Preliminary Site Assessment
Patricia P. Smith/D.C. Paint Works

Parcel 5H
Charlotte
Mecklenburg County, North Carolina

H&H Job No. ROW-407
State Project P-5208H
WBS Element #50000.1.STR13T1B
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Charlotte, Mecklenburg County, North Carolina
H&H Project ROW-407

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Preliminary Site Assessment
Patricia P. Smith/D.C. Paint Works Parcel #5H
Charlotte, Mecklenburg County, North Carolina
H&H Project ROW-407

1.0 Introduction

Hart & Hickman, PC (H&H) has prepared this Preliminary Site Assessment (PSA) report documenting assessment activities performed at the Patricia P. Smith/D.C. Paint Works property (Parcel 5H) located at 7335 Orr Road in Charlotte, Mecklenburg County, North Carolina. This assessment was conducted on behalf of the North Carolina Department of Transportation (NC DOT) in accordance with H&H's August 21, 2012 proposal.

The purpose of this assessment was to collect data to evaluate the presence or absence of impacted soil in the southern, eastern, and western portions of the subject property in the proposed right-of-way and construction areas related to the proposed widening of Orr Road (State Project P-5208H). The Parcel 5H property is currently occupied by D.C. Paint Works. A site location map is included as Figure 1, and a site map is presented as Figure 2. The NC DOT preliminary plan of the Orr Road widening area near the Parcel 5H property is attached as Appendix A.

H&H reviewed underground storage tank (UST) incident files for Parcel 5H (Incident #15328) at the North Carolina Department of Environment and Natural Resources (DENR) Mooresville Regional Office to better target UST system areas and to find locations of previously reported petroleum impacts. Incident files were also provided by the DENR Raleigh Central office. As mentioned above, the subject property is currently occupied by D.C. Paint Works which conducts industrial sand blasting and painting at the site. According to the KOGUT Environmental Consulting, Inc. (KOGUT) *Report of Comprehensive Site Assessment* (CSA) dated February 10, 1997, the subject site was previously occupied by Petroleum Tank Service, Inc. (PTS) which conducted sand blasting and painting of steel products at the site beginning in 1971. One 4,000-gallon gasoline UST and one 4,000-gallon diesel UST were installed at the site in 1974 and were utilized to fuel company vehicles.

On behalf of PTS, Cooper Environmental, Inc. (CEI) oversaw UST closure activities at the site on February 1, 1996. According to the CEI *Tank Removal - Permanent Closure Report* dated February 4, 1996, PTS removed the 4,000-gallon gasoline UST and 4,000-gallon diesel UST from the subject site. Concentrations of target petroleum constituents were detected in soil samples collected during UST closure activities above DENR target screening levels. The USTs were located outside of the NC DOT proposed right-of-way and construction easement areas near the center of the Parcel 5H property. Soil assessment activities were conducted at the site in February 1996 and May 1996 by CEI. According to CEI *Soil Assessment Report* dated March 19, 1996 and *Preliminary Site Evaluation* dated June 20, 1996, petroleum impacted soils are limited to the immediate area around the former UST basin and appear to be located outside of the NC DOT proposed right-of-way and construction easement areas.

During soil assessment activities in May 1996, CEI installed a temporary monitoring well in the former UST basin. Concentrations of target petroleum constituents and chlorinated solvents including tetrachloroethylene (PCE) were detected above the 15A NCAC 2L.0202 Ground Water Quality Standards (2L Standards) in the groundwater sample collected from the temporary monitoring well. Based on the KOGUT CSA, subsequent assessment activities included the installation of seven Type II monitoring wells (MW-1 through MW-7) and Type III monitoring well (MW-8D). Monitoring wells MW-6 and MW-7 are located within the NC DOT proposed right-of-way. The monitoring well locations are shown on Figure 2.

Based on S&ME, Inc. *Groundwater Monitoring Report* dated June 4, 2003, no target petroleum constituents were detected above the 2L Standards in the groundwater samples collected from monitoring wells at the site in May 2003. However, chlorinated solvent compounds were detected above the 2L Standards in seven of the monitoring wells at the site. The depth to groundwater ranged from approximately 21 to 35 ft below ground surface (bgs) during the May 2003 sampling event. Because no petroleum constituents were detected above the 2L Standards during the May 2003 sampling event, DENR reclassified the site as low risk and issued a no further action (NFA) letter for the petroleum release at the site on June 24, 2003. The monitoring wells were left in place for investigation of the chlorinated solvent release at the site. No known assessment activities have been conducted for the chlorinated solvent release at the site. Pertinent information

from the assessment reports mentioned above and a copy of the NFA letter are included in Appendix B.

The PSA activities recently conducted by H&H in the NC DOT proposed right-of-way and construction easement areas on the Parcel 5H property are discussed below.

2.0 Site Assessment

Soil Assessment

H&H mobilized to the Parcel 5H property on September 17 and 18, 2012 and advanced 13 soil borings (5H-1 through 5H-13) by direct push technology (DPT). Prior to advancing the soil borings, H&H reviewed the results of a geophysical survey performed at the site by Schnabel Engineering (Schnabel) in August 2012. Schnabel utilized electromagnetic (EM) induction technology and ground penetrating radar (GPR) to identify potential geophysical anomalies and potential USTs at the site. The EM results indicated the presence of anomalies attributed to unknown cause (likely reinforced concrete and surface metal); however, follow up with GPR did not indicate the presence of a UST. Based on the Schnabel EM and GPR results, no potential USTs were identified in the survey area. Schnabel's report, including a site map depicting the results of the EM and GPR survey is provided in Appendix C.

Prior to conducting soil borings, utilities were marked by NC One Call. Borings were also cleared to a five foot depth by hand auger. H&H utilized Probe Technology, Inc. (PTI) of Concord, North Carolina to advance the soil borings (Figure 2). All borings were advanced to a total depth of 12 ft bgs. To facilitate the selection of soil samples for laboratory analysis, soil from each boring was screened continuously for the presence of volatile organic compounds (VOCs) with an organic vapor analyzer (OVA). Additionally, H&H observed the soil for visual and olfactory indications of petroleum impacts. During soil screening, there were no indications of impacts in soil borings 5H-1 through 5H-4, 5H-6, and 5H-9 through 5H-11. There were low level indications of potential impacts in soil borings 5H-5 and 5H-13 and strong indications of impacts in soil borings 5H-7, 5H-8, and 5H-12. Soil samples were collected at depths ranging from 0 to 2 ft bgs to 10 ft to 12 ft bgs. Soil boring logs are included in Appendix D.

Soil borings 5H-1, 5H-2, 5H-4, 5H-6 through 5H-9, 5H-11, and 5H-13 were advanced near proposed drainage features. Soil boring 5H-3 was advanced near a metal canopy where painting and sand blasting are conducted.

Soil boring 5H-4 was also advanced near drums and pails located in a fenced and bermed area on the northeast side of the metal canopy behind the main building at the site. Many of these containers are heavily rusted and in poor condition. They are stored outside but within a concrete curbed secondary containment area. The containment area contains evidence of spilled materials. H&H estimates there are roughly 40 to 50 drums and pails (contents unknown) ranging in size from 1-gallon to 55-gallons in the enclosed fenced area.

Soil borings 5H-5, 5H-7, and 5H-8 were advanced near heavily stained and weathered concrete inside the main building at the site where painting is conducted. Soil borings 5H-9 and 5H-10 were advanced near the former UST basin and soil boring 5H-12 was advanced near heavily stained surface soil in the eastern portion of the site.

Sand Assessment

During PSA activities H&H identified widespread spent sand blasting sand on the surface of the property. Such material can have elevated levels of heavy metals. Berms of spent sand blasting sand are located on the undeveloped property edges and within the NC DOT proposed construction easement in the eastern portion of the property and within the railroad right-of-way in the western portion of the property. Widespread loosely scattered sand is located within the NC DOT proposed right-of-way in the western portion of the property and beneath the metal canopy located in this area. Scattered sand is also located in the eastern portion of the property within the NC DOT proposed construction easement. The locations of scattered and bermed sand are depicted on Figure 3.

Because sandblasting is conducted at the site and these sands have the potential for metals impacts, H&H collected three surface composite sand samples (SAND-1 through SAND-3) where sandblast sand was piled in berms and/or scattered along the surface within the NC DOT

proposed right-of-way and construction easement areas. No samples were collected from sand areas in the railroad right-of-way due to lack of an access agreement for such samples. Composite sample SAND-1 was collected from sand located on the surface beneath the metal canopy on the northeast side of the main building at the site. Composite samples SAND-2 and SAND-3 were collected from surface sand in the northern and eastern portions of the site. The composite samples were collected using nitrile gloved covered hands by H&H. Each composite sample consisted of three aliquots of sand collected near the composite sample locations shown on Figure 3. Based on OVA readings there were no indications of petroleum impacts in the sand composite samples. GPS coordinate data for soil borings and composite sand samples are included in Table 1.

H&H submitted a total of 13 soil samples (5H-1 through 5H-13) and three composite sand samples (SAND-1 through SAND-3) for laboratory analysis. The samples were sent to Pace Analytical Services, Inc. using standard chain-of-custody protocol. Soil samples 5H-1 through 5H-13 were submitted for analysis of total petroleum hydrocarbons (TPH) for gasoline-range organics (GRO) and diesel-range organics (DRO) by EPA Method 8015. Because groundwater is impacted with chlorinated solvents and due to painting and sand blasting, soil samples were also analyzed for VOCs using EPA Method 8260 and for RCRA Metals using EPA Method 6010. The sand composite samples (SAND-1 through SAND-3) were analyzed for RCRA Metals using EPA Method 6010. Sample depths and analytical results are summarized in Table 2. Laboratory analytical data sheets for the Parcel 5H soil samples and chain-of-custody documentation are provided in Appendix E. The laboratory report includes samples collected from another site during the same mobilization. The analytical results are discussed below.

3.0 Analytical Results

3.1 Soil Samples

Target analytes were detected in soil samples collected from Parcel 5H. Concentrations of TPH DRO (up to 604 mg/kg) were detected in soil samples 5H-2, 5H-5, 5H-7, 5H-8, 5H-11, and 5H-12 above the DENR Action Level of 10 mg/kg. Concentrations of TPH GRO (up to 97.2 mg/kg) were detected in soil samples 5H-7, 5H-8, and 5H-12 above the DENR Action Level of 10 mg/kg. Low

level concentrations of n-butlybenzene, ethylbenzene, p-isopropyltoluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and/or total xylenes were detected in soil samples 5H-7 and 5H-12 below the DENR Inactive Hazardous Sites Branch (IHSB) Residential Health-Based Soil Remediation Goals (SRGs) and the IHSB Protection of Groundwater (POG) SRGs. Low levels of naphthalene (1.05 mg/kg and 1.46 mg/kg) were also detected in soil samples 5H-7 and 5H-12 above the IHSB POGSRG.

Low concentrations of arsenic (ranging from 0.74 mg/kg to 2.7 mg/kg) were detected in each soil sample collected at the site (with the exception of 5H-2 and 5H-9) above the IHSB Health-Based SRG and below the IHSB POGSRG. Based on the range of values (1.0 mg/kg to 18 mg/kg) for arsenic in NC soils taken from *Elements in North American Soils* by Dragun and Chekiri (2005), the detected arsenic concentrations are likely within background levels.

Low concentrations of cadmium (ranging from 0.11 mg/kg to 2.7 mg/kg) were detected in soil samples 5H-1, 5H-3 and 5H-10 through 5H-13 below the IHSB SRGs. A concentration of cadmium (7.7 mg/kg) detected in 5H-2 was above the POGSRG. The concentration of cadmium (22.1 mg/kg) detected in soil sample 5H-9 was above the IHSB SRGs and background concentrations. With the exception of the elevated cadmium concentration in 5H-9, the other detections are within the published ranges for cadmium in NC soils.

Low concentrations of chromium (ranging from 2.5 mg/kg to 99.3 mg/kg) were detected in each soil sample collected at the site below the IHSB SRGs and the IHSB POGSRGs. Because no plating is known to have occurred on the property, chromium III target levels were used. Based on the published range (7.0 mg/kg to 300 mg/kg) of chromium in NC soils, the detected chromium concentrations are likely within background levels.

Low concentrations of selenium (ranging from 2.4 mg/kg to 10.3 mg/kg) were detected in soil samples 5H-1 through 5H-3, 5H-5, and 5H-8 through 5H-12 above the IHSB POGSRG. The highest selenium concentration was detected in sample 5H-9 where elevated cadmium is present. This selenium concentration is potentially elevated. Although the detected selenium concentrations are slightly above the published ranges for selenium in Eastern USA soils and NC

soils, the data appear to indicate that the selenium concentrations are naturally occurring with the potential exception of the higher levels such as found in 5H-9.

Low concentrations of barium (ranging from 10.8 mg/kg to 53.6 mg/kg) were detected in each soil sample collected at the site below the IHSB SRGs. Low concentrations of lead (ranging from 3.8 mg/kg to 20.9 mg/kg) were detected in each soil sample collected at the site below the IHSB SRGs. Low concentrations of mercury (ranging from 0.0062 mg/kg to 0.36 mg/kg) were detected in each soil sample collected at the site below the IHSB SRGs. These metal detections are likely within background levels.

The TPH DRO, GRO, and /or naphthalene impacted soils are located beneath the eastern portion of the main building near a proposed drainage ditch and in the far eastern portion of the site near a proposed driveway. Soils with TPH DRO impacts are located near a proposed catch basin on the northwest side of the main building, beneath the western portion of the main building, and near a proposed catch basin in the southern portion of the site. Metal impacted soil is located near a proposed drainage ditch just east of the main building.

Based on laboratory analytical results and OVA readings, petroleum impacted soils are present in six locations on Parcel 5H within the proposed NC DOT work areas.

- H&H estimates that there are roughly 25 cubic yards (40 tons) of impacted soil between the surface and 4 ft near the proposed catch basin on the northwest side of the main building at the site near soil boring 5H-2.
- There are roughly 50 cubic yards (75 tons) of impacted soil between the surface and 4 ft beneath the western portion of the main building at the site near boring 5H-5.
- There are roughly 1,300 cubic yards (2,000 tons) of impacted soil between the surface and 12 ft beneath the eastern portion of the main building at the site near soil borings 5H-7 and 5H-8.
- There are roughly 75 cubic yards (110 tons) of impacted soil between the surface and 6 ft near the southeast portion of the main building at the site near soil boring 5H-9.

- There are roughly 75 cubic yards (110 tons) of impacted soil between the surface and 6 ft near the proposed catch basin in the southern portion of the site near soil boring 5H-11.
- There are roughly 500 cubic yards (750 tons) of impacted soil between the surface and 12 ft in the eastern portion of the site near soil boring 5H-12.

The estimated depth of impacted soils is based on field screening results. However, field screening did not provide information that defines the impacted soil interval in all boring locations. Therefore, impacts may extend beyond the depths indicated above. The approximate areas of impacted soil are shown on Figure 2.

3.2 Sand Composite Samples

Target metals were detected in each sand composite sample collected from Parcel 5H. A low level concentration of arsenic (0.48 mg/kg) was detected in composite sand sample SAND-1 above the IHSB Health-Based SRG and below the IHSB POGSRG. Based on the published range of values (1.0 mg/kg to 18 mg/kg) for arsenic in NC soils, the detected arsenic concentration is within background levels.

Low concentrations of barium (12.3 mg/kg and 46.8 mg/kg) were detected in composite sand samples SAND-2 and SAND-3 below the IHSB SRGs. A concentration of barium (1,150 mg/kg) was detected in composite sand sample SAND-1 above the IHSB POGSRG. Compared with other barium detections, this barium concentration appears to be elevated.

Low concentrations of chromium (ranging from 6.7 mg/kg to 24.7 mg/kg) were detected in each composite sand sample collected at the site below the IHSB SRGs. Based on the published range (7.0 mg/kg to 300 mg/kg) of chromium in NC soils, the detected chromium concentrations are likely within background levels.

A low concentration of cadmium (0.2 mg/kg) was detected in composite sand sample SAND-3 below the IHSB SRGs. Low concentrations of lead (ranging from 8.6 mg/kg to 10.9 mg/kg) were detected in each composite sand sample collected at the site below the IHSB SRGs. A low

concentration of selenium (1.4 mg/kg) was detected in composite sand sample SAND-1 below the IHSB SRGs. A low concentration of mercury (0.0067 mg/kg) was detected in composite sand sample SAND-3 below the IHSB SRGs. These metal concentrations are likely within background levels.

Based on laboratory analytical results, sand impacted with barium is present in one area on Parcel 5H within the proposed NC DOT work areas. Based on analytical results, H&H estimates that there are roughly 10 cubic yards (15 tons) of impacted sand scattered on the concrete surface under the metal canopy on the northeast side of the main building and on the gravel surface to the north of the metal canopy near composite sample SAND-1. The approximate extent of barium impacted surface sand is shown on Figure 3.

Although analytical results indicate that metals are within background levels in the sand composite samples (with the exception of barium in sample SAND-1), additional sampling would be necessary to better estimate the impacted sand areas and amounts. H&H estimates that there are roughly 700 cubic yards (1,000 tons) of bermed sand within the NC DOT proposed construction easement in the eastern portion of the site and roughly 600 cubic yards (900 tons) of bermed sand within the railroad right-of-way in the northwest portion of the site. Sand blast sand is also loosely scattered within the NC DOT proposed right-of-way in the western portion of the site. Because spent blasting sand often contains elevated metals and sand in the railroad right-of-way has not been sampled, additional characterization of surface blast sand and bermed sand should be completed prior to grading activities at the site.

4.0 Summary and Regulatory Considerations

H&H has reviewed DENR incident files, geophysical survey results, and analytical results of soil and sand samples collected at the Parcel 5H property. Review of DENR files indicate that two 4,000-gallon USTs were removed from the site in February 1996. A no further action status was issued in June 2003 for the petroleum release associated with the UST system at the site. The former UST system was located in the center of the Parcel 5H property outside of the NC DOT proposed right-of-way and construction easement areas. Chlorinated solvent impacts were

identified in groundwater during prior petroleum UST assessment. Two monitoring wells were identified by H&H within the NC DOT proposed work areas during PSA activities. Based on GPR survey, no potential USTs were identified in the proposed DOT work areas.

Analytical results of soil samples collected by H&H indicate TPH DRO, TPH GRO, naphthalene and/or cadmium at concentrations above DENR potential target screening levels in seven soil samples collected on Parcel 5H.

- H&H estimates that there are roughly 25 cubic yards (40 tons) of impacted soil between the surface and 4 ft near the proposed catch basin on the northwest side of the main building at the site near soil boring 5H-2.
- There are roughly 50 cubic yards (75 tons) of impacted soil between the surface and 4 ft beneath the western portion of the main building at the site near boring 5H-5.
- There are roughly 1,300 cubic yards (2,000 tons) of impacted soil between the surface and 12 ft beneath the eastern portion of the main building at the site near soil borings 5H-7 and 5H-8.
- There are roughly 75 cubic yards (110 tons) of impacted soil between the surface and 6 ft near the southeast portion of the main building at the site near soil boring 5H-9.
- There are roughly 75 cubic yards (110 tons) of impacted soil between the surface and 6 ft near the proposed catch basin in the southern portion of the site near soil boring 5H-11.
- There are roughly 500 cubic yards (750 tons) of impacted soil between the surface and 12 ft in the eastern portion of the site near soil boring 5H-12.

H&H estimates there are a total of 2,025 cubic yards (3,085 tons) of impacted soil within the proposed NC DOT work areas at the site. NC DOT plans indicate proposed fill in these areas. However, NC DOT proposed drainage piping and ditches extend through impacted soil areas. Impacted soil that is removed during surface grubbing and drainage pipe and ditch installations should be properly managed and disposed at a permitted facility.

Although most metals are likely within background levels in the sand composite samples collected at the site, the laboratory analytical data indicate that the sand is impacted with barium

under the metal canopy on the northeast side of the main building and on the gravel surface to the north of the metal canopy. H&H estimates that there are roughly 10 cubic yards (15 tons) of impacted sand near the metal canopy. Berms of spent blasting sand were identified within the NC DOT proposed construction easement in the eastern portion of the site and within the railroad right-of-way in the western portion of the site. H&H estimates that there are roughly 700 cubic yards (1,000 tons) of bermed sand within the DOT right-of-way in the eastern portion of the site and roughly 600 cubic yards (900 tons) of bermed sand within the railroad right-of-way in the northwest portion of the site. Widespread loosely scattered sand was also identified within the NC DOT proposed right-of-way area in the western portion of the site. Because spent blasting sand often contains elevated metals and sand in the railroad right-of-way has not been sampled, additional characterization of surface sand and bermed sand should be completed prior grading activities at the site.

Two additional environmental concerns should also be addressed prior to DOT road work. Drums and pails in poor condition and stored near the main building at the site should be characterized and properly disposed. Monitoring wells identified within the proposed NC DOT right-of-way should be properly abandoned in accordance with DENR guidelines prior to NC DOT road construction activities.

5.0 Signature Page

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NORTH CAROLINA PROFESSIONAL SEAL 25069 ENGINEER MATTHEW V. BRAMBLETT 11/15/12

Table 1
Soil Boring GPS Coordinate Data
Patricia P. Smith/D.C. Paint Works Property (Parcel 5H)
Charlotte, Mecklenburg County, North Carolina
H&H Job No. ROW-407

Sample ID	Latitude	Longitude
5H-1	35.267741	-80.743932
5H-2	35.267823	-80.743810
5H-3	35.267953	-80.743704
5H-4	35.267923	-80.743552
5H-5	NA	NA
5H-6	35.267560	-80.743494
5H-7	NA	NA
5H-8	NA	NA
5H-9	35.267651	-80.743400
5H-10	35.267640	-80.743350
5H-11	35.267479	-80.743355
5H-12	35.267823	-80.742831
5H-13	35.268002	-80.743665
Sand-1	NA	NA
Sand-2	35.267981	-80.743617
Sand -3	35.267820	-80.742781
MW-6	35.267664	-80.743275
MW-7	35.267629	-80.743387

Notes:
GPS coordinate data points collected using a Magellan Mobile Mapper CX with sub-meter accuracy.
NA = Sample collected indoors. Coordinate data unavailable.

Table 2
Soil Analytical Results
Patricia P. Smith/D.C. Paint Works Property (Parcel 5H)
Charlotte, Mecklenburg County, North Carolina
H&H Job No. ROW-407

Sample ID	5H-1	5H-2	5H-3	5H-4	5H-5	5H-6	5H-7	5H-8	5H-9	5H-10	5H-11	5H-12	5H-13	SAND-1	SAND-2	SAND-3	Regulatory Standard			
Sample Depth (ft)	0-2	0-2	0-2	0-2	1-2	1-2	10-12	8-10	2-4	2-4	2-4	2-4	2-4	0-0.5	0-0.5	0.0.5				
Sample Date	9/17/2012	9/17/2012	9/17/2012	9/17/2012	9/18/2012	9/18/2012	9/18/2012	9/18/2012	9/18/2012	9/18/2012	9/18/2012	9/18/2012	9/18/2012	9/17/2012	9/17/2012	9/17/2012				
VOCs (8260) (mg/kg)																	**IHSB SRG[1] (mg/kg)**		**IHSB POG[2] (mg/kg)**	
n-Butylbenzene	<0.0054	<0.005	<0.0051	<0.005	<0.0049	<0.0044	0.464	<0.096	<0.0077	<0.0062	<0.0066	<0.448	<0.0052	NA	NA	NA	110		2.4	
Ethylbenzene	<0.0054	<0.005	<0.0051	<0.005	<0.0049	<0.0044	<0.342	<0.096	<0.0077	<0.0062	<0.0066	0.474	<0.0052	NA	NA	NA	5.4		8.1	
p-Isopropyltoluene	<0.0054	<0.005	<0.0051	<0.005	<0.0049	<0.0044	0.623	<0.096	<0.0077	<0.0062	<0.0066	<0.448	<0.0052	NA	NA	NA	NE		0.68	
Naphthalene	<0.0054	<0.005	<0.0051	<0.005	<0.0049	<0.0044	**1.05**	<0.096	<0.0077	<0.0062	<0.0066	**1.46**	<0.0052	NA	NA	NA	3.6		0.21	
1,2,4-Trimethylbenzene	<0.0054	<0.005	<0.0051	<0.005	<0.0049	<0.0044	2.55	<0.096	<0.0077	<0.0062	<0.0066	<0.448	<0.0052	NA	NA	NA	12		6.7	
1,3,5-Trimethylbenzene	<0.0054	<0.005	<0.0051	<0.005	<0.0049	<0.0044	1.03	<0.096	<0.0077	<0.0062	<0.0066	<0.448	<0.0052	NA	NA	NA	160		6.7	
Total Xylenes	<0.0109	<0.010	<0.0103	<0.010	<0.0098	<0.0088	1.72	<0.192	<0.0153	<0.0124	<0.0133	<0.896	<0.0103	NA	NA	NA	130		5.8	
RCRA Metals (6010/7471) (mg/kg)																	**IHSB SRG[1] (mg/kg)**	**IHSB POG[2] (mg/kg)**	**Range[3] (mg/kg)**	**Range[4] (mg/kg)**
Arsenic	0.8	<0.57	1.4	1.4	2.1	1.9	2.7	1.5	<0.66	1.2	0.97	1.1	0.74	0.48	<0.51	<0.48	0.39	5.8	1.0-18	<0.1-73
Barium	53.6	29	25.3	19.7	26.8	10.9	17.1	16.5	10.8	12.4	14.9	20	48.4	**1,150**	12.3	46.8	3,000	580	50-1,000	10-1,500
Cadmium	0.94	7.7	0.57	<0.11	<0.097	<0.11	<0.12	<0.13	**22.1**	2.7	0.91	0.35	0.11	<0.093	<0.10	0.2	14	3.0	1-10*	ND - 4.0
Chromium	4.5	28.9	12.3	7.4	6.5	7.7	2.5	8.2	99.3	35.4	12.5	12.7	3.2	20.6	24.7	6.7	24,000	360,000	7.0-300	1-1,000
Lead	5.8	12.2	3.8	3.8	9.0	4.7	9.1	6.8	20.9	7.2	4.5	4.6	4.6	8.7	8.6	10.9	400	270	ND - 50	<10-300
Seleniuim	**4.4**	**5.1**	3.0	2.0	2.4	2.1	1.5	2.5	**10.3**	**6.1**	3.9	2.5	1.3	1.4	<1.0	<0.96	78	2.1	<0.1-0.8	<0.1-3.9
Silver	<0.55	<0.57	<0.54	<0.54	<0.49	<0.56	<0.59	<0.63	<0.66	<0.62	<0.60	<0.52	<0.51	<0.47	<0.51	<0.48	78	3.4	ND - 5.0**	ND - 5.0**
Mercury	0.039	0.097	0.046	0.022	0.037	0.016	0.0095	0.016	0.17	0.36	0.24	0.027	0.0062	<0.0038	<0.0046	0.0067	4.6	1.0	0.030-0.52	<0.01-3.4
TPH-DRO/GRO (8015) (mg/kg)																	**NCDENR Action Level (mg/kg)**			
Diesel-Range Organics (DRO)	<6.1	**10.6**	<5.9	<5.9	**29.6**	<5.6	**281**	**80.6**	<6.8	<6.8	**21.4**	**604**	<6.0	NA	NA	NA	10			
Gasoline-Range Organics (GRO)	<8.6	<6.2	<6.4	<5.5	<5.2	<5.5	**97.2**	**15.4**	<8.4	<6.5	<7.5	**45.5**	<6.3	NA	NA	NA	10			

Notes:
1. NC DENR Inactive Hazardous Sites Branch (IHSB) Residential Health Based Soil Remediation Goals (SRGs) - July 2012
2. NC DENR IHSB Protection of Groundwater Soil Remediation Goals - July 2012
3. Range values for North Carolina soils taken from *Elements in North American Soils* by Dragun and Chekiri, 2005
4. Range values for Eastern USA soils taken from *Elements in North American Soils*
* Range values for Southeastern USA soils used because North Carolina soils not specified
** Range values for Contiguous USA used because North Carolina, Eastern USA, and Southeastern USA not specified
EPA Method follows parameter in parenthesis
NA = Not Analyzed; TPH = total petroleum hydrocarbons; NE = not established
Bold indicates above potential target screening levels and chromium III remedial goals used instead of chromium VI (no plating is known to have occurred at the site) (background levels in the case of metals).

