail Gulf											
Site Address:	4303 Old Monroe Road Indian Trail, NC											
Well ID / Diameter	MW-4 2"		MW-3 2"		MW-1 2"		MW-2 2"					
Collection Order												
Total Well Depth (ft)	29.40		~~28.52~~ 29.71		29.42		28.95					
Depth to Water (ft)	27.98		~~29.71~~ 28.52		28.31		28.05					
Water Column (ft)	1.42		1.19		1.11		.95					
Well Volume (X3)	.23		.19		.18		.15					
Volume Purged (gal)	.75		.58		.54		.46					
Purge Time Interval	2 min		1 min		2 min							
pH	v1 4.79	v4 4.62	v1 5.31	v4 5.18	v1 6.04	v4 6.29	v1 6.38	v4 6.38	v1	v4		
	v2 4.63	v5	v2 5.34	v5	v2 6.19	v5	v2 6.42	v5	v2	v5		
	v3 4.63	v6	v3 5.22	v6	v3 6.25	v6	v3 6.44	v6	v3	v6		
Temp. °C	v1 20.6	v4 21.6	v1 21.2	7:60	v1 20.7	v4 20.7	v1 20.3	v4 20.9	v1	v4		
	v2 21.4	v5	v2 21.3	v5	v2 21.2	v5	v2 20.8	v5	v2	v5		
	v3 21.7	v6	v3 21.4	v6	v3 21.3	v6	v3 21.0	v6	v3	v6		
Specific Conductivity	v1 64	v4 70	v1 160	v4 142	v1 230	v4 236	v1 409	v4 415	v1	v4		
	v2 64	v5	v2 151	v5	v2 243	v5	v2 412	v5	v2	v5		
	v3 67	v6	v3 151	v6	v3 240	v6	v3 417	v6	v3	v6		
Purge Rate	In.	Fin.	In.	Fin.	In.	Fin.	In.	Fin.	In.	Fin.		
Final Turbidity (ntu)	Turbid		Turbid		Turbid		Turbid					
Well Condition	Good		Good		Good		Good Replaced cap					
Date/Time Collected	12/18/14 1535		12/18/14 1540		12/18/14 1550		12/18/14 1645					
Field Calibration	Date/Time: 12/18/14 1100											
	pH 7.0 4.0											
	C 8.5											
	DO											
	Tur.											
Preservative	HCl		HCl		HCl		HCl					
Sampler's Name:	JNewell		JNewell		JNewell		JNewell					
Comments:	Turbid Purge		Muddy Purge		Moderate Turbid Purge Replaced well cap		Strong odor					

Well Dia.(in)	Gal/ft
1.25	0.064
2	0.163
4	0.653
8	2.611
10	4.08

Well Vol. (gal.) = 3.141(dia.(ft)/2)^2 X Water Col. X 7.48 gal/ft^3

Sampler Signature(s): JNewell

Environmental Quality

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

MICHAEL SCOTT
Director

June 3, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7015 3010 0001 4926 6977

Hendley-Bewer Properties
PO Box 769
Marshville, NC 28103

Re: Notice of No Further Action
15A NCAC 2L .0407(d)
Risk-based Assessment and Corrective Action for Petroleum Underground Storage Tanks
Former Indian Trail Gulf
4303 Old Monroe Road
Indian Trail, Union County, NC
Incident Number 13116

To Whom It May Concern:

In May 2005, this site was accepted by the State-Lead Program for assessment of soil and groundwater contamination detected as a result of a removal of the former tank system. Based upon the findings of a groundwater report received by this office in October 2014, there is an indication of some residual contaminated groundwater but not above the applicable standards which would warrant any additional remedial activities. The site was accepted into the North Carolina State-Lead Program due to the financial inability of the former responsible party to conduct the required assessment and/or cleanup.

Based on this information, the UST Section finds it appropriate to classify the risk of the former discharge or release as low and that no further action is warranted for this incident. This determination shall apply unless the UST Section later determines that the discharge or release poses an unacceptable risk or a potentially unacceptable risk to human health or the environment. Due to the fact that the groundwater and soil does not meet "unrestricted use" standards, meaning that contamination remains above the applicable standards, a notice of residual petroleum was placed on the deed (Book 6674, Page 766-767) on 5-16-2016 per N.C.G.S 143B-279.9 and 143B-279.11. This notice states that water supply wells are not permitted on the property until it can be shown that the contamination has reached the unrestricted use standards.

Pursuant to 15A NCAC 2L .0407, you have a continuing obligation to notify the UST Section of any changes that you know of or should know of, that might affect the level of risk assigned to the discharge or release.

Please be advised that the monitoring wells or injection wells used to investigate or remediate this incident will be closed in accordance with 15A NCAC 2C .0113 and .0114. If you are receiving bottled water or have point of entry treatment systems that were installed by the UST Section, these will be discontinued and removed by the end of the month.

Due to the fact that the "unrestricted use" standards were not met, we are required to notify the adjacent property owners, county health director, and local city or county manager. They have been copied on this letter simply as part of this requirement. This does not indicate any problem to their properties.

Should you have any questions concerning this notice, please contact Scott Ryals at 919-707-8168 or by e-mail at scott.ryals@ncdenr.gov.

Sincerely,

Z. Vance Jackson, Jr., PG, CPM.
Head, Trust Fund Branch

Enclosure: Notice of Residual Petroleum

CC : Ron Taraban, MRO (e-mail)
Union County Health Director, Mr. Phillip Tarte, phillipTarte@co.union.nc.us
Union County Manager, Mrs. Cindy Coto, cindy.coto@unioncountync.gov
Fidias LLC, 8535 Fox Bridge Drive, Weddington, NC 28104
Gregory Plaza LLC, 5640 Sunstar Court, Charlotte, NC 28226

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Hendley-Bewer Properties
Post Office Box 769
Marshville, NC 28103

9590 9403 0730 5196 3392 25

2. Article Number (Transfer from service label)
7015 3010 0001 4926 6977

PS Form 3811, April 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Phyllis Caskey ☐ A ☐ A

B. Received by (Printed Name) Phyllis Caskey C. Date of

D. Is delivery address different from item 1? ☐ Y
If YES, enter delivery address below: ☐ N

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☒ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Priority Mail Ex
- ☐ Registered Ma
- ☐ Registered Ma Delivery
- ☒ Return Receipt Merchandise
- ☐ Signature Conf
- ☐ Signature Conf Restricted Deli

tricted Delivery

Domestic Return

7015 3010 0001 4926 6977

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
$

#13116

Extra Services & Fees (check box, add fee as appropriate)
- ☒ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Postmark Here

Tota
$
Sent
Stre
City,

Hendley-Bewer Properties
Post Office Box 769
Marshville, NC 28103

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

FILED
UNION COUNTY, NC
CRYSTAL CRUMP
REGISTER OF DEEDS

FILED	May 16, 2016
AT	09:14 am
BOOK	06674
START PAGE	0766
END PAGE	0767
INSTRUMENT #	13240
EXCISE TAX	(None)

JT

Mail after recording to: Scott C. Ryals, P.E.
UST Section
1646 Mail Service Center
Raleigh, NC 27699-1646

NOTICE OF RESIDUAL PETROLEUM

Former Indian Trail Gulf, Indian Trail, Union County, North Carolina

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 hereinafter be referred to as "DENR".

NOTICE

Petroleum product was released and or discharged at the Site. **Petroleum constituents remains 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.C.G.S. Sections 143B- 279.9 and 143B279.11, 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 Union County Register of Deeds' office **as stamped above**.

Hendley-Brewer Properties is the owner fee simple of all or a portion of the site, which is located in the County of Union, State of North Carolina, and is known and legally described as:

Being as described by **Parcel ID#07114073,** located at 4303 Old Monroe Road, recorded with the Office of the Register of Deeds of Union County, North Carolina.

For protection of public health and the environment, the following land use restriction 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 Union 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

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 until the residual groundwater contamination can be shown to be within North Carolina Groundwater Standards.

ENFORCEMENT

The above land use restriction(s) shall be enforced by 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 by 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, Z. Vance Jackson, Jr. has caused this Notice to be executed pursuant to N.C.G.S. Sections 143B-279.9 and 143B-279.1 by this 2nd day of May, 2016.

By: Z. Vance Jackson, Jr.
Signature of Delegated DENR Representative

Head of Trust Fund Branch/Underground Storage Tank Section
Title of the above Party

Signatory's name typed or printed: Z. Vance Jackson Jr.

NORTH CAROLINA

Wake COUNTY

I, Leann D. Ishak, a Notary public certify that Z. Vance Jackson, Jr., personally came before me this day and acknowledged that he is the Trust Fund Branch Head, UST Section of NC Department of Environment and Natural Resources and that he as Trust Fund Branch Head being authorized to do so, executed the foregoing on behalf of NC Department of Environment and Natural Resources.

WITNESS my hand and official seal, this 2nd day of May, 2016.

LEANN D. ISHAK
NOTARY PUBLIC
WAKE COUNTY, N.C.

Leann D. Ishak
Leann D. Ishak
Notary

My commission expires 4/24/2017

This instrument was prepared by: Scott C. Ryals, P.E., UST Section

Environmental Quality

North Carolina Department of Environmental Quality
Underground Storage Tank
UST-10B

Printed: 6/1/2016 5:47 PM
Inspection Result: Passed
Partial Inspection: No

Inspection Date: 5/31/2016
Arrive and Depart Times: 10:15 AM-11:00 AM

Facility ID:	0-0-0000009444	**Inspector**	Rebecca de la Lastra
Facility Name	MARKET EXPRESS- INDIAN TRAIL	**Insp. Type**	Compliance
Facility Address	4303 OLD MONROE ROAD INDIAN TRAIL, NC 28079 Union County **Located facility, USTs onsite**	**Reason(s)**	Routine Compliance
		Location	35.068171, -80.678018
		Permit Exp.	3/31/2017
Facility Phone	(704) 821-5470		

CONTACTS

Contact Type	Contact Information
Owner since 1/1/1996	BREWER-HENDLEY OIL CO. , P O BOX 769 MARSHVILLE, NC 28103-0769, Phone: (704) 233-2600-0, Email: angieh@brewerhendley.com
Manager since 3/5/2003	JOHN HENDLEY, 4303 OLD MONROE ROAD INDIAN TRAIL, NC 28079, Phone: (704) 289-5823
Primary Operator since 10/21/2011	**Scott Gordon, PO BOX 769 Marshville, NC 28103, Phone: (704) 238-8414 Trained: Yes, 10/21/2011, Training Type:Inspection**
Regulatory Operator since 5/30/2014	THE MARKET EXPRESS INC , PO BOX 769 MARSHVILLE, NC 28103, Phone: (704) 233-2600

OWNERSHIP CHANGE

New Owner	Change Date	Basis	Transfer of Ownership Form (UST-15) Submitted

EMERGENCY RESPONSE

Emergency response placard with emergency response operator contact information is posted in the dispensing areas if the dispensers are left on without an attendant present?	N/A

OTHER PARTICIPANTS

Name	Organization
ALAN BRADSHAW	

INSPECTOR COMMENTS

Type	Date	Comment

TANKS AND PIPING INFORMATION

Tanks	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
Tank ID	1 pnl Reg	1pnlb Prem	2d Diesel	3k off highwy diesel
TIMS Tank ID	1PNL	1PNLB	2D	3K
Is tank registered?	Yes	Yes	Yes	Yes
Date tank installed	1/1/1996	1/1/1996	1/1/1996	1/1/1996
Capacity of Tank in Gallons	8000	12000	12000	4000
Tank / Product use	Motor Fuel	Motor Fuel	Motor Fuel	Motor Fuel
Product stored in Tank	Gasoline, Gas Mix	Gasoline, Gas Mix	Diesel	Diesel
Product Detail	Regular	Premium		
If hazardous substance, CAS# or				

Tanks	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
description				
If other, description				
Tank Status	Current	Current	Current	Current
Tank closure report submitted				
Date tank last operated				
Inches of product in Tank				
Manifolded Tank	No	No	No	No
Manifolded with tanks				
New Tank System installed in accordance with NC or MI	Yes	Yes	Yes	Yes
Tank Construction Material (DW required after 11/1/07)	Single Wall Steel/FRP	Single Wall Steel/FRP	Single Wall Steel/FRP	Single Wall Steel/FRP
If other, description				
Tank Manufacturer/Model	Unknown	Unknown	Unknown	Unknown
If other, describe				
Tank material verified by	UST-8 with Installer Certification	UST-8 with Installer Certification	UST-8 with Installer Certification	UST-8 with Installer Certification
Date Pipe Installed	1/1/1996	1/1/1996	1/1/1996	1/1/1996
Was UST Piping Installed on or after 11/1/2007?	No	No	No	No
Piping Construction Material (DW required after 11/1/07)	Double Wall Flex	Double Wall Flex	Double Wall Flex	Double Wall Flex
If other, description				
Pipe Manufacturer/Model	Environ: GeoFlex	Environ: GeoFlex	Environ: GeoFlex	Environ: GeoFlex
If other, describe				
Pipe material verified by	Visual	Visual	Visual	Visual
If E-blend > 10% or Biodiesel Blend > 20%; Was UST-20 completed and approved?	N/A	N/A	N/A	N/A

CORROSION PROTECTION

Tank Corrosion Protection	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
DWM notified of current CP method	Yes	Yes	Yes	Yes
Integrity assessment performed after 3/1/06	No	No	No	No
CP Method 1	Steel/FRP Composite	Steel/FRP Composite	Steel/FRP Composite	Steel/FRP Composite
if other, Description				

Tank Corrosion Protection	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
CP Installation Date	1/1/1996	1/1/1996	1/1/1996	1/1/1996
CP Method 2				
if other, Description				
CP Installation Date				
Flex Connector , Piping Extensions, and/or other metal fittings Present	Ball Valve, Elbow, Flex Connector	Ball Valve, Elbow, Flex Connector	Ball Valve, Elbow, Flex Connector	Ball Valve, Elbow, Flex Connector
Flex connector isolated from ground	Yes	Yes	Yes	Yes
Source of verification of CP for Flex Connectors, piping extensions and/or other metal fittings	Visual	Visual	Visual	Visual
if other, Description				
Submersible pump (STP) is isolated from ground	Yes	Yes	Yes	Yes
Piping extensions and/or other metal fittings are isolated from ground	Yes	Yes	Yes	Yes
Flex connector, STP and/or other metal fittings protected from corrosion	N/A	N/A	N/A	N/A
Corrosion protection method	Isolated	Isolated	Isolated	Isolated
Flex connector , Piping extensions, and/or other metal fittings CP Installation Date				
Dielectric Coating Installed (If tank installed after 12/22/88	Yes	Yes	Yes	Yes

Pipe Corrosion Protection	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
DWM notified of current CP method	Yes	Yes	Yes	Yes
CP method	Flexible	Flexible	Flexible	Flexible
if other, Description				
CP Installation Date	1/1/1996	1/1/1996	1/1/1996	1/1/1996
Dielectric Coating Installed (If piping installed after 12/22/88	N/A	N/A	N/A	N/A

Dispenser Corrosion Protection	Dispenser #1(1/2)	Dispenser #2(3/4)	Dispenser #3(5/6)	Dispenser #4(7/8)
Flex Connector , Piping Extensions, and/or other metal fittings Present	Elbow, Flex Connector	Elbow, Flex Connector	Elbow, Flex Connector	Elbow, Flex Connector

Dispenser Corrosion Protection	Dispenser #1(1/2)	Dispenser #2(3/4)	Dispenser #3(5/6)	Dispenser #4(7/8)
Flex connector isolated from ground	Yes	Yes	Yes	Yes
Source of verification of CP for Flex Connectors, piping extensions and/or other metal fittings	Visual	Visual	Visual	Visual
if other, Description				
Piping extensions and/or other metal fittings are isolated from ground	Yes	Yes	Yes	Yes
Flex Connectors, Piping extensions and/or other metal fittings protected from corrosion	N/A	N/A	N/A	N/A
Corrosion protection method	Isolated	Isolated	Isolated	Isolated
Flex connector, Piping extensions, and/or other metal fittings CP Installation Date				
Source of Information for verification of corrosion protection for Riser pipe and other metal piping	Visual	Visual	Visual	Visual
if other, Description				

Dispenser Corrosion Protection	Dispenser #5(9/10)	Dispenser #6(11/12)	Dispenser #7(12 SAT)	Dispenser #8(14/15)
Flex Connector , Piping Extensions, and/or other metal fittings Present	Elbow, Flex Connector	Elbow, Flex Connector	Elbow, Flex Connector	Elbow, Flex Connector
Flex connector isolated from ground	Yes	Yes	Yes	Yes
Source of verification of CP for Flex Connectors, piping extensions and/or other metal fittings	Visual	Visual	Visual	Visual
if other, Description				
Piping extensions and/or other metal fittings are isolated from ground	Yes	Yes	Yes	Yes
Flex Connectors, Piping extensions and/or other metal fittings protected from corrosion	N/A	N/A	N/A	N/A
Corrosion protection method	Isolated	Isolated	Isolated	Isolated
Flex connector,				

Dispenser Corrosion Protection	Dispenser #5(9/10)	Dispenser #6(11/12)	Dispenser #7(12 SAT)	Dispenser #8(14/15)
Piping extensions, and/or other metal fittings CP Installation Date				
Source of Information for verification of corrosion protection for Riser pipe and other metal piping	Visual	Visual	Visual	Visual
if other, Description				

Dispenser Corrosion Protection	Dispenser #9(OFF RD DIESEL)			
Flex Connector , Piping Extensions, and/or other metal fittings Present	Elbow, Flex Connector			
Flex connector isolated from ground	Yes			
Source of verification of CP for Flex Connectors, piping extensions and/or other metal fittings	Visual			
if other, Description				
Piping extensions and/or other metal fittings are isolated from ground	Yes			
Flex Connectors, Piping extensions and/or other metal fittings protected from corrosion	N/A			
Corrosion protection method	Isolated			
Flex connector, Piping extensions, and/or other metal fittings CP Installation Date				
Source of Information for verification of corrosion protection for Riser pipe and other metal piping	Visual			
if other, Description				

CP Conclusions	
CP Requirements Met?	Yes
Issues	

SPILL PREVENTION

Has DWM been notified of spill methods?	Yes

Spill/Overfill Details	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
Is a drop tube present?	Yes	Yes	Yes	Yes
Type of Stage I vapor recovery?	Dual Point	Dual Point	Not Required	Not Required

Local Fill	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
Does Tank have a Remote Fill?	No	No	No	No
Spill Protection	Catchment Basin	Catchment Basin	Catchment Basin	Catchment Basin
Is spill prevention equipment provided and verified?	Yes	Yes	Yes	Yes
Manufacturer/Model	Unknown	Unknown	Unknown	Unknown
If other, describe				
Spill bucket is double-walled? (If installed after 11/1/07)	N/A	N/A	N/A	N/A
Spill bucket is isolated or made of non-corroding materials? (If installed after 11/1/07)	N/A	N/A	N/A	N/A
Date spill prevention provided	1/1/1996	1/1/1996	1/1/1996	1/1/1996
Is spill prevention operating properly?	Yes	Yes	Yes	Yes
If No, select all that apply				
If other, describe				

OVERFILL PREVENTION

Has DWM been notified of overfill methods?	Yes

Overfill Control	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
Is overfill prevention equipment provided and verified?	Yes	Yes	Yes	Yes
Date overfill control provided	1/1/1996	1/1/1996	1/1/1996	1/1/1996
Type of overfill equipment	Ball Float Valve	Ball Float Valve	Ball Float Valve	Auto Shutoff Device
Source of information for overfill control verification	UST-8 w/Installer Certification	UST-8 w/Installer Certification	UST-8 w/Installer Certification	Visual observation
If other, describe				
Is overfill control operating properly?	Yes	Yes	Yes	Yes
If No, select all that apply				
If other, describe				
Annual overfill check				

Overfill Control	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
date(If installed after 11/1/07) (UST-22A)				
Annual overfill check results(UST-22A)				

Dispenser Sumps	Dispenser #1(1/2)	Dispenser #2(3/4)	Dispenser #3(5/6)	Dispenser #4(7/8)
Are containment sumps present?	Yes	Yes	Yes	Yes
Installation Date	1/1/1996	1/1/1996	1/1/1996	1/1/1996
Sump Manufacturer	Environ: Disp Sump	Environ: Disp Sump	Environ: Disp Sump	Environ: Disp Sump
If Other (Specify)				
Sump Construction Type	Single Walled	Single Walled	Single Walled	Single Walled
Sump Construction Material	Plastic	Plastic	Plastic	Plastic
If Other (Specify)				
Are containment sumps monitored?	No	No	No	No
Is monitoring required per 2N .0900?	No	No	No	No
Piping components and/or STP were installed/replaced on or after 11/1/07?	No	No	No	No
Are spills or small weeps evident in sumps?	No	No	No	No
Are single wall piping components located in containment sump? (If installed after 11/1/07)				

Dispenser Sumps	Dispenser #5(9/10)	Dispenser #6(11/12)	Dispenser #7(12 SAT)	Dispenser #8(14/15)
Are containment sumps present?	Yes	Yes	Yes	Yes
Installation Date	1/1/1996	1/1/1996	1/1/1996	1/1/1996
Sump Manufacturer	Environ: Disp Sump	Environ: Disp Sump	Environ: Disp Sump	Environ: Disp Sump
If Other (Specify)				
Sump Construction Type	Single Walled	Single Walled	Single Walled	Single Walled
Sump Construction Material	Plastic	Plastic	Plastic	Plastic
If Other (Specify)				
Are containment sumps monitored?	No	No	No	No
Is monitoring required per 2N .0900?	No	No	No	No
Piping components and/or STP were installed/replaced on or after 11/1/07?	No	No	No	No
Are spills or small	No	No	No	No

Dispenser Sumps	Dispenser #5(9/10)	Dispenser #6(11/12)	Dispenser #7(12 SAT)	Dispenser #8(14/15)
weeps evident in sumps?				
Are single wall piping components located in containment sump? (If installed after 11/1/07)				

Dispenser Sumps	Dispenser #9(OFF RD DIESEL)			
Are containment sumps present?	Yes			
Installation Date	1/1/1996			
Sump Manufacturer	Environ: Disp Sump			
If Other (Specify)				
Sump Construction Type	Single Walled			
Sump Construction Material	Plastic			
If Other (Specify)				
Are containment sumps monitored?	No			
Is monitoring required per 2N .0900?	No			
Piping components and/or STP were installed/replaced on or after 11/1/07?	No			
Are spills or small weeps evident in sumps?	No			
Are single wall piping components located in containment sump? (If installed after 11/1/07)				

Other Sumps	Sump#1(OFF ROAD DIESEL TANK)	Sump#2(1-DIESEL STP)	Sump#3(3-PREM STP)	Sump#4(4-REGULAR STP)
Are containment sumps present?	Yes	Yes	Yes	Yes
Installation Date	1/1/1996	1/1/1996	1/1/1996	1/1/1996
Sump Manufacturer	Environ: Tank Sump	Environ: Tank Sump	Environ: Tank Sump	Environ: Tank Sump
If Other (Specify)				
Sump Construction Type	Single Walled	Single Walled	Single Walled	Single Walled
Sump Construction Material	Plastic	Plastic	Plastic	Plastic
If Other (Specify)				
Are containment sumps monitored?	No	No	No	No
Is monitoring required per 2N	No	No	No	No

Other Sumps	Sump#1(OFF ROAD DIESEL TANK)	Sump#2(1-DIESEL STP)	Sump#3(3-PREM STP)	Sump#4(4-REGULAR STP)
.0900?				
Piping components and/or STP were installed/replaced on or after 11/1/07?	No	No	No	No
Are spills or small weeps evident in sumps?	No	No	No	No
Are single wall piping components located in containment sump? (If installed after 11/1/07)				

SITING AND SECONDARY CONTAINMENT

Siting And Sec.Containment-General	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
UST system upgraded with corrosion protection, spill and overfill before 1/1/91?	N/A	N/A	N/A	N/A
UST system and/or piping are located within siting and secondary containment areas?	No	No	No	No

LEAK DETECTION

General	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
DWM notified of leak detection method?	Yes	Yes	Yes	Yes
Piping type	Pressurized System	Pressurized System	Pressurized System	European Suction
Suction Check Type				Dispenser
Type LLD present.	MLLD	MLLD	MLLD	Not Required
Tank – Primary leak detection method	Automatic Tank Gauging	Automatic Tank Gauging	Automatic Tank Gauging	Automatic Tank Gauging
Tank - if other, specify				
Tank - Primary LD install date	1/1/1996	1/1/1996	1/1/1996	1/1/1996
Tank – Secondary leak detection method				
Tank - if other, specify				
Piping - Primary leak detection method	Line Tightness Testing (LTT)	Line Tightness Testing (LTT)	Line Tightness Testing (LTT)	Exempt (European Style)
Piping - if other, specify				
Piping - Primary LD	1/1/1996	1/1/1996	1/1/1996	1/1/1996

General	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
install date				
Piping - Secondary leak detection method				
Piping - if other, specify				

PIPING LEAK DETECTION

Pressurized Piping	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)
Last MLLD/ELLD Test Date	1/5/2016	1/5/2016	1/5/2016
MLLD/ELLD Test Result	Pass	Pass	Pass
Last LTT Test Date	1/5/2016	1/5/2016	1/5/2016
LTT Test Result	Pass	Pass	Pass
Does test result indicatesuspected release?	No	No	No
Number of MLLD/ELLD Types	1	1	1

MLLD/ELLD Equipment	Tank #1(1 pnl Reg) LLD #1	Tank #2(1pnlb Prem) LLD #1	Tank #3(2d Diesel) LLD #1
MLLD/ELLD Manufacturer/Model	Red Jacket: FX1V	Red Jacket: FX1V	Red Jacket: FX1DV
If other, describe			
MLLD/ELLD Third Party Certified?	Yes	Yes	Yes

MLLD/ELLD Testers	MLLD/ELLD Tester #1
MLLD/ELLD Tester Name	RODNEY FERGUSON
MLLD/ELLD Testing Company Name	NTM
MLLD/ELLD Testing Company Phone Number	

Pressurized Piping LTT	LTT #1
LTT Manufacturer/Method	AcuRite: Training & Serv
If other, describe	
LTT Third Party Certified?	Yes

Pressurized Piping LTT Tester	LTT Tester #1
LTT Tester Name	RODNEY FERGUSON
LTT Testing Company Name	NTM
LTT Testing Company Phone Number	