N

APPROXIMATE

0 2000 4000

SCALE IN FEET

U.S.G.S. QUADRANGLE MAP

Harrisburg, NC 1996

QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE

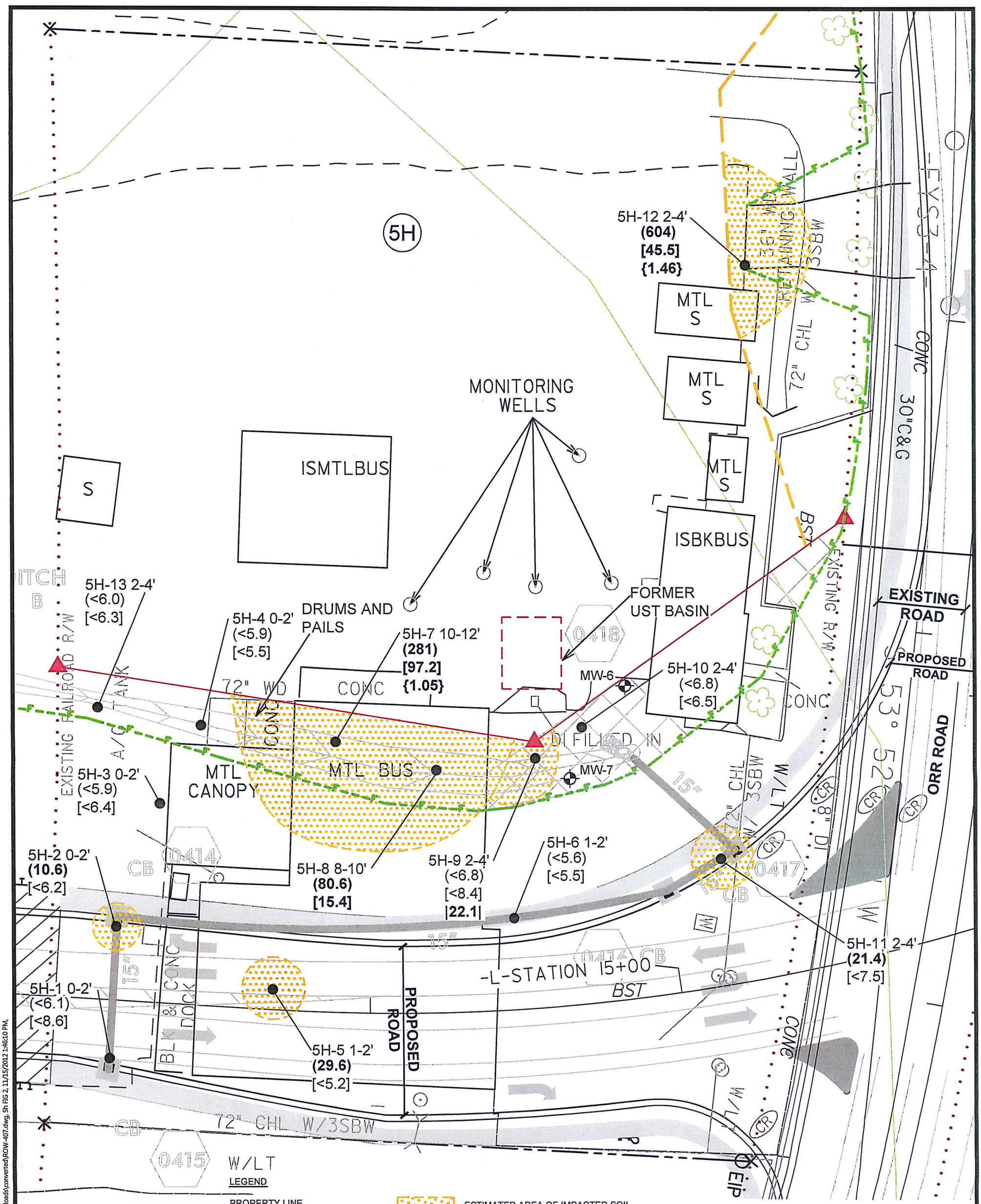
SITE LOCATION MAP

PROJECT

PATRICIA P. SMITH/ D.C. PAINT WORKS PROPERTY
PARCEL 5H – 7335 ORR ROAD
CHARLOTTE, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007 (p) 704-586-0373 (f)

DATE:	10-30-12	REVISION NO:	0
JOB NO:	ROW-407	FIGURE:	1



LEGEND

- PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- PROPOSED FILL LINE
- PROPOSED CONSTRUCTION EASEMENT
- PROPOSED DRAINAGE PIPING
- PROPOSED CATCH BASIN
- (5H) PARCEL NUMBER
- SOIL SAMPLE LOCATION
- MONITORING WELL WITHIN PROPOSED NCDOT RIGHT-OF-WAY
- (281) TPH-DRO (mg/kg)
- [97.2] TPH-GRO (mg/kg)
- {1.05} NAPHTHALENE (mg/kg)
- |22.1| CADMIUM (mg/kg)
- ESTIMATED AREA OF IMPACTED SOIL

NOTE:

BOLD INDICATES EXCEEDANCE OF POTENTIAL TARGET SCREENING LEVELS

APPROXIMATE
0 30 60
SCALE IN FEET

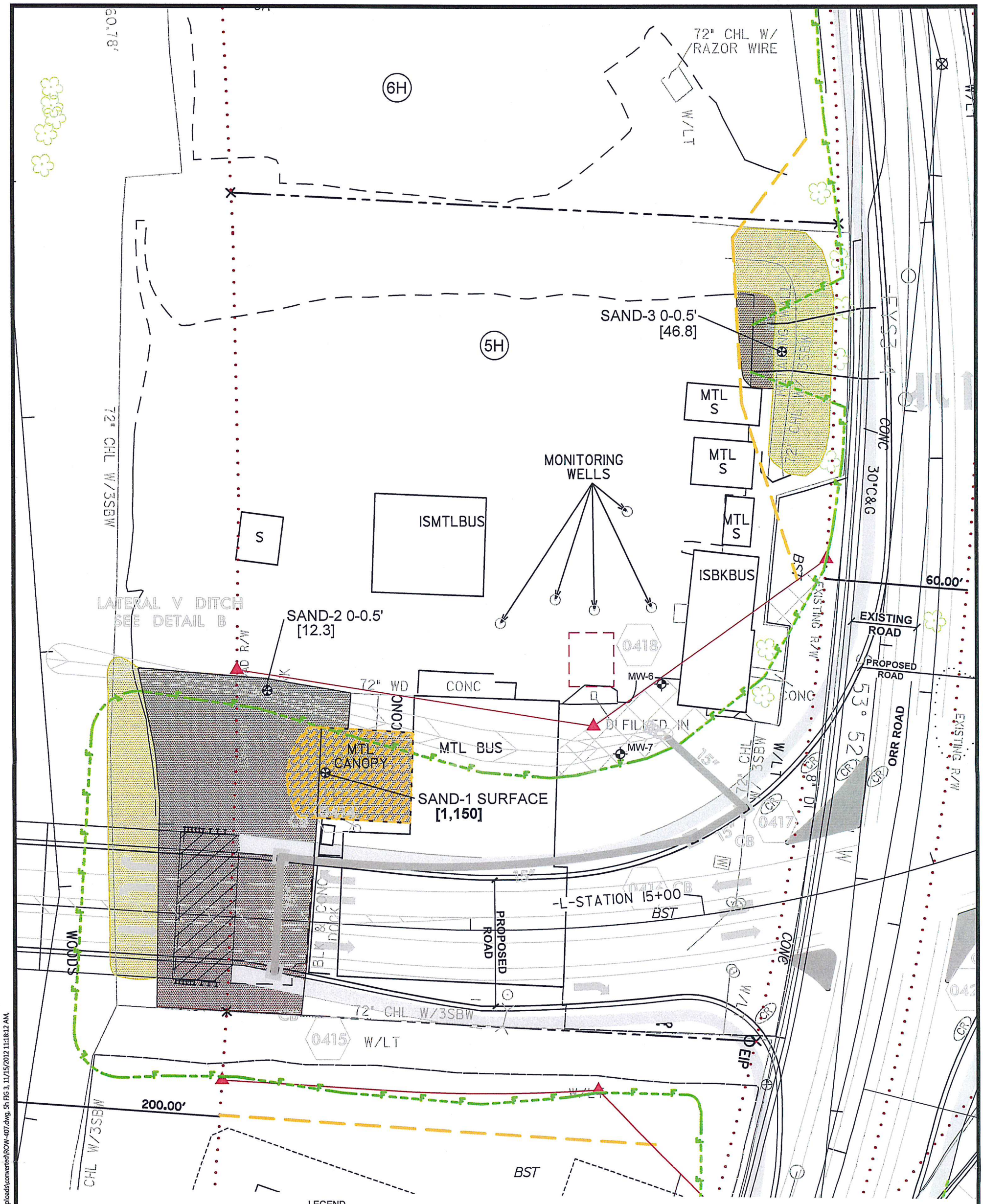
TITLE
SITE MAP AND SOIL ANALYTICAL RESULTS

PROJECT
PATRICIA P. SMITH/ D.C. PAINT WORKS PROPERTY
PARCEL 5H - 7335 ORR ROAD
CHARLOTTE, MECKLENBURG COUNTY,
NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)
License # C-1269 / #C-245 Geology

DATE: 10–25–12	REVISION NO. 0
JOB NO. ROW–407	FIGURE NO. 2

S:\AAA-Master Projects\NC DOT Right-of-Way -ROW\ROW-407 P-5208H Charlotte PSAs\DOT Files\wwwroot\uploads\converted\ROW-407.dwg, 5h FIG 2, 11/15/2012 1:46:10 PM,



LEGEND

- PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- PROPOSED FILL LINE
- PROPOSED CONSTRUCTION EASEMENT
- PROPOSED DRAINAGE PIPING
- PROPOSED CATCH BASIN
- (5H) PARCEL NUMBER
- SAND SAMPLE LOCATION
- MONITORING WELL WITHIN PROPOSED NCDOT RIGHT-OF-WAY
- [12.3] BARIUM CONCENTRATION (mg/kg)
- IMPACTED SAND AREA ABOVE TARGET SCREENING LEVELS
- SPENT BLAST SAND BERM
- LOOSELY SCATTERED BLAST SAND

NOTES:

1. **BOLD** INDICATES EXCEEDANCE OF BACKGROUND LEVEL AND POTENTIAL TARGET SCREENING LEVEL.
2. SPENT SAND BLAST SAND IN RAILROAD RIGHT-OF-WAY NOT SAMPLED.

APPROXIMATE
0 40 80
SCALE IN FEET

TITLE: SAND ANALYTICAL RESULTS MAP

PROJECT: PATRICIA P. SMITH/ D.C. PAINT WORKS PROPERTY
PARCEL 5H - 7335 ORR ROAD
CHARLOTTE, MECKLENBURG COUNTY,
NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)
License # C-1269 / #C-245 Geology

DATE: 10–25–12	REVISION NO. 0
JOB NO. ROW–407	FIGURE NO. 3

Appendix A

NC DOT Preliminary Plan

PATRICIA P SMITH
DB 4669 PG 84

5H

-L- POC Sta.15+89.16 =
-Y2- POC Sta.16+23.52

-L- PC Sta. 13+67.38

-Y2- PCC Sta. 18+75.31

-BL-98 PINC 635+03.29

S 39°26'54" E 258.50'

S 38° 48' 24.4" E

N 39°09'20" W

222.52'

100' LANE TAPER RT & LT

105.00'

85.00'

55.00'

60.00'

40.00'

15.00'

R=150'

R=350'

MONITORING WELLS

MONITORING WELL

ISMTLBUS

MTL BUS

MTL CANOPY

MTL S

GRADE TO DRAIN

DO NOT LAY PIPE UNDER GUARDRAIL

FILLED IN

1 TONS CL B RIPRAP W/5 SY FIL FAB

LATERAL V DITCH SEE DETAIL B

EXISTING R/W

EXIST. R/W

EXISTING 36' R/W

72" CHL W/3SBW

36" WD RETAINING WALL W/3SBW

TYPE-III

A/C TANK

CONC

BLK & CONC DOCK

5' BIKE LANE

30"C&G

20' TAPER TO EXIST.

PUE

HTR

48" WW

CAT 2.5% R/W TO EIP

EIP

OFFSET =13'

15+00

0414

0415

0416

0417

0418

0419

0420

0421

0422

Appendix B

DENR Incident Files

COOPER ENVIRONMENTAL
ENGINEERS • GEOLOGISTS • SCIENTISTS

February 14, 1996

Mr. Gil Butler
NCDEHNR
919 North Main Street
Mooresville, North Carolina 28115

Re: Tank Removal - Permanent Closure Report
Petroleum Tank Service, Inc.
7335 Orr Road
Charlotte, North Carolina
CEI Project No. 96021

Dear Mr. Butler:

On behalf of Petroleum Tank Service, Inc. (PTSI), Cooper Environmental, Inc. (CEI) has prepared this Tank Removal-Permanent Closure and Initial Abatement Report. To complete this tank closure report, CEI used the February 1995 North Carolina Department of Environment, Health, and Natural Resources (NCDEHNR) GW/UST-12 form as a guide.

1.0 Introduction

On February 1, 1996, CEI observed PTSI personnel excavate two underground storage tanks (USTs) at PTSI's facility located at 7335 Orr Road, Charlotte, North Carolina. PTSI personnel managed the UST closure activities. CEI understands from conversations with PTSI personnel that PTSI owned and operated the USTs. Table 1 provides general information. A topographic map of the area is presented as Figure 1. A map of the site is presented as Figure 2.

2300 SARDIS ROAD NORTH • SUITE Q
CHARLOTTE, NORTH CAROLINA • 28227
(704) 845-2000 • FAX (704) 841-8901

5101 COUNTRY CLUB ROAD
WINSTON-SALEM, NORTH CAROLINA • 27104
(910) 760-6520 • FAX (910) 760-6535

TABLE 1
GENERAL INFORMATION
PETROLEUM TANK SERVICE, INC.
CHARLOTTE, NORTH CAROLINA

UST Owner	**Petroleum Tank Service, Inc.**
Owner Address	**PO Box 237, Newell, NC 28126**
Facility Name	**Petroleum Tank Service, Inc.**
Facility Address and Phone Number	**7335 Orr Road, Charlotte, NC Mecklenburg County (704) 597-1910**
Facility ID No.	**0-002133**
PTSI Contact	**Mr. Mark Oden**
Consultant	**Cooper Environmental, Inc.**
Laboratory and Certification Number	**Prism Laboratories, Inc. Charlotte, NC #402**

The area surrounding the site is used for residential, commercial and industrial purposes. In addition, an active railroad line borders the rear (northwestern border) of the property.

2.0 UST Closure Activities

On February 1, 1996, CEI observed PTSI personnel excavate one 4,000-gallon gasoline underground storage tank (UST) and one 4,000-gallon diesel fuel UST at the subject property. The USTs were situated side-by-side in a common UST basin. The USTs were empty at the time of closure. The former dispenser island, which was also removed, was situated at the southeastern corner of the UST basin. A map exhibiting the location of the USTs and former dispenser island is presented as Figure 3.

CEI was informed by PTSI the USTs were installed in 1974. In addition, CEI was informed by PTSI that the USTs were last used approximately six months prior to the removal activities. Reportedly, PTSI personnel cleaned and

purged the interiors of the USTs prior to closure. Table 2 contains information pertaining to the USTs.

TABLE 2
UST INFORMATION
PETROLEUM TANK SERVICE, INC.
CHARLOTTE, NORTH CAROLINA

Tank No.	Tank ID No.	Installation Dates	Size in Gallons	Tank Dimensions	Last Contents
1	0-002113-001	1974	4,000	5' x 24'	gasoline
2	0-002113-002	1974	4,000	5' x 24'	diesel fuel

PTSI personnel excavated the USTs with a rubber-tire backhoe. When CEI arrived at the site approximately two feet of topsoil had already been excavated and the tops of the USTs were exposed. During the excavation process, CEI noted the excavated soil consisted of red-orange clayey silt from the land surface to approximately 4 feet below grade level (BGL) and yellow-orange (mottled) silty clay from approximately 4 feet BGL to approximately 7 feet BGL. The bottom of the UST basin was at approximately 7 feet BGL. CEI noted from organoleptic observations that petroleum odors were emanating from the excavated soil and the northeastern end of the UST basin.

CEI inspected the USTs upon their removal from the UST basin. CEI noted the USTs were in good physical shape. CEI did not note holes, pits, or corrosion on the surface of the USTs. The USTs were transported to Foils Scrap Yard of Harrisburg, North Carolina for disposal. A correspondence that documents the disposal of the USTs is presented as Attachment 1.

The former UST basin was backfilled with soil that was excavated during the closure activities. The excavated area was brought to grade level with clean, imported backfill and gravel.

3.0 SITE INVESTIGATION

Following the removal of the USTs, CEI collected three soil samples from beneath the former location of the gasoline UST and three soil samples from beneath the former location of the diesel fuel UST in accordance with March 1993 (updated June 1993) NCDEHNR-Groundwater Section guidelines. CEI also collected two soil samples from beneath the former dispenser island location. Figure 4 exhibits the locations of the soil samples.

CEI collected the soil samples with the bucket of the backhoe that was used to excavate and remove the USTs and former dispenser island. The soil samples collected from the UST basins were located approximately 1 to 2 feet below the former location of the base of each tank at an approximate depth of 8 to 9 feet BGL. The soil samples collected from beneath the former dispenser islands were collected from a depth of approximately 2 to 3 feet BGL.

CEI placed the soil samples in a chilled cooler and delivered the samples to Pace Analytical Services, Inc. (Pace) following chain of custody procedures. CEI requested Pace analyze the eight soil samples for total petroleum hydrocarbons (TPH) for high boiling point fuels by EPA Method 3550 and low boiling point fuels by EPA Method 5030 in accordance with NCDEHNR guidelines. However, Pace was unable to analyze the soil samples due to a power outage caused by the recent ice storm. Thus, Pace submitted the soil samples to Prism Laboratories, Inc. (Prism) for analysis.

Attached are copies of laboratory analysis reports for the soil samples collected from beneath the USTs. Chain of custody information is included with the attached copies of the laboratory reports. Table 3 displays the laboratory analytical results for the soil samples that CEI delivered to Pace and analyzed by Prism. The laboratory analytical report and chain of custody are presented as Attachment 2.

TABLE 3
LABORATORY ANALYTICAL RESULTS
FEBRUARY 1, 1996
PETROLEUM TANK SERVICES, INC.
CHARLOTTE, NORTH CAROLINA

Sample ID	TPH BY EPA Method 3550	TPH BY EPA Method 5030
GT-1	<10	<1.0
GT-2	<10	<1.0
GT-3	1,200	2,800
DT-1	55	<1.0
DT-2	23	1.0
DT-3	2,900	740
DI-1	44	2.0
DI-2	<10	<1.0
NCAC Reportable Limit	40	10

Analytical results reported in milligrams per kilogram (mg/kg).
Milligrams per kilogram is roughly equivalent to parts per million (ppm)
TPH - total petroleum hydrocarbons
GT - gasoline UST
DT - diesel fuel UST
DI - former dispenser island

4.0 SITE SENSITIVITY EVALUATION

A Site Sensitivity Evaluation (SSE) form is included as Attachment 3. According to the SSE, the total site characteristics score is 65 (assuming silt as the predominant grain size). Thus, the calculated final cleanup levels for the site is 60 parts per million (ppm) for EPA Method 5030 constituents and 240 ppm for EPA Method 3050 constituents.

5.0 REQUIRED DOCUMENTATION

CEI has respectively included as Attachments 4 and 5 the NCDEHNR GW/UST-2 form for permanent closure of the USTs and the GW/UST-3 form for Notice of Intent.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon the UST closure soil sampling results, the SSE score, and field observations, it is apparent that a release of petroleum constituents has occurred at the subject site. CEI recommends soil samples be collected to determine the horizontal and vertical extent of petroleum impact.

If you have any questions or comments please call us at (704) 845-2000.

Sincerely,
COOPER ENVIRONMENTAL, INC.

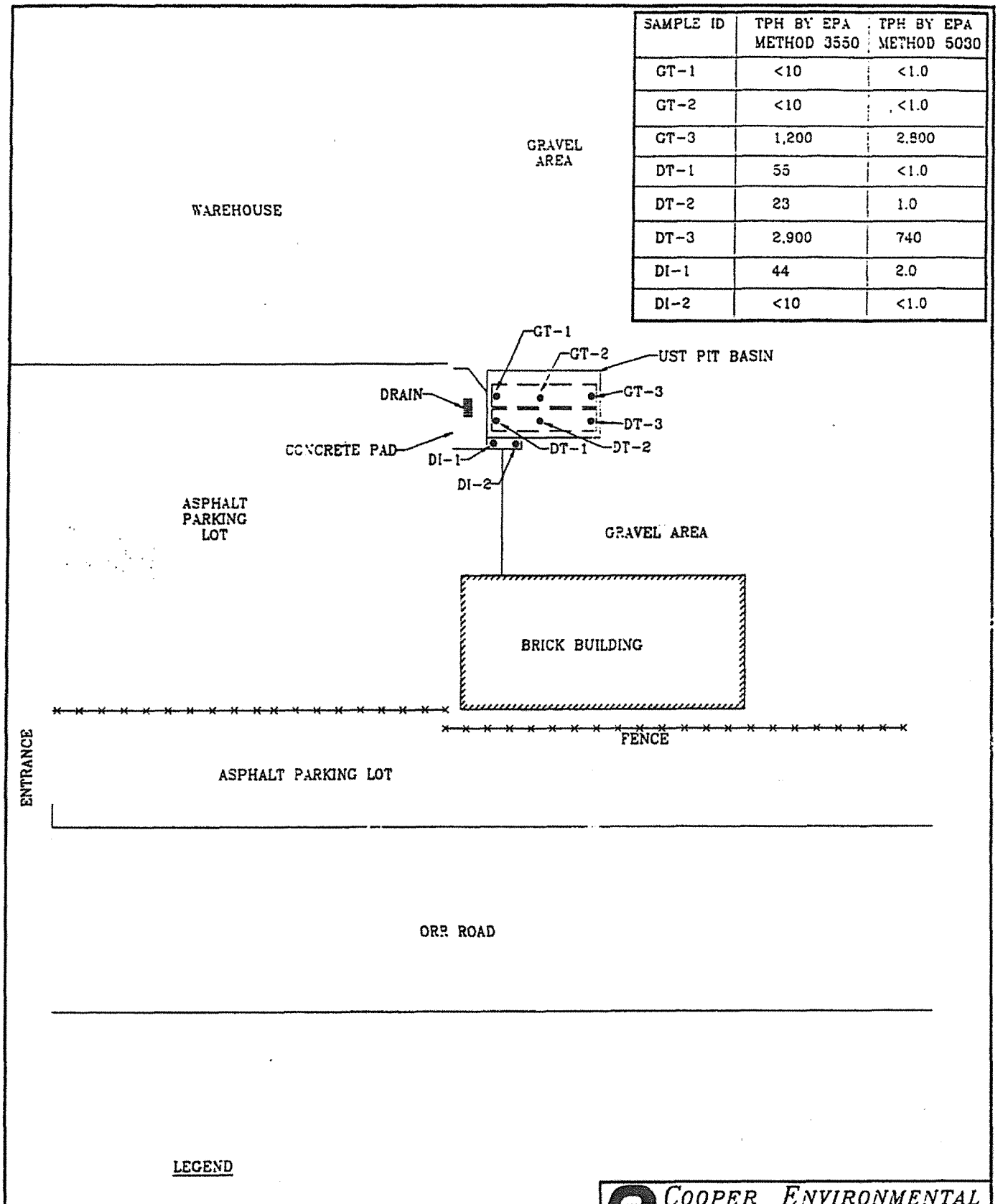
Dale Lanier, P.G.
Project Geologist
North Carolina Licensed Geologist No. 1281

John Burkart
Project Manager/Vice President of Operations

cc: Mr. Mark Oden, PTSI

DL\win\ptsi\ust-rpt.doc

SAMPLE ID	TPH BY EPA METHOD 3550	TPH BY EPA METHOD 5030
GT-1	<10	<1.0
GT-2	<10	<1.0
GT-3	1,200	2,800
DT-1	55	<1.0
DT-2	23	1.0
DT-3	2,900	740
DI-1	44	2.0
DI-2	<10	<1.0



LEGEND

FORMER UST LOCATION

• GT-1 SOIL SAMPLING LOCATION

COOPER ENVIRONMENTAL
ENGINEERS GEOLOGISTS SCIENTISTS

SOIL SAMPLE LOCATION MAP

PETROLEUM TANK SERVICE, INC.
7335 ORR ROAD
CHARLOTTE, NORTH CAROLINA

PROJECT: 96021	SCALE: 1" = 30'
DWG: dlp\96021.dwg	FIGURE: 4

SOIL ASSESSMENT REPORT

Petroleum Tank Service, Inc.
7335 Orr Road
Charlotte, North Carolina

CEI Project No. 96021

Prepared for:
Petroleum Tank Service, Inc.
PO Box 237
Newell, North Carolina 28126

Prepared by:
COOPER ENVIRONMENTAL, INC.
2300 Sardis Road North, Suite Q
Charlotte, North Carolina 28227

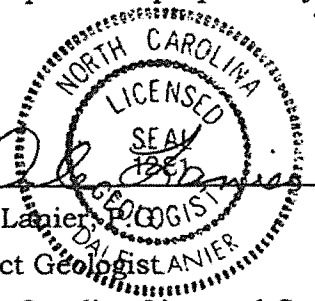
March 19, 1996

SOIL ASSESSMENT REPORT

Petroleum Tank Service, Inc.
7335 Orr Road
Charlotte, North Carolina

This report was prepared by **COOPER ENVIRONMENTAL, INC.**

This report was prepared by:



Dale Lanier, P.G.
Project Geologist
North Carolina Licensed Geologist No. 1281

3/19/96
Date

This report was reviewed by:

John T. Burkart
John T. Burkart
Project Manager/Vice President of Operations

3-19-96
Date

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1.0	**Introduction**	1
2.0	**Previous Site Activities**	1
	2.1 UST Closure Activities	1
	2.2 Site Sensitivity Evaluation	2
3.0	**Site Assessment Activities**	3
	3.1 Soil Boring Advancement	3
	3.2 Field Screening and Laboratory Analysis of Soil Samples	4
4.0	**Extent of Petroleum Impact to Soil**	4
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	4.2 Vertical Extent of Petroleum Impact to Unsaturated Soil	5
5.0	**Summary**	5
6.0	**Remarks**	6

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TABLE 1	Laboratory Analytical Results - UST Closure
TABLE 2	Field Screening Measurements - Soil Assessment
TABLE 3	Laboratory Analytical Results - Soil Assessment

FIGURES

FIGURE 1	Topographic Location Map
FIGURE 2	Site Map
FIGURE 3	Former UST Location Map
FIGURE 4	UST Closure Soil Sample Location Map
FIGURE 5	Soil Boring Location Map
FIGURE 6	Cross-Section Transect Map
FIGURE 7	Cross-Section A - A'
FIGURE 8	Cross-Section B - B'

APPENDICES

APPENDIX I	NCDEHNR Reporting Requirements
APPENDIX II	Soil Boring Logs
APPENDIX III	Laboratory Analytical Report - Soil Assessment

1.0 Introduction

On February 1, 1996, CEI observed the closure of two underground storage tanks (USTs) at the Petroleum Tank Services, Inc. (PTSI) facility located at 7335 Orr Road, Charlotte, Mecklenburg County, North Carolina. During the UST closure, CEI collected eight soil samples for laboratory analysis. The laboratory analytical results indicated that a release of petroleum hydrocarbons associated with the UST system had occurred at the site.

On February 13, 1996, CEI performed a preliminary soil boring investigation to determine the horizontal and vertical extent of petroleum impact to unsaturated soil at the site. The following report summarizes the findings of the preliminary soil assessment. A topographic map of the area is presented as Figure 1. A map of the site is presented as Figure 2.

2.0 Previous Site Activities

The following sections describe previous activities that have been conducted at the site by CEI.

2.1 UST Closure Activities

On February 1, 1996, one 4,000-gallon gasoline UST and one 4,000-gallon diesel fuel UST were excavated and removed from a common UST basin at the subject property. The former dispenser island, which was also removed, was situated at the southeastern corner of the UST basin. The details of the UST closure are summarized in the UST Closure Report, dated February 14, 1996. A map exhibiting the location of the USTs and former dispenser island is presented as Figure 3.

Following the removal of the USTs, CEI collected six soil samples from beneath the former locations of the gasoline and diesel fuel USTs in accordance with March 1993 (updated June 1993) NCDEHNR-Groundwater Section guidelines. CEI also collected two soil samples from beneath the former dispenser island location. Figure 4 exhibits the soil sample locations.

Prism Laboratories, Inc. (Prism) analyzed the soil samples for total petroleum hydrocarbons (TPH) for medium and high boiling point fuels by EPA Method 3550 and for low boiling point fuels by EPA Method 5030 in accordance with NCDEHNR guidelines. The laboratory analytical results for the UST closure soil samples are presented in Table 1 and on Figure 4.

According to the laboratory analytical report, TPH by EPA Methods 3550 and 5030 were detected in soil samples DT-3 and GT-3 at maximum respective concentrations of 2,800 milligrams per kilogram (mg/kg) and 2,900 mg/kg. Milligrams per kilogram is roughly equivalent to parts per million (ppm). These concentrations are above the reportable limits established by NCDEHNR for TPH as diesel fuel and gasoline. The reportable limits for diesel fuel and gasoline are 40 ppm and 10 ppm, respectively. These reportable limits are presented on page 33 of the March 1993 Groundwater Section guidelines. For convenience, CEI has provided this information as Appendix I.

2.2 Site Sensitivity Evaluation

CEI included a site sensitive evaluation (SSE) with the UST Closure Report. According to the SSE, the final clean up level for the site is 240 parts per million (ppm) for EPA Method 3550 constituents and 60 ppm for EPA Method 5030 constituents. The TPH concentrations detected in soil samples DT-3 (2,800 ppm) and GT-3 (2,900 ppm) are above the final clean up level that was established by the SSE for this site.

3.0 Soil Assessment Activities

The following sections describe the soil assessment activities performed at the site on February 13, 1996.

3.1 Soil Boring Advancement

On February 13, 1996, CEI supervised the advancement of five direct push soil borings at the site near the former UST basin. The soil boring locations are presented in Figure 5. The soil boring advancement was performed by Geologic Exploration (GEX) of Statesville, North Carolina. GEX advanced the soil borings and collected soil samples with a GeoProbe GH-40 direct push drill rig. CEI instructed GEX to collect continuous soil samples during the borehole advancement.

Soil boring SB-1 was advanced to a depth of 28 feet BGL in order to determine the vertical extent of petroleum impact to unsaturated soil. Soil borings SB-2 and SB-3 were advanced to 20 feet BGL and soil borings SB-4 and SB-5 were advanced to 16 feet BGL to determine the horizontal extent of petroleum impact in the unsaturated soil.

During advancement of the soil borings, CEI noted clayey silt from the land surface to approximately 4 feet BGL; silty clay from approximately 4 feet BGL to approximately 8 feet BGL; and silt and sandy silt from approximately 8 feet BGL to the terminal depths of the borings. The boring logs are presented in Appendix II. In addition, CEI noted relict bedding features in soil samples collected from approximately 8 feet BGL to the terminal depths of the borings. CEI noted moist to wet soil samples were collected from soil boring SB-1 at a depth of approximately 24 feet BGL, and from soil borings SB-2 and SB-3 at a depth of approximately 18 feet BGL.

3.2 Field Screening and Laboratory Analysis of Soil Samples

CEI field screened the soil samples for the presence of organic vapors with a flame ionization detector (FID). The field screening results are presented in Table 2. Table 2 indicates that organic vapors were not detected or were detected at extremely low concentrations in the soil samples.

CEI selected seven soil samples for submittal to Pace Analytical Services, Inc. (Pace) for laboratory analysis based upon the field screening results, field observations, and depth to ground water. The laboratory analytical report is presented in Appendix III. The laboratory analytical results are summarized in Table 3.

According to the laboratory analytical report, TPH as diesel fuel was detected at a concentration of 15 mg/kg in soil boring SB-1 collected from 16 to 20 feet BGL. TPH was not detected at or above detection limits in the other soil samples that CEI submitted for laboratory analysis.

4.0 Extent of Petroleum Impact to Soil

The following sections describes the horizontal and vertical extent of petroleum impact to soil.

4.1 Horizontal Extent of Petroleum Impact to Unsaturated Soil

TPH at concentrations above corrective action levels were detected in soil samples collected from the bottom of the UST basin during the UST closure activities. TPH were not detected in soil samples collected from soil boring SB-1 at a depth of 4 to 8 feet BGL and at 12 to 16 feet BGL; in soil borings SB-2, SB-3, and SB-4 at a depth of 8 to 12 feet BGL; or in soil boring SB-5 at a depth of 12 to 16 feet BGL.

4.2 Vertical Extent of Petroleum Impact to Unsaturated Soil

GEX advanced soil boring SB-1 to a depth of 28 feet BGL at a location approximately 6 feet northeast of the former UST basin. TPH as gasoline and diesel fuel were not detected at or above detection limits by laboratory analysis in soil sample S-2 (4 to 8 feet BGL) and from soil sample S-4 (12 to 16 feet BGL). However, TPH as diesel fuel was detected in soil sample S-5 (16 to 20 feet BGL) at a concentration of 15 mg/kg. Based on the moist texture of the soil, soil sample S-5 may have been collected from an area in or adjacent to the capillary fringe or water table.

CEI constructed cross sections that exhibit the unsaturated areas at the site that have been impacted by petroleum constituents. Figure 6 is a cross-section transect map. Figures 7 and 8 are cross-sections A - A' and B - B', respectively.

5.0 Summary

On February 13, 1996, CEI supervised the advancement of five direct push soil borings at the site near the former UST basin. The purpose of the soil borings was to collected soil samples for laboratory analysis order to determine the vertical and horizontal extent of petroleum impact to unsaturated soil. Based on the concentration of TPH and the moist texture of soil in sample SB-1 (S-5), it is possible that the vertical extent of petroleum-impacted soil extends from the bottom of the former UST basin.

6.0 Remarks

The analysis contained in this report represents CEI's professional opinions and are based upon the findings of this investigation. These opinions were developed in accordance with currently accepted hydrogeologic and engineering practices at this time and location. No warranties or guarantees are intended or implied.

Many of the opinions in this report are based upon the work and statements of others, including but not limited to laboratory reports. CEI assumes this work and these statements to be accurate, but accepts no responsibility for the quality and accuracy of this work and these statements.

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TABLE 1
UST CLOSURE SAMPLES
LABORATORY ANALYTICAL RESULTS
FEBRUARY 1, 1996
PETROLEUM TANK SERVICES, INC.
CHARLOTTE, NORTH CAROLINA

Sample ID	TPH BY EPA Method 3550	TPH BY EPA Method 5030
GT-1	<10	<1.0
GT-2	<10	<1.0
GT-3	1,200	2,800
DT-1	55	<1.0
DT-2	23	1.0
DT-3	2,900	740
DI-1	44	2.0
DI-2	<10	<1.0
NCAC Reportable Limits	40	10
SSE Final Cleanup Levels	240	60

The analytical results are reported in milligrams per kilogram (mg/kg).
The NCAC reportable limits and SSE final cleanup levels are in ppm.
Milligrams per kilogram is roughly equivalent to parts per million (ppm).
TPH - total petroleum hydrocarbons
GT - gasoline UST
DT - diesel fuel UST
DI - former dispenser island

TABLE 2
FIELD SCREENING RESULTS - SOIL SAMPLES
FEBRUARY 13, 1996
PETROLEUM TANK SERVICES, INC.
CHARLOTTE, NORTH CAROLINA

SOIL BORING NO.	SOIL SAMPLE NO.	DEPTH IN Feet (BGL)	FID MEASUREMENT (IN PPM)
SB-1	S-1	0 - 4	0.0
	S-2	4 - 8	0.0
	S-3	8 - 12	0.0
	S-4	12 - 16	12.0
	S-5	16 - 20	10.0
	S-6	20 - 24	0.0
	S-7	24 - 28	0.0
SB-2	S-1	0 - 4	0.0
	S-2	4 - 8	0.0
	S-3	8 - 12	0.0
	S-4	12 - 16	0.0
	S-5	16 - 20	0.0
SB-3	S-1	0 - 4	2.0
	S-2	4 - 8	0.0
	S-3	8 - 12	2.0
	S-4	12 - 16	0.0
	S-5	16 - 20	0.0
SB-4	S-1	0 - 4	0.0
	S-2	4 - 8	0.0
	S-3	8 - 12	0.0
	S-4	12 - 16	0.0
SB-5	S-1	0 - 4	0.0
	S-2	4 - 8	0.0
	S-3	8 - 12	0.0
	S-4	12 - 16	0.0

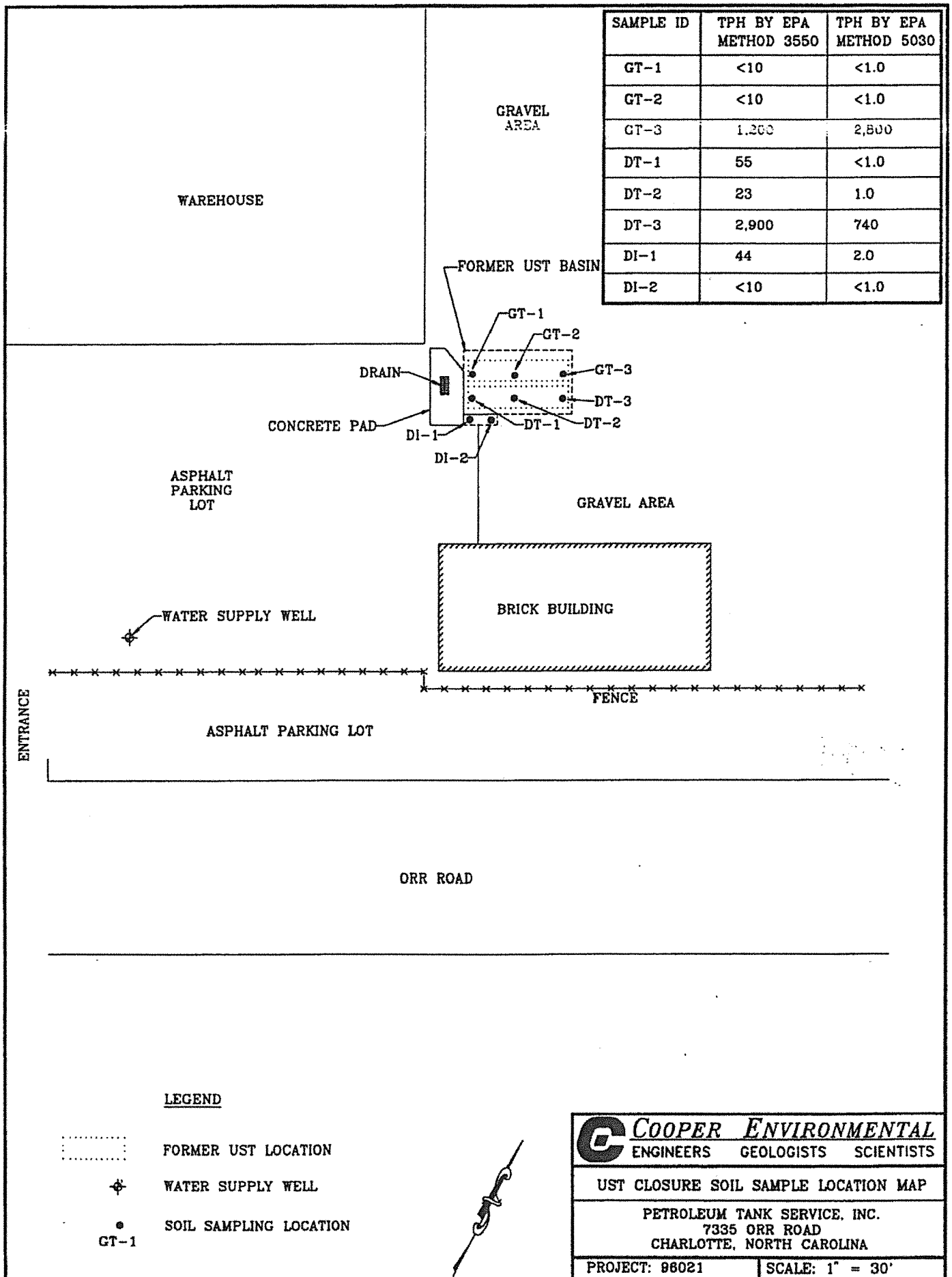
SB - soil boring
S - soil sample
BGL - below grade level
FID - flame ionization detector
PPM - parts per million

TABLE 3
LABORATORY ANALYTICAL RESULTS - SOIL ASSESSMENT
FEBRUARY 13, 1996
PETROLEUM TANK SERVICES, INC.
CHARLOTTE, NORTH CAROLINA

SOIL BORING NO.	SOIL SAMPLE NO.	DEPTH IN FEET (BGL)	TPH BY EPA Method 3550	TPH BY EPA Method 5030
SB-1	S-2	4 - 8	ND	ND
	S-4	12 - 16	ND	ND
	S-5	16 - 20	15	ND
SB-2	S-3	8 - 12	ND	ND
SB-3	S-3	8 - 12	ND	ND
SB-4	S-3	8 - 12	ND	ND
SB-5	S-4	12 - 16	ND	ND
NCAC Reportable Limits			40	10

SB - soil boring
S - soil sample
BGL - below grade level
TPH - total petroleum hydrocarbons
ND - not detected at or below laboratory detection limits
The analytical results are reported in milligrams per kilogram (mg/kg).
The NCAC reportable limits are in ppm.
Milligrams per kilogram is roughly equivalent to parts per million (ppm)

SAMPLE ID	TPH BY EPA METHOD 3550	TPH BY EPA METHOD 5030
GT-1	<10	<1.0
GT-2	<10	<1.0
GT-3	1,200	2,800
DT-1	55	<1.0
DT-2	23	1.0
DT-3	2,900	740
DI-1	44	2.0
DI-2	<10	<1.0



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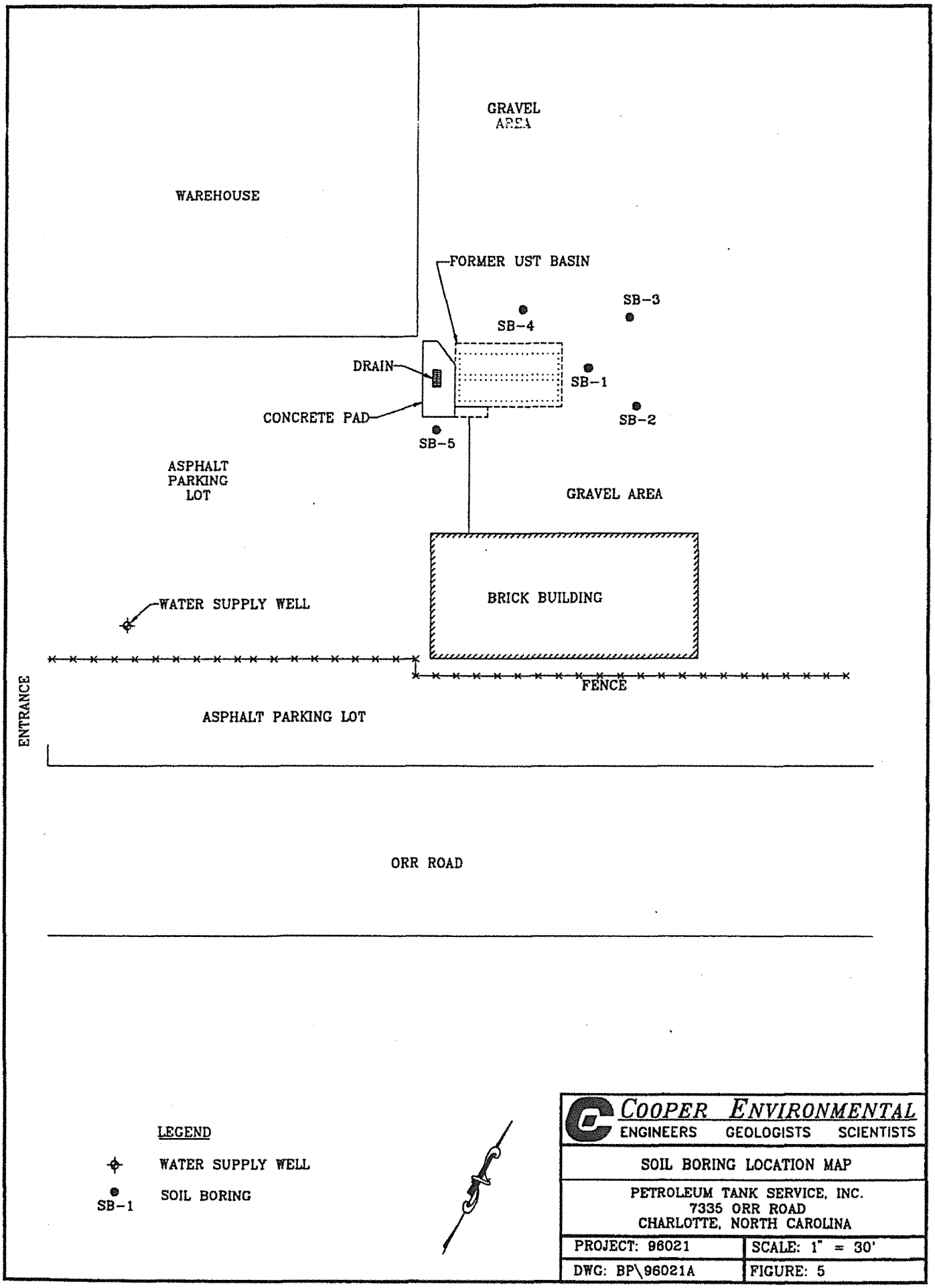
ENGINEERS GEOLOGISTS SCIENTISTS

UST CLOSURE SOIL SAMPLE LOCATION MAP

PETROLEUM TANK SERVICE, INC.
7335 ORR ROAD
CHARLOTTE, NORTH CAROLINA

PROJECT: 96021	SCALE: 1" = 30'
DWG: BP\96021A	FIGURE: 4



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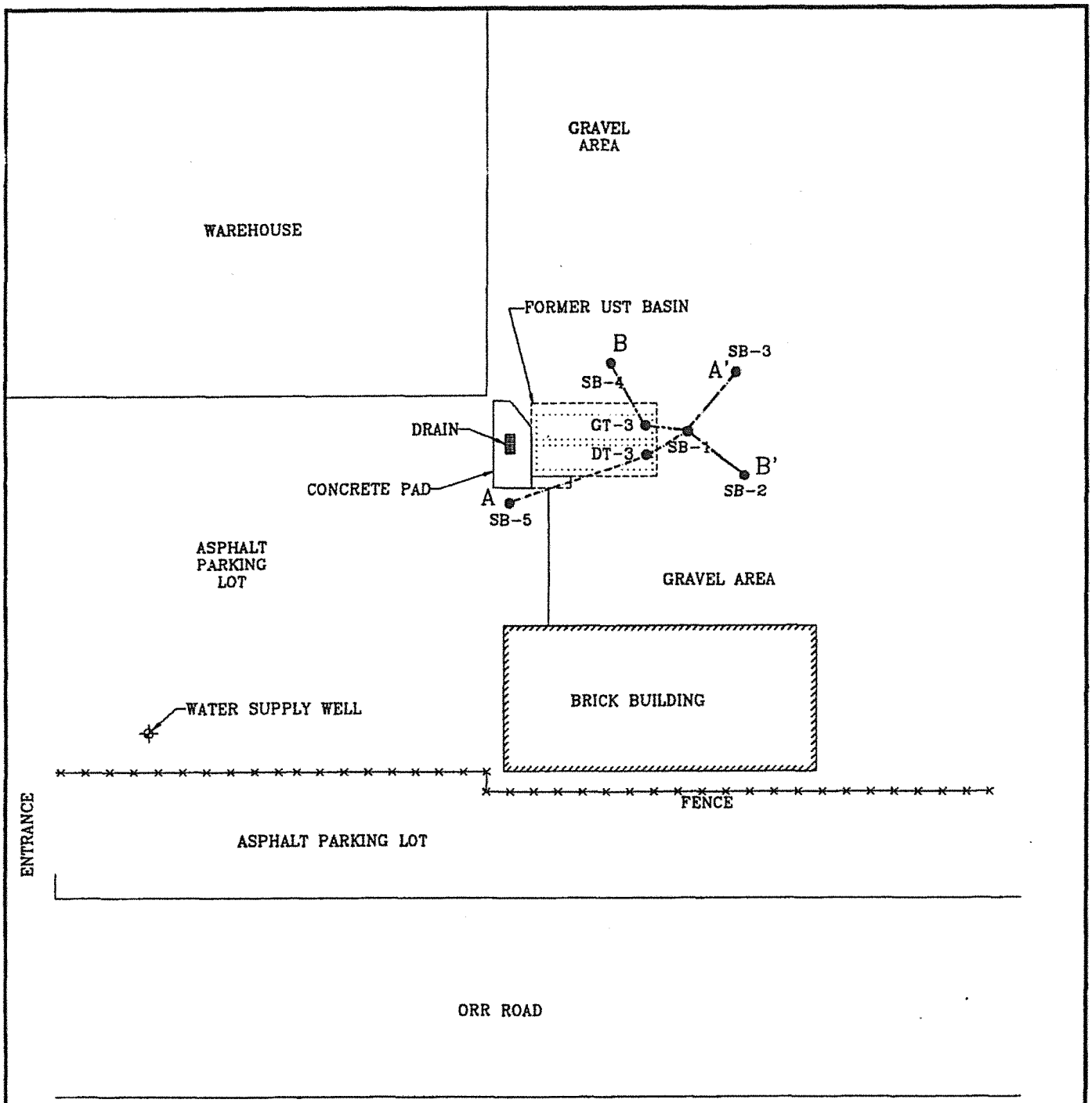
ENGINEERS GEOLOGISTS SCIENTISTS