European Suction	Tank #4(3k off highwy diesel)
Requirements for European suction piping verified?	Yes
Source of information for European Suction verification.	UST Equipment Contractor Report
If other, specify	

AUTOMATIC TANK GAUGE

ATG Systems	ATG #1
ATG Manufacturer/Model	V-R: TLS-350 CSLD
If other, describe	
ATG Third Party Certified?	Yes
Is ATG console operational?	Yes
Tanks	#1(1 pnl Reg), #2(1pnlb Prem), #3(2d Diesel), #4(3k off highwy diesel)

ATG Monthly LD	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
2016 Jun	Pass	Pass	Pass	Pass
2016 May	Pass	Pass	Pass	Pass
2016 Apr	Pass	Pass	Pass	Pass
2016 Mar	Pass	Pass	Pass	Pass
2016 Feb	Pass	Pass	Pass	Pass
2016 Jan	Pass	Pass	Pass	Pass
2015 Dec	Pass	Pass	Pass	Pass
2015 Nov	Pass	Pass	Pass	Pass
2015 Oct	Pass	Pass	Pass	Pass
2015 Sep	Pass	Pass	Pass	Pass
2015 Aug	Pass	Pass	Pass	Pass
2015 Jul	Pass	Pass	Pass	Pass

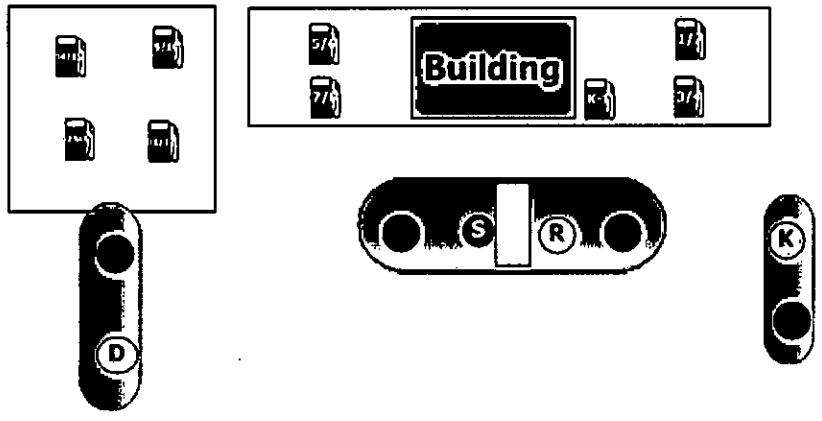
ATG Conclusions	
Leak Detection Requirements Met?	Yes
Do the results indicate a suspected release?	
Issues	

TRANSPORTER/FUEL DELIVERY INFORMATION

Delivery Information	Tank #1(1 pnl Reg)	Tank #2(1pnlb Prem)	Tank #3(2d Diesel)	Tank #4(3k off highwy diesel)
All deliveries made to permitted tanks	Yes	Yes	Yes	Yes

SITE DIAGRAM

Old Monroe Road @ Indian Trail Road



Car Wash

SITE CHECK REPORT
MARKET EXPRESS 310
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY
NORTH CAROLINA
FACILITY ID NUMBER: 00-0-009444
INCIDENT NUMBER: PENDING

Prepared for:

Brewer-Hendley Oil Co.
Post Office Box 769
Marshville, North Carolina 28103

Prepared by:

Resolve Environmental Services, PLLC
500 Devonport Drive
Matthews, North Carolina, 28104
(704) 289-5881

November 20, 2017

Terry D. Kennedy, P.G.
Principal

W. Scott Ball
Principal

SITE IDENTIFICATION

1. Site Identification:

- **Date of Report:** November 20, 2017
- **Facility ID No.** 00-0-009444 **UST Incident Number:** PENDING
- **Site Name:** Market Express 310
- **Site Street Address:** 4303 Old Monroe Road
- **City:** Indian Trail **State:** North Carolina **Zip Code:** 28079 **County:** Union
- **Description of Geographic Data Point:** Calculated from the center of the property
- **Location Method:** Topographical Map
  - **Latitude**: 35.067877° N **Longitude:** -80.677975° W

2. Information about Contacts Associated with the Leaking UST System

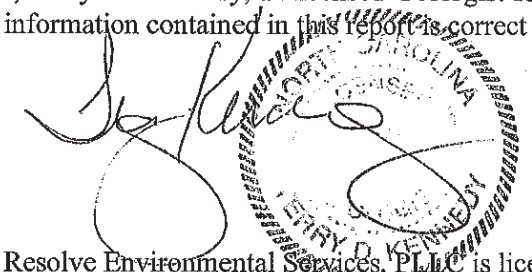
- **UST Owner/Operator:** Brewer-Hendley Oil Company
  Address: PO Box 769
  Marshville, NC 28103
  Tel: (704) 233-2600
- **Property Owner:** Brewer-Hendley Oil Company
  Address: PO Box 769
  Marshville, NC 28103
  Tel: (704) 233-2600
  Consultant/Contractor: Resolve Environmental Services, PLLC
  Address: 500 Devonport Drive
  Matthews, NC 28110
  Tel: (704) 289-5881
- **Analytical Laboratory:** SGS-Accutest Southeast
  Address: 4405 Vineland Road, Suite C-15
  Orlando, FL 32811
  Tel: (407) 425-6700
  State Certification Number: 573

3. Information about Release

- **Date Discovered:** August 22, 2017
- **Estimated Quantity of Release:** Unknown
- **Cause of Release:** Leaking piping at two dispensers on the 12,000-gallon diesel.
- **Source of Release:** Flex piping
- **UST Size and contents:** One (1) 8,000-gallon gasoline UST, (1) 12,000-gallon premium gasoline UST, one (1) 12,000-gallon diesel UST and one (1) 4,000-gallon kerosene UST are in use at the site.

4. Certification:

I, Terry D. Kennedy, a Licensed Geologist for Resolve Environmental Services, PLLC, do certify that the information contained in this report is correct and accurate to the best of my knowledge.



Resolve Environmental Services, PLLC is licensed to practice geology in North Carolina. The certification number of the company is C-416.

EXECUTIVE SUMMARY

The Market Express 310 site is located at 4303 Old Monroe Road in Indian Trail, Union County, North Carolina. The property operates as a petroleum retail facility and convenience store. The site is covered by concrete and grass. There is one 12,000-gallon gasoline UST, one 8,000-gallon gasoline UST, one 12,000-gallon diesel UST and one 4,000-gallon kerosene UST currently in use at the site with eight associated gasoline and diesel dispenser islands. The surrounding properties are commercial.

On August 22, 2017, Brewer-Hendley personnel were called to the facility and informed that the diesel pumps were pumping unusually slow. An inspection of the system revealed that the automatic line leak detector on the diesel system was not allowing full flow of fuel. Diesel fuel was found in the satellite under dispenser containment (UDC). Approximately 25 gallons was pumped from the UDC. Fuel was found in the interstice of the double walled flex piping. The satellite piping was disconnected and capped off inside the main dispenser UDC. Approximately five more gallons of diesel was pumped out of the satellite UDC. After repairing the piping, testing was conducted to show no leaks in the piping or fuel leaking into the UDCs. Based on this information, a site check was completed at the site.

On August 24, 2017 GRI conducted a site check in the area of the main and satellite diesel dispensers/piping. Two soil borings (SS-1 and SS-2) were advanced to approximately 3.5 and 3.0 feet, respectively, below grade surface (bgs) at the two dispensers where the flex piping connects to the dispensers spill buckets. Soils samples were collected at the total depth of each boring. Concentrations of diesel-range TPH were reported in both samples collected. However, none of the reported concentrations exceeded the RAL. Based on this information, Resolve Environmental Services, PLLC recommends that a No Further Action be issued for the site.

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A. SITE HISTORY AND CHARACTERIZATION 1

B. SITE CHECK PROCEDURES 1

C. SITE INVESTIGATION 2

D. SUMMARY AND CONCLUSIONS 2

E. LIMITATIONS 3

FIGURES

Figure 1: Site Location Map
Figure 2: Soil Sample Location Map

TABLES

Table 1: UST Owner/Operator Information
Table 2: UST System Information
Table 3: Summary of Soil Sample Analytical Results

APPENDICES

Appendix A: 24-Hour Release and UST Leak Reporting Form (UST-61)
Appendix B: Subsurface Logs
Appendix C: Laboratory Analytical Report – Soil Samples

A. SITE HISTORY AND CHARACTERIZATION

1. UST Owner and Operator Information:

In accordance with the Site Check Report guidelines, the underground storage tank (UST) owner and operator information has been summarized in the attached **Table 1.**

2. UST System Information:

In accordance with the Site Check Report guidelines, the UST system information has been summarized in the attached **Table 2.** There is one 12,000-gallon gasoline UST, one 8,000-gallon gasoline UST, one 12,000-gallon diesel UST and one 4,000-gallon kerosene UST currently in use at the site. The USTs are located in two basins with eight associated dispenser islands. The diesel UST and associated dispensers are located on the south side of the facility.

3. Non-UST Information:

There are currently no above ground petroleum storage tanks (ASTs) and no known ASTs formerly at the site.

4. Comprehensive Description of the Release:

An interstitial leak was found in the flex piping at two of the diesel dispensers and diesel fuel was found in the under dispenser containment on August 22, 2017. The fuel was pumped out and the piping was repaired. A release was confirmed and reported to the NCDEQ on August 23, 2017. A copy of the 24-hour Release and UST Reporting Form (UST-61) is included as **Appendix A**. A site check was required according to North Carolina Department of Environmental Quality (NCDEQ). On August 24, 2017, two soil borings (SS-1 and SS-2) were advanced to approximately 3.5 and 3.0 feet, respectively, below ground surface (bgs) at each of the dispensers in the area where the flex piping connected.

5. Description of the Site Characteristics:

The Market Express 310 site is located at 4303 Old Monroe Road in Indian Trail, Union County, North Carolina (**Figure 1**). The property operates as a petroleum retail facility and convenience store. The site is covered by concrete and grass. There is one 12,000-gallon gasoline UST, one 8,000-gallon gasoline UST, one 12,000-gallon diesel UST and one 4,000-gallon kerosene UST currently in use at the site with eight associated gasoline and diesel dispenser islands. The surrounding properties are commercial. A Site Map has been included as **Figure 2.**

B. SITE CHECK PROCEDURES

1. Results of Tank and Line Tightness Testing:

An interstitial leak was found in the flex piping at two of the diesel dispensers and diesel fuel was found in the

under dispenser containment on August 22, 2017. The fuel was pumped out and the piping was repaired.

2. Summary of Site Check Procedure:

Resolve Environmental Services, PLLC (Resolve) performed a site check on August 24, 2017 that included the collection of two soil samples at the two diesel dispensers where the flex piping connected to the dispensers. Soil borings were advanced adjacent to the dispensers to approximately 3.5 and 3.0 feet bgs and a soil sample was collected at each location (SS-1 through SS-2). Boring logs are provided as **Appendix B**.

3. Soil Excavation Activities:

No soil excavation activities were conducted.

C. SITE INVESTIGATION

1. Field Screening:

Soil samples SS-1 and SS-2, collected on August 24, 2017, were not screened with a photo ionization detector (PID) for volatile organic compounds (VOCs).

2. Soil Sampling Information:

Soil samples SS-1 and SS-2 were collected on August 24, 2017 and submitted for laboratory analyses of total petroleum hydrocarbons (TPH) gasoline-range and diesel-range (DRO). Concentrations of DRO were reported in each of the samples collected. However, none of the reported concentrations exceeded the regulatory action level (RAL). A soil boring location map is presented as **Figure 3**. A summary of soil sample analytical results is presented in **Table 3**. The laboratory analytical report is provided as **Appendix C**.

3. Ground Water and Surface Water Sampling Information:

Ground water and surface water samples were not collected as part of the site check.

4. Quality-Control Measures:

Clean, disposable nitrile gloves were used for the collection of the soil samples. The samples were placed in laboratory supplied containers and shipped to the laboratory in a cooler following proper chain-of-custody procedures. A laboratory supplied trip blank was included in the sample cooler. No detectable concentrations of requested method constituents were reported in the trip blank.

D. SUMMARY AND CONCLUSIONS

- The site is commercial and surrounding properties are commercial.
- An interstitial leak was found in the flex piping at two of the diesel dispensers and diesel fuel was found in the under dispenser containment on August 22, 2017. The fuel was pumped out and the piping was repaired.
- A Site Check was conducted on August 24, 2017 to determine if a petroleum release had occurred.
- Concentrations of DRO were reported in each of the soil samples collected. However, neither of

the reported concentrations exceeded the RAL.

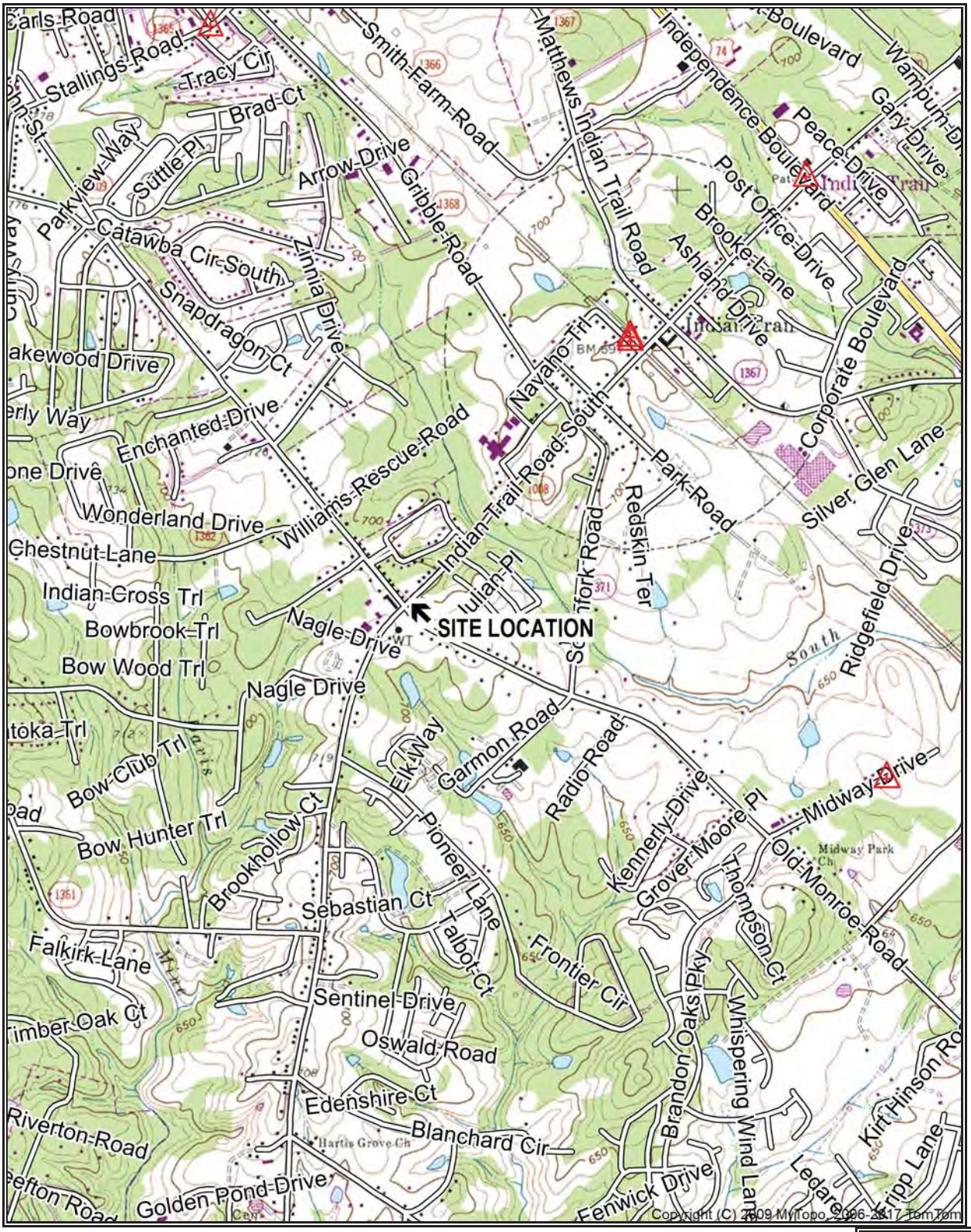
- Based on this information, Resolve recommends that a No Further Action be issued for the site.

E. LIMITATIONS

This report has been prepared for the exclusive use of Brewer-Hendley Oil Company for the specific application to the referenced site in Union County, North Carolina. The assessment was conducted based on the scope of work and level of effort specified by the NCDEQ and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of North Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

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

FIGURES



SCALE 1:24000

0 1000 2000 3000 4000 5000 6000

Feet

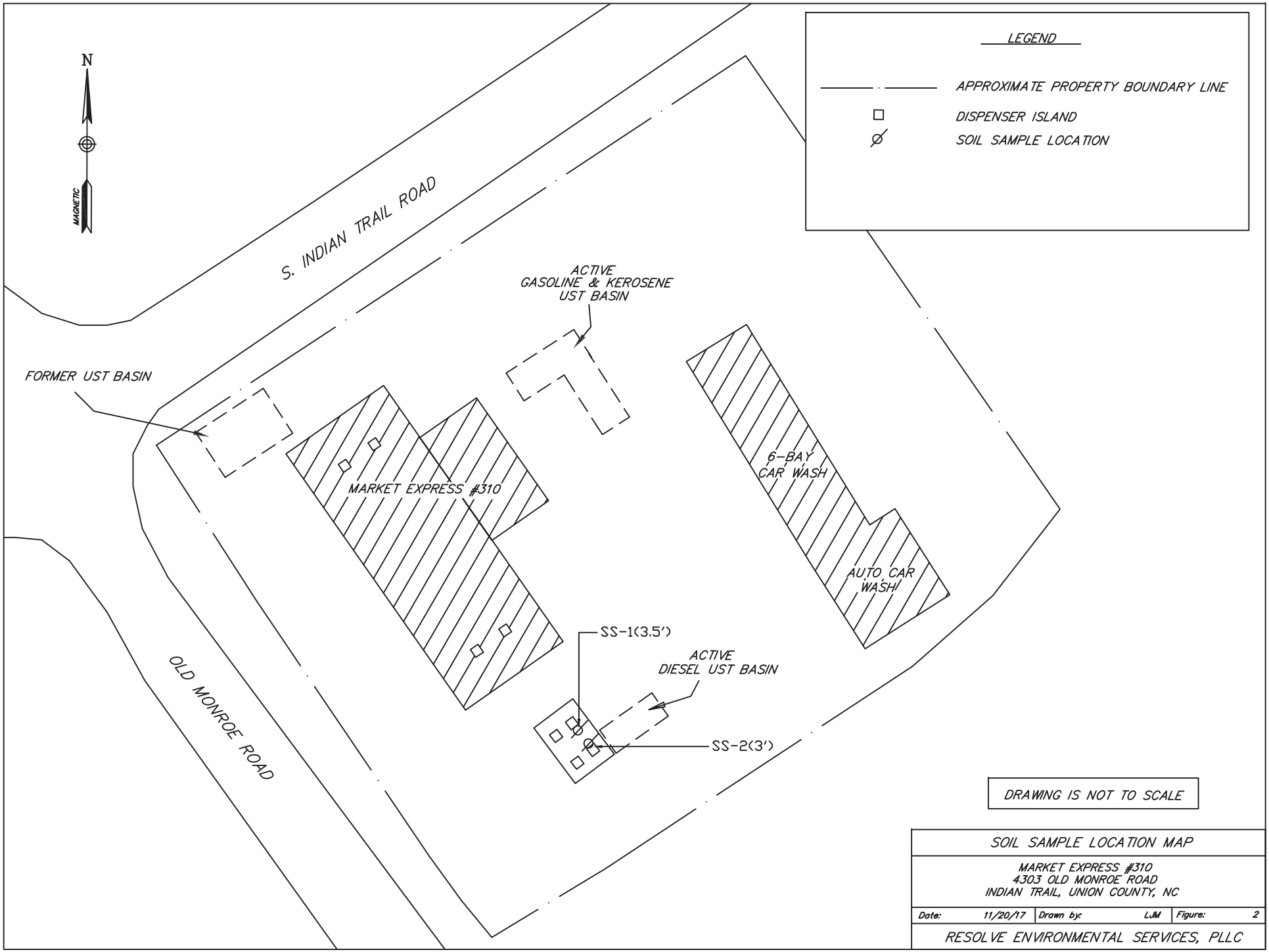
FIGURE 1 - SITE LOCATION MAP
Market Express #310
4303 Old Monroe Road
Indian Trail, Union County, NC

RESOLVE ENVIRONMENTAL SVCS, PLLC

Declination

MN GN

GN 0.19° E
MN 7.79° W


N
MAGNETIC
LEGEND
APPROXIMATE PROPERTY BOUNDARY LINE
DISPENSER ISLAND
SOIL SAMPLE LOCATION
S. INDIAN TRAIL ROAD
ACTIVE
GASOLINE & KEROSENE
UST BASIN
FORMER UST BASIN
MARKET EXPRESS #310
6-BAY
CAR WASH
AUTO CAR
WASH
SS-1(3.5')
ACTIVE
DIESEL UST BASIN
SS-2(3')
OLD MONROE ROAD
DRAWING IS NOT TO SCALE
SOIL SAMPLE LOCATION MAP
MARKET EXPRESS #310
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY, NC
Date: 11/20/17
Drawn by: LJM
Figure: 2
RESOLVE ENVIRONMENTAL SERVICES, PLLC

TABLES

TABLE 1
UST OWNER/OPERATOR INFORMATION
MARKET EXPRESS 310
INICDENT NO. (PENDING)

UST ID Number	1PNL, 1PNLB, 2D & 3K	**Facility ID Number**	00-0-009444
Name of Owner or Operator		**Dates of Ownership / Operation**	**Owner or Operator?**
Brewer-Hendley Oil Company		1996-Present	Owner/Operator
Address			**Telephone Number**
PO Box 769, Marshville, NC 28103			(704) 233-2600

TABLE 2
UST SYSTEM INFORMATION
MARKET EXPRRES 310
INCIDENT NO. (PENDING)

Date: 11/14/17 **Facility ID #:** 00-0-009444

UST ID No.	Current or Most Recent Contents	Previous Contents	Capacity (gallons)	Date Installed	Construction Details	Tank Dimensions	Description of Associated Product Piping and Pumps	Status of UST	Was Release Associated with UST System? (Yes / No)
1PNL	Gasoline	NA	8,000	01/01/1996	Single-Wall Steel/FRP	8' x 21.4'	DW Flexible Piping, Pressurized	Current	No
1PNLB	Gasoline	NA	12,000	01/01/1996	Single-Wall Steel/FRP	10.6' x 18.7'	DW Flexible Piping, Pressurized	Current	No
2D	Diesel	NA	12,000	01/01/1996	Single-Wall Steel/FRP	10.6' x 18.7'	DW Flexible Piping, Pressurized	Current	Yes
3K	Kerosene	NA	4,000	01/01/1996	Single-Wall Steel/FRP	24' x 64"	DW Flexible Piping, Pressurized	Current	No

TABLE 3
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
MARKET EXPRESS 310
INCIDENT NO. (PENDING)

Date: 11/14/17

Analytical Method →			**5030/ 8015D**	**3550/ 8015C**
Sample ID	**Date Collected (mm/dd/yy)**	**Sample Depth (ft-BGS)**	**Gasoline-Range TPH**	**Diesel-Range TPH**
RAL (mg/kg)			**50**	**100**
Soil to Water MCC (mg/kg)			**NE**	**NE**
Residential SCLs (mg/kg)			**NE**	**NE**
SS-1	08/24/17	3.5	<3.9	36.5
SS-2	08/24/17	3	<3.7	78.9

Notes:
- Results reported in mg/kg (milligrams per kilograms)
- ft-BGS: feet below ground surface.
- RAL: Regulatory Action Level.
- MCCs: Maximum Contaminant Concentrations (soils).
- SCLs: Soil Cleanup Levels.
- NE: Not Established
- < : Less than the method detection limit specified in the laboratory report

APPENDICES

APPENDIX A

24-Hour Release and UST Leak Reporting Form (UST-61)

UST-61 — 24-Hour Release and UST Leak Reporting Form.

For Releases in NC

This form should be completed and submitted to the UST Section's regional office following a known or suspected release from an underground storage tank (UST) system. This form is required to be submitted within 24 hours of discovery of a known or suspected release

(DWM USE ONLY)
Incident # _____ Risk (H,I,L,U)_____
Received On _____ Received By _____
Reported by (*circle one*). Phone, Fax or Report
Region _____

Suspected Contamination? (Y/N) _____
Confirmed GW Contamination? (Y/N) _____
Confirmed Soil Contamination ?(Y/N) _____
Samples Taken?(Y/N) _____
Free Product? (Y/N) _____ If Yes, State Greatest Thickness _____

Facility ID Number _____
Date Leak Discovered _____
Comm/Non-Commercial? _____
Reg/Non-regulated? _____

INCIDENT DESCRIPTION

Incident Name: Market Express 310

Address: 4303 Old Monroe Rd. County: Union

City/Town: Indian Trail Zip Code: 28079 Regional Office (*circle one*): Asheville, (Mooresville), Fayetteville, Raleigh, Washington, Wilmington, Winston-Salem

Latitude (decimal degrees): Longitude (decimal degrees):

Briefly describe suspected or confirmed release *(including but not limited to: nature of release, date of release, amount of release, amount of free product present and recovery efforts, initial responses conducted, impacts to receptors)*

Please see attached paper for description.