SOIL BORING LOCATION MAP

PETROLEUM TANK SERVICE, INC.
7335 ORR ROAD
CHARLOTTE, NORTH CAROLINA

PROJECT: 96021	SCALE: 1" = 30'
DWG: BP\96021A	FIGURE: 5



LEGEND

- WATER SUPPLY WELL
- SB-1 SOIL BORING
- A ——— A' CROSS-SECTION AA'
- B ——— B' CROSS-SECTION BB'

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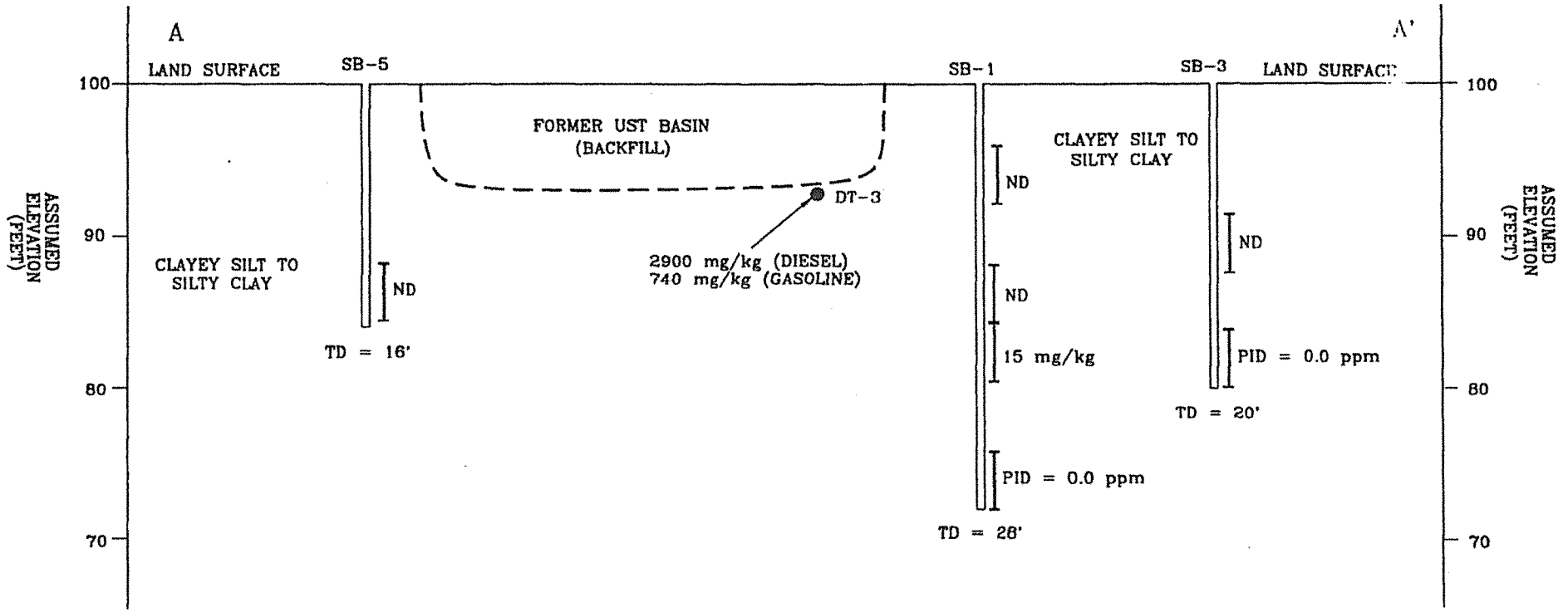
ENGINEERS GEOLOGISTS SCIENTISTS

CROSS-SECTION TRANSECT MAP

PETROLEUM TANK SERVICE, INC.
7335 ORR ROAD
CHARLOTTE, NORTH CAROLINA

PROJECT: 96021	SCALE: 1" = 30'
DWG: BP\96021A	FIGURE: 6



LEGEND

▽	APPROXIMATE LOCATION OF GROUND WATER TABLE
I	SPLIT SPOON SAMPLE INTERVAL
ND	TOTAL PETROLEUM HYDROCARBONS NOT DETECTED AT OR ABOVE DETECTION LIMITS
SB-1	SOIL BORING LOCATION
TD	TOTAL DEPTH
PID	PHOTO-IONIZATION DETECTION MEASUREMENT
ppm	PARTS PER MILLION

VERTICAL SCALE 1" = 10'

HORIZONTAL SCALE 1" = 10'

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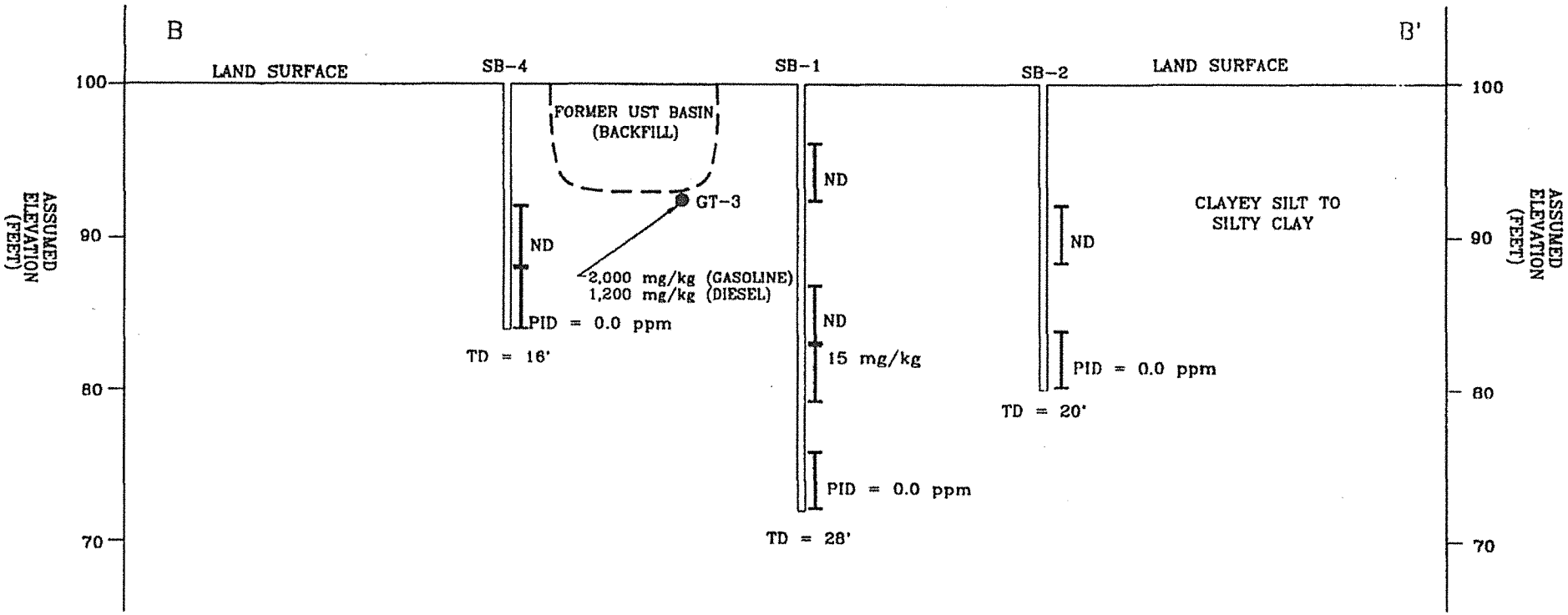
CROSS SECTION A – A'

PETROLEUM TANK SERVICE, INC.
7335 ORR ROAD
CHARLOTTE, NORTH CAROLINA

PROJECT: 96021	SCALE: AS SHOWN
DWG: BP\96021XS1	FIGURE: 7



LEGEND

— ▽ —	APPROXIMATE LOCATION OF GROUND WATER TABLE
I	SPLIT SPOON SAMPLE INTERVAL
ND	TOTAL PETROLEUM HYDROCARBONS NOT DETECTED AT OR ABOVE DETECTION LIMITS
SB-1	SOIL BORING LOCATION
TD	TOTAL DEPTH
PID	PHOTO-IONIZATION DETECTION MEASUREMENT
ppm	PARTS PER MILLION

VERTICAL SCALE 1" = 10'

HORIZONTAL SCALE 1" = 10'

COOPER ENVIRONMENTAL
ENGINEERS GEOLOGISTS SCIENTISTS

CROSS SECTION B – B'

PETROLEUM TANK SERVICE, INC.
7335 ORR ROAD
CHARLOTTE, NORTH CAROLINA

PROJECT: 96021	SCALE: AS SHOWN
DWG: BP\96021XS2	FIGURE: 8

COOPER ENVIRONMENTAL
ENGINEERS • GEOLOGISTS • SCIENTISTS

June 20, 1996

DRAFT

Mark Oden
Petroleum Tank Service
P.O. Box 237
Newell, North Carolina 28126

Re: Preliminary Site Evaluation
Petroleum Tank Service
7335 Orr Road
Charlotte, North Carolina
CEI Project No. 96021

Dear Mr. Oden:

Cooper Environmental Inc. (CEI) in accordance with our May 16, 1996 meeting and conversations with Mr. Allen Schiff of the North Carolina Department of Environment, Health and Natural Resources (NCDEHNR) conducted a Geoprobe soil boring/temporary monitoring well designated soil boring SB-6. CEI requested Geologic Exploration, Inc. (GEX) to conduct the Geoprobe™ between tank closure soil samples GT-3 and DT-2. CEI included Figure 1 illustrating the location of SB-6.

CEI collected continuous soil samples to a depth of 23 feet below grade level (BGL). CEI field screened a replicate portion of the soil column with a photoionization detector (PID). CEI collected the field screening data to assist with identifying potential areas containing volatile organic vapors. The PID results suggest a potential hydrocarbon impact area at an approximate depth of eight to ten feet BGL. CEI submitted the soil sample representing the eight to ten foot interval to Pace Analytical laboratories (PACE) for total petroleum hydrocarbons (TPH) analysis in accordance with modified SW-846 Method 8015

2300 Sardis Road North, Suite Q
Charlotte, North Carolina 28227
(704) 845-2000 • FAX (704) 841-8901

5101 Country Club Road
Winston-Salem, North Carolina 27104
(910) 760-6520 • FAX (910) 760-6521

with sample extraction by Methods 3550/5030. Laboratory analysis identified TPH concentrations of 230 milligrams/kilogram (mg/kg) as diesel range hydrocarbons and 40 mg/kg gasoline range hydrocarbons. See attached laboratory analytical data sheets.

CEI completed the boring to a depth of approximately 26 feet BGL or Geoprobe™ refusal. CEI installed a two inch inside diameter (ID) temporary monitoring well to a approximate depth of 23 feet BGL. CEI collected a water quality sample from the temporary well, and the well was abandoned by placing powered bentonite (No.8) to within six inches of grade, filling the remaining annulus with concrete.

CEI requested Pace to analyze the water quality samples for purgeable halocarbons, purgeable aromatics to include methyl tertiary butyl ether (MTBE), isopropyl ether (IPE), and ethylene dibromide (1,2 Dibromethane) in accordance with EPA Methods 601, 602 extended and 504.1. CEI also requested base neutrals and acids extractable by EPA Method 625 plus the ten largest peaks identified on the chromatography. The laboratory results identified the following purgeable halocarbons constituents cholorethene at 20 micrograms/liter (µg/l); 1, 2 dichloroethane at 31 µg/l; 1,1,2-trichloroethane at 130 µg/l; 1,1,2-trichloroethane at 3.2 µg/l; and tetrachloroethene at 730 µg/l. Additionally, the following purgeable aromatic constituents were identified; benzene at 72 µg/l; toluene at 230 µg/l; and ethylbenzene at 63 µg/l. MTBE and IPE were identified at estimated concentrations of 120 µg/l and 220 µg/l respectively. However, due to the response being detected over the calibration range for these compounds, the actual concentrations could not be determined. The constituent EDB was identified by the secondary column at a concentration of 11 µg/l. Naphthalene was identified by Base Neutral Acids analysis at a concentration of 11 µg/l. Micrograms per liter is relatively equivalent to parts per billion. Attached is a copy of laboratory analysis for your review.

Based on the results of the soil and ground water analytical analysis, both the soil and ground water have been impacted. Petroleum hydrocarbons have been identified in both soil and ground water in the vicinity of soil boring SB-6. Due to the presence of ground water impact, the results of the Site Sensitivity Evaluation (SSE) determined for the subsurface soils is nullified. The ground water also has been impacted by chlorinated solvents, which are not usually associated with petroleum releases.

Due to the presence of both petroleum hydrocarbons and non-petroleum halocarbon constituents, additional assessment activities are warranted. CEI additionally recommends immediately collecting a water quality sample from the on-site water supply well servicing the 7335 Orr Road facility. In accordance with applicable laws of the State of North Carolina ground water impact must be reported to the North Carolina Department of Environmental Management.

CEI appreciates the opportunity to provide professional services on this project. Should you have questions or comments concerning this correspondence, please do not hesitate to contact me or John Burkart at 704-745-2000.

Sincerely,
COOPER ENVIRONMENTAL, INC..

DRAFT
Charles R. Lavender III

DRAFT
Robert S. Hird, P.G.
Senior Reviewer/Attachments

CRL/amd/cl170

TABLE 1

Summary of Water Quality Analysis

7335 Orr Road Charlotte, NC

CEI Project No. 96021

CONSTITUENT	CONCENTRATION	WATER QUALITY STANDARD
1,2 Dibromoethane (EDB)	11 µg/l CO	0.0004 µg/l
Chloroethene (vinyl chloride)	20 µg/l	0.015 µg/l
1,1-Dichloroethane	31 µg/l	0.38 µg/l
1,1,2-Trichloroethene(TCE)	130 µg/l	2.8 µg/l
1,1,2-Trichloroethane	3.2 µg/l	DC
Tetrachloroethene (PCE)	730 µg/l	0.7 µg/l
MTBE	*120 µg/l OR	200 µg/l
IPE	*220 µg/l OR	70 µg/l
Benzene	72 µg/l	1 µg/l
Toluene	230 µg/l	1000 µg/l
Ethylbenzene	63 µg/l	29 µg/l
Xylenes	610 µg/l	530 µg/l
Naphthalene	26 µg/l	21 µg/l

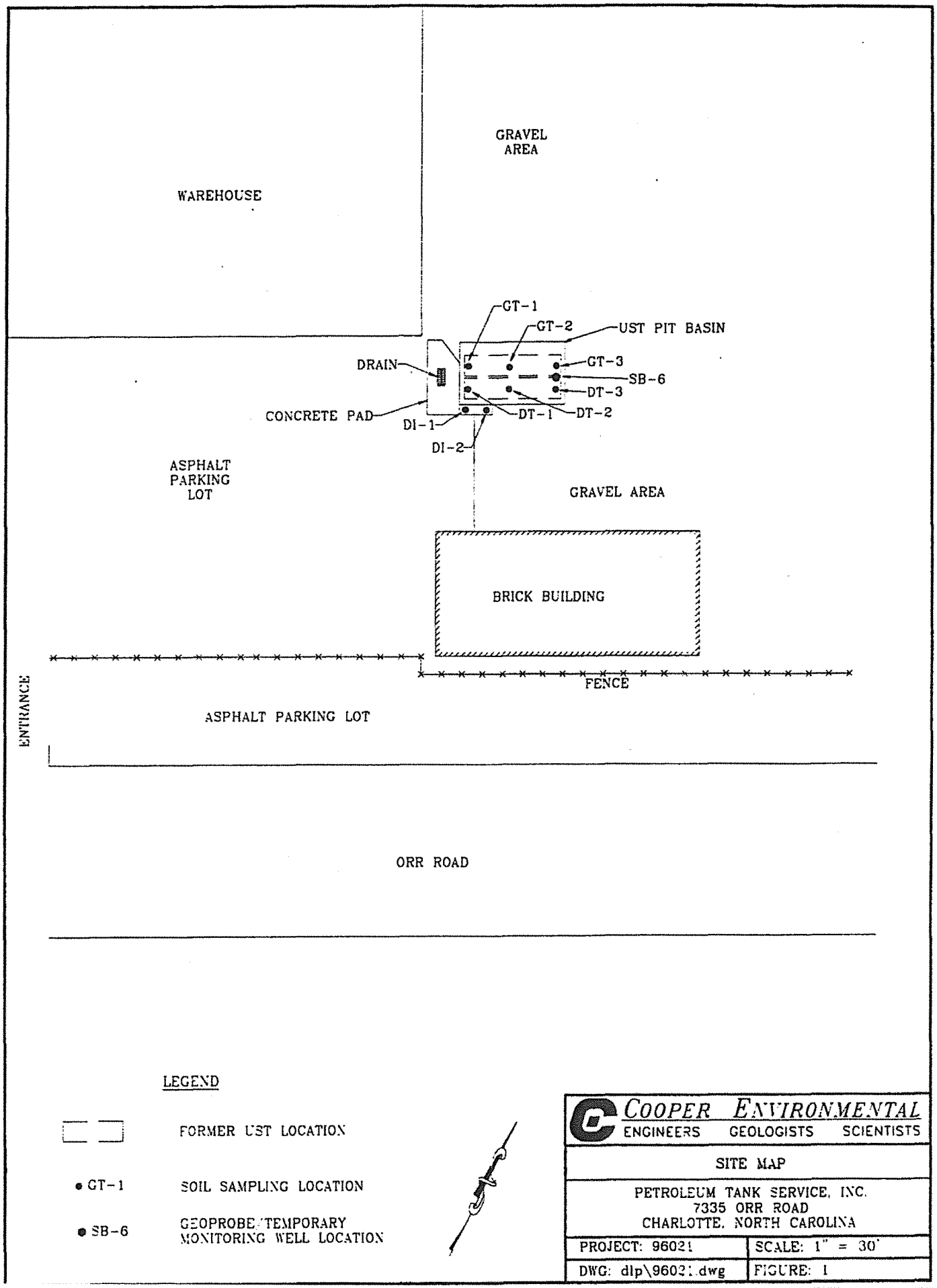
Notes:

CO-compounds confirmed by secondary column

OR-the response was over the calibrate-range for this compound. Reported results should be considered only an estimate

DC-concentrations not permitted in detectable concentrations

*Estimated concentration



LEGEND

- FORMER UST LOCATION
- ● GT-1 SOIL SAMPLING LOCATION
- ● SB-6 GEOPROBE TEMPORARY MONITORING WELL LOCATION

COOPER ENVIRONMENTAL
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SITE MAP

PETROLEUM TANK SERVICE, INC.
7335 ORR ROAD
CHARLOTTE, NORTH CAROLINA

PROJECT: 96021	SCALE: 1" = 30'
DWG: dlp\96021.dwg	FIGURE: 1

REPORT OF COMPREHENSIVE SITE ASSESSMENT
PETROLEUM TANK SERVICE, INC.
7335 ORR ROAD
CHARLOTTE, NORTH CAROLINA

PREPARED FOR:

MR. MICHAEL SMITH
PETROLEUM TANK SERVICE, INC.
P.O. BOX 237
NEWELL, NORTH CAROLINA

PREPARED BY:

KOGUT
ENVIRONMENTAL
Consulting, Inc.

February 10, 1997

KEC Project No. 96-14

Jeffrey A. Kogut, L.G.
Managing Principal
North Carolina Registration No. 1198

NORTH CAROLINA LICENSED SEAL 1198 GEOLOGIST JEFFREY ALAN KOGUT

Dana. R. Hayworth
Peer Review

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1.0 INTRODUCTION

Kogut Environmental Consulting, Inc. (KEC) is currently under contract with Petroleum Tank Service, Inc., (PTS) to provide environmental consulting services regarding the removal of two underground storage tanks (USTs) formerly used to store petroleum products at its facility located at 7335 Orr Road in Charlotte, North Carolina. The scope of services performed for this project have been performed in accordance with KEC Proposal No. 96-14 dated September 10, 1996 as outlined below.

1.1 Scope of Services

The scope of services for this investigation were designed to investigate petroleum hydrocarbons pursuant to the requirements of the North Carolina Department of Environment, Health and Natural Resources' (NCDEHNR) Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater. Based upon our understanding of these guidelines and the existing regulations and statutes, KEC completed the following activities:

- Reviewed and summarized existing documentation of previously completed environmental studies;
- Completed a sensitive receptor survey for the area within a 1,500 foot radius of the project site;
- Completed a real time groundwater assessment to assist in the placement of permanent monitoring wells;
- Installed seven Type II groundwater monitoring wells around the former underground storage tank (UST) basin and collected groundwater samples for chemical testing;
- Installed one Type III (vertical extent) groundwater monitoring well and collected a groundwater sample for chemical testing;
- Completed a site survey to update the existing site plan;
- Completed a well gauging tour to measure the depth to groundwater and determine the groundwater flow direction; and
- Summarized the collected data into a Comprehensive Site Assessment (CSA).

1.2 Site History and Source Characterization

The subject site consists of approximately 3 acres of land located at the congruence of Orr Road and Grier Road in Charlotte, North Carolina (Figure 1). Mr. Elford Smith purchased the property in 1968 from the McLaughlin Estate. At the time of the sale, the property was reportedly utilized as farm land. PTS rented the unimproved property in 1970 and has conducted the business of equipment storage and sand blasting and painting of customer supplied steel products since 1971. Improvements at the site consist of one 1,600 square foot (ft^2) office building and a 10,000 ft^2 slab on grade pre-engineered warehouse utilized for storage and repair of equipment. A portion of the

property is also asphalted for parking. A potable water well was also installed on site circa 1971. In 1974, two 4,000-gallon capacity gasoline and diesel fuel USTs were installed at the site. The USTs were utilized to fuel company vehicles and were registered, with all fees paid in full, until their removal on February 1, 1996.

2.0 INVESTIGATIVE BACKGROUND

2.1 UST Closure and Environmental Services

PTS submitted a completed Notice of Intent: UST Permanent Closure or Change-in-Service (GW/UST-3 Form) on December 27, 1995. On February 1, 1996, PTS personnel excavated and closed, by removal, the referenced USTs. Ancillary equipment also closed at that time included two fueling dispensers which were located on top of the USTs and a small volume of fiberglass piping.

Closure soil samples were collected from beneath the removed USTs and beneath each dispenser. The samples were chemically testing using EPA Method 8050 with Extraction Methods 3550 (TPH semi-volatiles) and 5030 (TPH volatiles). The results of the chemical testing indicated the presence of TPH semi-volatiles and TPH volatiles at concentrations above the NCDEHNR reportable limits of 40 milligrams per kilogram (mg/kg) and 10 mg/kg, respectively. A summary of the findings of this investigation may be found in Cooper Environmental, Inc. (CEI) Report No. 96021, *Tank Removal-Permanent Closure Report*, dated February 14, 1996.

In response to the findings of the above referenced report, representatives of CEI mobilized to the project site on February 13, 1996 to supervise the advancement of five direct push geoprobe soil borings and the collection of soil samples for chemical testing. The objective of the soil borings, sample collection and chemical testing was to determine the horizontal extent of the petroleum hydrocarbon impacted soil. The sampling and chemical testing has determined that the horizontal extent of the petroleum hydrocarbon impacted soil is confined to the former UST basin. A complete summary of these activities are presented in CEI Report No. 96021, *Soil Assessment Report*, dated March, 1996.

On May 28, 1996, representatives of CEI returned to the site to supervise the completion of a sixth geoprobe soil boring (SB-6) in the vicinity of the former UST basin. The purpose of this boring was to collect a groundwater sample to evaluate the potential impact to site groundwater. Collection and chemical testing of a groundwater sample from this boring indicated the presence of contaminants including dissolved petroleum hydrocarbons. A complete summary of these activities are presented in CEI Report No. 96021, *Preliminary Site Evaluation*, dated June 20, 1996.

As a result of these findings, KEC was contracted to collect and chemically test a sample of groundwater from an existing on-site potable water well. The results of the chemical testing did not indicate the presence of any contaminants in the collected sample. These findings were reported in KEC Report 96-4, *Report of Potable Water Sample Collection and Chemical Testing*, dated July 11, 1996.

2.2 Initial Site Characterization

KEC personnel observed the installation of one permanent Type II groundwater monitoring well (MW-1) in the vicinity of the former UST. A groundwater sample was collected from this well and submitted for chemical testing to confirm the presence of an impact of dissolved petroleum hydrocarbon constituents in site groundwater. Chemical test results from the collected sample confirmed the presence contaminants including dissolved petroleum hydrocarbons. These findings were reported in KEC Report 96-4, *Report of Initial Site Characterization*, dated September 10, 1996.

3.0 POTENTIAL RECEPTORS SURVEY

3.1 Local Water Supply

The Charlotte Mecklenburg Utility Department (CMUD) offers service to the majority of the surrounding area with the exception of a 1,200 foot portion of Orr Road. Properties within this area are not provided with the option of supplied water. These residences and businesses receive their water from private potable water wells.

3.2 Potable Water Well Survey

A potable water well survey was completed for the area included within a 1,500 foot radius of the project site. The water well survey was conducted by walking the area within the designated radius and verbally surveying property owners as to the source of their potable water.

Based upon our findings, [redacted]
The names and addresses of the properties are as follows:

Southern Star of Charlotte
7425 Orr Road

Concrete Coring
7408 Orr Road

Delta Landscaping
7439 Orr Road

Piedmont Chlorinators
7424 Orr Road

SE Equipment Service of Charlotte
7449 Orr Road

Countryside Mobile Home Park
7323 Greer Road

Superior Windows
7531 Orr Road

Petroleum Tank Service, Inc.
7335 Orr Road

Private Residence
7320 Greer Road

The approximate location of these wells is presented on the attached section of the United States Geological Survey (USGS) Derita 7.5 minute quadrangle map (Figure 2). A scaled map illustrating the location of the identified properties is attached as Figure 3. The results of the survey were reported to the North Carolina Department of Environment, Health and Natural

Resources (NCDEHNR), Mooresville Regional Office in KEC Report 96-14, *Report of Water Supply Well Survey*, dated November 14, 1996.