Obtained by:
- ☐ GPS
- ☐ Topographic map
- ☐ GIS Address matching
- ☐ Other
- ☐ Unknown

Describe location: C-store

HOW RELEASE WAS DISCOVERED (Release Code)

(Check one)

- ☒ Release Detection Equipment or Methods
- ☐ During UST Closure/Removal
- ☐ Property Transfer
- ☒ Visual/Odor
- ☐ Water in Tank
- ☐ Water Supply Well Contamination
- ☐ Groundwater Contamination
- ☐ Surface Water Contamination
- ☐ Other (specify) _____

SOURCE OF CONTAMINATION

Source of Release *(Check one to indicate primary source)*
- ☐ Tank
- ☒ Piping
- ☐ Dispenser
- ☐ Submersible Turbine Pump
- ☐ Delivery Problem
- ☐ Other
- ☐ Unknown

Definitions presented on reverse

Cause of Release *(Check one to indicate primary cause)*
- ☐ Spill
- ☐ Overfill
- ☐ Corrosion
- ☒ Physical or Mechanical Damage
- ☐ Install Problem
- ☐ Other
- ☐ Unknown

Definitions presented on reverse

Type of Release *(Check one)*
- ☐ Petroleum
- ☐ Non-Petroleum
- ☐ Both

Location *(Check one)*
- ☐ Facility
- ☐ Residence
- ☐ Other

Product Type Released *(Check one to indicate primary product type released)*
- ☐ Gasoline/ Diesel/ Kerosene
- ☐ Heating Oil
- ☐ Other Petroleum Products
- ☐ Metals
- ☐ Other Inorganics
- ☐ Other Organics
- ☐ Diesel/Veg. Oil Blend
- ☐ Vegetable Oil 100%
- ☐ E10 – E20
- ☐ E21 – E84
- ☐ E85 – E99
- ☐ Ethanol 100%
- ☐ E01 – E09

Ownership
1 Municipal 2 Military 3. Unknown (4. Private) 5. Federal 6 County 7 State

Operation Type
1. Public Service 2. Agricultural 3. Residential 4. Education/Relig. 5. Industrial (6. Commercial) 7. Mining

IMPACT ON DRINKING WATER SUPPLIES

Water Supply Wells Affected? 1. Yes (2. No) 3. Unknown

Number of Water Supply Wells Affected _____

Water Supply Wells Contaminated: *(Include Users Names, Addresses and Phone Numbers. Attach additional sheet if necessary)*

1.
2.
3.

UST SYSTEM OWNER

UST Owner/Company			
Brewer - Hendley Oil Co			
Point of Contact		Address	
Scott Gordon		207 N. Forest Hills School Rd	
City	State	Zip Code	Telephone Number
Marshville	NC	28103	704-221-3405

B

UST SYSTEM OPERATOR

UST Operator/Company			
Brewer - Hendley Oil Co		Address	
		207 N. Forest Hills School Rd	
City	State	Zip Code	Telephone Number
Marshville	NC	28103	704-233-2600

LANDOWNER AT LOCATION OF UST INCIDENT

Landowner		Address	
SAME			
City	State	Zip Code	Telephone Number

Draw Sketch of Area (showing two major road intersections) or Attach Map

Person Reporting Incident	Company	Telephone Number
Scott Gordon	Brewer - Hendley Oil Co	704-221-340
Title	Address	Date
Service Tech.	417 Crow St, Monroe NC	8-23-17

UST Form 61 (02/08)

Definitions of Sources

Tank means the tank that stores the product and is part of the underground storage tank system

Piping means the piping and connectors running from the tank or submersible turbine pump to the dispenser or other end-use equipment (Vent, vapor recovery, or fill lines are excluded)

Dispenser includes the dispenser and the equipment used to connect the dispenser to the piping (e g , a release from a suction pump or from components located above the shear valve)

Submersible Turbine Pump (STP) Area includes the submersible turbine pump head (typically located in the tank sump), the line leak detector, and the piping that connects the submersible turbine pump to the tank

Delivery Problem identifies releases that occurred during product delivery to the tank. (Typical causes associated with this source are spills and overfills)

Other serves as the option to use when the release source is known but does not fit into one of the preceding categories (e g , for releases from vent lines, vapor recovery lines, and fill lines)

Unknown identifies releases for which the source has not been determined

Definitions of Causes

Spill use this cause when a spill occurs (e.g , when the delivery hose is disconnected from the tank fill pipe or when the nozzle is removed from the dispenser)

Overfill use when an overfill occurs (e g , overfills may occur from the fill pipe at the tank or when the nozzle fails to shut off at the dispenser)

Physical or Mechanical Damage use for all types of physical or mechanical damage, except corrosion (e g , puncture of tank or piping, loose fittings, broken components, and components that have changed dimension)

Corrosion use when a metal tank, piping, or other component has a release due to corrosion (e.g., for steel, corrosion takes the form of rust)

Installation Problem use when the problem is determined to have occurred specifically because the UST system was not installed properly

Other use this option when the cause is known but does not fit into one of the preceding categories (e g , putting regulated substances into monitoring wells)

Unknown use when the cause has not been determined

On 8-22-17 at about 6:00pm I was called about a problem with all diesel pumps pumping very slow. They were all put out of order. I went to the site and found the ALLD not allowing full flow of fuel. Upon further investigation, I found fuel in the diesel satellite UDC. I called for help to pump out the UDC. We pumped out about 25 gallons. We turned the pump back on, and fuel started to come out of the interstice on the DW flex piping. We disconnected the satellite piping and capped it off inside the Main dispenser UDC. We then pumped about 5 more gallons out of the satellite UDC. We tested to make sure there were no more leaks on the piping and no more fuel running into the UDC. As best as I can tell, at this point, the outer wall of the piping and the UDC contained all of the leaking fuel. I will also contact Terry Kennedy at Resolve Env. as soon as they open in the morning.

BREWER - HENDLEY OIL COMPANY

MAINTAINENCE DEPARTMENT

207 North Forrest Hills School Rd. Marshville, NC 28103
PO BOX 769
Telephone # 704-238-8414 FAX # 704-238-8473

FAX COVER SHEET

TO: Mooresville Branch - UST Section FROM: Scott Gordon

FAX NUMBER: 704-663-6040 REASON: UST 61

DATE: 8-24-11

COMMENTS:

Good Morning.

Please take a look at this UST 61 and advise us on our next step. I will be calling Terry Kennedy at Geological Resources as soon as they open this morning. I will also call our local Inspector Avery Waring and make him aware of what we found. Thanks.

Scott Gordon
704-221-3405

APPENDIX B

Subsurface Logs

Geological Resources, Inc.
3502 Hayes Road
Monroe, NC 28110

Phone: (704) 845-4010
Fax: (704) 845-4012

SUBSURFACE LOG

Project	Market Express 310		
Address	4303 Old Monroe Road, Indian Trail, NC		
Boring Number	SS-1	Date Drilled	08/24/17
Sample Method	Grab	Drilling Method	Hand Augers 3.25" O.D.
Completion Details	Completed to 3.5'; abandoned with soil cuttings & concrete subsequent to sampling		
Driller	W. Scott Ball	Log By	W. Scott Ball

Depth			Lab Sample	Sample Interval(ft)	OVA ppm	LITHOLOGY
0						0' - 4"; Concrete
2						4" - 3.5'; Tan SAND
4			SS-1	3.5'	NA	Total depth = 3.5'
6						
8						
10						
12						
14						
16						
18						
20						
22						
24						
26						
28						
30						
32						
34						
36						
38						
40						

Geological Resources, Inc.
3502 Hayes Road
Monroe, NC 28110

Phone: (704) 845-4010
Fax: (704) 845-4012

SUBSURFACE LOG

Project	Market Express 310		
Address	4303 Old Monroe Road, Indian Trail, NC		
Boring Number	SS-2	Date Drilled	08/24/17
Sample Method	Grab	Drilling Method	Hand Augers 3.25" O.D.
Completion Details	Completed to 3.0'; abandoned with soil cuttings & concrete subsequent to sampling		
Driller	W. Scott Ball	Log By	W. Scott Ball

Depth			Lab Sample	Sample Interval(ft)	OVA ppm	LITHOLOGY
0						0' - 4"; Concrete 4" - 3.0'; Tan SAND
2			SS-2	3.0'	NA	Total depth = 3.0'
4						
6						
8						
10						
12						
14						
16						
18						
20						
22						
24						
26						
28						
30						
32						
34						
36						
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40						

APPENDIX C

Laboratory Analytical Report – Soil Samples

SITE CHECK REPORT
MARKET EXPRESS 310
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY
NORTH CAROLINA
FACILITY ID NUMBER: 00-0-009444
INCIDENT NUMBER: PENDING

Prepared for:

Brewer-Hendley Oil Co.
Post Office Box 769
Marshville, North Carolina 28103

Prepared by:

Resolve Environmental Services, PLLC
500 Devonport Drive
Matthews, North Carolina, 28104
(704) 289-5881

December 14, 2018



Terry D. Kennedy, P.G.



Laura Minor
Project Manager

SITE IDENTIFICATION

1. Site Identification:

- **Date of Report:** December 14, 2018
- **Facility ID No.** 00-0-009444 **UST Incident Number:** PENDING
- **Site Name:** Market Express 310
- **Site Street Address:** 4303 Old Monroe Road
- **City:** Indian Trail **State:** North Carolina **Zip Code:** 28079 **County:** Union
- **Description of Geographic Data Point:** Calculated from the center of the property
- **Location Method:** Topographical Map
  - **Latitude**: 35.067877° N **Longitude:** -80.677975° W

2. Information about Contacts Associated with the Leaking UST System

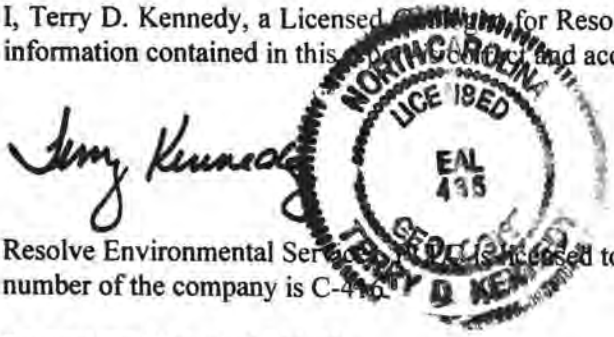
- **UST Owner/Operator:** Brewer-Hendley Oil Company
  Address: PO Box 769
  Marshville, NC 28103
  Tel: (704) 233-2600
- **Property Owner:** Brewer-Hendley Oil Company
  Address: PO Box 769
  Marshville, NC 28103
  Tel: (704) 233-2600
  Consultant/Contractor: Resolve Environmental Services, PLLC
  Address: 500 Devonport Drive
  Matthews, NC 28110
  Tel: (704) 289-5881
- **Analytical Laboratory:** SGS-Accutest Southeast
  Address: 4405 Vineland Road, Suite C-15
  Orlando, FL 32811
  Tel: (407) 425-6700
  State Certification Number: 573

3. Information about Release

- **Date Discovered:** November 9, 2018
- **Estimated Quantity of Release:** Unknown
- **Cause of Release:** Damaged spill bucket
- **Source of Release:** Damaged spill bucket at 8,000-gallon gasoline UST
- **UST Size and contents:** One (1) 8,000-gallon gasoline UST, (1) 12,000-gallon premium gasoline UST, one (1) 12,000-gallon diesel UST and one (1) 4,000-gallon kerosene UST are in use at the site.

4. Certification:

I, Terry D. Kennedy, a Licensed [illegible] for Resolve Environmental Services, PLLC, do certify that the information contained in this report is correct and accurate to the best of my knowledge.



Resolve Environmental Services, PLLC is licensed to practice geology in North Carolina. The certification number of the company is C-416.

EXECUTIVE SUMMARY

The purpose of this initial monitoring report is to present the results of Site Check sampling associated with the spill bucket on the regular gasoline UST at the facility. The spill bucket was found to be in need of repair/replacement during a site inspection by the North Carolina Department of Environmental Quality (NCDEQ) compliance inspection conducted on October 31, 2018. A NCDEQ *Notice of Violation* dated November 2, 2018 requesting a Site Check was sent to Mr. John N. Hendley, Registered Agent, of Brewer-Hendley Oil Company, Inc. (BHOC) of Marshville, North Carolina. Site Check activities were conducted by Resolve personnel on November 8, 2018.

The Market Express 310 site is located at 4303 Old Monroe Road in Indian Trail, Union County, North Carolina. The property operates as a petroleum retail facility and convenience store. The site is covered by concrete and grass. There is one 12,000-gallon gasoline UST, one 8,000-gallon gasoline UST, one 12,000-gallon diesel UST and one 4,000-gallon kerosene UST currently in use at the site with eight associated gasoline and diesel dispenser islands. The surrounding properties are commercial.

A soil sample was collected adjacent to the regular gasoline spill bucket on November 8, 2018. The sample was submitted for analyses for gasoline-range and diesel-range organics (GRO/DRO) and total BTEX by ultraviolet florescence.

Based upon the laboratory analyses, a concentration of 1,589 milligrams per kilogram (mg/kg) DRO exceeding the NCDEQ's regulatory action level (RAL) was reported in the sample collected adjacent to the gasoline spill bucket. It should be noted that due to dilution of the sample, a GRO concentration quantifiable below the RAL was not able to be achieved.

TABLE OF CONTENTS

A.	**SITE HISTORY AND CHARACTERIZATION**	**1**
B.	**SITE CHECK PROCEDURES**	**2**
C.	**SITE INVESTIGATION**	**2**
D.	**SUMMARY AND CONCLUSIONS**	**3**
E.	**LIMITATIONS**	**3**

FIGURES

Figure 1: Site Location Map
Figure 2: Soil Sample Location Map

TABLES

Table 1: UST Owner/Operator Information
Table 2: UST System Information
Table 3: Summary of Soil Sample Analytical Results

APPENDICES

Appendix A: Subsurface Log
Appendix B: Laboratory Analytical Report – Soil Sample
Appendix C: 24-Hour Release and UST Leak Reporting Form (UST-61)

A. SITE HISTORY AND CHARACTERIZATION

1. UST Owner and Operator Information:

In accordance with the Site Check Report guidelines, the underground storage tank (UST) owner and operator information has been summarized in the attached **Table 1.**

2. UST System Information:

In accordance with the Site Check Report guidelines, the UST system information has been summarized in the attached **Table 2.** There is one 12,000-gallon gasoline UST, one 8,000-gallon gasoline UST, one 12,000-gallon diesel UST and one 4,000-gallon kerosene UST currently in use at the site. The USTs are located in two basins with eight associated dispenser islands. The diesel UST and associated dispensers are located on the south side of the facility.

3. Non-UST Information:

There are currently no above ground petroleum storage tanks (ASTs) and no known ASTs formerly at the site.

4. Comprehensive Description of the Release:

On October 31, 2018 a compliance inspection at the site was conducted by NCDEQ personnel. Damage was noted in the 8,000-gallon regular gasoline spill bucket during the inspection. A *Notice of Violation* was issued by the NCDEQ on November 2, 2018 and addressed to John Hendley, registered agent of BHOC. No release was confirmed at the time of the inspection.

A site check was required according to North Carolina Department of Environmental Quality (NCDEQ). On November 8, 2018, one soil boring (ME-310-GAS) was advanced to approximately 2 feet below ground surface (BGS) beneath the spill bucket of the 8,000-gallon gasoline UST.

5. Description of the Site Characteristics:

The Market Express 310 site is located at 4303 Old Monroe Road in Indian Trail, Union County, North Carolina (**Figure 1**). The property operates as a petroleum retail facility and convenience store. The site is covered by concrete and grass. There is one 12,000-gallon gasoline UST, one 8,000-gallon gasoline UST, one 12,000-gallon diesel UST and one 4,000-gallon kerosene UST currently in use at the site with eight associated gasoline and diesel dispenser islands. The surrounding properties are commercial. A Site Map has been included as **Figure 2.**

B. SITE CHECK PROCEDURES

1. Results of Tank and Line Tightness Testing:

Tank and line testing were not required as part of the site check.

2. Summary of Site Check Procedure:

Resolve personnel performed a site check on at the site on November 8, 2018. The site check was limited to the spill bucket on the 8,000-gallon regular gasoline UST as directed in the NCDEQ's November 2, 2018 *Notice of Violation*. The spill buckets on the 8,000-gallon gasoline UST and the 12,000-gallon gasoline USTs were repaired with the installation of stainless steel liners subsequent to the compliance inspection on October 31, 2018 by BHOC personnel.

On November 8, 2018, Resolve personnel advanced a soil boring adjacent to the 8,000-gallon regular gasoline pill bucket. The soil boring was advanced with a clean hand auger into native soils to a total depth of approximately 2 feet below grade level. The soil sample was collected directly from the hand auger bucket, by Resolve personnel wearing clean, disposable nitrile gloves. A boring log is provided as **Appendix B**.

3. Soil Excavation Activities:

No soil excavation activities were conducted.

C. SITE INVESTIGATION

1. Field Screening:

Field screening was not conducted at the site during Site Check activities.

2. Soil Sampling Information:

3. Soil sample ME-310-GAS was collected on November 8, 2018 and submitted for laboratory analyses of GRO/DRO by ultraviolet florescence (UVF). A concentration of DRO that exceeded the NCDEQ regulatory action level (RAL) was reported in the sample. A Soil Sample Location Map is included as **Figure 2**. A summary of soil sample analytical results is presented in **Table 3**. The laboratory analytical report is provided as **Appendix B**. A copy of the 24-hour Release and UST Reporting Form (UST-61) is included as **Appendix C**.

4. Ground Water and Surface Water Sampling Information:

Ground water and surface water samples were not collected as part of the site check.

5. Quality-Control Measures:

Clean, disposable nitrile gloves were used for the collection of the soil samples. The samples were placed in laboratory supplied containers and shipped to the laboratory in a cooler following proper chain-of-custody

procedures. A laboratory supplied trip blank was not included in the sample cooler.

D. SUMMARY AND CONCLUSIONS

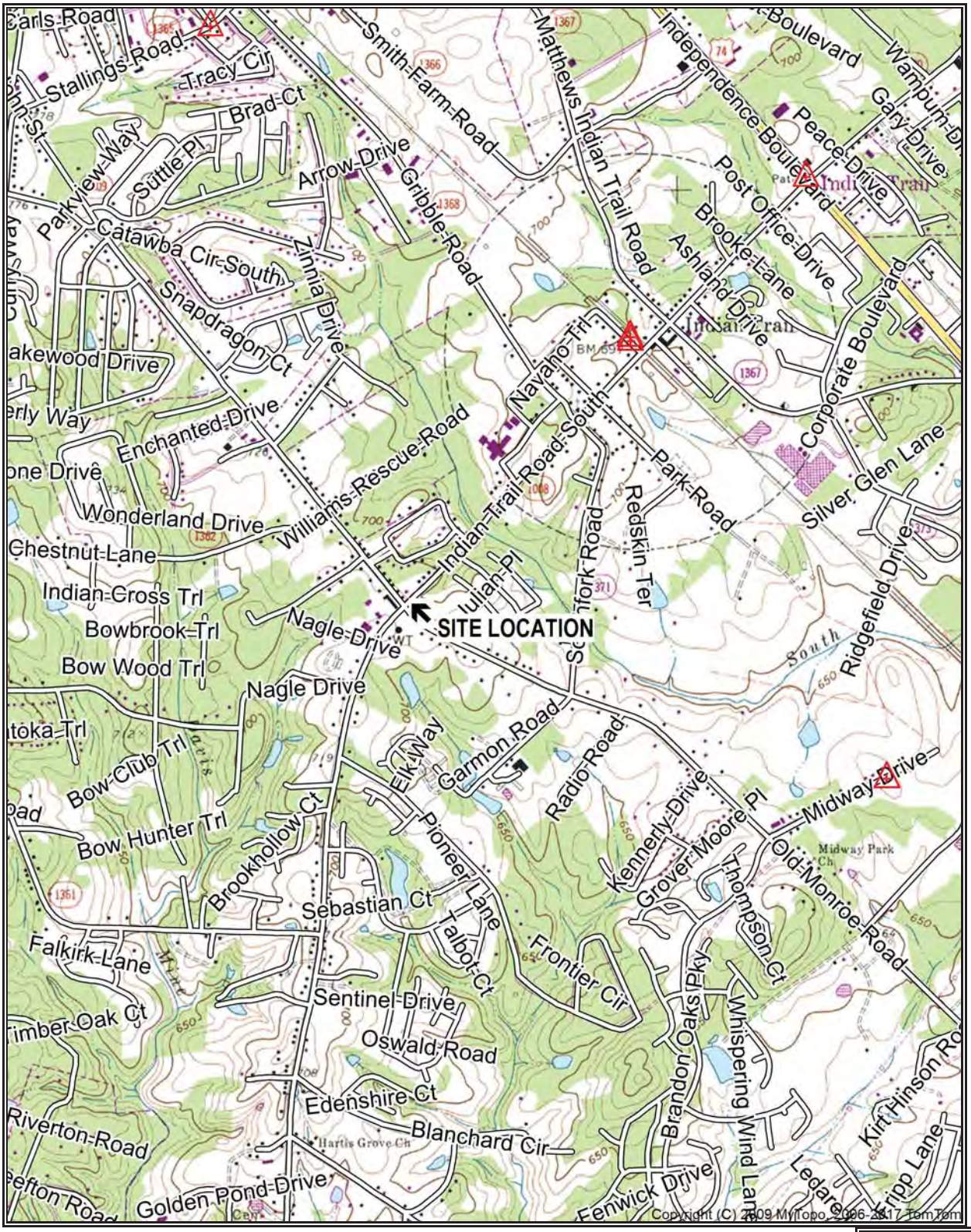
- The site is commercial and surrounding properties are commercial.
    - Deterioration in the 8,000-gallon regular gasoline spill bucket was noted during a NCDEQ compliance inspection on October 31, 2018 and a site check was subsequently directed.
    - The spill buckets on both gasoline USTs were lined with a stainless steel liner by BHOC personnel subsequent to the compliance inspection.
    - A Site Check was conducted on November 8, 2018 by Resolve personnel. A soil boring was advanced adjacent to the 8,000-gallon regular gasoline UST spill bucket and a soil sample was collected from the boring for analyses for DRO/GRO by UVF.
    - Based upon the laboratory analyses, a concentration of 1,589 milligrams per kilogram (mg/kg) DRO exceeding the NCDEQ's regulatory action level (RAL) was reported in the sample collected adjacent to the gasoline spill bucket. It should be noted that due to dilution of the sample, a GRO concentration quantifiable below the RAL was not able to be achieved.

E. LIMITATIONS

This report has been prepared for the exclusive use of Brewer-Hendley Oil Company for the specific application to the referenced site in Union County, North Carolina. The assessment was conducted based on the scope of work and level of effort specified by the NCDEQ and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of North Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

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

FIGURES



SCALE 1:24000

0 1000 2000 3000 4000 5000 6000

Feet

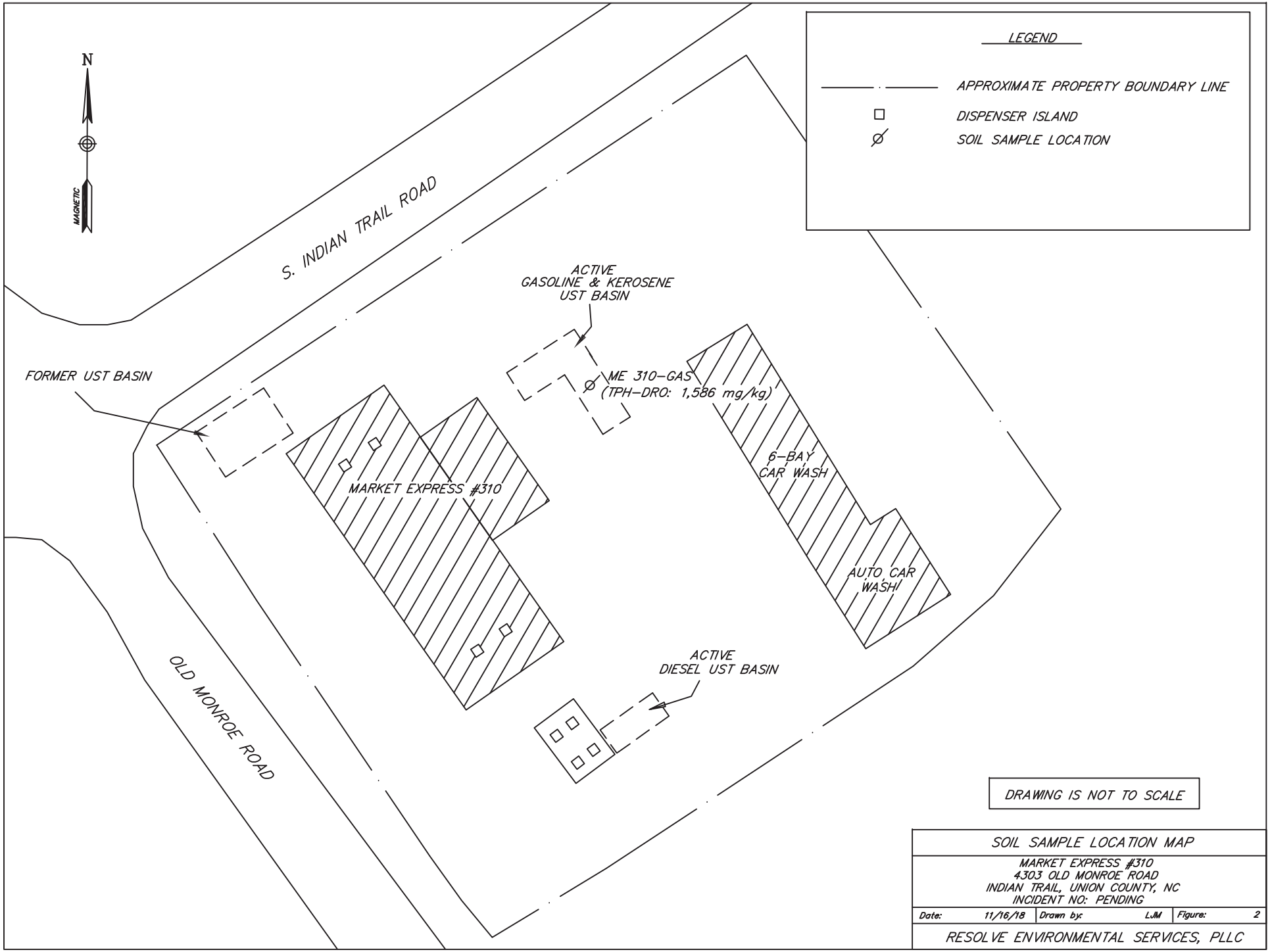
FIGURE 1 - SITE LOCATION MAP
Market Express #310
4303 Old Monroe Road
Indian Trail, Union County, NC

RESOLVE ENVIRONMENTAL SVCS, PLLC

Declination

MN GN

GN 0.19° E
MN 7.79° W


N
MAGNETIC
LEGEND
APPROXIMATE PROPERTY BOUNDARY LINE
DISPENSER ISLAND
SOIL SAMPLE LOCATION
S. INDIAN TRAIL ROAD
ACTIVE
GASOLINE & KEROSENE
UST BASIN
FORMER UST BASIN
ME 310-GAS
(TPH-DRO: 1,586 mg/kg)
MARKET EXPRESS #310
6-BAY
CAR WASH
AUTO CAR
WASH
ACTIVE
DIESEL UST BASIN
OLD MONROE ROAD
DRAWING IS NOT TO SCALE
SOIL SAMPLE LOCATION MAP
MARKET EXPRESS #310
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY, NC
INCIDENT NO: PENDING
Date: 11/16/18
Drawn by: LJM
Figure: 2
RESOLVE ENVIRONMENTAL SERVICES, PLLC

TABLES

TABLE 1
UST OWNER/OPERATOR INFORMATION
MARKET EXPRESS 310
INICDENT NO. (PENDING)

UST ID Number	1PNL, 1PNLB, 2D & 3K	**Facility ID Number**	00-0-009444
Name of Owner or Operator		**Dates of Ownership / Operation**	**Owner or Operator?**
Brewer-Hendley Oil Company		1996-Present	Owner/Operator
Address			**Telephone Number**
PO Box 769, Marshville, NC 28103			(704) 233-2600

TABLE 2
UST SYSTEM INFORMATION
MARKET EXPRRES 310
INCIDENT NO. (PENDING)

Date: 11/14/18 **Facility ID #:** 00-0-009444

UST ID No.	Current or Most Recent Contents	Previous Contents	Capacity (gallons)	Date Installed	Construction Details	Tank Dimensions	Description of Associated Product Piping and Pumps	Status of UST	Was Release Associated with UST System? (Yes / No)
1PNL	Gasoline	NA	8,000	01/01/1996	Single-Wall Steel/FRP	8' x 21.4'	DW Flexible Piping, Pressurized	Current	No
1PNLB	Gasoline	NA	12,000	01/01/1996	Single-Wall Steel/FRP	10.6' x 18.7'	DW Flexible Piping, Pressurized	Current	No
2D	Diesel	NA	12,000	01/01/1996	Single-Wall Steel/FRP	10.6' x 18.7'	DW Flexible Piping, Pressurized	Current	Yes
3K	Kerosene	NA	4,000	01/01/1996	Single-Wall Steel/FRP	24' x 64"	DW Flexible Piping, Pressurized	Current	No

TABLE 3
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
MARKET EXPRESS 310
FACILITY ID 0-000009444

Sample ID	Date Collected	GRO by UVF	DRO By UVF
ME 310-GAS	11/8/2018	<58	1,589

Notes:
GRO: Gasoline-range organics.
DRO: Diesel-range organics.
UFV: Ultraviolet florescence.
Results reported in milligram per kilogram (mg/kg).