3.3 Structures at Risk from Free Product and/or Vapors

A survey of the subject property and the surrounding properties d[redacted] However, a review of the area did reveal the presence of [redacted] A 15-inch diameter corrugated metal pipe [redacted] to collect and discharge accumulated surface water from the work area is present in the area of the former USTs. The depth from the surface to the drop inlet is approximately 3.5 feet. Due to the shallow depth of this line, this structure is not believed to be at risk of free product accumulation. No evidence of organic vapors was detected during an inspection of the line.

In addition to the storm drain there is also a four-inch diameter [redacted] This line runs along the northwest corner of the office structure and terminates in a septic drain field reported by the property owner to be located in the vicinity of the northeast corner of the warehouse. No additional information concerning the location of the drain field or the construction of septic tank was available at the time of report preparation.

3.4 Surface Drainage

A completed survey of selected points across the site indicates an overall elevation drop of 10 to 11 feet toward the northeast. Surface water that collects from precipitation is either collected in the aforementioned storm drain or transported via overland flow where it is eventually deposited into an unnamed tributary of the Toby Creek.

4.0 SOIL INVESTIGATION

4.1 Extent of Petroleum Impacted Soil

Soil samples collected during the closure of the UST system indicated the presence of TPH semi-volatiles and TPH volatiles at concentrations above the NCDEHNR soil standards of 40 mg/kg and 10 mg/kg, respectively.

On February 13, 1996, CEI supervised the advancement of five direct push soil borings around the former UST basin. A total of seven soil samples were collected from these borings and submitted to a North Carolina certified laboratory for testing of TPH semi-volatile and TPH volatiles concentrations. The objective of this study was to define the horizontal extent of the petroleum impacted soils. The results of the chemical testing did not indicate the presence of TPH semi-volatile or TPH volatile at concentrations above the minimum reportable concentrations. Based upon the chemical test results, the horizontal extent of the petroleum impacted soil is complete.

On or about May 23, 1996, CEI again mobilized to the site to supervise the advancement of one direct push soil boring (SB-6). The boring was installed in the area of the highest detected TPH concentrations and was extended to a depth of 23 feet below land surface (bls) to accommodate a temporary monitoring well. A soil sample was collected from the eight to ten-foot interval and submitted for testing of TPH semi-volatiles and TPH volatiles. The results of chemical testing

indicated TPH semi-volatile and TPH volatile concentrations above NCDEHNR soil standards. Chemical testing of a groundwater sample indicated the presence of contaminants including petroleum hydrocarbons above the 2L Standards. A complete copy of reports documenting the assessment of the petroleum impacted soils is present in Appendix A.

5.0 GROUNDWATER INVESTIGATION

5.1 Geoprobe Survey

On Monday, November 25, 1996, KEC personnel mobilized to the site with Probe Technologies, Inc. of Concord, North Carolina to perform a geoprobe survey of the impact to groundwater. Previous data collected by CEI indicated that subsurface conditions would allow for this type of investigation. Analytical Mobile Services, Inc. (AMS) of Hilton Head, South Carolina also mobilized to complete real-time chemical testing of the collected groundwater samples. A total of six geoprobe soil borings (HP-1 through HP-6) were pneumatically driven to refusal. The depth to refusal ranged from 21.5 feet bls to 30 feet bls. While moist soils were noted during the completion of the soil borings, groundwater could not be recovered for chemical testing. The soil borings were sealed to the surface with a grout cement and bentonite mixture.

5.2 Chemical Testing of Potable Water Well Samples

Groundwater samples were collected from the identified potable water wells on November 25, 1996. These samples were submitted to AMS for chemical testing. The results of the chemical testing indicated the presence of contaminants in the samples collected from the well at the PTS facility - 7335 Orr Road and from the well located at the Piedmont Chlorinators facility - 7424 Orr Road. The re-test of the well at the Piedmont Chlorinators facility did not indicate the presence of any contaminants, possibly indicating that the initial result may be the result of laboratory or field sample cross-contamination. The samples from the remaining seven potable water wells did not indicate the presence of any contaminants.

The second re-test and a subsequent third re-test of a groundwater sample from the well on the PTS facility confirmed the presence of dissolved contaminants. A complete copy of the chemical test results for the potable water wells is included in Appendix B.

5.3 Temporary Monitoring Wells, Groundwater Sample Collection and Chemical Testing

McCall Brothers Well Drilling was mobilized on November 25, 1996 to complete the soil borings and collect groundwater samples via a combination hollow stem auger drilling and sample collection technique known as a hydropunch. After determination that the subsurface would not produce sufficient sample for collection with the hydropunch, the soil borings were converted to temporary monitoring wells and allowed to set for 24 hours to allow for groundwater to collect.

After the 24-hour period, groundwater samples were collected from the temporary wells and existing monitoring well MW-1. The samples were submitted to AMS for on-site testing using EPA Method 8260. The results of the chemical testing indicated the presence of varying concentrations of dissolved petroleum hydrocarbon constituents. A summary of the chemical test results is presented in Table 1. A complete copy of the analytical reports is presented in Appendix C. The location of the temporary wells (HP-2 through HP-6) is illustrated on Figure 4 (Site Plan).

5.4 Permanent Groundwater Monitoring Wells

Based on the groundwater chemical test data from the temporary wells, monitoring wells MW-2 through MW-7 were installed at the site on December 3, 1996. These wells were installed using a truck mounted drilling rig with a 6.125-inch diameter air hammer drill bit and are located outside of the temporary monitoring wells.

The wells extend to an average depth of 30-feet bls and are constructed of 15-feet of 2-inch diameter, 0.010-inch slotted poly-vinyl chloride (PVC) screen topped with schedule 40 PVC casing that extends to the ground surface. The borehole annulus surrounding the well screens and the bottom 2-feet of each well casing is packed with a 20/30 grade silica sand pack. The sand pack is designed to filter out fine-grained silts and clays from the surrounding formation. The remaining annular space is filled with a two-foot collar of hydrated bentonite pellets and a cement grout mixture that is designed to isolate the well and the water bearing formation from surface contaminants. The well head is secured against unauthorized access with locking expandable well plug and a bolt-down 8-inch diameter, 8-inch sleeve manhole set in a 2-foot by 2-foot concrete well pad.

On December 17, 1996, KEC personnel re-mobilized to the site to oversee the installation of a Type III groundwater monitoring well. The well (MW-8D) was installed approximately 10-feet downgradient of MW-1 to assess the vertical extent of impacts to groundwater.

In order to isolate the overlying unconfined aquifer from the underlying confined water bearing zone(s) to be tested, a 10-inch diameter borehole was drilled to competent bedrock (36 feet bls) whereupon an 8-inch diameter, schedule 80 PVC well casing was grouted into place. After allowing the casing to set for a 24-hour period, a 6.25-inch diameter air hammer boring was advanced through the interior of the casing at 10-foot intervals to identify the underlying confined water bearing fracture zone(s). The open boring was advanced to a total of 24 feet beyond the bottom of the PVC casing (60 feet bls). This depth was chosen for termination of the boring due to the presence of several fractures noted in the 47 foot to 57 foot interval. At the time of the drilling these fractures did not produce groundwater. However, upon consultation with NCDEHNR, the decision was made to stop and allow the subsurface to stabilize for 48 hours prior to continuing advancement of the well.

Upon re-examination of the well, 11 feet of groundwater was found to be present. Since the exact intervals of the water-bearing fractures were not identified, the decision was made to complete the well as an open hole bedrock well, rather than take the chance on setting the well screen below the water bearing fractures and isolating the well screen from the targeted test zone.

Upon completion, each monitoring well was developed via pumping until a clear sediment free discharge was observed. The development water is containerized on site in a secured 55-gallon steel drum. Soil cuttings generated during the installation of the wells have been collected and are temporarily being staged on a plastic barrier pending disposition. Well construction specifications are summarized in Table 2 and are illustrated on the boring logs which are present in Appendix D.

5.5 Groundwater Sample Collection and Chemical Testing

Groundwater samples were collected from monitoring wells MW-1 through MW-7 on December 12, 1996 and from MW-8D on January 7, 1997. Prior to sample collection, the depth to groundwater and an inspection for the presence of free product were completed for each well. The depth to groundwater was measured with an electronic water level indicator, while the presence or absence of free product was completed by lowering and removing a transparent disposable sampling bailer half-way into the water table and examining the water column for the presence of free product. [redacted]

In order to obtain samples representative of the ambient aquifer conditions, three well volumes of groundwater were purged from each well. Upon completion of the purging, groundwater samples were collected and placed into laboratory prepared sampling containers and submitted to Prism Laboratories, Inc. of Charlotte, North Carolina for chemical testing using EPA Methods 601, 602 and 625 for the 10 largest tentatively identified compounds.

The results of the chemical testing indicated the presence of varying concentrations of dissolved petroleum hydrocarbon constituents in the groundwater samples. The highest concentrations were found to be present in the sample collected from MW-1, which is located in the vicinity of the former USTs. Petroleum hydrocarbon constituents were benzene and 1,2-dichloroethane Please see figures 5 through 7.

A summary of the chemical test results, along with the applicable 2L Groundwater Standards, is presented in Table 3. A complete copy of the chemical test reports is present in Appendix E.

6.0 GEOLOGY AND HYDROGEOLOGY

6.1 General Geology

The site is situated within the Charlotte and Milton Geologic Belts of the Piedmont Geologic Province of North Carolina. The Charlotte and Milton Belts are characterized as dominantly plutonic with compositional variations ranging from granite to gabbro. Within the Newell, Hickory Grove area, the predominant mapped member is a metamorphosed quartz diorite.

6.2 Site Specific Geology

Site specific geology was characterized at the site through the examination of well cuttings brought to the surface during the installation of the monitoring wells. According to the geologic logs, the subsurface at the site is comprised of 10 to 20 feet of red to brown clayey silt and sand, underlain by basement rock composed of quartz diorite and granite. Generalized geologic cross-sections of the site geology are presented on Figures 8 and 9.

6.3 Site Specific Hydrogeology

At the time of the study, unconfined groundwater at the site was measured at a depth of approximately 21 feet bls. The first confined groundwater present within the basement rock was measured at a depth of approximately 49 feet bls.

A professional survey of the site was completed to update the existing site plan. The measured elevations of the individual well casings were measured and used along with the measured depth to groundwater to calculate the unconfined water table elevation. By contouring the water table elevations, a groundwater flow pattern for the site was established. Based upon the collected data, [redacted] The groundwater flow pattern at the subject site is illustrated on Figure 10.

7.0 SUMMARY AND RECOMENDATIONS

Bases upon the findings of this investigation, the following conclusions are hereby offered:

- A release of petroleum hydrocarbons has occurred at the site. The source of the petroleum hydrocarbons appears to be the former gasoline and diesel fuel USTs removed in February 1996.

- Petroleum hydrocarbon constituents were detected in MW-1, which is located in the area of the backfill excavation. The petroleum hydrocarbons appear to be confined to the area of the backfill of the former UST basin.

- A total of seven Type II monitoring wells have been installed at the site. Collection and chemical testing of groundwater samples from these wells indicates that the horizontal extent of the dissolved petroleum hydrocarbon constituents are defined.

- One Type III groundwater monitoring well is present at the site. The well is located approximately 10-feet downgradient of the area with the highest dissolved petroleum hydrocarbon concentrations and extends to a depth of approximately 60 feet bls. Chemical testing of a groundwater sample from this well indicated concentrations of [redacted]

- Unconfined [redacted] at the site is present at an average [redacted] feet bls. The calculated groundwater flow direction beneath the site is towards the north under a calculated hydraulic gradient of approximately 0.061 feet per foot (ft/ft).

- A sensitive receptor survey completed within a 1,500 foot radius of the site revealed the presence of nine potable water wells. With the exception of the well at the PTS facility, the chemical testing of collected groundwater samples from these wells did not indicate the presence of detectable concentrations of organic chemicals.

Based upon the findings of this investigation and our understanding of existing statutes and regulations, KEC recommends the following:

- Develop a corrective action plan for remediation of the subsurface groundwater.

TABLE 1
PETROLEUM TANK SERVICE, INC.
GROUNDWATER SAMPLE CHEMICAL TEST RESULTS
SAMPLES COLLECTED ON NOVEMBER 29, 1996

CONSTITUENTS	*MW-1*	*HP-2*	*HP-3*	*HP-4*	*HP-5*	*HP-6*	*2L*
benzene	*8.4*	*NP*	*1.2*	*NP*	*NP*	*NP*	*1*
toluene	*NP*	*NP*	*2.9*	*NP*	*NP*	*NP*	*1,000*
ethylbenzene	*6.6*	*NP*	*NP*	*NP*	*NP*	*NP*	*29*
xylenes	*68*	*NP*	*11.6*	*NP*	*NP*	*NP*	*530*
1,2-dichloroethane	*NP*	*2*	*8*	*NP*	*NP*	*NP*	ND
naphthalene	*NP*	*NP*	*2.6*	*NP*	*NP*	*NP*	21

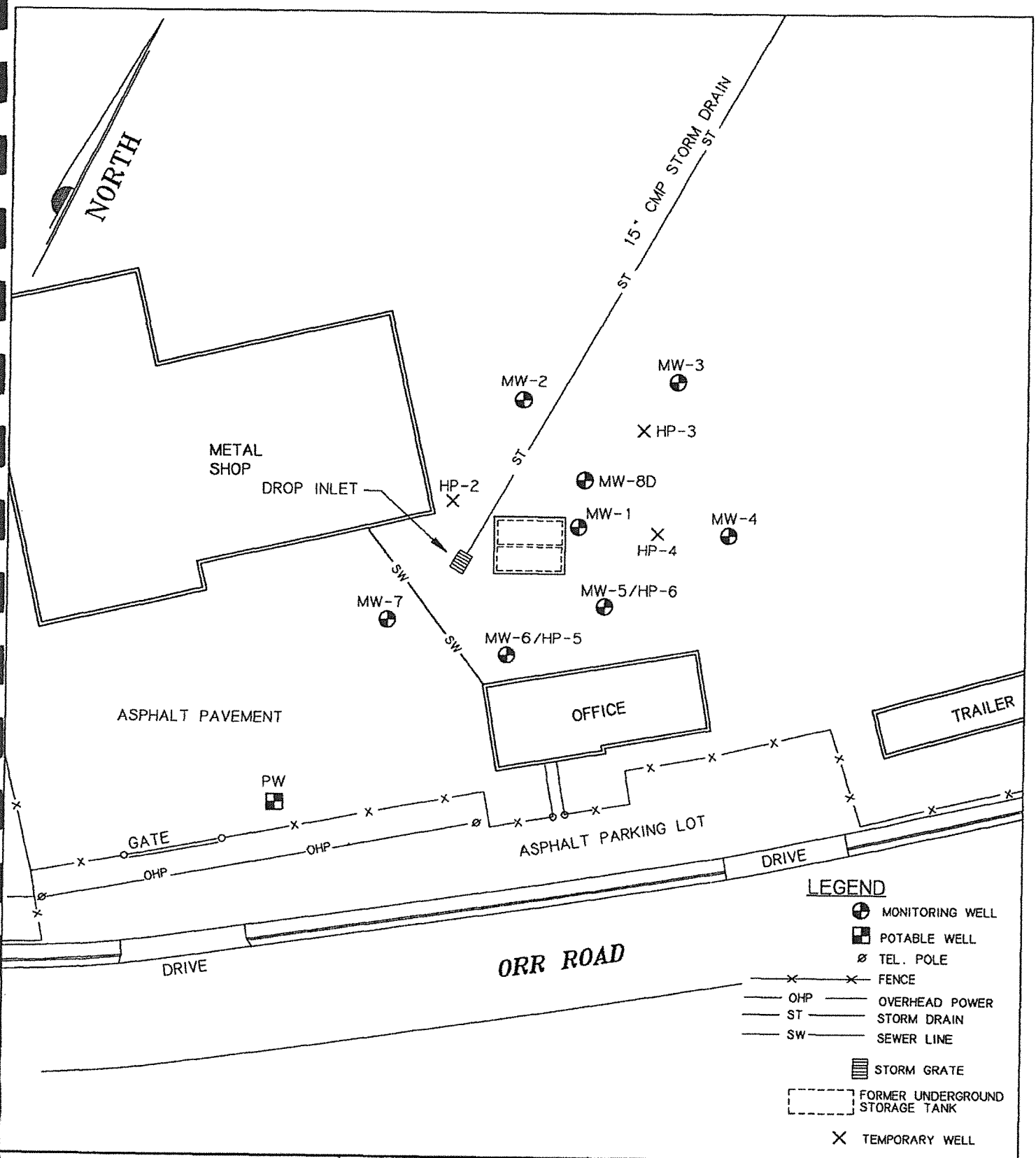
NP= not present
All concentrations are in micrograms per liter (µg/l)
shaded area denotes a violation of 2L Standards

TABLE 2 PETROLEUM TANK SERVICE, INC. MONITORING WELL CONSTRUCTION SPECIFICATIONS								
Item	*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*MW-7*	*MW-8D*
Installation Date	*12/3/96*	*12/3/96*	*12/3/96*	*12/3/96*	*12/3/96*	*12/3/96*	*12/3/96*	*12/17/96*
Total Well Depth	*26'*	*35'*	*30'*	*30'*	*24'*	*30'*	*30'*	*60'*
Screened From	*15'*	*15'*	*15'*	*15'*	*15'*	*15'*	*15'*	*NA*
Screen Size	*0.010"*	*0.010"*	*0.010"*	*0.010"*	*0.010"*	*0.010"*	*0.010"*	*NA*
Casing Diameter	*2"*	*2"*	*2"*	*2"*	*2"*	*2"*	*2"*	*6"*
Borehole Diameter	*6.25"*	*6.25"*	*6.25"*	*6.25"*	*6.25"*	*6.25"*	*6.25"*	*10.25"/6.25"*
Depth to Water	*21.15'*	*24.63'*	*23.21'*	*23.23'*	*21.80'*	*22.98'*	*22.65'*	*41.10'*

TABLE 3
PETROLEUM TANK SERVICE, INC.
SUMMARY GROUNDWATER SAMPLE CHEMICAL TEST RESULTS
SAMPLES COLLECTED ON DECEMBER 12, 1996 and JANUARY 7, 1997

PETROLEUM CONSTITUENTS	*MW-1*	*MW-2*	*MW-3*	*MW-4*	*MW-5*	*MW-6*	*MW-7*	*MW-8D*	*2L*
benzene	*24*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*1*
toluene	*36*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*1,000*
ethylbenzene	*19*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*29*
xylenes	*150*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*530*
1,2-dichloroethane	*31*	[redacted]	*NP*	*NP*	*NP*	*NP*	*NP*	[redacted]	*0.38*
ethylene dibromide	[redacted]	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	[redacted]	*0.0004*
methyl cyclopentanol	*64*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*nd*
methyl cyclohexanol	*15*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*nd*
methyl hexanol	*68*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*nd*
dimethyl hexanol	*42*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*nd*
dihydro-indenone	*41*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*nd*
t-butyl phenol	*NP*	*16*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*nd*
lead (mg/l)	*0.079*	*0.018*	*NP*	*NP*	*0.016*	*NP*	*NP*	*NP*	*0.015*

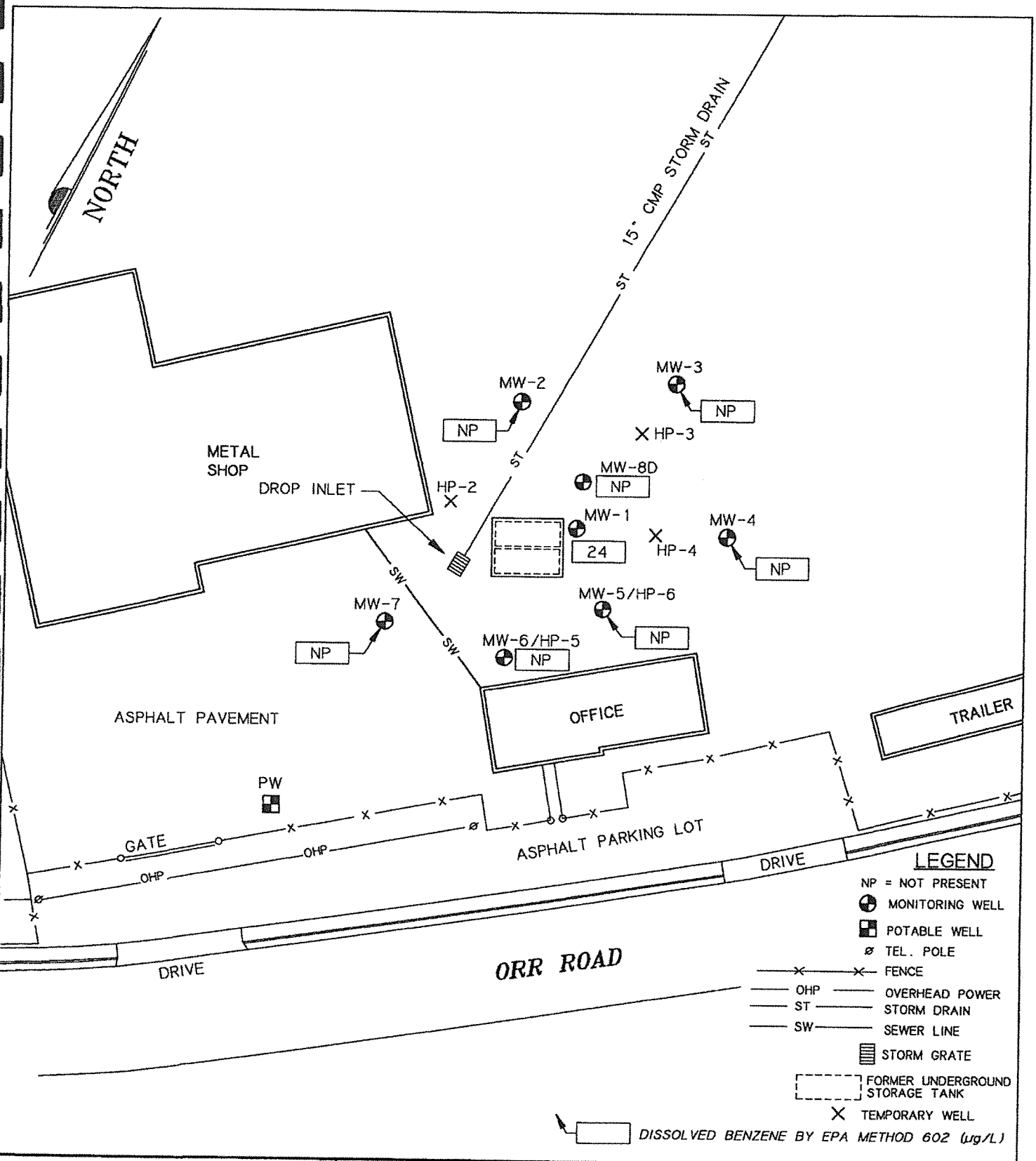
NP= not present
nd = not allowed in detectable concentrations
All concentrations are in micrograms per liter (µg/l) except where noted
shaded area denotes a violation of 2L Standards.



KOGUT ENVIRONMENTAL Consulting, Inc.

TITLE: SITE PLAN	DRAWING NO. FIGURE 4	
PROJECT: PETROLEUM TANK SERVICE 7335 ORR ROAD CHARLOTTE NC	SCALE: 1"=40'	DRAWN BY: KFB
	REVISION: A	DATE: 1/29/97

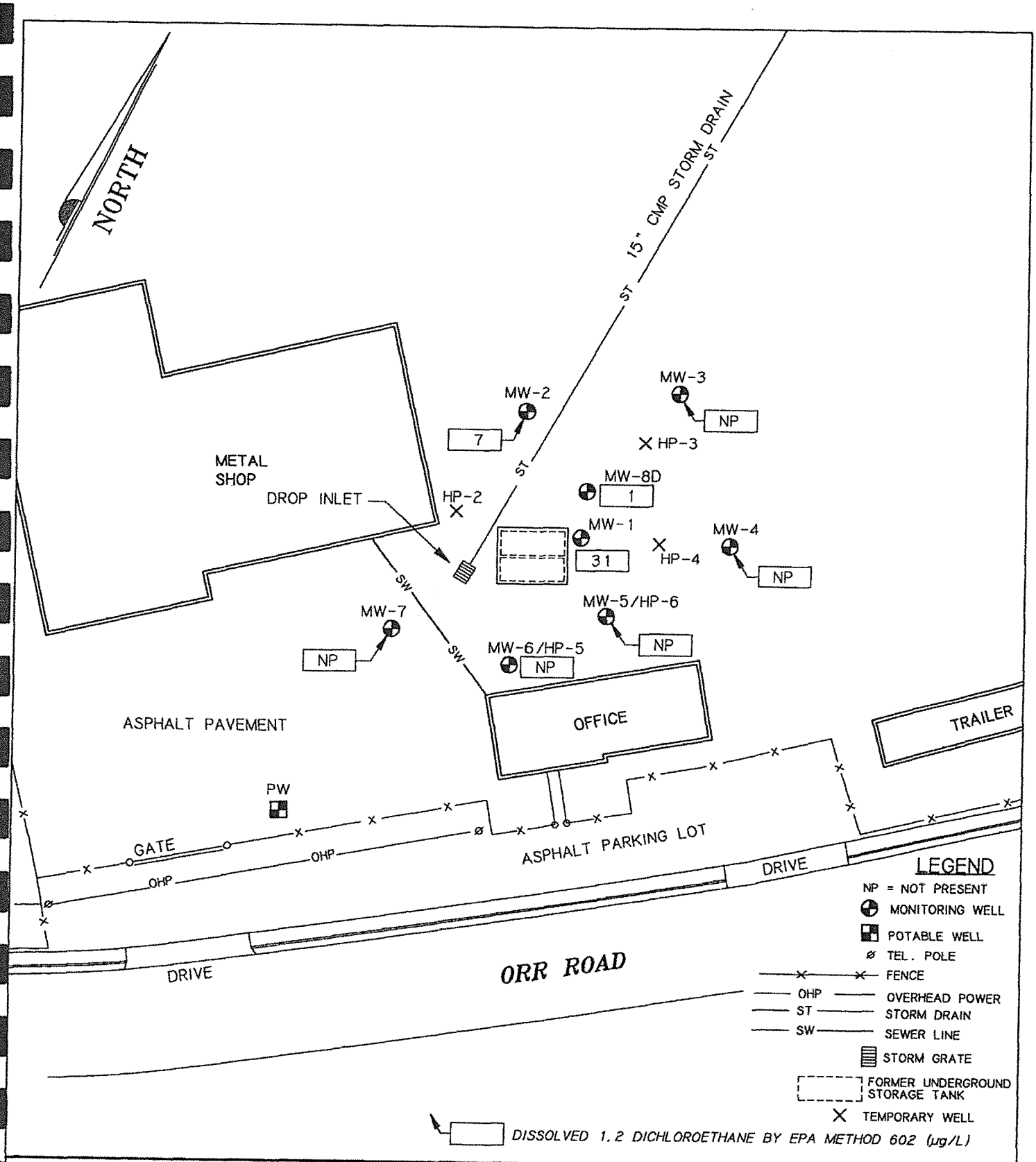
MII-KOGUT27C.DRW-PLOT 1/240 1/29/97



KOGUT ENVIRONMENTAL Consultants, Inc.

TITLE: DISSOLVED BENZENE CONCENTRATIONS	DRAWING NO. FIGURE 5	
PROJECT: PETROLEUM TANK SERVICE 7335 ORR ROAD CHARLOTTE NC	SCALE: 1"=40'	DRAWN BY: KFB
	REVISION: A	DATE: 1/29/97

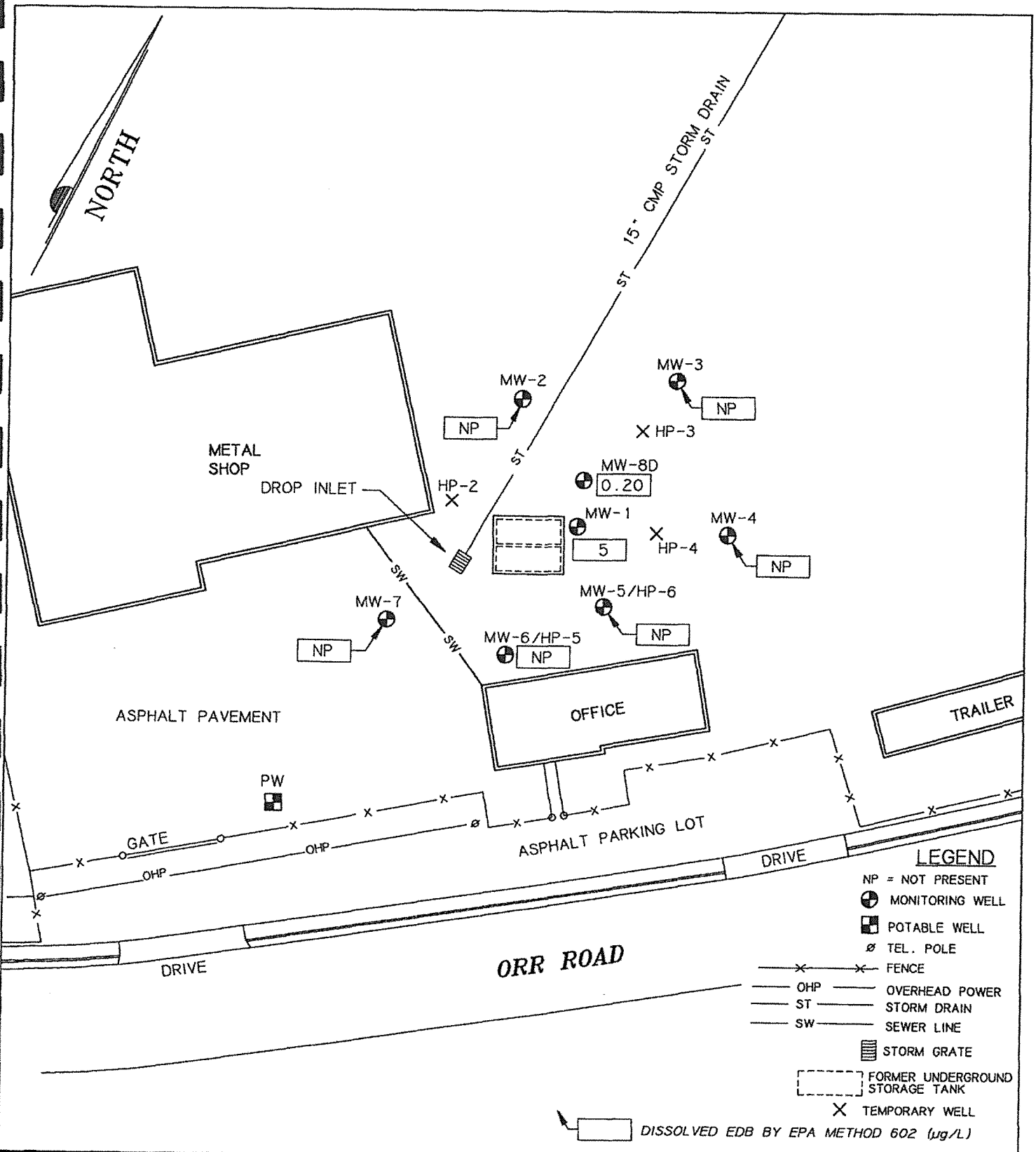
MII-KOGUT2TA.DRW-PLOT 1/240 1/29/97



KOGUT ENVIRONMENTAL Consultants, Inc.

TITLE: DISSOLVED 1,2 DICHLORO-ETHANE CONCENTRATIONS	DRAWING NO. FIGURE 6	
PROJECT: PETROLEUM TANK SERVICE 7335 ORR ROAD CHARLOTTE NC	SCALE: 1"=40'	DRAWN BY: KFB
	REVISION: A	DATE: 1/29/97

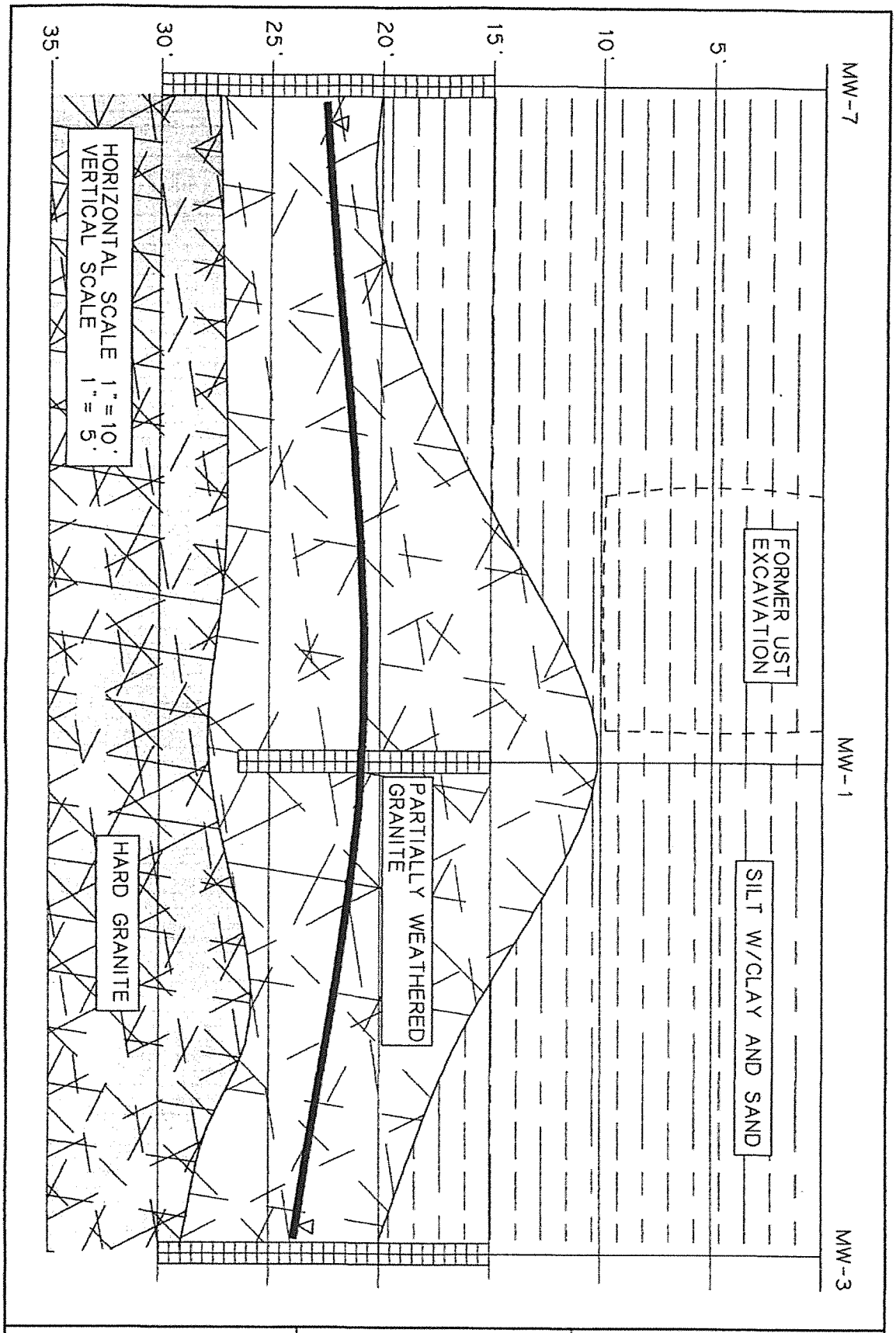
MII-KOGUT27k.DRW-PLOT 1/240 1/29/97



KOGUT ENVIRONMENTAL Consulting, Inc.

TITLE: DISSOLVED EDB CONCENTRATIONS		DRAWING NO. FIGURE 7
PROJECT: PETROLEUM TANK SERVICE 7335 ORR ROAD CHARLOTTE NC	SCALE: 1"=40'	DRAWN BY: KFB
	REVISION: A	DATE: 1/29/97

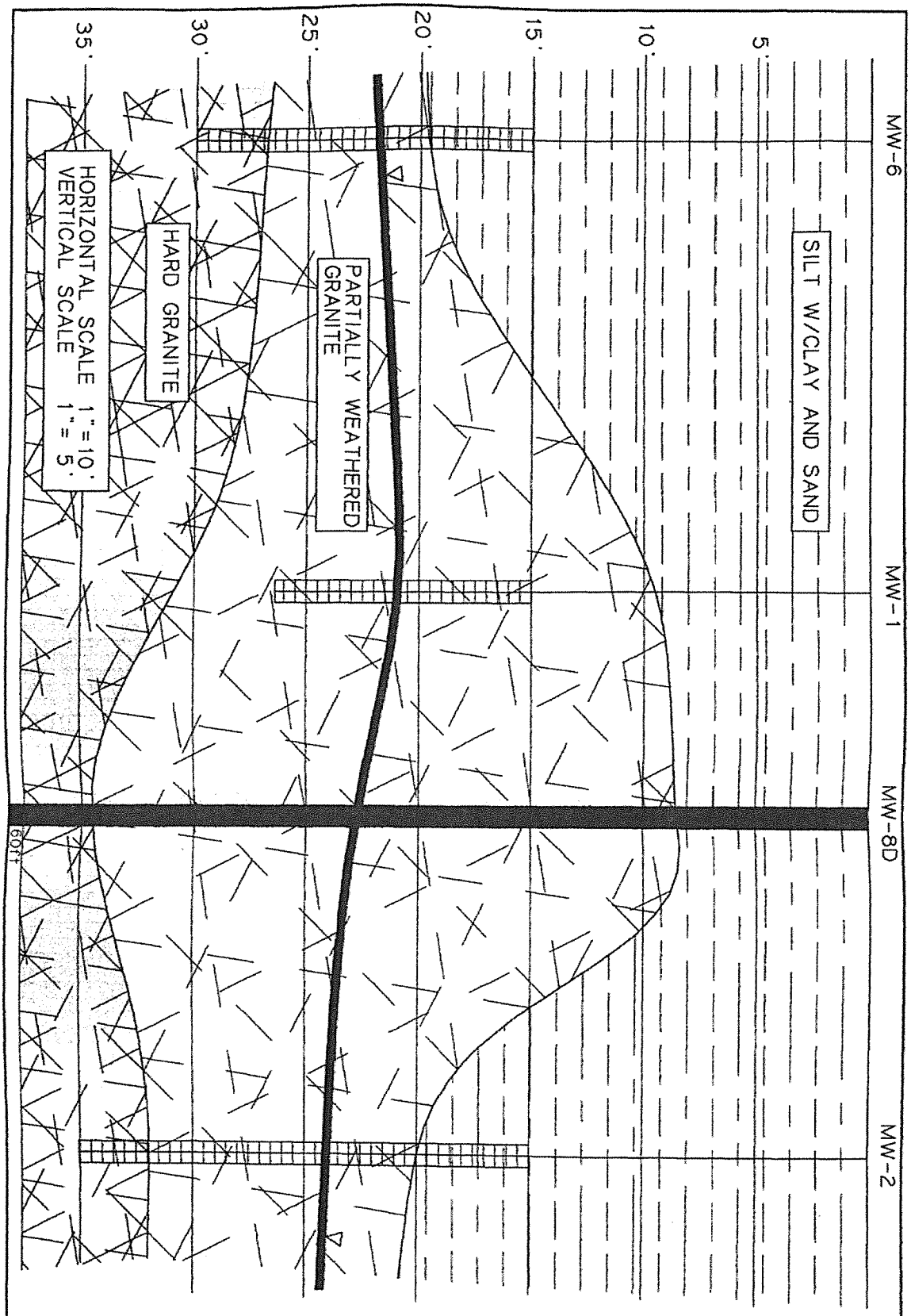
MII-KOGUT27I.DRW-PLOT 1/240 1/29/97



KOGUT ENVIRONMENTAL Consultants, Inc.

TITLE: GEOLOGIC CROSS SECTION	DRAWING NO. FIGURE 8	
PROJECT: PETROLEUM TANK SERVICE 7335 ORR ROAD CHARLOTTE NC	SCALE: 1"=40'	DRAWN BY: KFB
	REVISION: A	DATE: 1/29/97

MH-KOGUT30.DRW-PLOT 1/1 1/29/97



KOGUT ENVIRONMENTAL Consultants, Inc.

TITLE: GEOLOGIC CROSS SECTION	DRAWING NO. FIGURE 9	
PROJECT: PETROLEUM TANK SERVICE 7335 ORR ROAD CHARLOTTE NC	SCALE: 1"=40'	DRAWN BY: KFB
	REVISION: A	DATE: 1/29/97

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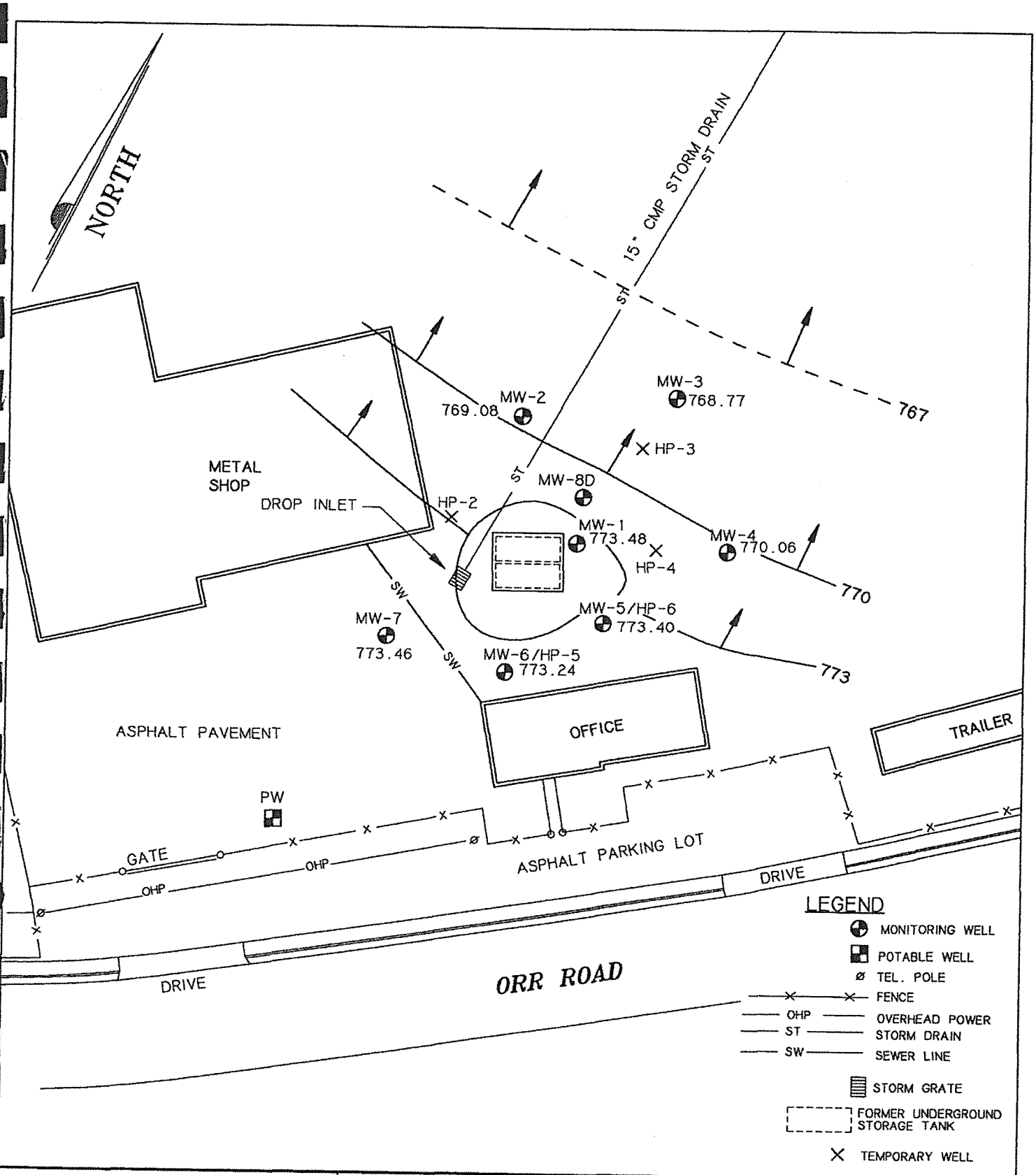

KOGUT ENVIRONMENTAL Consulting, Inc.

TITLE: HYDRAULIC GRADIENT	DRAWING NO. FIGURE 10	
PROJECT: PETROLEUM TANK SERVICE 7335 ORR ROAD CHARLOTTE NC	SCALE: 1"=40'	DRAWN BY: KFB
	REVISION: A	DATE: 1/29/97

MII-KOGUT29.DRW-PLOT 1/240 1/29/97

S&ME

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June 4, 2003

North Carolina Department of
Environment and Natural Resources
UST Section
1637 Mail Service Center
Raleigh, North Carolina 27699

Attention: Mr. Scott Ryals

Reference: **Groundwater Monitoring Report**
Petroleum Tank Services
7335 Orr Road
Charlotte, Mecklenburg County, North Carolina
Incident No. 15328
S&ME Project No. 1359-03-349

Dear Mr. Ryals:

S&ME, Inc. (S&ME) has completed groundwater sampling at the above-referenced site. Sampling was performed in accordance with S&ME's proposal dated April 15, 2003 (S&ME Proposal No. 1359-12312-03) and pre-approved by the North Carolina Department of Environment and Natural Resources (NCDENR) under Task Authorization No. 15328-2. This letter report provides a brief description of the field methodology used to collect groundwater samples, summarizes the analytical results, and presents our conclusions/recommendations based on the results of analysis.

Groundwater Sampling Event

The Petroleum Tank Services facility is located along Orr Road in Charlotte, Mecklenburg County, North Carolina (Figure 1). On May 2, 2003, S&ME visited the site to collect groundwater samples from the seven monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7) illustrated on Figure 2. Prior to collecting groundwater samples, the depth-to-groundwater (Table 1) was measured in each monitoring well using a water level probe.

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Based on water level measurements, the depth-to-groundwater ranged from approximately 22 to 36 feet below the top-of-casings. Given that the top-of-casing elevations of on-site monitoring wells are unknown, groundwater surface elevations could not be calculated for the subject property and a direction of groundwater flow could not be established.

After obtaining depth-to-groundwater measurements, each monitoring well was purged in excess of three well volumes or until dry. The wells were then sampled using dedicated disposable bailers. Each groundwater sample was submitted to Environmental Conservation Laboratories, Inc. (ENCO) of Cary, North Carolina for chemical analyses using EPA Methods 601/602 (extended to include MTBE, IPE, and EDB). The results of groundwater analysis are summarized in Table 2 of this report. Historical groundwater quality data is provided in Table 3. Copies of the laboratory data sheets and chain-of-custody form are provided in the attachments.

Analytical Results

Based on the results of laboratory analyses, no dissolved petroleum hydrocarbons were detected in any of the on-site monitoring wells at a level exceeding the 15A NCAC 2L Groundwater Standards (Table 2). MTBE was detected in wells MW-1, MW-2, and MW-3 at concentrations of 1.9 micrograms per liter (µg/L), 1 µg/L, and 14 µg/L (respectively) as compared to the 2L standard of 200 µg/L. Additionally, IPE was detected in MW-3 at a concentration of 6 µg/L compared to the 2L standard of 70 µg/L. No other dissolved petroleum hydrocarbons were detected in the on-site wells.

As depicted in Table 2, several chlorinated constituents were detected in the on-site monitoring wells. Specifically, 1,2-dichloroethane was detected in well MW-3 at a concentration of 2 µg/L and exceeded it's applicable 2L standard of 0.38 µg/L. Additionally, cis-1,2-dichlorethene was detected in wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6 at concentrations of 6 µg/L, 2 µg/L, 57 µg/L, 12 µg/L, 440 µg/L, and 79 µg/L respectively. Contaminant concentrations in two of these wells (MW-5 and MW-6) exceeded the applicable 2L standard of 70 µg/L.

Trichloroethene (TCE) was detected in wells MW-2, MW-3, MW-4, MW-5, and MW-6 at concentrations of 14 µg/L, 17 µg/L, 5.1 µg/L, 120 µg/L, and 61 µg/L (respectively). Concentrations in each of these wells exceeded the applicable 2L standard of 2.8 µg/L. TCE was also detected in MW-1 (2.6 µg/L) but did not exceed the 2L standard.

Tetrachloroethene (PCE) was detected in wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7 at levels of 35 µg/L, 22 µg/L, 200 µg/L, 79 µg/L, 940 µg/L, 330 µg/L, and 29 µg/L (respectively). Contaminant concentrations in each of these wells exceeded the 2L standard of 0.7 µg/L. It should be noted that the PCE concentration in MW-5 also exceeded the Gross Contaminant Level (GCL) established for the compound (700 µg/L).

Conclusions

Based on the existing site conditions, dissolved petroleum hydrocarbons were not detected in any of the on-site monitoring wells at levels exceeding the 2L standards. However, chlorinated compounds were detected in each of the seven wells sampled. The constituent 1,2-dichloroethane was detected in only one well (MW-3) at a level exceeding the 2L groundwater standard. This constituent is the only chlorinated compound that may be associated with the petroleum release. Cis-1,2-dichloroethene, was detected in the on-site wells ranging from 2 µg/L to 440 µg/L, with concentrations in two wells (MW-5 and MW-6) exceeding the applicable 2L Standard. The chlorinated compound TCE was also detected at concentrations ranging from 2.6 µg/L to 120 µg/L, with concentrations in six wells (MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7) exceeding the applicable 2L Standard. PCE was detected in each of the on-site wells at concentrations exceeding the 2L standard. The contaminant concentration (PCE) in MW-5 also exceeded the applicable GCL established for the compound. Note that concentrations of cis-1,2-dichloroethene, TCE, and PCE have increased in each of the monitoring wells (where detected) since December 1996, except in MW-1.

Recommendations

Since no dissolved petroleum hydrocarbons (with the possible exception of 1,2-dichloroethane) were detected in the on-site monitoring wells at levels exceeding the 2L standards, S&ME recommends that the NCDENR UST Section close the petroleum release via the issuance of a Notice of No Further Action. Given that chlorinated compounds are not typically associated with petroleum releases, we also recommend that the results of this groundwater sampling event be supplied to the NCDENR Groundwater Section to evaluate the source of these compounds. Previous supply well sampling results in April 1999 revealed that PCE was detected in an on-site water supply well and offsite supply well (Countryside Mobile Home Park) at concentrations exceeding the applicable 2L standard. Thus, we recommend that nearby water supply wells (including the on-site supply well) be resampled for current groundwater quality conditions. If the analytical results of supply well samples indicate that chlorinated compounds are still present in the wells, we recommend that the state toxicologist be notified and an alternate drinking water source or Point-of-Entry (POE) filtration systems be provided for property owners with identified chlorinated compounds in their supply wells. Following the installation of an alternate drinking water source or POE systems, we recommend continued sampling of the monitoring wells and nearby water supply wells on a semi-annual basis.

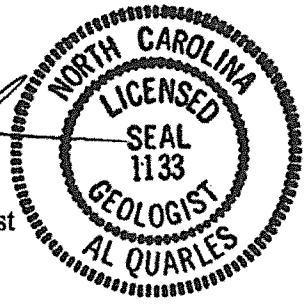
S&ME appreciates the opportunity to service you on this project. If you have any questions concerning this report or would like additional information, please feel free to contact S&ME at (704) 523-4726.

Sincerely,

S&ME, Inc.

Wendell K. Johnson
Staff Professional

Al Quarles, L.G.
Senior Hydrogeologist



WKJ/WAQ/wkj

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TABLE 1

SUMMARY OF GROUNDWATER LEVEL DATA (5/2/2003)

GROUNDWATER MONITORING REPORT
PETROLEUM TANK SERVICES
CHARLOTTE, NORTH CAROLINA
S&ME PROJECT NO. 1359-03-349

WELL ID	DATE	DEPTH TO WATER (FEET)
MW-1	5/2/2003	35.65
MW-2	5/2/2003	23.01
MW-3	5/2/2003	21.53
MW-4	5/2/2003	23.30
MW-5	5/2/2003	22.56
MW-6	5/2/2003	24.23
MW-7	5/2/2003	24.31

Notes:
The top-of-casing elevations of on-site monitoring wells were measured by a previous consultant (KOGUT Environmental Consulting, Inc.).