APPENDICES

APPENDIX A

Subsurface Log

Resolve Environmental Services, PLLC
500 Devonport Drive
Matthews, NC 28104

Phone: 704-289-5881
Fax: 1-704-919-5616

SUBSURFACE LOG

Project	Market Express 310		
Address	4303 Old Monroe Road, Indian Trail, NC		
Boring Number	ME-310-GAS	Date Drilled	11/08/18
Sample Method	Grab	Drilling Method	Hand Auger
Completion Details	Abandoned with concrete		
Driller		Log By	Kennedy

Depth			Lab Sample	Sample Interval(ft)	OVA ppm	LITHOLOGY/COMMENTS
0						0-2' Fine SAND
2						TD 2 Feet
4						
6						
8						
10						
12						
14						
16						
18						
20						
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APPENDIX B

Laboratory Analytical Report – Soil Sample

FILE COPY

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
MICHAEL SCOTT
Director

NORTH CAROLINA
Environmental Quality

February 1, 2019

Mr. John Hendley
Brewer-Hendley Oil Company
P O Box 769
Marshville, NC 28103

Re: Notice of Regulatory Requirements
15A NCAC 2L .0404 and 2L .0405
Risk-based Assessment and Corrective Action
for Petroleum Underground Storage Tanks

Market Express – Indian Trail
4303 Old Monroe Road
Indian Trail, Union County
Incident Number:40868
Risk Classification: Unclassified

Dear Mr. Hendley:

Information received by this office of the UST Section, Division of Waste Management, on February 1, 2019, confirms a release or discharge from a petroleum underground storage tank (UST) system at the above-referenced location as of November 9, 2018. Records indicate that you are the owner or operator of this UST system. Therefore, as a responsible party, you must comply with the initial response and abatement action requirements of Title 15A NCAC 2L .0404 and, if applicable, the assessment and reporting requirements of Title 15A NCAC 2L .0405, within the timeframes specified in the attached rules. (Be aware that if the latter rule is applicable, you must comply with its requirements even if you do not receive formal notification from the UST Section.)

Initial abatement action requirements include the preparation and submittal of an Initial Abatement Action (IAA) Report, in accordance with Title 15A NCAC 2L .0404 and the most recent version of the *Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases,* within 90 days of discovery of the release. Since it is more than 90 days since the release occurred, you are being given 60 days to complete the IAA. Please note that since diesel range organics were reported in the site check sample and a kerosene tank shares the basin with the gasoline tank, both gasoline and kerosene parameters must be collected and analyzed.

Because a release or discharge has been confirmed, a Licensed Geologist or a Professional Engineer, certified by the State of North Carolina, is required to prepare and certify all reports submitted to the Department of Environmental Quality in accordance with Title 15A NCAC 2L .0103(e) and 2L .0111(b).

Please note that before you sell, transfer, or request a "No Further Action" determination for a property that has not been remediated to below "unrestricted use" standards, you must file a Notice of Residual Petroleum ("Notice") with the Register of Deeds in the county where the property is located (NCGS 143B-279.9 and 143B-279.11).

Failure to comply with the State's rules in the manner and time specified may result in the assessment of civil penalties and/or the use of other enforcement mechanisms.

If you have any questions regarding trust fund eligibility or reimbursement from the Commercial or Noncommercial Leaking Petroleum Underground Storage Tank Cleanup Funds, please contact the UST Section Trust Fund Branch at (919) 707-8171. If you have any questions regarding the actions that must be taken, or the rules mentioned in this letter, please contact me at the address or telephone number listed below.

Sincerely,

Edward G. Leach, III, L.G.
Hydrogeologist
Mooresville Regional Office
UST Section, Division of Waste Management, NCDEQ

Enclosures: Title 15A NCAC 2L .0404 and 2L .0405

cc: Laura Minor, Resolve Environmental Services (via email)
Traci Colley, Union County Environmental Health (via email)

GROUNDWATER Sample Results

Compounds	Conc.	Conc.	Conc.	2L (ppb)	2B (ppb)	GCL's (ppb)
Sample ID	MW-1					
Acenaphthene				80	20	2120
Acenaphthylene				200		1965
Acetone				6000	2000	6000000
Anthracene				2000	0.05	2000
Arsenic				10	10	50,000
Benzene	263			1	51	5,000
Benzo(a)anthracene				0.05	0.031*	4.7
Benzo(b)fluoranthene				0.05	0.031*	0.75
Benzo(g,h,i) perylene				200		200
Benzo (k) fluoranthene				0.5	0.031*	0.5
Benzo (a) pyrene				0.005	0.031*	0.81
Bis(2-ethylhexyl)phthalate (DEHP)				3	2.2	170
n-Butlybenzene				70	550	6900
sec-Butylbenzene				70		8500
tert-Butlybenzene				70		15000
Chloroform				70	170	70000
Chromium (Total)				10	50	10,000
Chrysene				5	0.031*	5
Dibenz(a,h) anthracene				0.005	0.031*	1.2
1,2-Dibromoethane (EDB) Ethylene Dibromide				0.02	0.1	50
1,2-Dichloroethane (Ethylene Dichloride)				0.4	37	400
Ethylbenzene	63			600	97	84,500
Fluoranthene				300	0.11	300
Fluorene				300	5.3	990
Isopropyl benzene (cumene)				70	250	25000
Isopropyl ether (Diisopropyl ether)	35			70		70000
p-Isopropyl toluene						
Lead				15	14	15,000
MEK (2-butanone)				4000	750,000	4000000
1-Methylnaphthalene				1	2.6	
2-Methylnaphthalene				30	80	12500
MTBE	154			20	1500	20,000
Methylene Chloride				5	590	5000
Naphthalene	25			6	12	6000
Phenanthrene				200	0.7	410
n-Propylbenzene				70	3200	30000
Pyrene				200	4000	200
Tetrachloroethylene (PCE)				0.7	3.3	700
Toluene	48			600	11	260,000
Trichloroethylene (TCE)				3	3	3,000
1,2,4-Trimethylbenzene				400		28,500
1,3,5-Trimethylbenzene				400	215	25,000
M,O, & P Xylenes	167			500	670	85,500
VPH C5-C8 ALIPHATICS	1190			400	1400	420,000
VPH C9-C12 ALIPHATICS	212					
EPH C9-C18 ALIPHATICS						
TOTAL C9-C18 ALIPHATICS	202			700		420,000
EPH C19-C36 ALIPHATICS				10,000		42,000,000
VPH C9-C10 AROMATICS	245					
EPH C11-C22 AROMATICS	315					
TOTAL C9-C22 AROMATICS	560			200		210,000
TOTAL C9-C32 AROMATICS					4	

*Total PAHs AS OF 8/16/2012

MARKET EXPRESS #310

SOIL Sample Results

Compounds	Conc.	Conc.	Conc.	S to GW (ppm)	RES (ppm)	IND/COM (ppm)
Sample ID	1-10	1-20	1-30			
Acenaphthene				8.2	940	24000
Acenaphthylene				11	469	12264
Acetone				2425	14000	360000
Anthracene				940	4600	122000
Benzene				0.0056	18	164
Benzo(a)anthracene				0.35	0.88	8
Benzo(b)fluoranthene				1.2	0.88	8
Benzo(g,h,i) perylene				6400	469	12264
Benzo(k)fluroanthene				12	9	78
Benzo(a)pyrene				0.096	0.088	0.78
2-Butanone (MEK)				16	9385	245280
n-Butylbenzene				4.3	626	16350
sec-Butylbenzene				3.3	626	16350
tert-Butylbenzene				3.4	626	16350
Chromium (TOTAL)				5.4	47	1226
Chrysene				39	88	780
1,2-Dichloroethane (ethylene dichloride)				0.0019	7	63
Cis 1,2-Dichloroethene				0.35	156	4000
Ethylbenzene				4.9	1560	40000
Fluoranthene				290	620	16400
Fluorene				47	620	16400
Isopropylbenzene				1.7	1564	40880
Isopropyl Ether (Diisopropyl Ether)				0.37	156	4088
Lead				270	400	400
1-Methylnaphthalene				0.004	20	100
2-Methylnaphthalene				3.6	63	1635
MTBE				0.091	350	3100
Methylene Chloride				0.02	85	763
Naphthalene				0.16	313	8176
Phenanthrene				56	469	12264
Phenol	.024			0.17	4693	122600
n-Proplybenzene				1.7	626	16350
Pyrene				270	469	12264
P-Isopropyltoluene				0.12	100	4000
Tetrachloroethylene (PCE)				0.0074	1.1	10
Trichloroethylene (TCE)				0.019	4.6	120
1,3,5-Trimethylbenzene				8.3	782	20440
1,2,4-Trimethlybenzene				8.5	782	20440
Toluene				4.3	1200	32000
M,O, & P Xylenes				4.6	3129	81760
VPH C5-C8 ALIPHATICS				68	939	24528
VPH C9-C12 ALIPHATICS						
EPH C9-C18 ALIPHATICS						
TOTAL C9-C18				540	1500	40000
EPH C19-C36 ALIPHATICS				#	31000	810000
VPH C9-C10 AROMATICS						
EPH C11-C22 AROMATICS	6.B5	6.15	6.18			
TOTAL C9-C22				31	469	12264

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

Incident Name:	MARKET EXPRESS	Region:	MRO	SCORE	L
Incident Number:	~~486~~ #310	County:	UNION		
Date:	40868 3-19-19	Ranking Performed by:	E LEALH		

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

SECTION I. Risk Classification (Check all that apply)

1. High Risk

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

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

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

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

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

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

2. Intermediate Risk

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

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

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

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

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

3. Low Risk

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

SECTION I. Risk Classification L

SECTION II. Release Ranking (Assign points as applicable)

1. EMERGENCY HAZARD ASSESSMENT

POINTS

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

EMERGENCY

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

2. EXPOSURE ASSESSMENT

Groundwater

A. Impacted Water Supplies

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

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

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

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

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

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

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

B. Threat to Uncontaminated Drinking Water Supplies

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

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

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

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

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

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

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

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

Surface Water

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

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

1589 DRO AT TPHC

Soil

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

LS-GW AT well

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

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

OR

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

OR

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

Air

A. Vapor Phase Exposure

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

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

3. HYDROGEOLOGY AND LITHOLOGY

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

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

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

4. ENVIRONMENTAL VULNERABILITY ASSESSMENT

Contamination Concentrations

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

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

OR

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

OR

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

OR

4. Free Product; award 80 points ____

Contaminant Types

A. Predominant Contamination Type

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

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

SECTION II. Release Ranking 85

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

A. Abated or Unabated Contaminant Source

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

OR

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

OR

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

OR

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

SECTION III. Source Abatement Assignment — 50D

SECTION IV. Risk, Rank and Abatement Score

Total: Risk, Rank and Abatement Score — L135D

~~(Insert risk letter from Section I, total all points from Section II and III, and insert abatement letter from Section III)~~ (e.g H75OD)

Upon completion transfer final score to box on page 1.

FILE COPY

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
MICHAEL SCOTT
Director

NORTH CAROLINA
Environmental Quality

March 20, 2019

Mr. John Hendley
Brewer-Hendley Oil Company
P O Box 769
Marshville, NC 28103

Re: Notice of Regulatory Requirements
NCGS 143B-279.9 and 143B-279.11
Notice of Residual Petroleum

Market Express – Indian Trail
4303 Old Monroe Rd., Indian Trail
Union County
Incident Number: 40868
Risk Classification: Low
Ranking: 135D

Dear Mr. Hendley:

The Initial Abatement Report (IAR) and receptor survey for the above referenced site was received in the Mooresville Regional Office (MRO) of the Division of Waste Management on March 14, 2019. The IAR and receptor survey have been reviewed and will be maintained by the UST Section. The review indicated that:

1. The soil boring was not placed at the location of the spill bucket and therefore did not represent "worst case" soil concentrations;
2. All three soil samples from the boring were below soil to groundwater MSCCs;
3. The groundwater sample collected from MW-1 contained benzene in excess of 100 times its regulatory level, but was well below the Gross Contaminant Level; and,
4. The receptor survey indicated that a mix of commercial and residential land use is present in the area, no surface water bodies are within 500 feet, and no water supply wells within 1,000 feet;

A residential land use has been assigned to the site and a low risk classification. North Carolina General Statute (NCGS) 143B-279.9 and 143B-279.11 require a Notice of Residual Petroleum (Notice) to be filed with the Register of Deeds in Union County, where the release is located, when a release from an underground storage tank has not been remediated to below "unrestricted use standards". The Notice is required either prior to conveyance of a contaminated property or prior to receiving a Notice of No Further Action. "Unrestricted use standards" for groundwater are the groundwater quality standards and interim standards contained in Title 15A NCAC 2L .0202, and "unrestricted use standards" for soil are the residential maximum soil contaminant concentrations (MSCCs) established in Title 15A NCAC 2L .0411.

The Notice must be prepared in accordance with the attached instructions and format. It must contain a legal description of the property containing the source of contamination and legal descriptions of any other properties which you own (or control) which are contaminated by the release. The Notice must also include appropriate land use restrictions for these properties. In addition, the Notice must identify all other properties (adjacent, adjoining, downgradient, etc.) on which contamination is known to exist at the time the Notice is prepared.

The Notice must be sent to this regional office of the UST Section within 30 days of the date of this letter for approval and notarization. The approved and notarized Notice must then be filed by you with the Register of Deeds, and a certified copy of the filed Notice must be submitted to this office within 30 days of its return to you.

Effective October 1, 2004, the Department of Environmental Quality requires that all work following the submittal of the Limited Site Assessment Report (Title 15A NCAC 2L .0405) be preapproved if State Trust Fund reimbursement is anticipated. To comply with this requirement, a completed Preapproval/Claim Authorization Form, encompassing the required remedial activities, must be received in this office within 14 days of the date of this letter. Upon completion of the preapproved activities, you should submit your claim promptly. Reimbursement funds are budgeted based on completed preapprovals, but lengthy delays in reimbursement can occur if claims are not submitted immediately following work completion.

Failure to comply with this letter is a violation of North Carolina law and may result in the assessment of civil penalties and/or the use of other enforcement mechanisms available to the state. If you have any questions regarding this letter, please contact Edward Leach at (704) 235-2171 or at the address for the MRO listed below.

Sincerely,

Edward G. Leach, III, L.G.
Hydrogeologist
Mooresville Regional Office
UST Section, Division of Waste Management, NCDEQ

Attachment: Instructions for Preparing Notice of Residual Petroleum

cc: Laura Minor, Resolve Environmental Services (via email)
Traci Colley, Union County Environmental Health (via email)



March 11, 2019

Mr. Ed Leach
NCDEQ-UST Section
610 East Center Avenue, Suite 301
Mooresville, North Carolina 28115

Re: Phase I LSA Report
Market Express #310 (Indian Trail)
4303 Old Monroe Road
Indian Trail, Union County, North Carolina
Facility ID No.: 00-0-009444
Incident Number: 40868

Dear Mr. Leach:

Attached for your review is the Phase I LSA report for the above referenced site located in Indian Trail, North Carolina.

If you require additional information, please contact the undersigned at (704) 289-5881.

Sincerely,
Resolve Environmental Services, PLLC

Laura Minor
Operations Manager

cc: Brewer-Hendley Oil Company, Inc.
file

PHASE I LIMITED SITE ASSESSMENT REPORT
MARKET EXPRESS #310
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY
NORTH CAROLINA
INCIDENT NUMBER 40868
FACILITY ID NUMBER: 00-0-009444

Prepared for:

Mr. John Hendley
Brewer-Hendley Oil Company, Inc.
Post Office Box 769
Marshville, North Carolina 28103

Prepared by:

Resolve Environmental Services, PLLC
500 Devonport Drive
Matthews, North Carolina 28104

March 11, 2019



Laura Minor
Project Manager

EXECUTIVE SUMMARY

The Market Express #310 is an underground storage tank (UST) site located at 4303 Old Monroe Road in Indian Trail, Union County, North Carolina. A total of four (4) USTs (one 12,000-gallon gasoline UST, one 8,000-gallon gasoline UST, one (1) 12,000-gallon diesel UST and one (1) 4,000-gallon kerosene UST) have existed at the property since January 1996 to the present. The adjoining properties are commercial.

During a routine compliance inspection conducted by the North Carolina Department of Environmental Quality (NCDEQ) on October 31, 2018, the spill bucket at the 8,000-gallon regular gasoline UST was noted to need repair/replacement. A NCDEQ *Notice of Violation* dated November 2, 2018 requesting a Site Check was sent to Mr. John N. Hendley, Registered Agent, of Brewer-Hendley Oil Company, Inc. (BHOC) of Marshville, North Carolina.

A soil sample was collected adjacent to the regular gasoline spill bucket on November 8, 2018. The sample was submitted for analyses for gasoline-range and diesel-range organics (GRO/DRO) and total BTEX by ultraviolet florescence. Based upon the laboratory analyses, a concentration of 1,589 milligrams per kilogram (mg/kg) DRO exceeding the NCDEQ's regulatory action level (RAL) was reported in the sample collected adjacent to the gasoline spill bucket. It should be noted that due to dilution of the sample, a GRO concentration quantifiable below the RAL was not able to be achieved.

A *Notice of Regulatory Requirements* (NORR) dated February 1, 2019 was prepared by the NCDEQ which requested Initial Abatement activities. Based on the NCDEQ guidelines, Resolve conducted a Limited Site Assessment (LSA) at the site since excavation was not plausible around the active UST. On January 28, 2019, one (1) Type II monitoring well (MW-1) was installed at the site adjacent to the 8,000-gallon gasoline UST and adjacent 4,000-gallon kerosene UST.

Estimated concentrations of phenol and/or C11-C22 aromatics were reported in the soil samples MW-1(10') MW-1(20') and MW-1(30'). None of the concentrations exceeded the maximum soil contaminant concentrations (MCCs). Detectable and/or estimated concentrations of benzene, naphthalene, methylene chloride, 1-methylnaphthalene, C5-C8 aliphatics, C9-C10 aromatics and C11-C22 aromatics that exceeded the maximum allowable concentrations (MACs) were reported in the ground water sample collected from MW-1. None of the concentrations exceeded the gross contamination levels (GCLs). In addition, detectable and/or estimated concentrations of other requested method constituents were reported in the ground water sample collected from MW-1; however, none of the concentration exceeded the MACs.

Two water supply wells (WSW-1 and WSW-2) were identified 1,200 and 1,175 feet of the release, respectively, during the February 2019 receptor survey. The usage of the wells in unknown at this time. An unnamed tributary of Mill Creek is located approximately 1,250 feet south of the site. Municipal water is provided to the site and the surrounding area. Based on this information, the site risk should be classified as low risk.

SITE INFORMATION

1. Site Identification:

Date of Report: March 11, 2019
Facility ID No. 00-0-009444
Incident Number: 40868
Site Name: Market Express #310
Site Street Address: 4303 Old Monroe Road
City: Indian Trail **Zip Code:** 28079 **County:** Union
Description of Geographic Data Point: Calculated from center of property
Location Method: Topographical map
Latitude: 35.067877° N **Longitude:** -80.677975° W

2. Contacts Associated with Leaking UST System:

UST Owner/Operator: Brewer-Hendley Oil Company, Inc. (**Table 1**)
P.O. Box 769
Marshville, North Carolina 28103
(704) 233-2600

Property Owner: Hendley-Brewer Properties LLC
P.O. Box 769
Marshville, North Carolina 28103

Drilling Contractor: Geological Resources, Inc.
3502 Hayes Road
Monroe, North Carolina 28110
(704) 6845-4010

Primary Consultant: Resolve Environmental Services, PLLC
500 Devonport Drive
Matthews, North Carolina 28104
(704) 289-5881

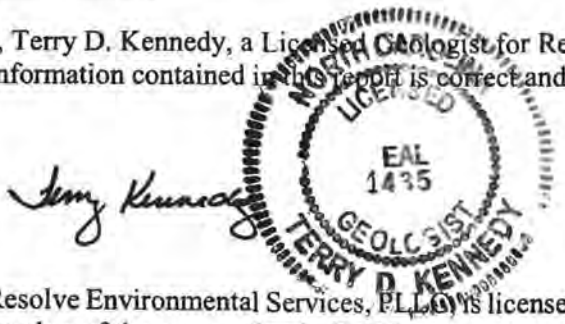
Laboratory: SGS North America, Inc.
4405 Vineland Road, Suite C-15
Orlando, Florida 32811
(407) 425-6700
North Carolina Certification No. 573

3. Release Information

Date Discovered: The release was discovered during site check activities conducted on October 31, 2018
Estimated Quantity of Release: Undetermined
Cause of Release: Damaged spill bucket
Source of Release: 8,000-gallon gasoline UST
UST Size and contents: (1) 12,000-gallon gasoline UST
(1) 8,000-gallon gasoline UST
(1) 12,000-gallon diesel UST
(1) 4,000-gallon kerosene UST (**Table 2**)

Certification:

I, Terry D. Kennedy, a Licensed Geologist for Resolve Environmental Services, PLLC, do certify that the information contained in this report is correct and accurate to the best of my knowledge.



Resolve Environmental Services, PLLC is licensed to practice geology in North Carolina. The certification number of the corporation is C-416.

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6. LIMITATIONS 7

FIGURES

Figure 1: Site Location Map
Figure 2: Site Vicinity Map
Figure 3: Site Map
Figure 4: Soil Sample Location Map
Figure 5: Ground Water Quality Map

TABLES

Table 1: UST Owner/Operator Information
Table 2: UST System Information
Table 3: Water Supply Well Owner Information
Table 4: Adjacent Property Owner Information
Table 5: Well Construction and Gauging Information
Table 6: Summary of Ground Water Sample Analytical Results

APPENDICES

Appendix A: Well Construction Record and Subsurface Log
Appendix B: Laboratory Analytical Report

1. RISK CHARACTERIZATION

Limited Site Assessment Risk Classification and Land Use Form

Part I – Groundwater/Surface Water/Vapor Impacts

High Risk

1. Has the release contaminated any water supply well including any well 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 of the release? **NO**
3. Is a water supply well not used for drinking water (e.g., irrigation, washing cars, industrial cooling water, filling swimming pools) located within 250 feet of the source area of the release? **NO**
4. Does ground water within 500 feet of the source area of the release have the potential for future use (there is no other source of water supply other than the groundwater)? **NO**
   Public water is available to the site and surrounding properties.
5. Do vapors from the 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 other factors that would cause the release to pose an imminent danger to public health, public safety, or the environment? **NO**
   If **YES**, explain:

Intermediate Risk

7. Is a surface water body located within 500 feet of the source area of the release? **NO**
   No surface water bodies were identified within a 500-foot radius of the site.
   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? NA
8. Is the source area of the release located within an approved or planned wellhead protection area as defined in 42 USC 300h-7(e)? **NO**
9. Is the 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 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?

10. Do the levels of ground water contamination for any contaminant exceed the gross contamination levels established by the Department? **NO**

Part II - Land Use

Property Containing Source Area of 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**

   Explain: The subject property contains a petroleum retail facility/convenience store/car wash.
2. Does the property contain a school, daycare center, hospital, playground, park, recreation area, church, nursing home, or other place of public assembly? **NO**

   Explain: The subject property contains a petroleum retail facility/convenience store/car wash.
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**

   Explain: The subject property contains a petroleum retail facility/convenience store/car wash.
4. Do children visit the property? **YES**

   Explain: The subject property contains a petroleum retail facility and children visit the property.
6. Is access to the property reliably restricted consistent with its use (e.g., by fences, security personnel or both)? **NO**

   Explain: The property is easily accessible to pedestrian and vehicular traffic.
7. Do pavement, buildings, or other structures cap the contaminated soil? **YES**

   Explain: The UST basin and dispenser areas are capped with asphalt or concrete.

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

   The site use is expected to remain the same for the foreseeable future.

7. What is the zoning status of the property?

   According to the Town of Indian Trail, the site is zoned GBD, General Business District.

8. Is the use of the property likely to change in the next 20 years? **NO**

   Explain:

Property Surrounding Source Area of Release

The questions below pertain to the area within 1,500 feet of the source area of the release (excludes property containing source area of the release):

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

   The closest primary residence is approximately 280 feet to the south of the source area.

11. 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?

    Miss Donna's Daycare Facility is located approximately 1,200 feet northwest of the source area.

12. What is the zoning status of properties in the surrounding area?

    According to the Town of Indian Trail, the area surrounding the site is zoned GBD (General Business District), LI (Light Industrial) and SF-1 (single-family, low-density Residential).

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

    Commercial shopping plazas housing numerous businesses are located to the east, north/northeast and to the west/northwest across S. Indian Trail Road. A bank is located across the S. Indian Trail Road/Old Monroe Road intersection to the west of the site. A CVS Pharmacy is located to the south/southwest of the site, across Old Monroe Road.

2. RECEPTOR INFORMATION

1. Water Supply Wells:

Two water supply wells (WSW-1 and WSW-2) were identified within a 1,500-foot radius of the subject site. However, no potable water supply wells were identified within 1,000 feet of the site. A site location map is provided as **Figure 1** and a Site Vicinity Map showing property boundaries for the site and surrounding properties have been included as **Figure 2**. Water supply well owner information is summarized in **Table 3.**

2. Public Water Supplies:

Are public water supplies available within 1,500 feet of the source area of the release? **YES**

If yes, where is the location of the nearest public water lines and the source(s) of the public water supply. Explain:

Municipal water is available to the site and the surrounding properties. Water lines run parallel to Old Monroe Road and S. Indian Trail Road, south/southwest and north/northwest of the onsite structure, respectively.

3. Surface Water:

Identify all surface water bodies (e.g., ditch, pond, stream, lake, river) within 1,500 feet of the source area of the release. This information must be shown on the USGS topographic map.

An unnamed tributary to Mill Creek is located approximately 1,250-feet south of the source area.

4. Wellhead Protection Areas:

Identify all planned or approved wellhead protection areas in the vicinity of the source area. This information must be shown on the USGS topographic map. Wellhead protection areas are defined in 42 USC 300h-7(e).

On March 7, 2019, Resolve personnel accessed the North Carolina Department of Environmental Quality (NCDEQ) Source Water Assessment and Protection (SWAP) Program's website to identify wellhead protection areas in the vicinity of the subject site. There were no designated wellhead protection areas near the subject site.

5. Deep Aquifers in the Coastal Plain Physiographic Region:

The site is not located in the Coastal Plan Physiographic Region.

6. Subsurface Structures:

No structures with basements were observed in the vicinity of the source area. Utilities in the area do not appear to intersect the seasonal high water table.

7. **Property Owners and Occupants:**

The names and addresses of the owners of properties adjacent to the site are presented in **Table 4**. Property boundaries are shown on **Figure 2**.

3. SITE GEOLOGY AND HYDROGEOLOGY

According to the 1985 Geologic Map of North Carolina, the site is located in the Carolina Slate Belt of metamorphic rocks. The underlying rock at the site is phyllite and schist. Ground water in the area moves through fractures and cleavage planes within the metamorphic rock.

Weathered phyllite was encountered during the borehole drilling for MW-1 and appeared as a sandy clay in the well cuttings. A water bearing fracture encountered during the installation of MW-1 at a depth of approximately 32 feet and the well was set to a total depth of 40 feet BGS with a 15-foot section of screen. Copies of the well construction record and subsurface log have been included as **Appendix A**. A Site Map is included as **Figure 3**. Well construction and gauging information is presented in **Table 5**.

4. SITE INVESTIGATION

Following the identification of a faulty spill bucket at the 8,000-gallon gasoline tank during a routine compliance inspection conducted by NCDEQ on October 31, 2018, Resolve conducted site check activities in November 2018. A soil sample was collected near the 8,000-gallon gasoline spill bucket on November 8, 2018. A concentration of TPH-DRO that exceeded the RAL was reported in the soil sample. A Site Check report dated December 14, 2018 was submitted to the NCDEQ. Subsequently, a *Notice of Regulatory Requirements* (NORR) was then sent by NCDEQ to the tank owner (BHOC) dated February 1, 2019 requesting initial abatement activities (IAA). Resolve followed NCDEQ guidelines and conducted Phase I LSA activities in lieu of IAA.

In accordance with the NORR, one (1) monitoring well (MW-1) was installed by a licensed well contractor on January 28, 2019 to assess the identified release at the site. MW-1 was installed to a total depth of 40 feet BGS and completed with a 15-foot screened interval set to bracket the water table at the time of installation. MW-1 was installed immediately adjacent from the gasoline/kerosene UST basin in the apparent downgradient direction from the spill bucket.

1. Soil Sampling:

On January 28, 2019, three (3) soil samples (MW-1(10'), MW-1(20') and MW-1(30')), were collected during the installation of monitoring well MW-1. The soil samples were submitted for laboratory analyses of volatile organic compounds (VOCs) by SW846 Method 8260B, semi-volatile organic compounds (SVOCs) by SW846 8270D and for volatile and extractable petroleum hydrocarbons (VPH/EPH) using the MADEP Method. As requested by the NCDEQ incident manager due to the proximity of the kerosene UST.

Estimated and/or detectable concentrations of phenol and C11-C22 aromatics were reported in the soil samples; however, none of the concentrations exceeded the soil to water MCCs. A Soil Sample Location Map has been included as **Figure 4**. A summary of soil sample analytical results is presented in **Table 6**.

2. Ground Water Sampling:

On January 29, 2019, a ground water sample was collected from MW-1 and submitted for laboratory analyses of VOCs by EPA Method 6200B, 625 plus 10 tics, VPH/EPH, EDB by Method 504.1 and lead. Detectable and/or estimated concentrations of benzene, naphthalene, methylene chloride, 1-methylnaphthalene, C5-C8 aliphatics, C9-C10 aromatics and C11-C22 aromatics that exceeded the MACs were reported in the ground water sample collected from MW-1. None of the concentrations exceeded the GCLs. In addition, detectable and/or estimated concentrations of other requested method constituents were reported in the ground water sample collected from MW-1; however, none of the concentration exceeded the MACs. A summary of ground water sample analytical results is presented in **Table 7**. A Ground Water Quality Map is included as **Figure 5**. A copy of the laboratory analytical report is presented as **Appendix B**.

3. Quality Control:

The soil and ground water samples were immediately placed in laboratory-supplied containers, which were then placed in iced coolers. New disposable bailers were used to sample the monitoring wells and new nitrile gloves were worn during soil and ground water sampling. Samples were logged using proper chain-of-custody procedures. The samples were transported to a North Carolina certified laboratory for analysis.

5. CONCLUSIONS AND RECOMMENDATIONS

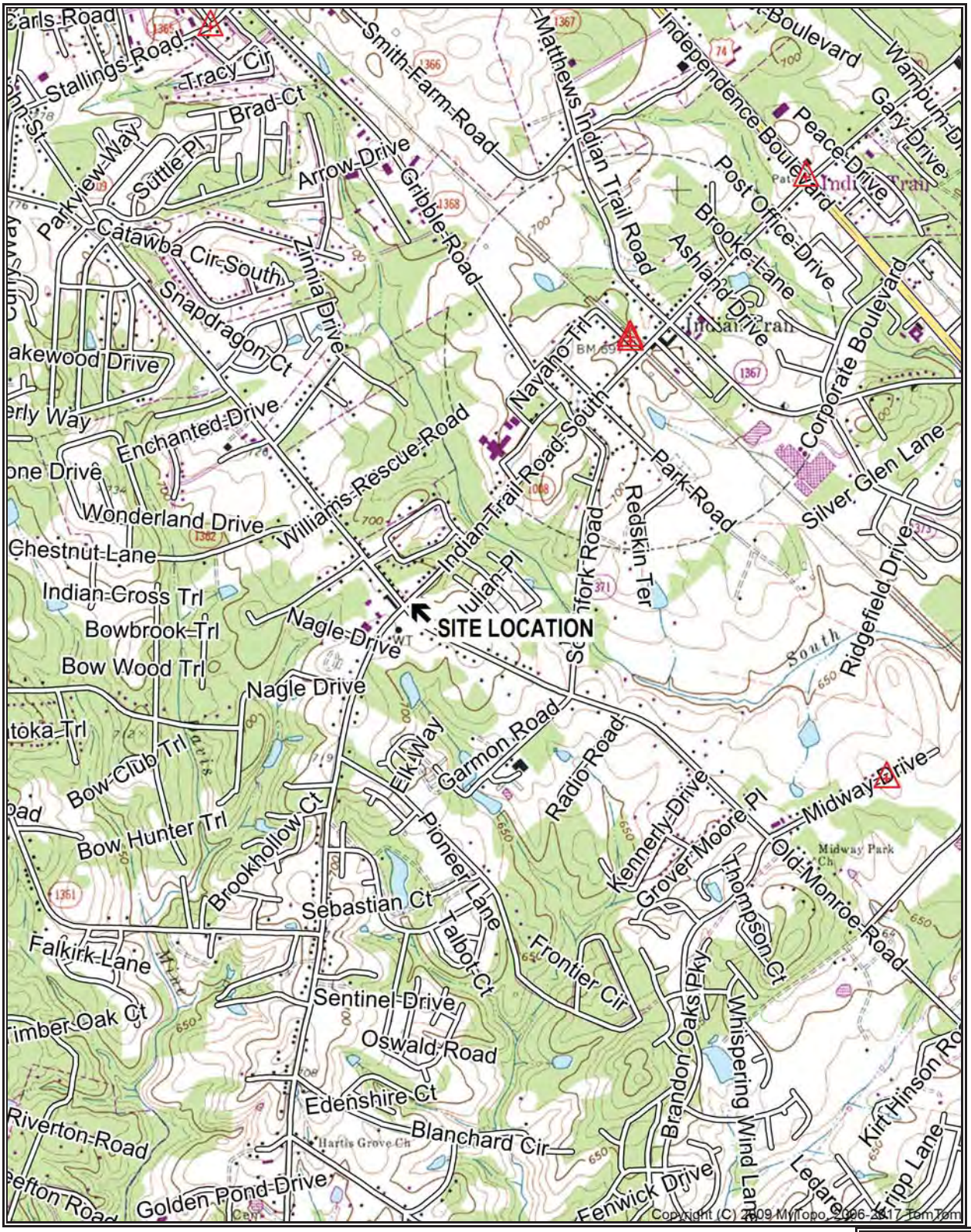
- The site contains a petroleum retail facility/convenience store/car wash. Land use in the area primarily consists of commercial properties.
- Two water supply wells (WSW-1 and WSW-2) were identified during the receptor survey conducted in February 2019. Although the usages of the wells are unknown at this time, WSW-1 and WSW-2 are located approximately 1,200 feet and 1,175 feet northwest from the release, respectively. All surrounding properties, including the site, is connected to municipal water.
- An unnamed tributary to Mill Creek is located approximately 1,250-feet south of the source area. Underground utilities in the source areas are not likely to intersect the potentiometric surface.
- Estimated concentrations of requested method constituents were reported in the soil samples collected at the site; however, none of the concentrations exceeded the MCCs. Estimated and/or detectable concentrations of benzene, naphthalene, methylene chloride, 1-methylnaphthalene, C5-C8 aliphatics, C9-C10 aromatics and C11-C22 aromatics that exceeded the MACs were reported in the ground water sample collected from MW-1. None of the concentrations exceeded the GCLs.
- Based on this information, the site risk should be classified as low risk. Resolve recommends that the incident be closed, following the filing of a Notice of Residual Petroleum.

6. LIMITATIONS

This report has been prepared for the exclusive use of Mr. John Hendley and Brewer-Hendley Oil Company, Inc. for specific application to the referenced site in Union County, North Carolina. The assessment was conducted based on the scope of work and level of effort specified by NCDEQ and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of North Carolina, available information and our professional judgment. No other warranty is expressed or implied.

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

FIGURES



SCALE 1:24000

0 1000 2000 3000 4000 5000 6000

Feet

FIGURE 1 - SITE LOCATION MAP
Market Express #310
4303 Old Monroe Road
Indian Trail, Union County, NC

RESOLVE ENVIRONMENTAL SVCS, PLLC

Declination

MN GN

GN 0.19° E
MN 7.79° W

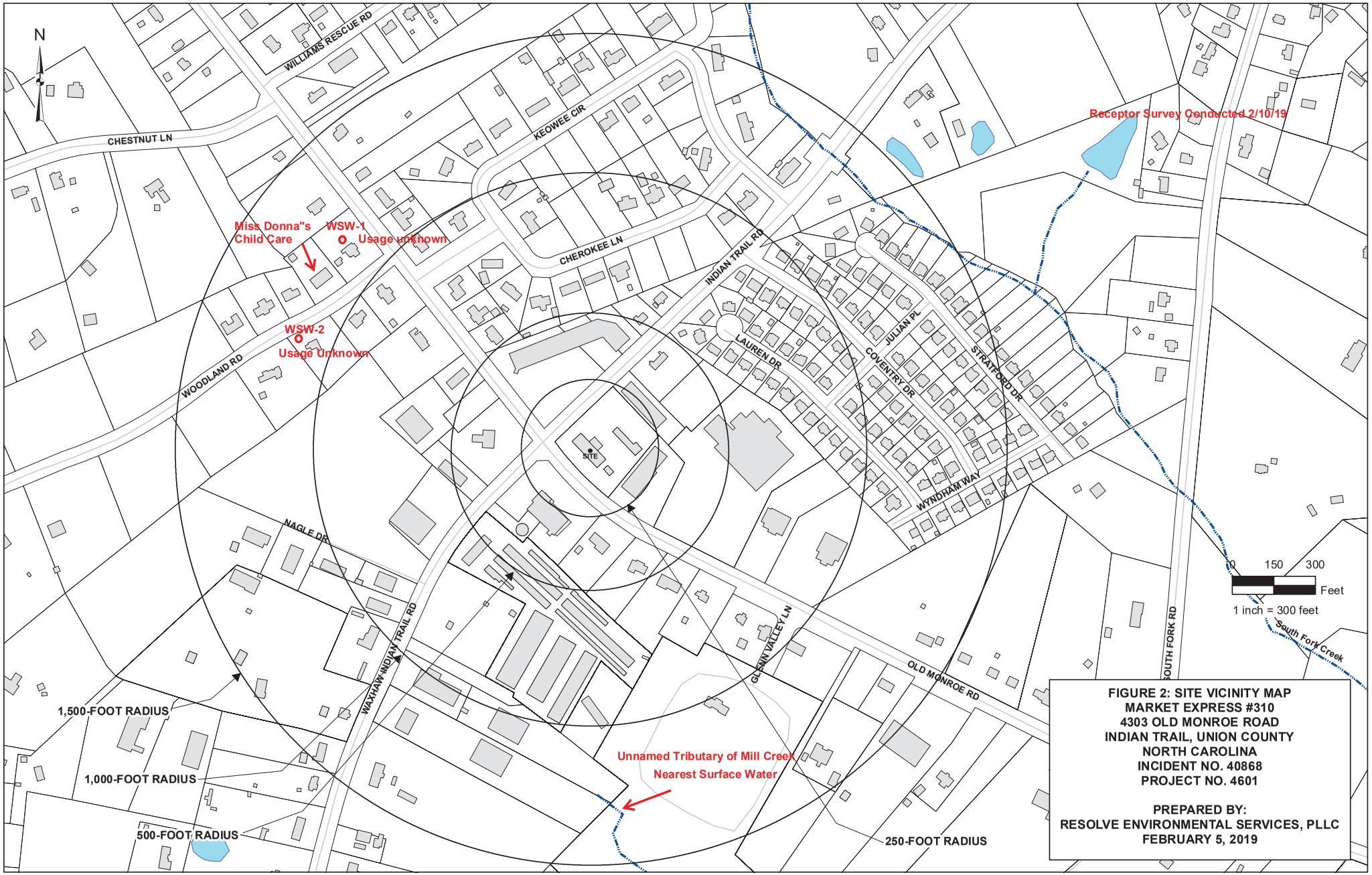


FIGURE 2: SITE VICINITY MAP
MARKET EXPRESS #310
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY
NORTH CAROLINA
INCIDENT NO. 40868
PROJECT NO. 4601

PREPARED BY:
RESOLVE ENVIRONMENTAL SERVICES, PLLC
FEBRUARY 5, 2019



Resolve Environmental Services PLLC
500 Devonport Drive
Matthews, NC 28104

Map provided by: Google

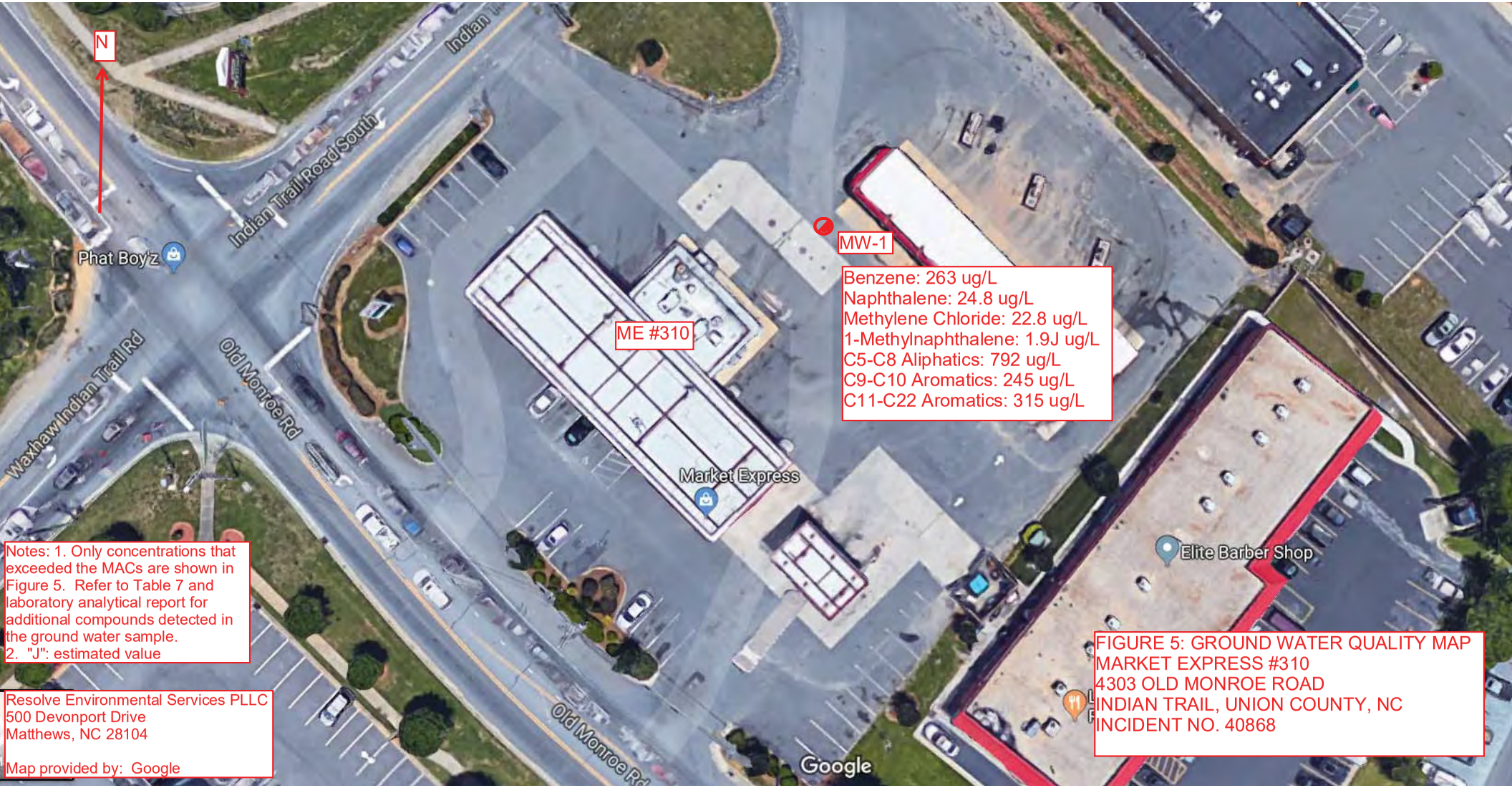
FIGURE 3: SITE MAP
MARKET EXPRESS #310
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY, NC
INCIDENT NO. 40868



Resolve Environmental Services PLLC
500 Devonport Drive
Matthews, NC 28104

Map provided by: Google

FIGURE 4: SOIL SAMPLE LOCATION MAP
MARKET EXPRESS #310
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY, NC
INCIDENT NO. 40868



Notes: 1. Only concentrations that exceeded the MACs are shown in Figure 5. Refer to Table 7 and laboratory analytical report for additional compounds detected in the ground water sample.
2. "J": estimated value

Resolve Environmental Services PLLC
500 Devonport Drive
Matthews, NC 28104

Map provided by: Google

FIGURE 5: GROUND WATER QUALITY MAP
MARKET EXPRESS #310
4303 OLD MONROE ROAD
INDIAN TRAIL, UNION COUNTY, NC
INCIDENT NO. 40868

TABLES

TABLE 1
UST OWNER/OPERATOR INFORMATION
MARKET EXPRESS #310
INCIDENT NO. 40868

UST ID Number	1 - 4	**Facility ID Number**	00-0-00000009444
Name of Owner or Operator		**Dates of Ownership / Operation**	**Owner or Operator?**
Brewer Hendley Oil Company		1/1/1996	Owner/Operator
Address			**Telephone Number**
P.O. Box 769, Marshville, NC 28103			704.233.2600

TABLE 2
UST SYSTEM INFORMATION
MARKET EXPRESS #310
INCIDENT NO. 40868

Date: 10/16/18 **Facility ID** 0-00-0000009444

UST ID No.	Current or Most Recent Contents	Previous Contents	Capacity (gallons)	Date Installed	Construction Details	Tank Dimensions	Description of Associated Product Piping and Pumps	Status of UST	Was Release Associated with UST System? (Yes / No)
1	Gasoline	Gasoline	8,000	01/01/96	Steel/FRP	8' x 21' 4"	Double walled flex piping, pressurized	Current	Yes
2	Gasoline	Gasoline	12,000	01/01/96	Steel/FRP	8' x 32'	Double walled flex piping, pressurized	Current	No
3	Diesel	Diesel	12,000	01/01/96	Steel/FRP	8' x 32'	Double walled flex piping, pressurized	Current	No
4	Kerosene	Kerosene	4,000	01/01/96	Steel/FRP	64" x 24'	Double walled flex piping, pressurized	Current	No

Notes:
- Data obtained from the NCDEQ registered tank database.
- FRP: Fiberglass Reinforced Plastic.

TABLE 3
WATER SUPPLY WELL OWNER INFORMATION
MARKET EXPRESS #310
INCIDENT NO. 40868

Date: 3/6/19 **Facility ID** 00-0-0000009444

Well #	Parcel ID Number	Well Owner	Address	Phone Number	Well Use	Well Depth (ft BGS)	Well Casing Depth (ft BGS)	Well Screen Interval (x to y ft BGS)	Distance from source area of release (ft.) and direction
WSW-1	07132030A	Martha M. Little	P.O. Box 343 Concord, NC 28026	Unknown	Unknown	Unknown	Unknown	Unknown	1200 NW
WSW-2	07132029	Minh Lien Properties LLC	5827 Parkstore Drive Matthews, NC 28104	Unknown	Unknown	Unknown	Unknown	Unknown	1175 W/NW

Note: Owner information current as of 2/26/19 and obtained via Union County NC GIS website: http://gis-web.co.union.nc.us/gomaps/#.

TABLE 4
ADJACENT PROPERTY OWNER INFORMATION
MARKET EXPRESS #310
INCIDENT NO: 40868

Date: 3/6/19 **Facility ID** 00-0-0000009444

Parcel ID Number	Property Owner	Property Owner Address
07114073 (Site)	Hendley-Brewer Properties	P.O. Box 769 Marshville NC 28103
07114072R	Subhasys Estates LLC	17812 Campbell Hall Court Charlotte NC 28277
07114081	Gregory Plaza LLC	5640 Sunstar Court Charlotte NC 28226
07114020 01	George A Karagounis & wife Evangelia c/o IT Partners	5110 Oxford Crescent Court Charlotte NC 28226
07114038F	Rushing Construction Company c/o Fifth Third Bank	38 Fountain Square Plaza MD Cincinnati OH 45263
07114064	George Athans & wife Denise P, et al	P.O. Box 1094 Matthews NC 28106

Note:
• Property information current as of March 6, 2019. Information obtained from Union County NC GIS website: http://gis-web.co.union.nc.us/gomaps/#.

TABLE 5
WELL CONSTRUCTION AND GAUGING INFORMATION
MARKET EXPRESS #310
INCIDENT NO. 40868

Date: 3/6/19 **Facility ID #:** 00-0-0000009444

Well ID	**Date Installed** (mm/dd/yy)	**Date Water Level Measured** (mm/dd/yy)	**Well Casing Depth** (ft. BGS)	**Screened Interval** (x to y ft. BGS)	**Bottom of Well** (ft. BGS)	**Top of Casing Elevation** (ft.)	**Depth to Water from Top of Casing** (ft.)	**Free Product Thickness** (ft.)	**Groundwater Elevation** (ft.)	**Comments**
MW-1	1/28/2019	1/29/2019	25	25-40	40	NM	21.82	NA	NM	

Notes:
- ft BGS : feet below ground surface.
- NA: Not available.
- NM: Not measured.

TABLE 6
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
MARKET EXPRESS# 310
INCIDENT NO: 40868

Date: 03/06/19

Analytical Method →			**SW846 8270D**	**MADEP EPH**
Contaminant of Concern →			**Phenol**	**C11-C22 Aromatics**
Sample ID	**Date Collected (mm/dd/yy)**	**Sample Depth (feet)**		
Soil to Water MSCC (mg/kg)			**0.17**	**31**
Residential Soil Cleanup Levels (mg/kg)			**4,693**	**469**
Industrial/Commercial Soil Cleanup Levels (mg/kg)			**122,600**	**12,264**
MW-1 (10')	01/28/2019	10	0.0236 J	NR
MW-1 (20')	01/28/2019	20	NR	6.15 J
MW-1 (30')	01/28/2019	30	<0.024	6.18 J

Notes:
- Results reported in mg/kg (milligrams per kilograms)
- MSCC: Maximum Soil Contaminant Concentration level as specified by T 15A NCAC 2L.0202.
- < : Less than the method detection limit specified in the laboratory report
- NE: Not Established
- J: Estimated value.
- NR: Analysis not requested.