TABLE 2

SUMMARY OF GROUNDWATER QUALITY DATA (5/2/2003)

GROUNDWATER MONITORING REPORT
PETROLEUM TANK SERVICES
CHARLOTTE, NORTH CAROLINA
S&ME PROJECT NO. 1359-03-349

Parameter/Method	Units	2L Stnd	GCLs	Monitoring Wells						
				MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
EPA Methods 601/602										
Benzene	µg/L	1	5,000	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	29	29,000	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1,000	257,500	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	530	87,500	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	µg/L	0.38	380	ND	ND	2	ND	ND	ND	ND
cis-1,2-dichloroethene	µg/L	70	70,000	6	2	57	12	440	79	ND
Trichloroethene	µg/L	2.8	2,800	2.6	14	17	5.1	120	61	ND
Tetrachloroethene	µg/L	0.7	700	35	22	200	79	940	330	29
MTBE	µg/L	200	200,000	1.9	1	14	ND	ND	ND	ND
IPE	µg/L	70	70,000	ND	ND	6	ND	ND	ND	ND

Notes:

µg/L	Micrograms per Liter
2L Stnd	15A NCAC 2L .0202 Groundwater Standards (Highlighted where exceedances)
GCL	15A NCAC 2L .0115 Gross Contaminant Levels
ND	Not Detected
NS	Not Sampled

TABLE 3

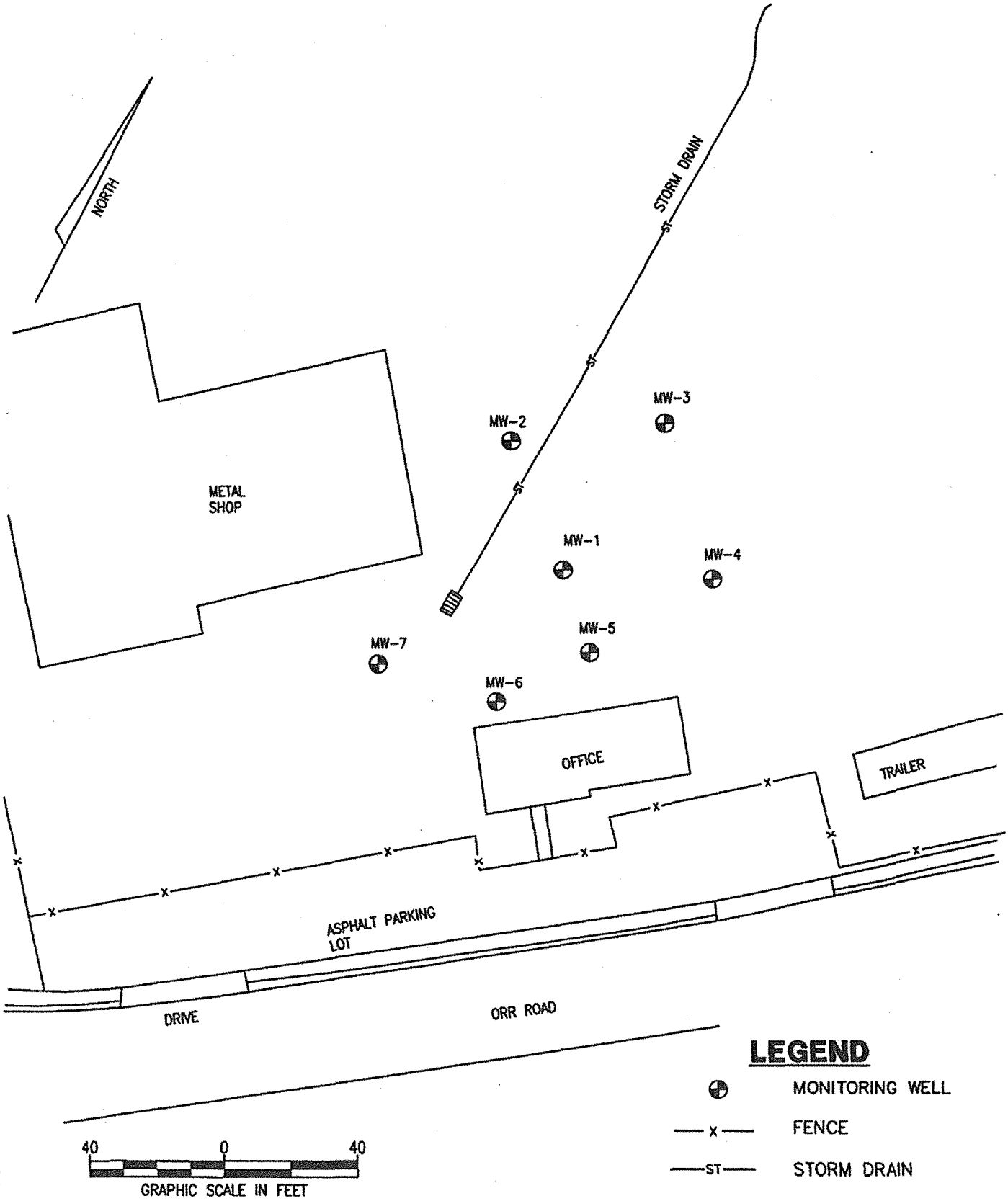
SUMMARY OF HISTORICAL GROUNDWATER QUALITY DATA

GROUNDWATER MONITORING REPORT
PETROLEUM TANK SERVICES
CHARLOTTE, NORTH CAROLINA
S&ME PROJECT NO. 1359-03-349

Parameter/Method	Units	2L Stnd	GCLs	MW-1			MW-2			MW-3			MW-4			MW-5			MW-6			MW-7		
				Dec-96	Apr-99	May-03	Dec-96	Apr-99	May-03	Dec-96	Apr-99	May-03	Dec-96	Apr-99	May-03	Dec-96	Apr-99	May-03	Dec-96	Apr-99	May-03	Dec-96	Apr-99	May-03
EPA Methods 601/602																								
Benzene	µg/L	1	5,000	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	ND	ND	18	ND	ND	ND	ND
Ethylbenzene	µg/L	29	29,000	19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8	ND	ND	ND	ND
Toluene	µg/L	1,000	257,500	36	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	ND	ND
Total Xylenes	µg/L	530	87,500	150	2	ND	ND	ND	ND	ND	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylene Dibromide (EDB)	µg/L	0.0004	50	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl cyclopentanol	µg/L	NL	NL	64	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA
Methyl cyclohexanol	µg/L	NL	NL	15	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA
Methyl hexanol	µg/L	NL	NL	68	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA
Dimethyl hexanol	µg/L	NL	NL	42	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA
Dihydro-indenone	µg/L	NL	NL	41	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA
t-Butyl phenol	µg/L	NL	NL	ND	ND	NA	16	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA
Isopropylbenzene	µg/L	70	25,500	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA
1,2,4-Trimethylbenzene	µg/L	350	25,000	ND	0.7	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA
Naphthalene	µg/L	21	15,500	ND	3	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA	ND	ND	NA
1,2-dichloroethane	µg/L	0.38	380	31	ND	ND	7	3	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	µg/L	70	70,000	6	ND	6	ND	ND	2	ND	11	57	ND	3	12	ND	11	440	ND	ND	79	ND	ND	ND
Trichloroethene (TCE)	µg/L	2.8	2,800	2.6	11	2.6	ND	5	14	ND	6	17	ND	2	5.1	ND	26	120	ND	ND	61	ND	ND	ND
Tetrachloroethene (PCE)	µg/L	0.7	700	35	350	35	ND	14	22	ND	140	200	ND	45	79	ND	750	940	ND	130	330	ND	13	29
MTBE	µg/L	200	200,000	1.9	2	1.9	ND	0.8	1	ND	6	14	ND	0.5	ND	ND	1	ND	ND	8	ND	ND	ND	ND
IPE	µg/L	70	70,000	ND	1	ND	ND	6	ND	ND	8	6	ND	0.6	ND	ND	0.9	ND	ND	0.6	ND	ND	ND	ND

Notes:

µg/L	Micrograms per Liter
2L Stnd	15A NCAC 2L .0202 Groundwater Standards (Highlighted where exceedances)
GCL	15A NCAC 2L .0115 Gross Contaminant Levels
NA	Not Analyzed
ND	Not Detected
NL	Not Listed



SOURCE: MAP DEVELOPED FROM KOGUT ENVIRONMENTAL CONSULTING, INC DRAWING DATED 1/07/97

SCALE: AS SHOWN	S&ME ENGINEERING · TESTING ENVIRONMENTAL SERVICES	**SITE VICINITY MAP**	FIGURE NO.
CHECKED BY:		PETROLEUM TANK SERVICES CHARLOTTE, NORTH CAROLINA	**2**
DRAWN BY: WKJ		JOB NO: 1359-03-349	
DATE: 5/19/03			

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT

MICHAEL F. EASLEY, GOVERNOR
William G. Ross Jr., SECRETARY
Dexter R. Matthews, Director

UNDERGROUND STORAGE TANK SECTION

June 24, 2003

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7002 0860 0001 0318 6916

Ms. Patricia Parrish
Petroleum Tank Services
PO Box 237
Charlotte, NC 28126

Re: Notice of No Further Action
15A NCAC 2L .0115(h)
Risk-based Assessment and Corrective Action for Petroleum Underground Storage Tanks
Petroleum Tank Services Site, 7335 Orr Road
Mecklenburg County
Incident # 15328
High Risk Classification

Dear Ms. Parrish:

On June 4, 2003, the Underground Storage Tank (UST) Section of the Division of Waste Management Raleigh Central Office received a Groundwater Monitoring Report for the above-referenced site. A review of the Groundwater Monitoring Report shows that petroleum contaminated groundwater has been cleaned up to the level of the standards or interim standards established in 15A NCAC 2L .0202. However, several chlorinated solvents were detected above the 15A NCAC 2L standards, in some cases exceeding gross contaminant levels, and this site will be referred to the NC Groundwater Division for continued monitoring.

Based on information provided to date, the UST Section finds it appropriate to lower the risk classification of the discharge or release from high to low **for the petroleum release only**. Furthermore, the UST Section determines that no further action is warranted for this incident **for the petroleum release only**. 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.

Pursuant to 15A NCAC 2L .0115(e), 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 all monitoring wells or injection wells used to investigate or remediate this incident have been offered for use to the NC Groundwater Section for their investigation of the chlorinated solvents. These wells will be closed if the Groundwater Section indicates that they do not need them and closure will be in accordance with 15A NCAC 2C .0113 and .0214, respectively by a State-Lead Contractor. You will be notified by the State-Lead Contractor prior to their arrival on site. If you are being provided bottled water or a Point-of-Entry (POE) water treatment system has been installed, service will stop or the UST Section will remove the system.

Should you have any questions concerning this notice, please contact Scott Ryals at 919-733-1318.

Sincerely,

George C. Matthis, Jr.

George C. Matthis, Jr.
Trust Fund Branch Head

cc: MRO
Al Quarles, S&ME Charlotte
MRO, GW Section, Matt Heller

Appendix C

Schnabel Engineering Geophysical Survey Report

Schnabel
ENGINEERING

September 28, 2012

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

RE:
State Project: P-5208H
WBS Element: 50000.1.STR13T1B
County: Mecklenburg
Description: Grier Road Grade Separation

Subject: **Project 11821014.18, Report on Geophysical Surveys**
Parcel 5H, Patricia P. Smith/D.C. Paint Works Property, Charlotte, North Carolina

Dear Mr. Bramblett:

SCHNABEL ENGINEERING SOUTH, PC (Schnabel) is pleased to present this report on the geophysical surveys we performed on the subject property. The report includes two 11x17 color figures and two 8.5x11 color figures.

INTRODUCTION

The work described in this report was performed on August 23, 24, and 29, 2012, by Schnabel under our 2011 contract with the NCDOT. The surveys were performed over the accessible areas of the property as indicated by the NCDOT to support their environmental assessment of the subject property. Photographs of the property are included on Figure 1. The property is located northeast of the intersection of Orr Road and Grier Road (7335 Orr Road) in Charlotte, NC. The purpose of the geophysical surveys was to investigate the presence of metal underground storage tanks (USTs) in the accessible areas of the right-of-way and/or easement.

The geophysical surveys consisted of an electromagnetic (EM) induction survey and a ground penetrating radar (GPR) survey. The EM survey was performed using a Geonics EM61-MK2 instrument. The EM61 is a time domain metal detector that is used to locate metal objects buried up to about eight feet below ground surface. When collecting EM61 data, three or four time gates are recorded of the response decay rate. The GPR survey was performed over selected EM61 anomalies, including areas of reinforced concrete, using a Geophysical Survey Systems SIR-3000 system equipped with a 400 MHz antenna. Photographs of the equipment used are shown on Figure 2.

schnabel-eng.com
T/ 336-274-9456 F/ 336-274-9486
11A Oak Branch Drive / Greensboro, NC / 27407

FIELD METHODOLOGY

Locations of geophysical data points were obtained using a sub-meter Trimble Pro-XRS DGPS system. References to direction and location in this report are based on the US State Plane 1983 System, North Carolina 3200 Zone, using the NAD 83 datum, with units in US survey feet. We recorded the locations of existing site features (monitoring wells, signs, etc.) with the Trimble system for later correlation with the geophysical data and locations provided by the NCDOT.

The EM61 data were collected along parallel survey lines spaced approximately 2.5 feet apart. The EM61 and DGPS data were recorded digitally using a field computer and later transferred to a desktop computer for data processing. The GPR data were collected along survey lines spaced one to two feet apart in orthogonal directions over areas of reinforced concrete and anomalous EM readings not attributed to cultural features. The GPR data were reviewed in the field to evaluate the possible presence of USTs. The GPR data also were recorded digitally and later transferred to a desktop computer for further review.

DISCUSSION OF RESULTS

The contoured EM61 data collected over Parcel 5H are shown on Figures 3 and 4. The EM61 early time gate data are plotted on Figure 3. The early time gate data provide a more sensitive detection of metal objects than the later time gate data. Figure 4 shows the differential response between the top and bottom coils of the EM61 instrument. The differential response data filters out the effect of surface and very shallowly buried metallic objects. Typically, the differential response emphasizes anomalies from deeper and larger objects such as USTs.

The early time gate and differential results show anomalies of unknown cause, in addition to those apparently caused by known site features (Figures 3 and 4). The GPR data indicate that the EM anomalies of unknown cause are probably caused by reinforced concrete and surface metal. The GPR data collected at the site do not indicate the presence of metallic USTs within the areas surveyed.

CONCLUSIONS

Our evaluation of the geophysical data collected on the subject property on Project P-5208H in Charlotte, NC indicates that metallic USTs are unlikely to be encountered in the areas surveyed on the subject property.

LIMITATIONS

These services have been performed and this report prepared for Hart & Hickman, PC and the North Carolina Department of Transportation in accordance with generally accepted guidelines for conducting geophysical surveys. It is generally recognized that the results of geophysical surveys are non-unique and may not represent actual subsurface conditions.

We appreciate the opportunity to have provided these services. Please call if you need additional information or have any questions.

Sincerely,

SCHNABEL ENGINEERING SOUTH, PC

James W. Whitt, LG
Senior Staff Geophysicist

Jeremy S. Strohmeyer, LG
Project Manager

JW:JS
Attachments: Figures (4)
cc: Craig Haden, NCDOT
FILE: G:\2011-SDE-JOBS\11821014_00_NCDOT_2011_GEOTECHNICAL_UNIT_SERVICES\11821014_18_P-5208H_MECKLENBURG_COUNTY\REPORT\PARCEL 5H\SCHNABEL GEOPHYSICAL REPORT ON PARCEL 5H (P-5208H).DOCX

Parcel 5H (Patricia P. Smith/D.C. Paint Works Property), looking north

Parcel 5H (Patricia P. Smith/D.C. Paint Works Property), looking west

Schnabel ENGINEERING	STATE PROJECT P-5208H NC DEPT. OF TRANSPORTATION MECKLENBURG COUNTY, NC PROJECT NO. 11821014.18	PARCEL 5H SITE PHOTOS FIGURE 1

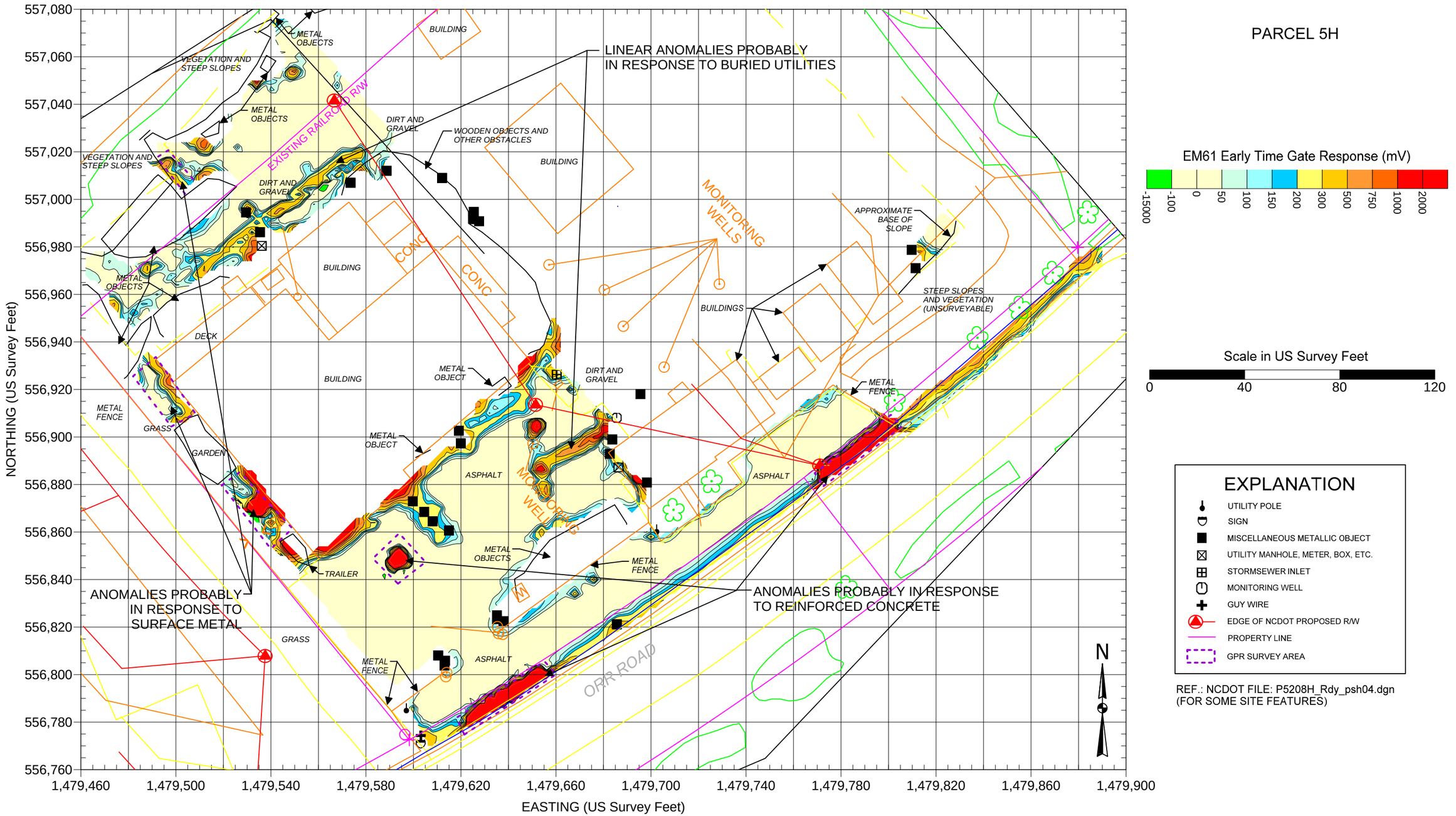
Geonics EM61-MK2 Metal Detector with Trimble DGPS Unit

GSSI SIR-3000 Ground-Penetrating Radar with 400 MHz Antenna

Note: Stock photographs – not taken on site.

Schnabel ENGINEERING	STATE PROJECT P-5208H NC DEPT. OF TRANSPORTATION MECKLENBURG COUNTY, NC PROJECT NO. 11821014.18	PHOTOS OF GEOPHYSICAL EQUIPMENT USED FIGURE 2

PARCEL 5H



EM61 Early Time Gate Response (mV)

-15000	-100	0	50	100	150	200	300	500	750	1000	2000

Scale in US Survey Feet

0 40 80 120

EXPLANATION

- UTILITY POLE
- SIGN
- MISCELLANEOUS METALLIC OBJECT
- UTILITY MANHOLE, METER, BOX, ETC.
- STORMSEWER INLET
- MONITORING WELL
- GUY WIRE
- EDGE OF NCDOT PROPOSED R/W
- PROPERTY LINE
- GPR SURVEY AREA

REF.: NCDOT FILE: P5208H_Rdy_psh04.dgn
(FOR SOME SITE FEATURES)

Note: The contour plot shows the earliest and more sensitive time gate of the EM61 bottom coil/channel in millivolts (mV). The EM data were collected on August 23, 2012, using a Geonics EM61-MK2 instrument. Positioning for the EM61 survey was provided using a submeter Trimble ProXRS DGPS system. Coordinates are in the US State Plane 1983 System, North Carolina Zone 3200, using the NAD 1983 datum. GPR data were acquired on August 29, 2012, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

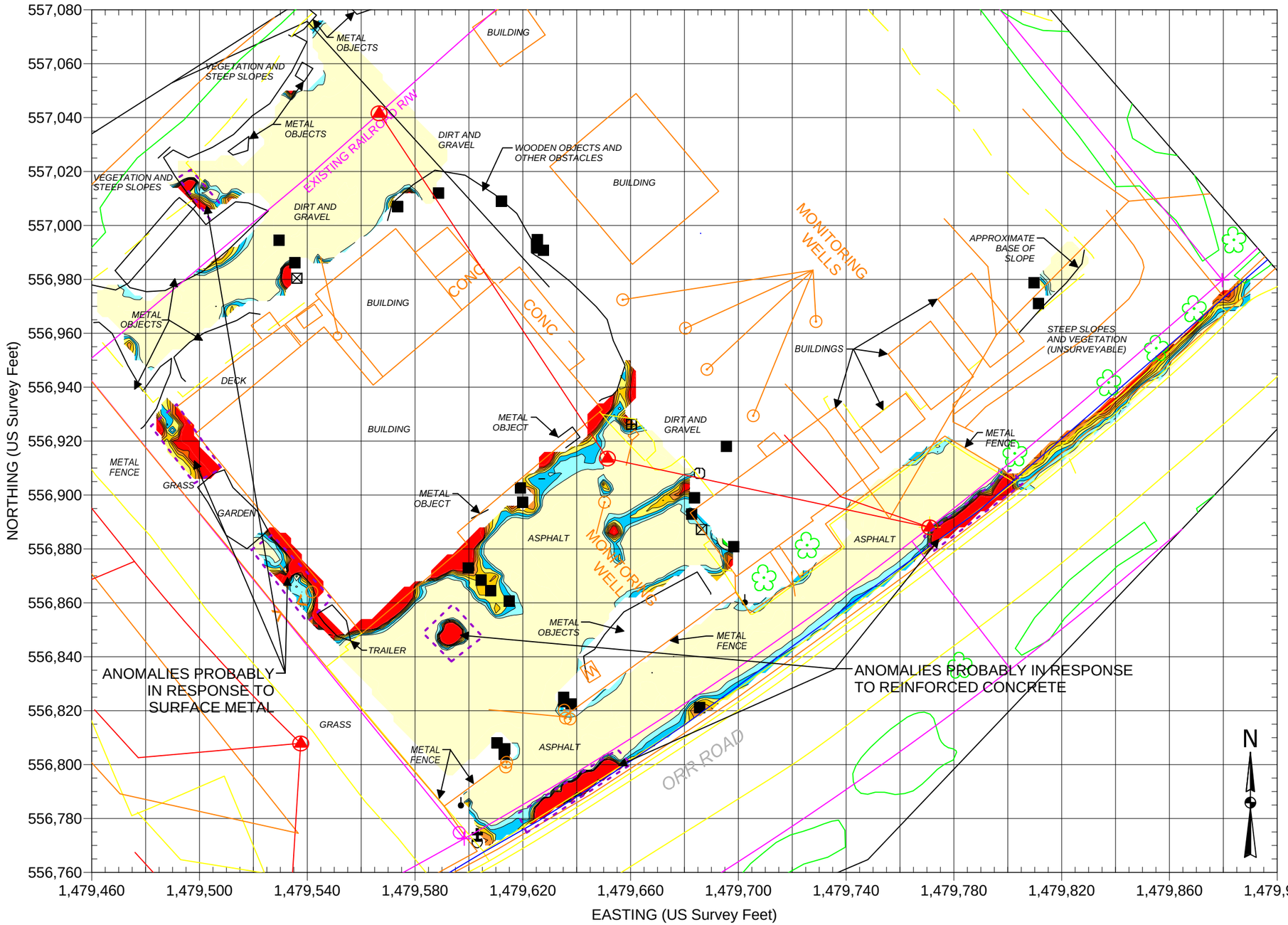
Schnabel ENGINEERING

STATE PROJECT P-5208H
NC DEPARTMENT OF TRANSPORTATION
MECKLENBURG COUNTY, NC
PROJECT NO. 11821014.18

EM61
EARLY TIME GATE
RESPONSE

FIGURE 3

PARCEL 5H



EM61 Differential Response (mV)

-20000 -100 0 40 60 80 100 120 140 160 200

Scale in US Survey Feet

0 40 80 120

EXPLANATION

- UTILITY POLE
- SIGN
- MISCELLANEOUS METALLIC OBJECT
- UTILITY MANHOLE, METER, BOX, ETC.
- STORMSEWER INLET
- MONITORING WELL
- GUY WIRE
- EDGE OF NCDOT PROPOSED R/W
- PROPERTY LINE
- GPR SURVEY AREA

REF.: NCDOT FILE: P5208H_Rdy_psh04.dgn
(FOR SOME SITE FEATURES)

Note: The contour plot shows the difference, in millivolts (mV), between the readings from the top and bottom coils of the EM61. The difference is taken to reduce the effect of shallow metal objects and emphasize anomalies caused by deeper metallic objects, such as drums and tanks. The EM data were collected on August 23, 2012, using a Geonics EM61-MK2 instrument. Positioning for the EM61 survey was provided using a submeter Trimble ProXRS DGPS system. Coordinates are in the US State Plane 1983 System, North Carolina 3200 Zone, using the NAD 1983 datum. GPR data were acquired on August 29, 2012, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

Schnabel ENGINEERING

STATE PROJECT P-5208H
NC DEPARTMENT OF TRANSPORTATION
MECKLENBURG COUNTY, NC
PROJECT NO. 11821014.18

EM61
DIFFERENTIAL
RESPONSE

FIGURE 4

Appendix D

Soil Boring Logs

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 5H-1

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
0.0						TOPSOIL		0.0
			0	0		Slightly moist, soft, reddish brown clayey SILT with fine to coarse sand		
2.5			0	0				2.5
5.0			0	0				5.0
			0	0				
7.5			0	0				7.5
10.0			0	0				10.0
12.5						Bottom of borehole at 12.0 feet.		12.5

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/17/12
BORING COMPLETED: 9/17/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 0 to 2 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/5/12 11:25 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 5H-2

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
0.0						GRAVEL		0.0
			0	0		Slightly moist, firm, red orange, silty CLAY		
2.5			0	0		Slightly moist, slightly firm, red silty CLAY		2.5
5.0			0	0		Slightly moist, soft, red, clayey SILT		5.0
7.5			0	0		Moist, firm, white, gray, and tan, fine to coarse sandy clayey SILT		7.5
10.0			0	0				10.0
12.5						Bottom of borehole at 12.0 feet.		12.5

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/17/12
BORING COMPLETED: 9/17/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 0 to 2 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/5/12 11:25 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 5H-3

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM
0.0						TOPSOIL	
			0	0		Slightly moist, slightly firm, brown and orange, silty CLAY	
2.5			0	0		Dry, slightly firm, tan and orange, clayey SILT	
5.0			0	0			
			0	0		Slightly moist, soft, tan, brown, and orange, fine to coarse sandy SILT with some clay	
7.5			0	0			
10.0			0	0			
12.5						Bottom of borehole at 12.0 feet.	