TABLE 7
SUMMARY OF GROUND WATER SAMPLE ANALYTICAL RESULTS
MARKET EXPRESS# 310
INCIDENT NO: 40868

Date: 03/06/19 **Facility ID No.:** 00-0-0000944

Analytical Method →		**SM 6200B**																	**EPA 625.1**			**MADEP VPH**		**MADEP EPH**
Contaminant of Concern →		**Benzene**	**Toluene**	**Ethylbenzene**	**Xylenes**	**Naphthalene**	**n-Butylbenzene**	**sec-Butylbenzene**	**Chloroform (Trichloromethane)**	**o-Chlorotoluene (2-Chlorotoluene)**	**trans-1,2-Dichloroethene**	**Isopropylbenzene**	**Di-isopropyl ether**	**p-Isopropyltoluene (4-Isopropyltoluene)**	**Methylene Chloride**	**n-Propylbenzene**	**1,2,4-Trimethylbenzene**	**1,3,5-Trimethylbenzene**	**Diethyl Phthalate**	**1-Methylnaphthalene**	**2-Methylnaphthalene**	**C5-C8 Aliphatics**	**C9-C10 Aromatics**	**C11-C22 Aromatics**
Well ID	**Date Collected (mm/dd/yy)**																							
2L Standard (µg/l)		**1**	**600**	**600**	**500**	**6**	**70**	**70**	**70**	**100**	**100**	**70**	**70**	**25**	**5**	**70**	**400**	**400**	**6,000**	**1**	**30**	**400**	**200**	**200**
GCL (µg/l)		**5,000**	**260,000**	**84,500**	**85,500**	**6,000**	**6,900**	**8,500**	**70,000**	**NE**	**100,000**	**25,000**	**70,000**	**11,700**	**5,000**	**30,000**	**28,500**	**25,000**	**NE**	**1,000**	**12,500**	**NE**	**NE**	**NE**
MW-1	01/28/19	**263**	55.5	63.1	166.7	**24.8**	2.0 J	2.3 J	2.3 J	2.8 J	1.3 J	7.7	34.6	5.4	**22.8**	12.1	53.2	9.5	1.8 J	**1.9 J**	4.1 J	**792**	**245**	**315**

Notes:

- Results reported in micrograms per liter (µg/l).
- < : Less than the method detection limit specified in the laboratory report.
- 2L Standard specified in T15A NCAC 2L.0202.
- GCL: Gross contamination level.
- NE: Not Established
- Concentrations in bold face type exceeded the 2L standards.
- Concentrations in italics exceeded the gross contamination levels.
- Refer to laboratory report for detected constituents that did not exceed the MACs, or for which no standard has been established.

APPENDICES

APPENDIX A

Well Construction Record and Subsurface Log

Resolve Environmental Services, PLLC
500 Devonport Drive
Matthews, NC 28104
Phone: (704) 289-5881

SUBSURFACE LOG

Project	Market Express #310		
Address	4303 Old Monroe Road, Indian Trail, NC 28079		
Boring Number	MW-1 (10'), MW-1 (20'), MW-1 (30')	Date Drilled	01/28/19
Sample Method	Grab	Drilling Method	Auger
Completion Details	Boring terminated at 40'; soil grab samples @ 10', 20' & 30' collected; completed as MW-1		
Driller	S. Bowers	Log By	W. Scott Ball

Depth			Lab Sample	Sample Interval(ft)	OVA ppm		LITHOLOGY/COMMENTS
0						0-4"	Asphalt
						4"-4'	Red/yellow sandy CLAY
2							
4						4'-40'	Red sandy CLAY
6							
8							
10			MW-1 (10')	9.5'-10'	N/A		
12							
14							
16							
18							
20			MW-1 (20')	19.5'-20'	N/A		
22							
24							
26							
28							
30			MW-1 (30')	29.5'-30'	N/A		
32						Moisture noted in drill cuttings.	
34							
36							
38							
40						TD 40', completed as MW-1.	

WELL CONSTRUCTION RECORD (GW-1)

For Internal Use Only:

1. Well Contractor Information:

Sam Bowers
Well Contractor Name

3220
NC Well Contractor Certification Number

Geological Resources, Inc.
Company Name

2. Well Construction Permit #: _____
List all applicable well construction permits (i.e. UIC, County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:
- ☐ Agricultural
- ☐ Geothermal (Heating/Cooling Supply)
- ☐ Industrial/Commercial
- ☐ Irrigation
- ☐ Municipal/Public
- ☐ Residential Water Supply (single)
- ☐ Residential Water Supply (shared)

Non-Water Supply Well:
- ☒ Monitoring
- ☐ Recovery

Injection Well:
- ☐ Aquifer Recharge
- ☐ Aquifer Storage and Recovery
- ☐ Aquifer Test
- ☐ Experimental Technology
- ☐ Geothermal (Closed Loop)
- ☐ Geothermal (Heating/Cooling Return)
- ☐ Groundwater Remediation
- ☐ Salinity Barrier
- ☐ Stormwater Drainage
- ☐ Subsidence Control
- ☐ Tracer
- ☐ Other (explain under #21 Remarks)

4. Date Well(s) Completed: 01/28/19 **Well ID#** MW-1

5a. Well Location:

ME #310
Facility/Owner Name

0-036209
Facility ID# (if applicable)

4303 Old Monroe Road, Indian Trail, NC
Physical Address, City, and Zip

Union
County

Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

_____ N _____ W

6. Is(are) the well(s): ☒ Permanent or ☐ Temporary

7. Is this a repair to an existing well: ☐ Yes or ☒ No
If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. For Geoprobe/DPT or Closed-Loop Geothermal Wells having the same construction, only 1 GW-1 is needed. Indicate TOTAL NUMBER of wells drilled: 1

9. Total well depth below land surface: 40 (ft.)
For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: _____ (ft.)
If water level is above casing, use "+"

11. Borehole diameter: 6 (in.)

12. Well construction method: Bored
(i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ **Method of test:** _____

13b. Disinfection type: _____ **Amount:** _____

14. WATER ZONES

FROM	TO	DESCRIPTION
ft.	ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0 ft.	25 ft.	2" in.	Sched 40	PVC
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
25 ft.	40 ft.	2" in.	0.010	Sched 40	PVC
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0 ft.	21 ft.	cement	pour
21 ft.	23 ft.	bentonite	pour
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
23 ft.	40 ft.	#2 Gravel Pack	Pour
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0 ft.	0.25 ft.	Asphalt
0.25 ft.	4 ft.	Mottled Red and Yellow Sandy Clay
4 ft.	40 ft.	Red Sandy Clay
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

22. Certification:

Signature of Certified Well Contractor — Date: 2/28/19

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells: In addition to sending the form to the address in 24a above, also submit one copy of this form within 30 days of completion of well construction to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

APPENDIX B

BORING LOGS

SOIL BORING FIELD WORKSHEET

BORING #	**B1**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	1.4	Top soil	B1 (0-2) selected for UVF analyses
2		Red/orange silt	
3	0.0		
4		Brown/tan sandy silt	
5	0.0		B1 (4-6) selected for UVF analyses
6			
7	0.0	Tan/gold sandy silt	
8			
9	0.0		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	B2	BORING DEPTH (ft)	10
NUMBER OF PAGES	1		
PROJECT #	20478U4714	PROJECT NAME	NCDOT U4714B - Parcel 64
DATE DRILLED	6/14/2021	WEATHER CONDITIONS	Partly cloudy, 90F
DRILLING SUB-CONTRACTOR	IET	DRILL RIG	AMS PowerProbe

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.0	Top soil	B2 (0-2) selected for UVF analyses
2		Tan/gold silt	
3	0.0	Red/orange silt	
4			
5	0.0		B2 (4-6) selected for UVF analyses
6		Orange/gold silt	
7	0.0		
8			
9	0.0	Red/orange/tan silt	
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: AJF

SOIL BORING FIELD WORKSHEET

BORING #	**B3**	BORING DEPTH (ft)	**10**	NUMBER OF PAGES	**1**
PROJECT #	**20478U4714**			PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**			WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**			DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.0	Top soil	
2		Red/orange silt	
3	0.0		B3 (2-4) selected for UVF analyses
4		Orange/tan/gold silt	
5	0.0		
6			
7	0.0		B3 (6-8) selected for UVF analyses
8		Tan/gold sandy silt	
9	0.0		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B4**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	2.0	Asphalt/gravel	
2		Red silt	B4 (0-2) selected for UVF analyses
3	0.0		B4 (2-4) selected for UVF analyses
4			
5	0.0	Red/orange silt	
6			
7	0.0		B4 (6-8) selected for UVF analyses
8		Orange/gold silt	
9	0.0		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B5**	BORING DEPTH (ft)	**15**	NUMBER OF PAGES	**1**
PROJECT #	**20478U4714**			PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**			WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**			DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.0	Asphalt/gravel	
2		Red/orange silt	
3	0.0		B5 (2-4) selected for UVF analyses
4			
5	0.0		
6			
7	0.0		
8			
9	0.0		B5 (8-10) selected for UVF analyses
10			
11	0.0	Tan/gold silt	
12			
13	0.0		B5 (12-14) selected for UVF analyses
14			
15	0.0		
16		Boring terminated at 15 feet	
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B6**	BORING DEPTH (ft) **15**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.0	Asphalt/gravel	
2		Red/orange silt	B6 (0-2) selected for UVF analyses
3	0.0		
4			
5	0.0		
6			
7	0.0	Tan/orange silt	B6 (6-8) selected for UVF analyses
8			
9	0.0		
10			
11	0.0	Tan/gold silt	
12			
13	1.2		B6 (12-14) selected for UVF analyses
14			
15	0.3		
16		Boring terminated at 15 feet	
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B7**	BORING DEPTH (ft) **15**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.8	Asphalt/gravel	
2		Red/brown silt	
3	50.1		B7 (2-4) selected for UVF analyses
4			
5	0.0		B7 (4-6) selected for UVF analyses
6		Tan/orange silt	
7	1.5		
8			
9	1.1	Brown/tan silt	
10			
11	3.3		B7 (10-12) selected for UVF analyses
12			
13	2.6		
14			
15	2.5		
16		Boring terminated at 15 feet	
17			
18			
19			
20			
21			

Log Completed By: **AJF**

Page: **1**

SOIL BORING FIELD WORKSHEET

BORING #	**B8**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.1	Top soil	B8 (0-2) selected for UVF analyses
2		Red/brown silt	
3	1.5		
4			
5	>15,000		B8 (4-6) selected for UVF analyses
6		Tan/gold silt	
7	>15,000		
8			
9	>15,000	Tan/gold sandy silt	B8 (8-10) selected for UVF analyses
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B9**	BORING DEPTH (ft) **15**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.3	Top soil	
2		Orange/brown silt	B9 (0-2) selected for UVF analyses
3	0.1		
4			
5	0.2		
6			
7	0.2	Tan/gold silt	B9 (6-8) selected for UVF analyses
8			
9	0.9		
10			
11	0.0		
12		Tan sandy silt	
13	1.5		
14			
15	8.2		B9 (14-15) selected for UVF analyses
16		Boring terminated at 15 feet	
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B10**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	6.5	Asphalt/gravel	
2		Red/brown silt	B10 (0-2) selected for UVF analyses
3	4.1		
4			
5	9.2		B10 (4-6) selected for UVF analyses
6			
7	14.0	Red/orange silt	
8			
9	>15,000		B10 (8-10) selected for UVF analyses
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B11**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	2.3	Asphalt/gravel	
2		Red/brown silt	B11 (0-2) selected for UVF analyses
3	0.7		
4			
5	0.6		B11 (4-6) selected for UVF analyses
6		Red/orange silt	
7	0.7		
8		Orange/tan silt	
9	0.7		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B12**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.0	Asphalt/gravel	
2		Red/brown silt	
3	0.0		B12 (2-4) selected for UVF analyses
4			
5	0.0		
6		Brown/tan silt	
7	0.1		B12 (6-8) selected for UVF analyses
8		Brown silt	
9	0.0		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B13**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.1	Asphalt/gravel	
2		Red/brown silt	B13 (0-2) selected for UVF analyses
3	0.0		
4			
5	1.2	Red/orange silt	
6			B13 (4-6) selected for UVF analyses
7	2.5	Tan/orange silt	
8			
9	3.6		
10			B13 (8-10) selected for UVF analyses
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B14**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.7	Asphalt/gravel	
2		Red/brown silt	
3	1.2		B14 (2-4) selected for UVF analyses
4			
5	1.1		
6			
7	1.2	Red/orange silt	B14 (6-8) selected for UVF analyses
8			
9	1.0		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B15**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/14/2021**	WEATHER CONDITIONS	**Partly cloudy, 90F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.3	Asphalt/gravel	
2		Red/brown silt	
3	0.7		B15 (2-4) selected for UVF analyses
4			
5	0.2		
6			
7	0.4		
8		Red/orange/tan silt	
9	1.3		B15 (8-10) selected for UVF analyses
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B16**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/15/2021**	WEATHER CONDITIONS	**Partly cloudy, 86F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.2	Asphalt/gravel	
2		Red/brown silt	
3	1.0		B16 (2-4) selected for UVF analyses
4			
5	1.6		
6		Terminate advancement via hand auger at 5 feet, switch to AMS PowerProbe	
7	1.9	Red/brown/orange silt	
8			
9	2.3		B16 (8-10) selected for UVF analyses
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B17**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/15/2021**	WEATHER CONDITIONS	**Partly cloudy, 86F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	2.0	Asphalt/gravel	
2		Red/brown silt	B17 (0-2) selected for UVF analyses
3	2.0		
4			
5	2.9		B17 (4-6) selected for UVF analyses
6		Terminate advancement via hand auger at 5 feet, switch to AMS PowerProbe	
7	2.8	Red/brown/orange silt	
8			
9	2.6		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B18**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/15/2021**	WEATHER CONDITIONS	**Partly cloudy, 86F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	1.1	Asphalt/gravel Red/brown silt	B18 (0-2) selected for UVF analyses
2			
3	0.8		
4			
5	0.9	Red/orange silt Terminate advancement via hand auger at 5 feet, switch to AMS PowerProbe	
6			
7	1.0	Tan/orange silt	B18 (6-8) selected for UVF analyses
8			
9	0.7		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B19**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/15/2021**	WEATHER CONDITIONS	**Partly cloudy, 86F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.9	Asphalt/gravel	
2		Red/brown silt	B19 (0-2) selected for UVF analyses
3	0.8		
4		Red/orange silt	
5	0.7		
6		Terminate advancement via hand auger at 5 feet, switch to AMS PowerProbe	
7	1.2	Red/tan/orange silt	B19 (6-8) selected for UVF analyses
8		Tan/orange silt	
9	0.9		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B20**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/15/2021**	WEATHER CONDITIONS	**Partly cloudy, 86F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	0.7	Asphalt/gravel	
2		Red/tan/orange silt	B20 (0-2) selected for UVF analyses
3	0.6		
4			
5	0.4	Orange/brown/tan silt	
6		Terminate advancement via hand auger at 5 feet, switch to AMS PowerProbe	
7	0.5		B20 (6-8) selected for UVF analyses
8		Orange/tan silt	
9	0.3		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

SOIL BORING FIELD WORKSHEET

BORING #	**B21**	BORING DEPTH (ft) **10**	NUMBER OF PAGES **1**
PROJECT #	**20478U4714**	PROJECT NAME	**NCDOT U4714B - Parcel 64**
DATE DRILLED	**6/15/2021**	WEATHER CONDITIONS	**Partly cloudy, 86F**
DRILLING SUB-CONTRACTOR	**IET**	DRILL RIG	**AMS PowerProbe**

DEPTH (ft bgs)	PID (ppm)	SOIL DESCRIPTION	SAMPLE INFO
1	5.0	Asphalt/gravel	
2		Red/tan/orange silt	B21 (0-2) selected for UVF analyses
3	4.7		
4			
5	4.1	Orange/brown/tan silt	
6		Terminate advancement via hand auger at 5 feet, switch to AMS PowerProbe	B21 (4-6) selected for UVF analyses
7	4.0		
8		Orange/tan silt	
9	3.8		
10			
11		Boring terminated at 10 feet	
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Log Completed By: **AJF**

APPENDIX C

PHOTOGRAPHIC LOG



Photograph 1:
View of Market Express gas station, facing northeast.



Photograph 2:
View of abandoned monitoring wells, facing east.



Photograph 3:
View of diesel fuel dispenser islands, facing north.



Photograph 4:
View of existing gasoline and kerosene USTS, facing west.



Photograph 5:
View of marked water line and location of where the drill rig struck actual water line, facing north.



Photograph 6:
View of fixed PVC water line.



Photograph 7:
View of on-Site UVF analysis setup.

APPENDIX D

GEOPHYSICAL REPORT

PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2021-149)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCEL 64
NCDOT PROJECT U-4714B (39078.1.1)

4303 Old Monroe Road, Indian Trail, NC

June 22, 2021

Report prepared for: **Helen Corley, P.G.**
Wood Environment and Infrastructure Solutions, Inc.
2801 Yorkmont Road, Suite 100
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Prepared by: _____

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

Reviewed by: _____

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C257: GEOLOGY C1251: ENGINEERING

GEOPHYSICAL INVESTIGATION REPORT
Parcel 64 – 4303 Old Monroe Road
Indian Trail, North Carolina

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Discussion of GPR Results 4
Summary & Conclusions 5
Limitations 5

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Figure 2 – Parcel 64 - EM61 Metal Detection Contour Map
Figure 3 – Parcel 64 - GPR Transect Locations and Select Images
Figure 4 – Overlay of Metal Detection Results on NCDOT Engineering Plans

Appendices

Appendix A – GPR Transect Images

LIST OF ACRONYMS

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

EXECUTIVE SUMMARY

Project Description: Pyramid Environmental (Pyramid) conducted a geophysical investigation for Wood Environment and Infrastructure Solutions, Inc. (Wood) at Parcel 64, located at 4303 Old Monroe Road, in Indian Trail, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-4714B). The survey was designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. Conducted on June 7, 2021, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

Geophysical Results: The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. A total of eleven EM anomalies were identified. The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface. The GPR survey confirmed that no unknown buried structures were present in the vicinity of areas of metallic interference associated with vehicles, suspected utilities, and reinforced concrete. Collectively, the geophysical data did not record any evidence of metallic USTs within the survey area at Parcel 64. The known USTs servicing the facility were located outside of the survey area.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Wood Environment and Infrastructure Solutions, Inc. (Wood) at Parcel 64, located at 4303 Old Monroe Road, in Indian Trail, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project U-4714B). The survey was designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. Conducted on June 7, 2021, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

The site included a service station surrounded by concrete, asphalt, and grass surfaces. The known USTs servicing the facility were located outside of the survey area. An aerial photograph showing the survey area boundaries and ground-level photographs are shown in **Figure 1**.

FIELD METHODOLOGY

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. Pyramid collected the EM data using a Geonics EM61-MK2 (EM61) metal detector integrated with a Geode External GPS/GLONASS receiver. The integrated GPS system allows the location of the instrument to be recorded in real-time during data collection, resulting in an EM data set that is geo-referenced and can be overlain on aerial photographs and CADD drawings. A boundary grid was established around the perimeter of the site with marks every 10 feet to maintain orientation of the instrument throughout the survey and assure complete coverage of the area.

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

approximately 0.8-foot intervals along north-south trending or east-west trending, generally parallel survey lines, spaced five feet apart. The data were downloaded to a computer and reviewed in the field and office using the Geonics NAV61 and Surfer for Windows Version 15.0 software programs.

GPR data were acquired across select EM anomalies on June 7, 2021, using a Geophysical Survey Systems, Inc. (GSSI) SIR 4000 controller equipped with a 350 MHz HS antenna. Data were collected both in reconnaissance fashion as well as along formal transect lines across EM features. The GPR data were viewed in real-time using a vertical scan of 512 samples, at a rate of 32 scans per second. GPR data were viewed down to a maximum depth of approximately 6 feet, based on dielectric constants calculated by the SIR 4000 unit in the field during the reconnaissance scans. GPR transects across specific anomalies were saved to the hard drive of the SIR 4000 unit for post-processing and figure generation.

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

Geophysical Surveys for Underground Storage Tanks
on NCDOT Projects

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

DISCUSSION OF RESULTS

Discussion of EM Results

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

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

LIST OF METALLIC ANOMALIES IDENTIFIED BY EM SURVEY

Metallic Anomaly #	Cause of Anomaly	Investigated with GPR
1	Suspected Utilities	✓
2	Utility Pole	
3	Light	
4	Suspected Utility	
5	Utilities/Lights	
6	Air Pump	
7	Pumps/Reinforced Concrete	✓
8	Vehicles	✓
9	Utilities/Light	✓
10	Utility Pole	
11	Reinforced Concrete	

The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface, including utilities, lights, an air pump, gas pumps, reinforced concrete, and vehicles. GPR was performed across the areas containing reinforced concrete and around the vehicles to verify that the metallic interference associated with these areas did not obscure any buried structures such as USTs. GPR was also performed across suspected utilities to verify that they were not obscuring other structures.

Discussion of GPR Results

Figure 3 presents the locations of the formal GPR transects performed at the property, as well as select transect images. All of the transect images are included in **Appendix A**. A total of ten GPR transects were performed at the site. None of the GPR transects recorded any evidence of significant buried structures. Collectively, the geophysical data did not record any evidence of metallic USTs within the survey area at Parcel 64. **Figure 4** provides an overlay of the geophysical metal detection results onto the NCDOT MicroStation engineering plans for reference.

SUMMARY & CONCLUSIONS

Pyramid's evaluation of the EM61 and GPR data collected at Parcel 64 in Indian Trail, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the accessible portions of the geophysical survey area.
- The majority of the EM anomalies were directly attributed to visible cultural features at the ground surface.
- The GPR survey confirmed that no unknown buried structures were present in the vicinity of areas of metallic interference associated with vehicles, suspected utilities, and reinforced concrete.
- Collectively, the geophysical data did not record any evidence of metallic USTs within the survey area at Parcel 64. The known USTs servicing the facility were located outside of the survey area.

LIMITATIONS

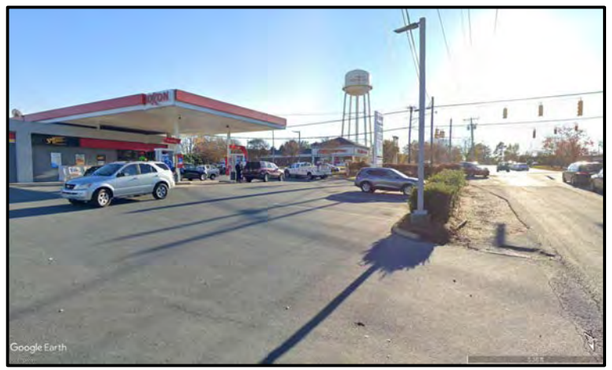
Geophysical surveys have been performed and this report was prepared for Wood in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR surveys are non-unique and may not represent actual subsurface conditions. The EM61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

APPROXIMATE BOUNDARIES OF GEOPHYSICAL SURVEY AREA





View of Survey Area
(Facing Approximately Northeast)



View of Survey Area
(Facing Approximately Southwest)

N

PYRAMID GEOPHYSICS
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27406
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

PROJECT	PARCEL 64 INDIAN TRAIL, NORTH CAROLINA NCDOT PROJECT U-4714B	TITLE	PARCEL 64 - GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS
DATE	6/18/2021	CLIENT	WOOD, PLC
PYRAMID PROJECT #:	2021-149		**FIGURE 1**

EM61 METAL DETECTION RESULTS



NO EVIDENCE OF UNKNOWN METALLIC USTs WAS OBSERVED.

The contour plot shows the differential results of the EM61 instrument in millivolts (mV). The differential results focus on larger metallic objects such as USTs and drums. The EM data were collected on June 7, 2021, using a Geonics EM61-MK2 instrument. Verification GPR data were collected on June 7, 2021, using a GSSI UtilityScan DF unit with a 300/800 MHz antenna.

EM61 Metal Detection Response (millivolts)

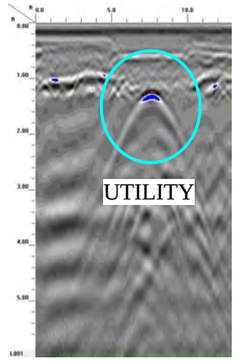
N

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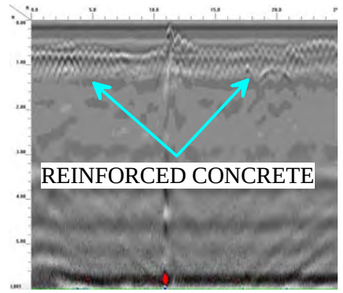
PROJECT	PARCEL 64 INDIAN TRAIL, NORTH CAROLINA NCDOT PROJECT U-4714B
TITLE	PARCEL 64 - EM61 METAL DETECTION CONTOUR MAP
DATE	6/18/2021
PYRAMID PROJECT #:	2021-149
CLIENT	WOOD, PLC
	FIGURE 2

GPR TRANSECT LOCATIONS

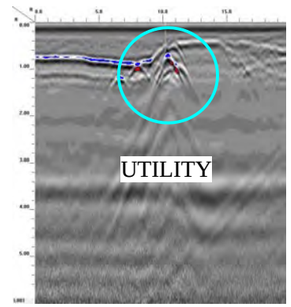




GPR TRANSECT 1 (T1)



GPR TRANSECT 3 (T3)



GPR TRANSECT 10 (T10)

N

PYRAMID GEOPHYSICS 503 INDUSTRIAL AVENUE GREENSBORO, NC 27406 (336) 335-3174 (p) (336) 691-0648 (f) License # C1251 Eng. / License # C257 Geology	PROJECT PARCEL 64 INDIAN TRAIL, NORTH CAROLINA NCDOT PROJECT U-4714B	TITLE PARCEL 64 - GPR TRANSECT LOCATIONS AND SELECT IMAGES	DATE 6/18/2021 PYRAMID PROJECT #: 2021-149	CLIENT WOOD, PLC **FIGURE 3**	

LEGEND

EXISTING ROW
EXISTING PROPERTY BOUNDARY
PROPOSED ROW LINE
TEMPORARY CONSTRUCTION EASEMENT
PROPOSED PERMANENT DRAINAGE
PROPOSED SS CUT LINE
PROPOSED SS FILL LINE

MILLIVOLTS (mV)

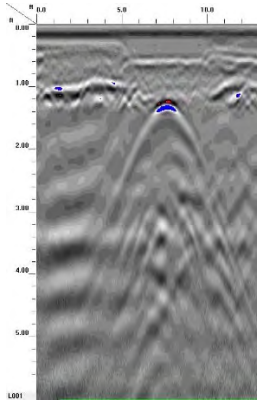
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N

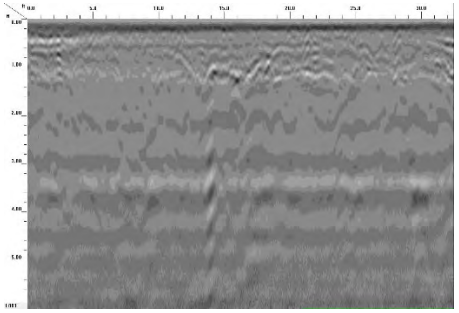
0 25 50
FEET

TITLE: OVERLAY OF METAL DETECTION RESULTS ON NCDOT ENGINEERING PLANS	
PROJECT: PARCEL 64 INDIAN TRAIL, NORTH CAROLINA NCDOT PROJECT U-4714B	
PYRAMID GEOPHYSICS 503 INDUSTRIAL AVENUE GREENSBORO, NC 27406 336.335.3174 (p) 336.691.0648 (f) License # C1251 Eng. / #C257 Geology	
DATE: 06-21-2021	REVISION NO. 0
PYRAMID PROJECT NO. 2021-149	FIGURE NO. 4

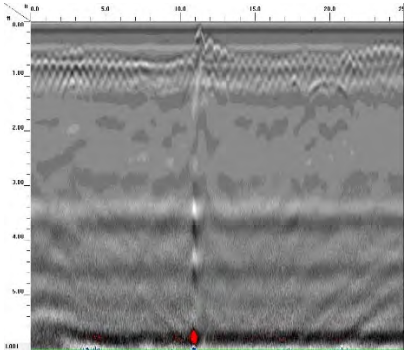
Appendix A – GPR Transect Images



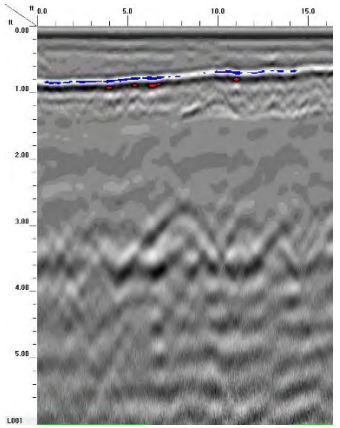
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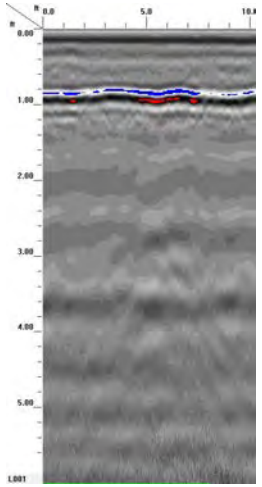
GPR TRANSECT 2



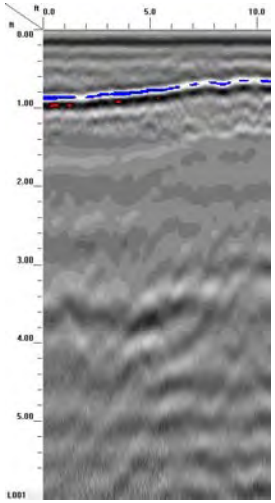
GPR TRANSECT 3



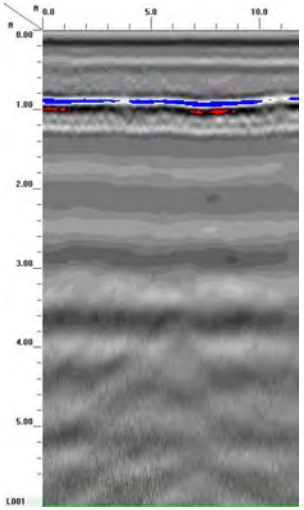
GPR TRANSECT 4



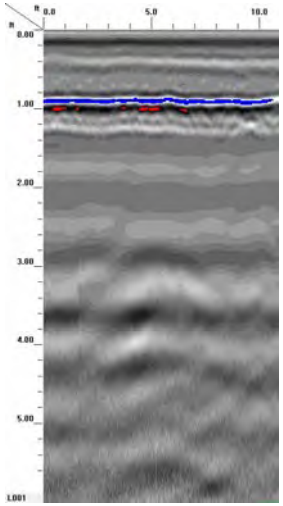
GPR TRANSECT 5



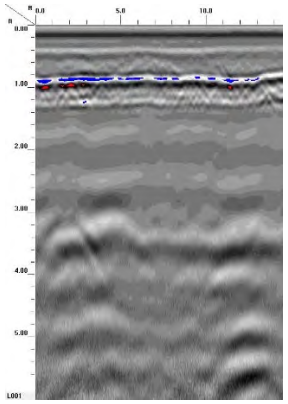
GPR TRANSECT 6



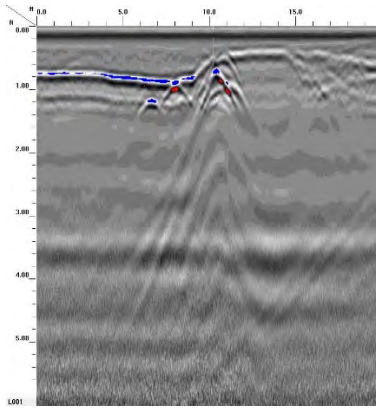
GPR TRANSECT 8



GPR TRANSECT 7



GPR TRANSECT 9



GPR TRANSECT 10

APPENDIX E

UVF HYDROCARBON ANALYTICAL RESULTS

Hydrocarbon Analysis Results

Client: WOOD
Address: 2801 Yorkmont Rd
Charlotte, NC 28203

Contact: Helen Corley

Project: NCDOT P64

Samples taken Monday, June 14, 2021
Samples extracted Monday, June 14, 2021
Samples analysed Monday, June 14, 2021

Operator DRH

H09382

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	B1(0-2)	16.0	<0.4	<0.4	15.1	15.1	7.8	0.4	0.011	0	75.4	24.6	V.Deg.PHC 73.8%,(FCM)
Soil	B1(4-6)	9.0	<0.22	<0.22	0.3	0.3	0.16	0.008	<0.003	0	82.6	17.4	V.Deg.PHC 83.3%,(FCM)
Soil	B2(0-2)	11.0	<0.27	<0.27	2.8	2.8	1.3	0.07	0.001	0	84.1	15.9	V.Deg.PHC 91.1%,(FCM)
Soil	B2(4-6)	13.0	<0.3	<0.3	0.8	0.8	0.3	0.018	<0.001	0	79.4	20.6	V.Deg.PHC 85.5%,(FCM)
Soil	B3(2-4)	10.0	<0.25	<0.25	0.09	0.09	0.04	0.002	<0.003	0	81.9	18.1	Residual HC

Initial Calibrator QC check OK

Final FCM QC Check OK 102.2%

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.

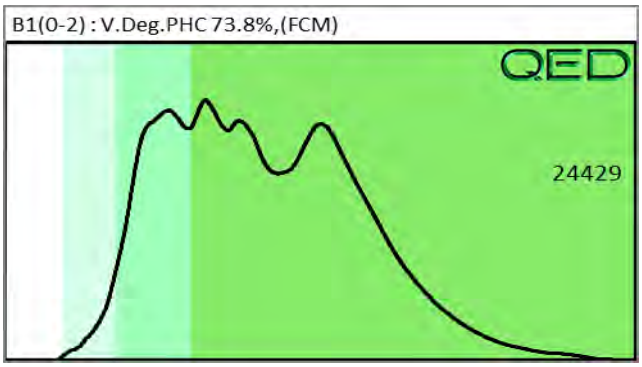
Abbreviations :- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for hydrocarbon identification : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate detected

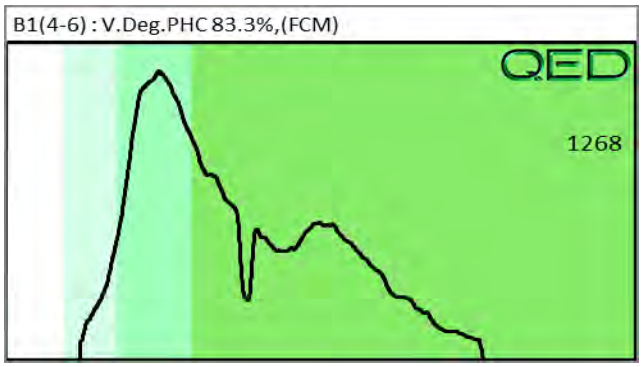
HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only : % Ratios estimated carbon number proportions : (OCR)/(Q) = Outside cal range, values and HC match estimates : ND = Not Detected

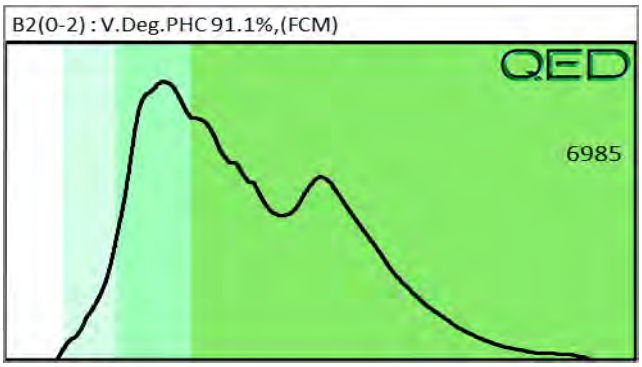
(B) = Blank Drift : (M) = Adjusted value : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : SB = sample selected as site background

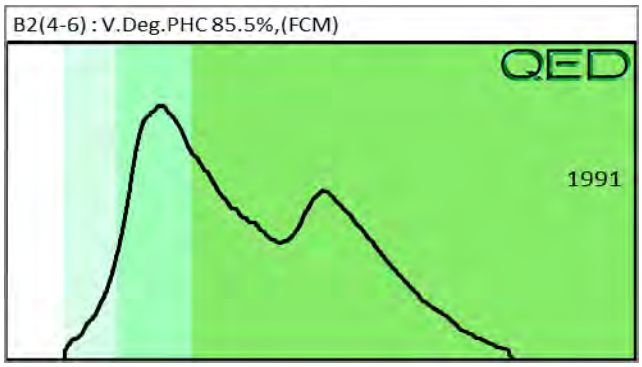
QED Hydrocarbon Fingerprints

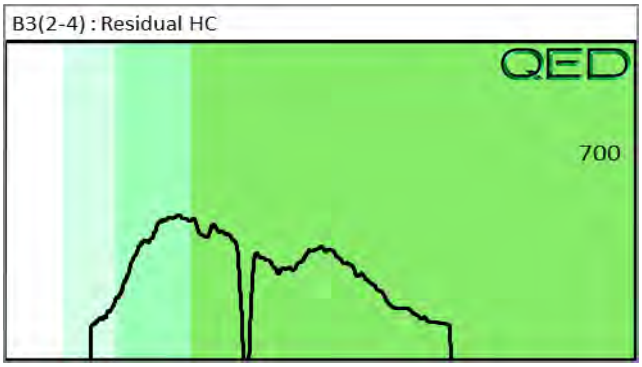
Project: P64











Hydrocarbon Analysis Results

Client: WOOD
Address: 2801 Yorkmont Rd
Charlotte, NC 28208

Contact: Helen Corley

Project: NCDOT P64

Samples taken Monday, June 14, 2021
Samples extracted Monday, June 14, 2021
Samples analysed Monday, June 14, 2021

Operator DRH

H09382

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	B3(6-8)	10.0	<0.25	<0.25	0.6	0.6	0.3	0.015	<0.0	0	79.9	20.1	V.Deg.PHC 85.3%,(FCM)
Soil	B4(0-2)	70.0	<1.7	<1.7	61.8	61.8	21.4	1.3	0.005	0	94.7	5.3	Deg.Light Fuel 96%,(FCM)
Soil	B4(6-8)	11.0	<0.27	<0.27	0.2	0.2	0.19	0.019	<0.003	0	95.9	4.1	Residual PHC

Initial Calibrator QC check OK

Final FCM QC Check OK 101.7%

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.

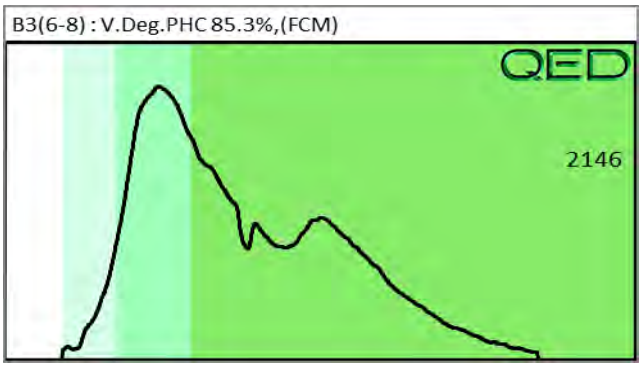
Abbreviations :- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for hydrocarbon identification : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate detected

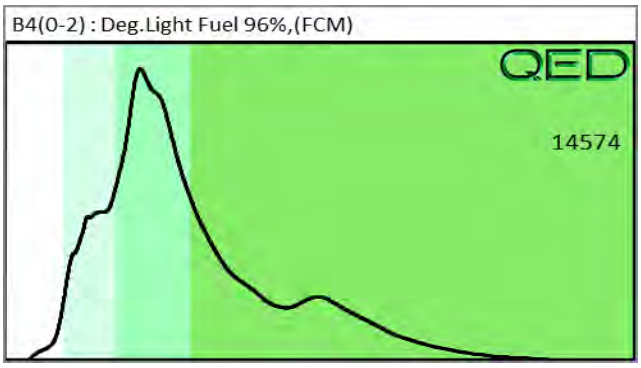
HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only : % Ratios estimated carbon number proportions : (OCR)/(Q) = Outside cal range, values and HC match estimates : ND = Not Detected

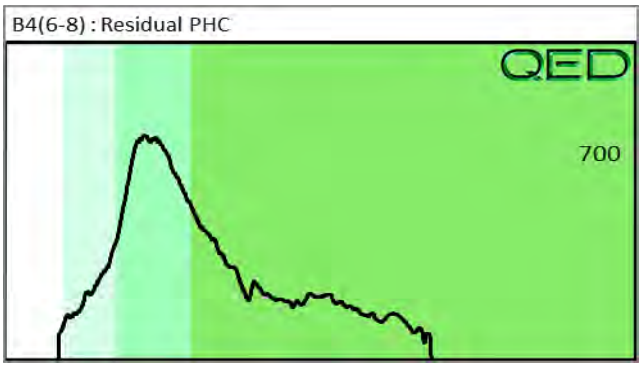
(B) = Blank Drift : (M) = Adjusted value : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : SB = sample selected as site background

QED Hydrocarbon Fingerprints

Project: P64







Hydrocarbon Analysis Results

Client: WOOD
Address: 2801 Yorkmont Rd
Charlotte, NC 28203

Contact: Helen Corley

Project: NCDOT P64

Samples taken Monday, June 14, 2021
Samples extracted Monday, June 14, 2021
Samples analysed Monday, June 14, 2021

Operator DRH

H09382

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:C18	C18+	
Soil	B4(2-4)	30.0	<0.7	<0.7	0.3	0.3	0.15	0.008	0.001	0	69.7	30.3	Residual HC

Initial Calibrator QC check OK Final FCM QC Check OK 97.5%

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.

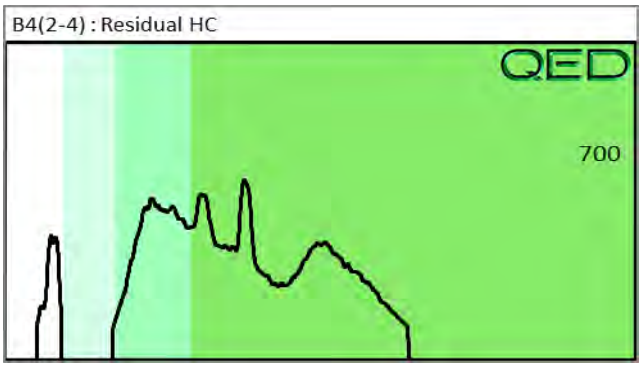
Abbreviations :- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for hydrocarbon identification : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate detected

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

QED Hydrocarbon Fingerprints

Project: P64



Hydrocarbon Analysis Results

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Address: 2801 Yorkmont Rd
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Operator DRH

H09382

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	B5(2-4)	28.0	<0.7	<0.7	0.3	0.3	0.16	0.008	<0.001	0	79.1	20.9	V.Deg.PHC 82.2%,(FCM)
Soil	B5(6-8)	25.0	<0.6	<0.6	<0.25	<0.6	<0.013	<0.013	<0.008	0	100	0	Residual HC
Soil	B5(12-14)	26.0	<0.6	<0.6	0.4	0.4	0.27	0.007	<0.008	0	91.6	8.4	V.Deg.PHC 91.6%,(FCM)
Soil	B7(2-4)	25.0	<0.6	81.7	41.7	123.4	14.3	0.7	0.011	87.3	11.2	1.5	No Match found
Soil	B7(4-6)	17.0	<0.4	<0.4	1.1	1.1	0.6	0.018	<0.001	0	88.5	11.5	V.Deg.PHC 92.7%,(FCM)
Soil	B7(10-12)	16.0	<0.4	<0.4	14.9	14.9	9.5	0.29	0.002	0	93	7	V.Deg.PHC 89.3%,(FCM)
Soil	B6(0-2)	22.0	<0.5	<0.5	24.7	24.7	3.6	0.18	0.001	0	84.5	15.5	V.Deg.Light Fuel 87.9%,(FCM)
Soil	B6(6-8)	20.0	<0.5	<0.5	0.5	0.5	0.3	0.009	<0.003	0	89	11	Bit.Road Binder 94%,(FCM)
Soil	B6(12-14)	17.0	<0.4	<0.4	0.17	0.17	0.04	0.004	<0.005	0	100	0	Residual HC

Initial Calibrator QC check OK

Final FCM QC Check OK 99.5%

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.

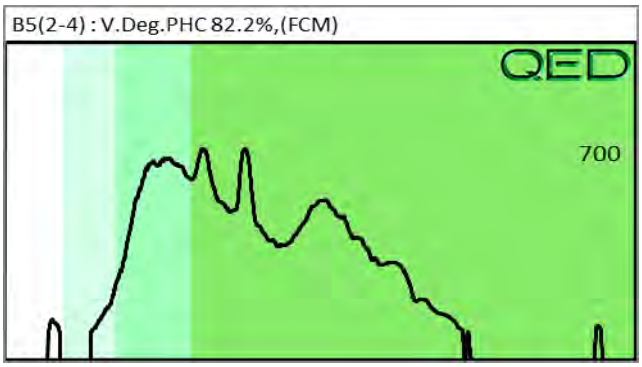
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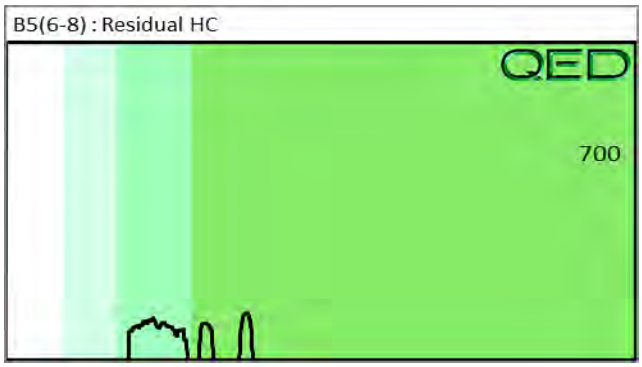
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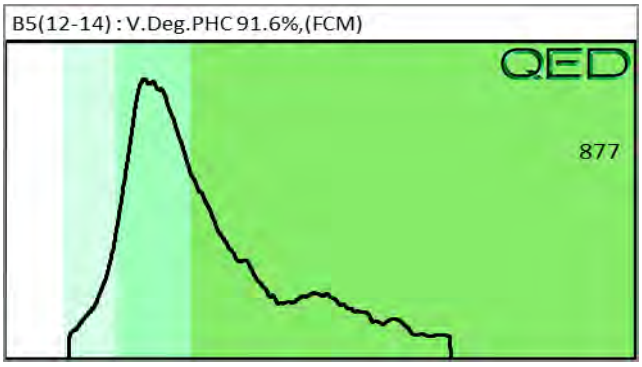
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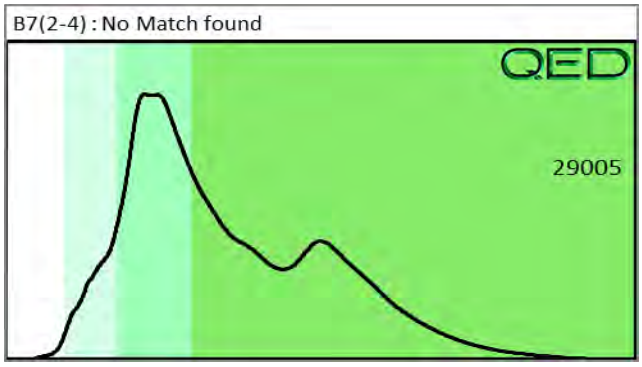
QED Hydrocarbon Fingerprints

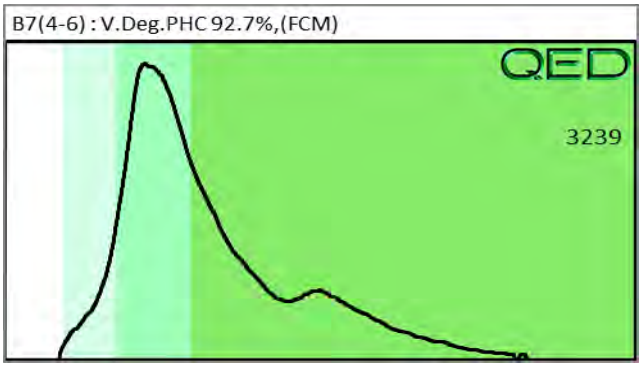
Project: P64

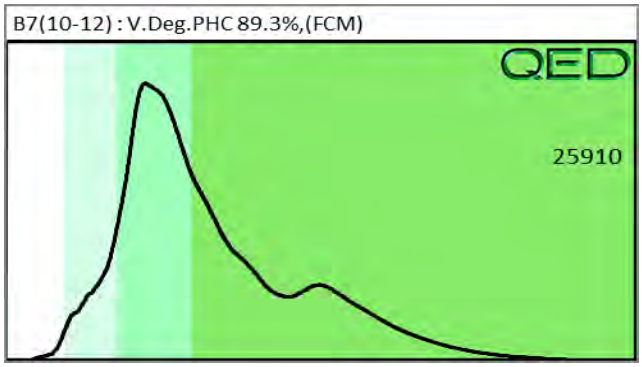


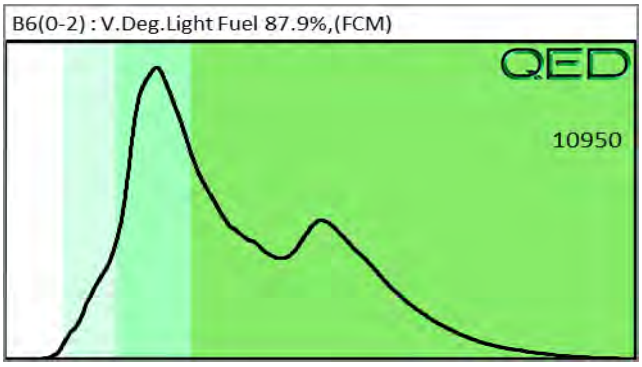


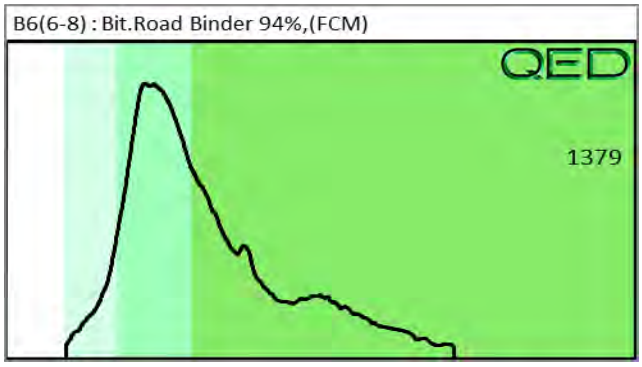


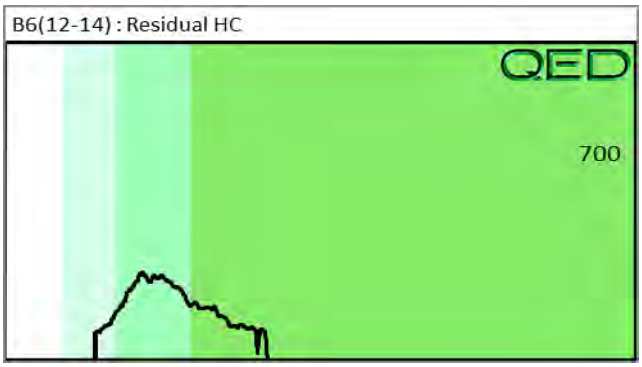












Hydrocarbon Analysis Results

Client: WOOD
Address: 2801 Yorkmont Rd
Charlotte, NC 28203

Contact: Helen Corley

Project: NCDOT P64

Samples taken Monday, June 14, 2021
Samples extracted Monday, June 14, 2021
Samples analysed Monday, June 14, 2021

Operator DRH

H09382

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	B8(0-2)	32.0	<0.8	<0.8	3.4	3.4	1.7	0.09	0.001	0	84.9	15.1	V.Deg.PHC 85.2%,(FCM),(BO)
Soil	B8(4-6)	68.0	222.1	444	170.3	614.3	56.1	2.1	<0.018	90.5	9.4	0.1	Deg Gas 58.6%,(FCM)
Soil	B8(8-10)	49.0	160.1	320	130.2	450.2	43	1.6	<0.019	90	10	0.1	Deg Gas 66.3%,(FCM)

Initial Calibrator QC check OK Final FCM QC Check OK 99.3%

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.

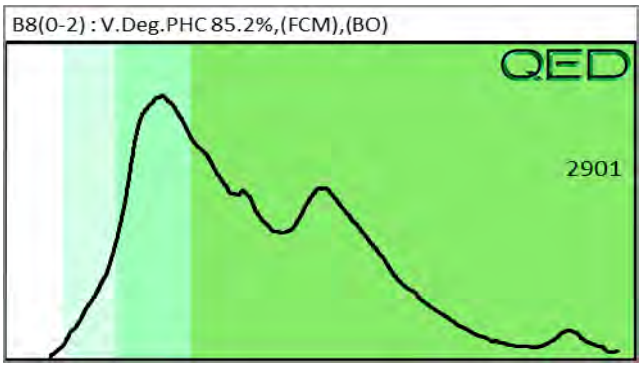
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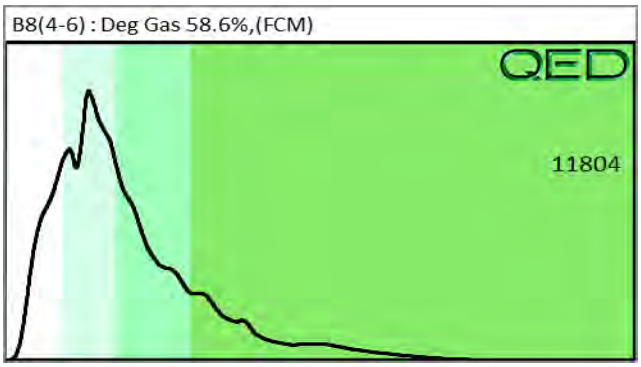
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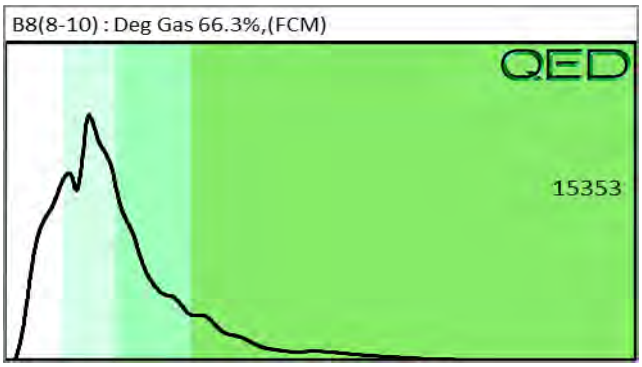
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QED Hydrocarbon Fingerprints

Project: P64







Hydrocarbon Analysis Results

Client: WOOD
Address: 2801 Yorkmont Rd
Charlotte, NC 28203

Contact: Helen Corley

Project: NCDOT P64

Samples taken Monday, June 14, 2021
Samples extracted Monday, June 14, 2021
Samples analysed Monday, June 14, 2021

Operator DRH

H09382

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	B9(0-2)	27.0	<0.6	<0.6	3.3	3.3	1.4	0.07	0.001	0	81.4	18.6	V.Deg.PHC 86%,(FCM)
Soil	B9(6-8)	27.0	<0.6	<0.6	0.1	0.1	0.09	0.011	<0.008	0	82.9	17.1	Residual HC
Soil	B9(14-15)	26.0	<0.6	<0.6	23	23	0.5	0.03	<0.008	0	90.5	9.5	Deg Fuel 78.8%,(FCM)
Soil	B10(0-2)	25.0	<0.6	81.7	26.2	107.9	3.9	0.18	0.003	96.2	3.4	0.4	No Match found
Soil	B10(4-6)	23.0	<0.5	<0.5	25.3	25.3	2.6	0.09	0.001	0	91.6	8.4	Degraded Oil 99.4%,(FCM)
Soil	B10(8-10)	23.0	<0.5	75.1	274.3	349.4	28.5	0.3	0.002	76	23.2	0.8	Waste Oil 76.1%,(FCM)
Soil	B11(4-6)	20.0	<0.5	<0.5	17.9	17.9	1.7	0.08	<0.0	0	93.9	6.1	Deg Fuel 86.8%,(FCM)
Soil	B11(0-2)	72.0	<1.8	<1.8	63.7	63.7	13.1	0.7	0.003	0	93.3	6.7	Deg Fuel 84.8%,(FCM)

Initial Calibrator QC check OK

Final FCM QC Check OK 98.1%

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.

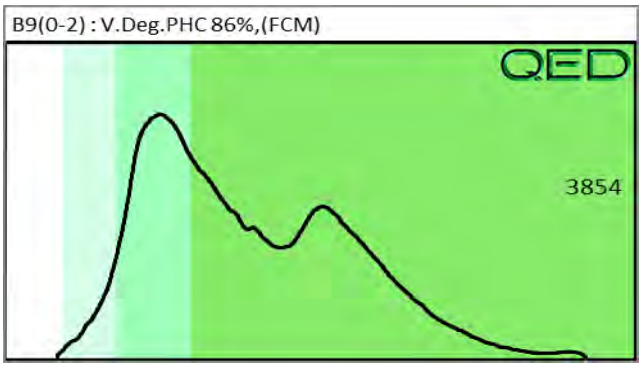
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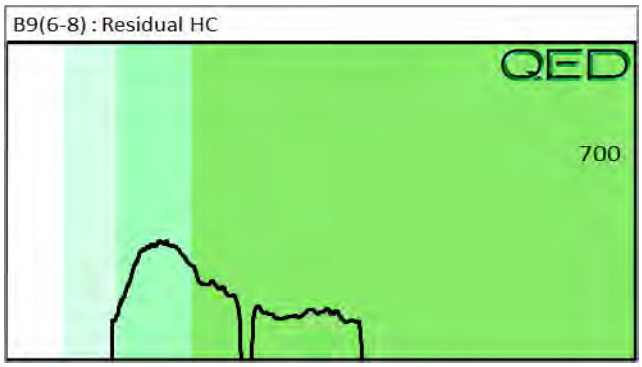
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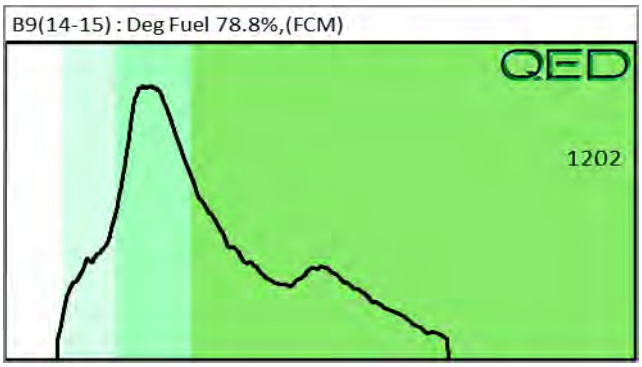
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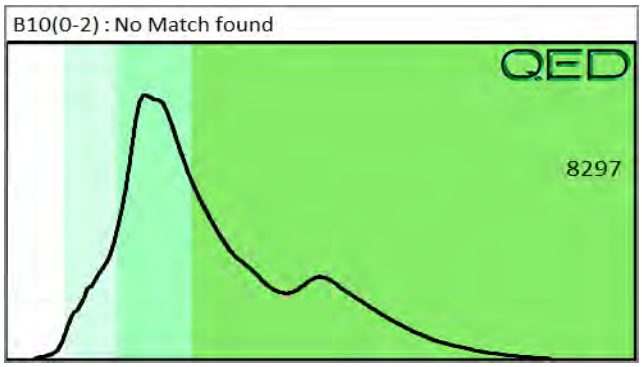
QED Hydrocarbon Fingerprints

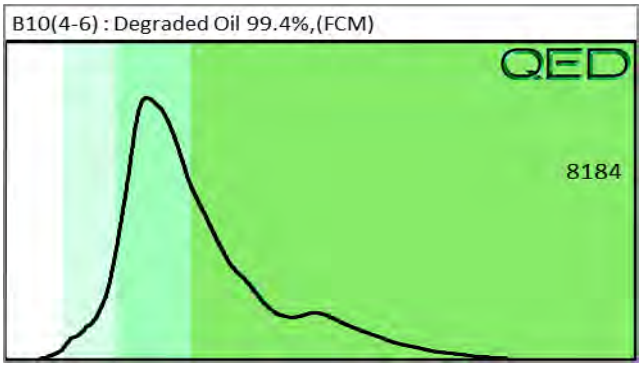
Project: P64

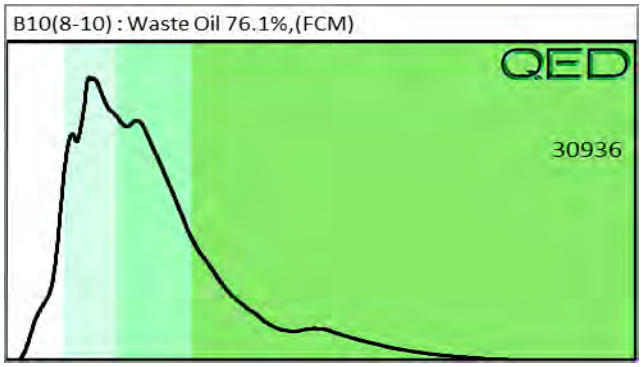


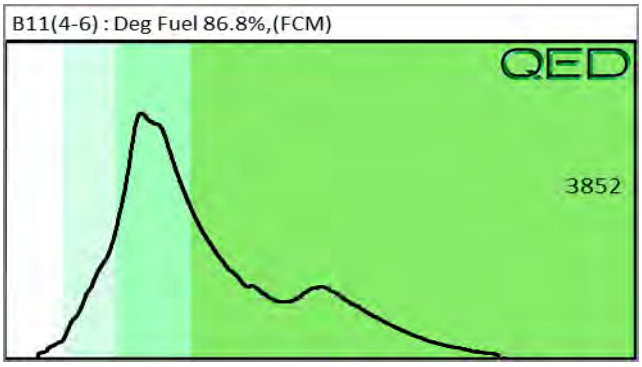


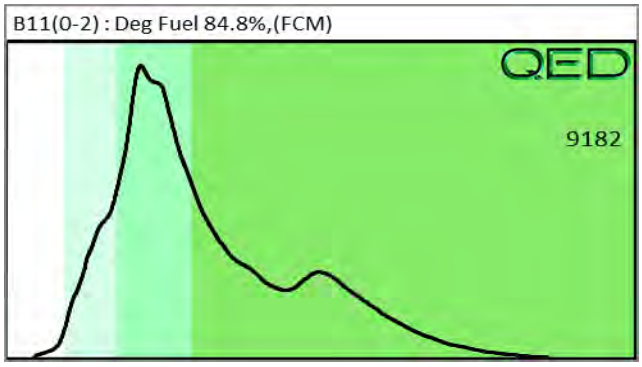












Hydrocarbon Analysis Results

Client: WOOD
Address: 2801 Yorkmont Rd
Charlotte, NC 28203

Contact: Helen Corley

Project: NCDOT P64

Samples taken Monday, June 14, 2021
Samples extracted Monday, June 14, 2021
Samples analysed Monday, June 14, 2021

Operator DRH

H09382

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	B13(0-2)	26.0	<0.6	<0.6	1.4	1.4	0.6	0.03	0.001	0	80.8	19.2	V.Deg.PHC 88.7%,(FCM),(BO)
Soil	B13(4-6)	22.0	<0.5	<0.5	0.16	0.16	0.07	0.004	<0.007	0	81.7	18.3	Residual HC
Soil	B13(8-10)	25.0	<0.6	<0.6	<0.25	<0.6	<0.013	<0.013	<0.008	0	0	0	PHC ND,(FCM)
Soil	B12(2-4)	17.0	<0.4	<0.4	15	15	0.14	0.009	<0.005	0	100	0	Deg Fuel 80.9%,(FCM)
Soil	B12(6-8)	29.0	<0.7	<0.7	0.4	0.4	0.31	0.008	<0.009	0	88.5	11.5	V.Deg.PHC 88.6%,(FCM)

Initial Calibrator QC check OK Final FCM QC Check OK 101.7%

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.

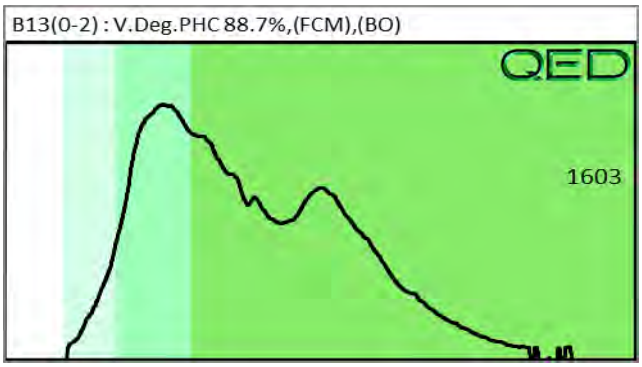
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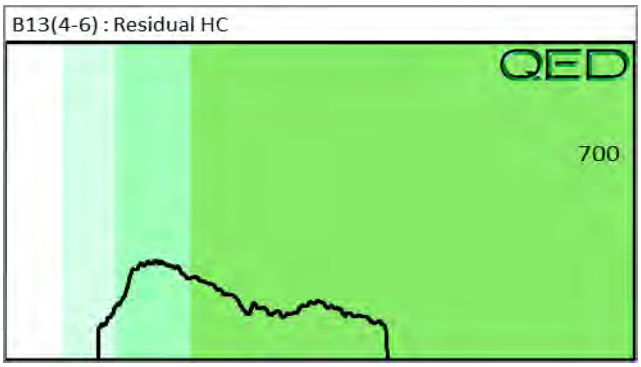
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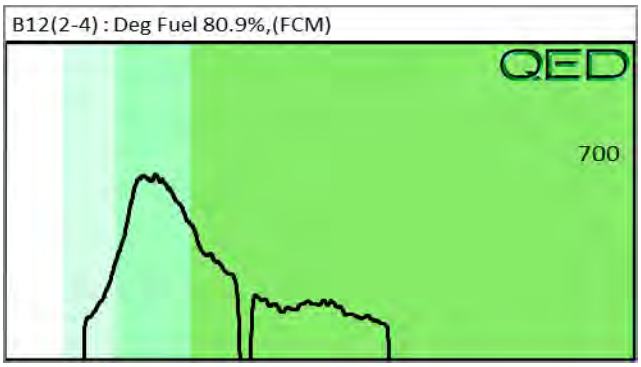
QED Hydrocarbon Fingerprints

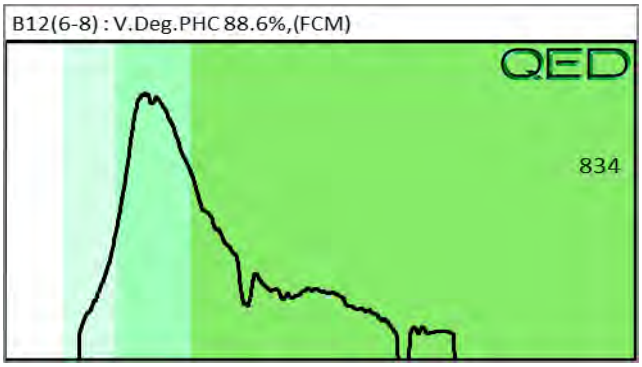
Project: P64











Hydrocarbon Analysis Results

Client: WOOD
Address: 2801 Yorkmont Rd
Charlotte, NC 28203

Contact: Helen Corley

Project: NCDOT P64

Samples taken Monday, June 14, 2021
Samples extracted Monday, June 14, 2021
Samples analysed Monday, June 14, 2021

Operator DRH

H09382

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	B14(2-4)	28.0	<0.7	<0.7	0.08	0.08	0.07	0.008	<0.008	0	100	0	Residual HC
Soil	B14(6-8)	14.0	<0.3	<0.3	0.5	0.5	0.25	0.007	<0.003	0	89.1	10.9	Bit.Road Binder 89.5%,(FCM)
Soil	B15(8-10)	22.0	<0.5	<0.5	19.4	19.4	0.08	0.007	<0.007	0	100	0	Deg Fuel 90.9%,(FCM)
Soil	B15(2-4)	9.0	<0.22	<0.22	<0.09	<0.22	<0.005	<0.005	<0.003	0	0	0	PHC ND,(FCM)

Initial Calibrator QC check OK Final FCM QC Check OK 98.5%

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.

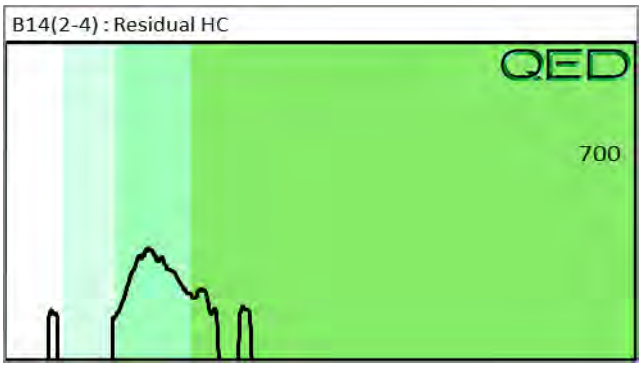
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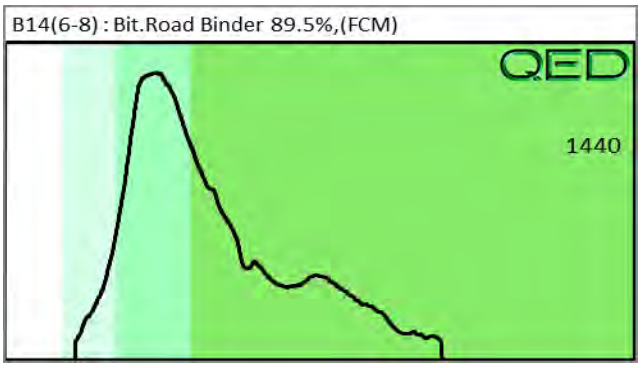
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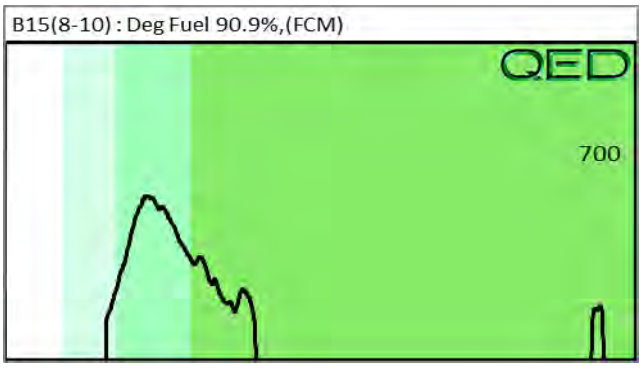
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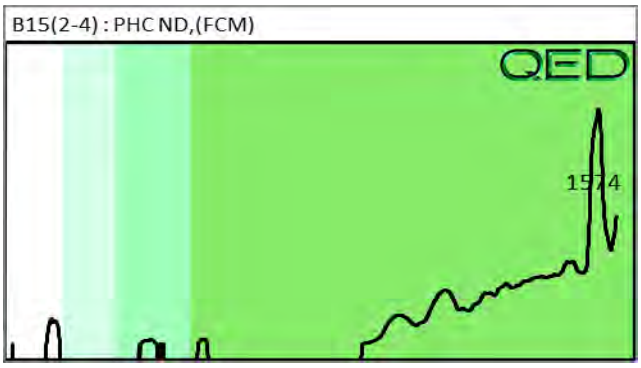
QED Hydrocarbon Fingerprints

Project: P64









Hydrocarbon Analysis Results

Client: WOOD
Address: 2801 Yorkmont Rd
Charlotte, NC 28203

Contact: Helen Corley

Project: NCDOT P64

Samples taken Tuesday, June 15, 2021
Samples extracted Tuesday, June 15, 2021
Samples analysed Tuesday, June 15, 2021

Operator DRH

H09382

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:C18	C18+	
Soil	B16(2-4)	27.0	<0.6	<0.6	23.8	23.8	0.29	0.012	<0.008	0	95.4	4.6	Deg Fuel 99.1%,(FCM)
Soil	B16(8-10)	6.0	<0.15	<0.15	<0.06	<0.15	<0.003	<0.003	<0.002	0	0	0	PHC ND,(FCM)
Soil	B17(0-2)	11.0	<0.27	<0.27	3.3	3.3	1.6	0.05	<0.001	0	91.4	8.6	Bit.Road Binder 96.9%,(FCM),(TD)
Soil	B17(4-6)	7.0	<0.17	<0.17	0.018	0.018	0.017	0.002	<0.002	0	100	0	Residual HC,(TD)

Initial Calibrator QC check OK Final FCM QC Check OK 92.0%

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.

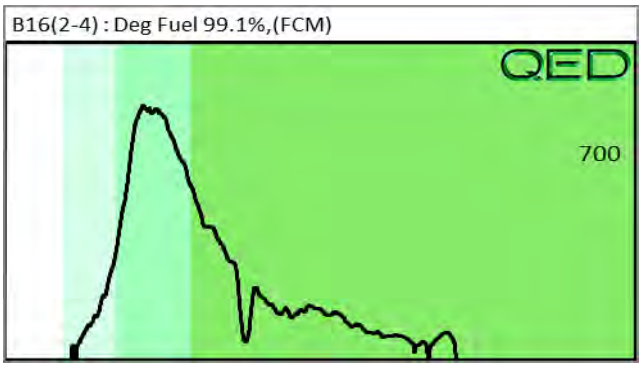
Abbreviations :- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for hydrocarbon identification : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate detected

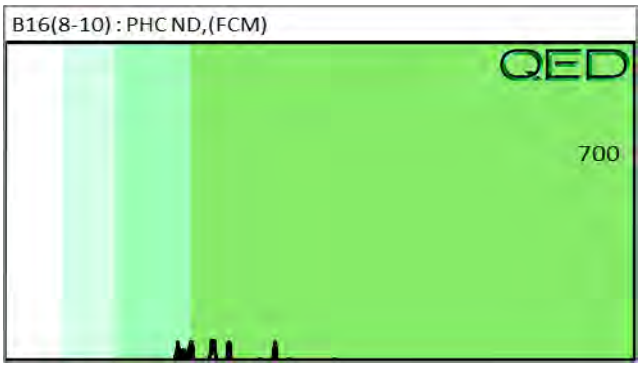
HC = Hydrocarbon : PHC = Petroleum HC : FP = Fingerprint only : % Ratios estimated carbon number proportions : (OCR)/(Q) = Outside cal range, values and HC match estimates : ND = Not Detected

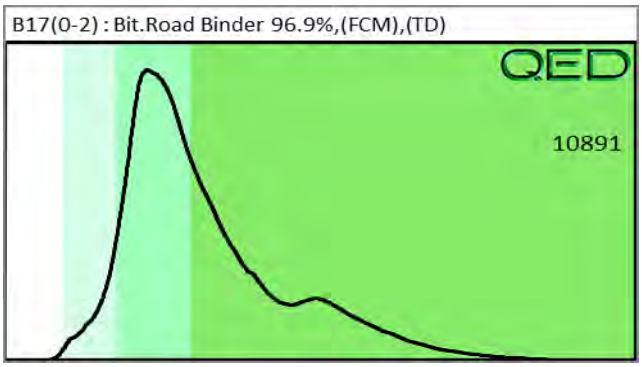
(B) = Blank Drift : (M) = Adjusted value : (SBS)/(LBS) = Site Specific or Library Background Subtraction applied to result : (BO) = Background Organics detected : SB = sample selected as site background

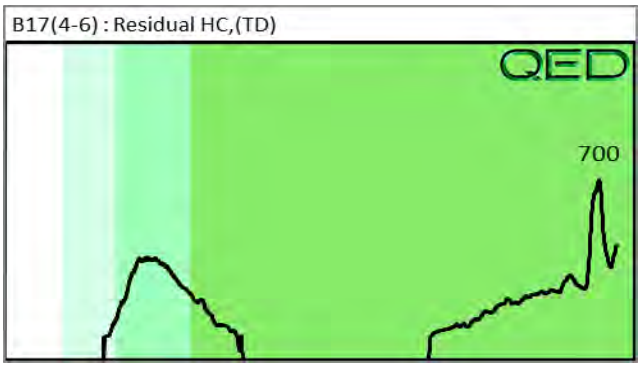
QED Hydrocarbon Fingerprints

Project: P64









Hydrocarbon Analysis Results

Client: WOOD
Address: 2801 Yorkmont Rd
Charlotte, NC 28203

Contact: Helen Corley

Project: NCDOT P64

Samples taken Tuesday, June 15, 2021
Samples extracted Tuesday, June 15, 2021
Samples analysed Tuesday, June 15, 2021

Operator DRH

H09382

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	B18(0-2)	10.0	<0.25	<0.25	0.4	0.4	0.31	0.009	<0.0	0	88.2	11.8	V.Deg.PHC 84.3%,(FCM)
Soil	B18(6-8)	9.0	<0.22	<0.22	<0.09	<0.22	<0.005	<0.005	<0.003	0	0	0	PHC ND,(FCM)
Soil	B19(0-2)	11.0	<0.27	<0.27	9.7	9.7	1	0.06	<0.001	0	92.1	7.9	Deg Fuel 91.4%,(FCM)
Soil	B19(6-8)	10.0	<0.25	<0.25	<0.1	<0.25	<0.005	<0.005	<0.003	0	0	100	Residual HC
Soil	B20(0-2)	14.0	<0.3	<0.3	1.8	1.8	1.1	0.031	<0.001	0	88.4	11.6	Bit.Road Binder 93.9%,(FCM)
Soil	B20(6-8)	12.0	<0.3	<0.3	<0.12	<0.3	<0.006	<0.006	<0.004	0	0	0	PHC ND,(FCM)
Soil	B21(0-2)	11.0	<0.27	<0.27	9.7	9.7	0.8	0.05	0.001	0	91.9	8.1	Deg Fuel 94.5%,(FCM)
Soil	B21(4-6)	7.0	<0.17	<0.17	6.2	6.2	0.09	0.005	<0.002	0	91.9	8.1	Deg Fuel 85.8%,(FCM)

Initial Calibrator QC check OK

Final FCM QC Check OK 99.8%

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

QED Hydrocarbon Fingerprints

Project: P64