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/17/12
BORING COMPLETED: 9/17/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 0 to 2 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/8/12 13:20 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 5H-4

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0			0	0		TOPSOIL
						Slightly moist, slightly firm, brown fine to coarse sandy CLAY
2.5			0	0		Slightly moist, soft, orange and brown, fine to coarse sandy CLAY
5.0			0	0		
						Slightly moist, soft, tan and orange, sandy CLAY
7.5			0	0		
			0	0		Slightly moist, soft, tan and brown, sandy SILT
10.0			0	0		
12.5						Bottom of borehole at 12.0 feet.

BORING DIAGRAM

DEPTH (ft): 0.0, 2.5, 5.0, 7.5, 10.0, 12.5

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/17/12
BORING COMPLETED: 9/17/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 0 to 2 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/8/12 13:20 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 5H-5

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM
0.0						CONCRETE with gravel	
			0	5.5		Slightly moist, soft, brown and red, clayey SILT with fine to coarse sand with some clay	
2.5			0	4.8		Dry, soft, brown and red, clayey SILT with fine sand	
5.0			0	0.1		Dry, soft, reddish brown, silty CLAY	
7.5			0	0.3		Dry, soft, reddish brown, clayey SILT	
10.0			0	0			
			0	1.2		Wet, brown and red, clayey SILT	
12.5						Bottom of borehole at 12.0 feet.	

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/18/12
BORING COMPLETED: 9/18/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 1 to 2 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/5/12 11:25 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)

3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)

BORING NUMBER 5H-6

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM
0.0						ASPHALT	
			0	0.5		Moist, slightly firm, brownish red and tan, sandy SILT with trace clay	
2.5			0	0			
5.0			0	0			
			0	0		Moist, soft, tan and brown, clayey SILT with fine sand	
7.5			0	0		Moist, soft, red and tan, clayey SILT with fine sand	
10.0			0	0			
12.5						Bottom of borehole at 12.0 feet.	

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/18/12
BORING COMPLETED: 9/18/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 1 to 2 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/5/12 11:25 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

2923 South Tryon Street-Suite 100
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704-586-0007(p) 704-586-0373(f)

3334 Hillsborough Street
Raleigh, North Carolina 27607
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BORING NUMBER 5H-7

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM
0.0						CONCRETE	
			0	2.4		Dry, soft, brown clayey SILT with coarse sand	
2.5			0	1.3			
5.0			0	365			
			0	424		Moist, soft, brown and red, clayey SILT	
7.5						Slightly moist, soft, brown and red, clayey SILT, petroleum odor	
10.0			0	768			
			0	1278			
12.5						Bottom of borehole at 12.0 feet.	

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/18/12
BORING COMPLETED: 9/18/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 10 to 12 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/6/12 10:50 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

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BORING NUMBER 5H-8

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0						CONCRETE
						GRAVEL
			0	4.6		Dry, soft, brown, sandy SILT with trace clay
2.5			0	0		
						Moist, brownish red, clayey SILT with fine to coarse sand
5.0			0	17.36		
			0	0		
7.5						
			0	360		
10.0						
			0	26.6		
12.5						Bottom of borehole at 12.0 feet.

BORING DIAGRAM

DEPTH (ft): 0.0, 2.5, 5.0, 7.5, 10.0, 12.5

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/18/12
BORING COMPLETED: 9/18/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 8 to 10 ft bgs.

BORING LOG - HART HICKMAN GDT - 11/6/12 10:50 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

hart hickman
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BORING NUMBER 5H-9

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
0.0						ASPHALT		0.0
			0	0		Dry, slightly firm, orange and brown, silty CLAY		
2.5			0	0				2.5
5.0			0	0				5.0
			0	0		Dry, firm, orange and brown, silty CLAY		
7.5						Moist, firm, orange and brown, silty CLAY		7.5
			0	0				
10.0						Slightly moist to moist, soft, tan and orange, fine to coarse sandy SILT with clay		10.0
			0	0				
12.5						Bottom of borehole at 12.0 feet.		12.5

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/18/12
BORING COMPLETED: 9/18/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 2 to 4 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/6/12 10:50 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

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BORING NUMBER 5H-10

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM	DEPTH (ft)
0.0						ASPHALT		0.0
			0	0.6		Dry, firm, orange, red, and brown, silty CLAY		
2.5			0	0.9				2.5
						Slightly moist, slightly firm, orange, tan and brown, silty CLAY		
5.0			0	0.9				5.0
			0	0		Moist, firm, orange and brown, silty CLAY		
7.5								7.5
			0	0		Moist, soft, tan and orange, clayey SILT		
10.0								10.0
			0	0				
12.5						Bottom of borehole at 12.0 feet.		12.5

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/18/12
BORING COMPLETED: 9/18/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 2 to 4 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/6/12 10:50 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

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BORING NUMBER 5H-11

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM
0.0						ASPHALT	
			0	0		Dry, firm, orange and brown, silty CLAY	
2.5			0	0			
5.0			0	0			
			0	0		Slightly moist, soft, tan, brown, and orange, clayey SILT with fine to coarse sand	
7.5			0	0			
10.0			0	0			
12.5						Bottom of borehole at 12.0 feet.	

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/18/12
BORING COMPLETED: 9/18/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 2 to 4 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/5/12 11:25 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

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BORING NUMBER 5H-12

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION	BORING DIAGRAM
0.0						TOPSOIL	
			0	201.4		Slightly moist, firm, brown and gray, silty CLAY, petroleum odor	
2.5			0	489.4			
5.0			0	437.7		Slightly moist, soft, reddish brown, clayey SILT, petroleum odor	
			0	438.1			
7.5			0	353			
10.0			0	124.3		Slighty moist, slightly firm, red, silty CLAY, slight petroleum odor	
12.5						Bottom of borehole at 12.0 feet.	

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/18/12
BORING COMPLETED: 9/18/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 2 to 4 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/6/12 10:50 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

hart hickman
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BORING NUMBER 5H-13

PROJECT: NC DOT State Project P-5208H
JOB NUMBER: ROW-407
LOCATION: Charlotte, NC

DEPTH (ft)	RECOVERY (%)	SAMPLE TYPE NUMBER	OVA (ppm) BKG.	OVA (ppm) SAMP.	LITHOLOGY	MATERIAL DESCRIPTION
0.0						Moist, soft, tan and light brown, medium coarse SAND
			0	8.3		Dry, soft, tan and light brown, medium coarse SAND with some silt
2.5			0	10.9		
						Dry, soft, brown and red, sandy SILT
5.0			0	9.5		
						Slightly moist, slightly firm, brown and red, clayey SILT with medium coarse sand
			0	4.9		
7.5						
			0	7		
10.0						
			0	8		
12.5						Bottom of borehole at 12.0 feet.

BORING DIAGRAM

DEPTH (ft): 0.0, 2.5, 5.0, 7.5, 10.0, 12.5

DRILLING CONTRACTOR: PTI
DRILL RIG/ METHOD: Geoprobe 7720 / Direct Push
SAMPLING METHOD: DPT Sleeves
LOGGED BY: JRL/TCD
DRAWN BY: TCD

BORING STARTED: 9/18/12
BORING COMPLETED: 9/18/12
TOTAL DEPTH: 12 ft.
TOP OF CASING ELEV:
DEPTH TO WATER:

Remarks:
Soil sample collected from 2 to 4 ft bgs.

BORING LOG - HART HICKMAN.GDT - 11/5/12 11:25 - S:\AAA-MASTER GINT PROJECTS\ROW-407.GPJ

Appendix E

Laboratory Analytical Report

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

September 25, 2012

Chemical Testing Engineer
NCDOT
Materials & Tests Unit
1801 Blue Ridge Road
Raleigh, NC 27607

RE: Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Dear Chemical Engineer:
Enclosed are the analytical results for sample(s) received by the laboratory on September 18, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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(704)875-9092

SAMPLE ANALYTE COUNT

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92131883001	**4H-1(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883002	**4H-2(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883003	**4H-3(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883004	**4H-4(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883005	**4H-5(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883006	**4H-6(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883007	**4H-7(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883008	**SAND-1**	EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		ASTM D2974-87	TNM	1	PASI-C
92131883009	**SAND-2**	EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		ASTM D2974-87	TNM	1	PASI-C
92131883010	**SAND-3**	EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		ASTM D2974-87	TNM	1	PASI-C
92131883011	**5H-1(0-2)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883012	**5H-2(0-2)**	EPA 8015 Modified	MEJ	2	PASI-C

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(704)875-9092

SAMPLE ANALYTE COUNT

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883013	**5H-3(0-2)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883014	**5H-4(0-2)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883015	**5H-5(1-2)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883016	**5H-6(1-2)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883017	**5H-7(10-12)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883018	**5H-8(8-10)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883019	**5H-9(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883020	**5H-10(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883021	**5H-11(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883022	**5H-12(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92131883023	**5H-13(2-4)**	EPA 8015 Modified	MEJ	2	PASI-C
		EPA 8015 Modified	RGF	2	PASI-C
		EPA 6010	JMW	7	PASI-A
		EPA 7471	SH1	1	PASI-A
		EPA 8260	DLK	71	PASI-C
		ASTM D2974-87	TNM	1	PASI-C

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 4H-1(2-4) **Lab ID: 92131883001** Collected: 09/17/12 11:00 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	5.9	1	09/19/12 08:45	09/20/12 17:38	68334-30-5	
Surrogates								
n-Pentacosane (S)	49	%	41-119	1	09/19/12 08:45	09/20/12 17:38	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	7.3	1	09/19/12 09:41	09/19/12 13:36	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	87	%	70-167	1	09/19/12 09:41	09/19/12 13:36	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**14.6**	%	0.10	1		09/19/12 13:37		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 4H-2(2-4) **Lab ID: 92131883002** Collected: 09/17/12 11:25 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.0	1	09/19/12 08:45	09/20/12 17:38	68334-30-5	
Surrogates								
n-Pentacosane (S)	70	%	41-119	1	09/19/12 08:45	09/20/12 17:38	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	7.9	1	09/19/12 09:41	09/19/12 13:59	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	90	%	70-167	1	09/19/12 09:41	09/19/12 13:59	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.4**	%	0.10	1		09/19/12 13:37		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 4H-3(2-4) **Lab ID: 92131883003** Collected: 09/17/12 11:55 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.0	1	09/19/12 08:45	09/20/12 18:08	68334-30-5	
Surrogates								
n-Pentacosane (S)	69	%	41-119	1	09/19/12 08:45	09/20/12 18:08	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	7.3	1	09/19/12 09:41	09/19/12 14:22	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	88	%	70-167	1	09/19/12 09:41	09/19/12 14:22	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.9**	%	0.10	1		09/19/12 13:37		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 4H-4(2-4) **Lab ID: 92131883004** Collected: 09/17/12 14:10 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	5.8	1	09/19/12 08:45	09/20/12 18:08	68334-30-5	
Surrogates								
n-Pentacosane (S)	72	%	41-119	1	09/19/12 08:45	09/20/12 18:08	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	6.0	1	09/19/12 09:41	09/19/12 14:45	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	90	%	70-167	1	09/19/12 09:41	09/19/12 14:45	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**14.0**	%	0.10	1		09/19/12 13:37		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 4H-5(2-4) **Lab ID: 92131883005** Collected: 09/17/12 12:35 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.4	1	09/19/12 08:45	09/20/12 18:38	68334-30-5	
Surrogates								
n-Pentacosane (S)	64	%	41-119	1	09/19/12 08:45	09/20/12 18:38	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	9.6	1	09/19/12 09:41	09/19/12 15:08	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	90	%	70-167	1	09/19/12 09:41	09/19/12 15:08	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.7**	%	0.10	1		09/19/12 13:37		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 4H-6(2-4) **Lab ID: 92131883006** Collected: 09/17/12 12:40 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.1	1	09/19/12 08:45	09/20/12 18:38	68334-30-5	
Surrogates								
n-Pentacosane (S)	64	%	41-119	1	09/19/12 08:45	09/20/12 18:38	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	5.8	1	09/19/12 09:41	09/19/12 15:31	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	90	%	70-167	1	09/19/12 09:41	09/19/12 15:31	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.5**	%	0.10	1		09/19/12 13:37		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 4H-7(2-4) **Lab ID: 92131883007** Collected: 09/17/12 13:50 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.0	1	09/19/12 08:45	09/20/12 19:37	68334-30-5	
Surrogates								
n-Pentacosane (S)	64	%	41-119	1	09/19/12 08:45	09/20/12 19:37	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	6.4	1	09/19/12 09:41	09/19/12 15:54	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-167	1	09/19/12 09:41	09/19/12 15:54	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.7**	%	0.10	1		09/19/12 13:38		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: SAND-1 **Lab ID: 92131883008** Collected: 09/17/12 14:35 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**0.48**	mg/kg	0.47	1	09/19/12 03:50	09/19/12 17:44	7440-38-2	
Barium	**1150**	mg/kg	9.3	20	09/19/12 03:50	09/20/12 13:42	7440-39-3	
Cadmium	ND	mg/kg	0.093	1	09/19/12 03:50	09/19/12 17:44	7440-43-9	
Chromium	**20.6**	mg/kg	0.47	1	09/19/12 03:50	09/19/12 17:44	7440-47-3	
Lead	**8.7**	mg/kg	0.47	1	09/19/12 03:50	09/19/12 17:44	7439-92-1	
Selenium	**1.4**	mg/kg	0.93	1	09/19/12 03:50	09/19/12 17:44	7782-49-2	
Silver	ND	mg/kg	0.47	1	09/19/12 03:50	09/19/12 17:44	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.0038	1	09/25/12 11:25	09/25/12 14:49	7439-97-6	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**0.58**	%	0.10	1		09/25/12 08:13		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: SAND-2 **Lab ID: 92131883009** Collected: 09/17/12 14:40 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	ND	mg/kg	0.51	1	09/19/12 03:50	09/19/12 17:47	7440-38-2	
Barium	**12.3**	mg/kg	0.51	1	09/19/12 03:50	09/19/12 17:47	7440-39-3	
Cadmium	ND	mg/kg	0.10	1	09/19/12 03:50	09/19/12 17:47	7440-43-9	
Chromium	**24.7**	mg/kg	0.51	1	09/19/12 03:50	09/19/12 17:47	7440-47-3	
Lead	**8.6**	mg/kg	0.51	1	09/19/12 03:50	09/19/12 17:47	7439-92-1	
Selenium	ND	mg/kg	1.0	1	09/19/12 03:50	09/19/12 17:47	7782-49-2	
Silver	ND	mg/kg	0.51	1	09/19/12 03:50	09/19/12 17:47	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.0046	1	09/25/12 11:25	09/25/12 14:52	7439-97-6	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**5.1**	%	0.10	1		09/25/12 08:14		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: SAND-3 **Lab ID: 92131883010** Collected: 09/17/12 14:45 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	ND	mg/kg	0.48	1	09/19/12 03:50	09/19/12 17:50	7440-38-2	
Barium	**46.8**	mg/kg	0.48	1	09/19/12 03:50	09/19/12 17:50	7440-39-3	
Cadmium	**0.20**	mg/kg	0.096	1	09/19/12 03:50	09/19/12 17:50	7440-43-9	
Chromium	**6.7**	mg/kg	0.48	1	09/19/12 03:50	09/19/12 17:50	7440-47-3	
Lead	**10.9**	mg/kg	0.48	1	09/19/12 03:50	09/19/12 17:50	7439-92-1	
Selenium	ND	mg/kg	0.96	1	09/19/12 03:50	09/19/12 17:50	7782-49-2	
Silver	ND	mg/kg	0.48	1	09/19/12 03:50	09/19/12 17:50	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.0067**	mg/kg	0.0049	1	09/25/12 11:25	09/25/12 14:55	7439-97-6	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**4.0**	%	0.10	1		09/25/12 08:14		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-1(0-2) **Lab ID: 92131883011** Collected: 09/17/12 14:55 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.1	1	09/19/12 08:45	09/20/12 19:37	68334-30-5	
Surrogates								
n-Pentacosane (S)	70	%	41-119	1	09/19/12 08:45	09/20/12 19:37	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	8.6	1	09/19/12 09:41	09/19/12 16:17	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	93	%	70-167	1	09/19/12 09:41	09/19/12 16:17	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**0.80**	mg/kg	0.55	1	09/19/12 03:50	09/19/12 17:53	7440-38-2	
Barium	**53.6**	mg/kg	0.55	1	09/19/12 03:50	09/19/12 17:53	7440-39-3	
Cadmium	**0.94**	mg/kg	0.11	1	09/19/12 03:50	09/19/12 17:53	7440-43-9	
Chromium	**4.5**	mg/kg	0.55	1	09/19/12 03:50	09/19/12 17:53	7440-47-3	
Lead	**5.8**	mg/kg	0.55	1	09/19/12 03:50	09/19/12 17:53	7439-92-1	
Selenium	**4.4**	mg/kg	1.1	1	09/19/12 03:50	09/19/12 17:53	7782-49-2	
Silver	ND	mg/kg	0.55	1	09/19/12 03:50	09/19/12 17:53	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.039**	mg/kg	0.0044	1	09/25/12 11:25	09/25/12 14:57	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	109	1		09/20/12 17:10	67-64-1	
Benzene	ND	ug/kg	5.4	1		09/20/12 17:10	71-43-2	
Bromobenzene	ND	ug/kg	5.4	1		09/20/12 17:10	108-86-1	
Bromochloromethane	ND	ug/kg	5.4	1		09/20/12 17:10	74-97-5	
Bromodichloromethane	ND	ug/kg	5.4	1		09/20/12 17:10	75-27-4	
Bromoform	ND	ug/kg	5.4	1		09/20/12 17:10	75-25-2	
Bromomethane	ND	ug/kg	10.9	1		09/20/12 17:10	74-83-9	
2-Butanone (MEK)	ND	ug/kg	109	1		09/20/12 17:10	78-93-3	
n-Butylbenzene	ND	ug/kg	5.4	1		09/20/12 17:10	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.4	1		09/20/12 17:10	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.4	1		09/20/12 17:10	98-06-6	
Carbon tetrachloride	ND	ug/kg	5.4	1		09/20/12 17:10	56-23-5	
Chlorobenzene	ND	ug/kg	5.4	1		09/20/12 17:10	108-90-7	
Chloroethane	ND	ug/kg	10.9	1		09/20/12 17:10	75-00-3	
Chloroform	ND	ug/kg	5.4	1		09/20/12 17:10	67-66-3	
Chloromethane	ND	ug/kg	10.9	1		09/20/12 17:10	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.4	1		09/20/12 17:10	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.4	1		09/20/12 17:10	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.4	1		09/20/12 17:10	96-12-8	
Dibromochloromethane	ND	ug/kg	5.4	1		09/20/12 17:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.4	1		09/20/12 17:10	106-93-4	
Dibromomethane	ND	ug/kg	5.4	1		09/20/12 17:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.4	1		09/20/12 17:10	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-1(0-2) **Lab ID: 92131883011** Collected: 09/17/12 14:55 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	5.4	1		09/20/12 17:10	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.4	1		09/20/12 17:10	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	10.9	1		09/20/12 17:10	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.4	1		09/20/12 17:10	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.4	1		09/20/12 17:10	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.4	1		09/20/12 17:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.4	1		09/20/12 17:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.4	1		09/20/12 17:10	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.4	1		09/20/12 17:10	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.4	1		09/20/12 17:10	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.4	1		09/20/12 17:10	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.4	1		09/20/12 17:10	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.4	1		09/20/12 17:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.4	1		09/20/12 17:10	10061-02-6	
Diisopropyl ether	ND	ug/kg	5.4	1		09/20/12 17:10	108-20-3	
Ethylbenzene	ND	ug/kg	5.4	1		09/20/12 17:10	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.4	1		09/20/12 17:10	87-68-3	
2-Hexanone	ND	ug/kg	54.4	1		09/20/12 17:10	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.4	1		09/20/12 17:10	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.4	1		09/20/12 17:10	99-87-6	
Methylene Chloride	ND	ug/kg	21.7	1		09/20/12 17:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	54.4	1		09/20/12 17:10	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.4	1		09/20/12 17:10	1634-04-4	
Naphthalene	ND	ug/kg	5.4	1		09/20/12 17:10	91-20-3	
n-Propylbenzene	ND	ug/kg	5.4	1		09/20/12 17:10	103-65-1	
Styrene	ND	ug/kg	5.4	1		09/20/12 17:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.4	1		09/20/12 17:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.4	1		09/20/12 17:10	79-34-5	
Tetrachloroethene	ND	ug/kg	5.4	1		09/20/12 17:10	127-18-4	
Toluene	ND	ug/kg	5.4	1		09/20/12 17:10	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.4	1		09/20/12 17:10	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.4	1		09/20/12 17:10	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.4	1		09/20/12 17:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.4	1		09/20/12 17:10	79-00-5	
Trichloroethene	ND	ug/kg	5.4	1		09/20/12 17:10	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.4	1		09/20/12 17:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.4	1		09/20/12 17:10	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.4	1		09/20/12 17:10	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.4	1		09/20/12 17:10	108-67-8	
Vinyl acetate	ND	ug/kg	54.4	1		09/20/12 17:10	108-05-4	
Vinyl chloride	ND	ug/kg	10.9	1		09/20/12 17:10	75-01-4	
Xylene (Total)	ND	ug/kg	10.9	1		09/20/12 17:10	1330-20-7	
m&p-Xylene	ND	ug/kg	10.9	1		09/20/12 17:10	179601-23-1	
o-Xylene	ND	ug/kg	5.4	1		09/20/12 17:10	95-47-6	
Surrogates								
Dibromofluoromethane (S)	94	%	70-130	1		09/20/12 17:10	1868-53-7	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-1(0-2) **Lab ID: 92131883011** Collected: 09/17/12 14:55 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	98	%	70-130	1		09/20/12 17:10	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130	1		09/20/12 17:10	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-132	1		09/20/12 17:10	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.7**	%	0.10	1		09/19/12 13:38		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-2(0-2) **Lab ID: 92131883012** Collected: 09/17/12 15:30 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	**10.6**	mg/kg	6.0	1	09/19/12 08:45	09/20/12 20:07	68334-30-5	
Surrogates								
n-Pentacosane (S)	78	%	41-119	1	09/19/12 08:45	09/20/12 20:07	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	6.2	1	09/19/12 09:41	09/19/12 16:39	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	91	%	70-167	1	09/19/12 09:41	09/19/12 16:39	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	ND	mg/kg	0.57	1	09/19/12 03:50	09/19/12 17:56	7440-38-2	
Barium	**29.0**	mg/kg	0.57	1	09/19/12 03:50	09/19/12 17:56	7440-39-3	
Cadmium	**7.7**	mg/kg	0.11	1	09/19/12 03:50	09/19/12 17:56	7440-43-9	
Chromium	**28.9**	mg/kg	0.57	1	09/19/12 03:50	09/19/12 17:56	7440-47-3	
Lead	**12.2**	mg/kg	0.57	1	09/19/12 03:50	09/19/12 17:56	7439-92-1	
Selenium	**5.1**	mg/kg	1.1	1	09/19/12 03:50	09/19/12 17:56	7782-49-2	
Silver	ND	mg/kg	0.57	1	09/19/12 03:50	09/19/12 17:56	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.097**	mg/kg	0.0058	1	09/25/12 11:25	09/25/12 15:00	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	100	1		09/20/12 17:29	67-64-1	
Benzene	ND	ug/kg	5.0	1		09/20/12 17:29	71-43-2	
Bromobenzene	ND	ug/kg	5.0	1		09/20/12 17:29	108-86-1	
Bromochloromethane	ND	ug/kg	5.0	1		09/20/12 17:29	74-97-5	
Bromodichloromethane	ND	ug/kg	5.0	1		09/20/12 17:29	75-27-4	
Bromoform	ND	ug/kg	5.0	1		09/20/12 17:29	75-25-2	
Bromomethane	ND	ug/kg	10.0	1		09/20/12 17:29	74-83-9	
2-Butanone (MEK)	ND	ug/kg	100	1		09/20/12 17:29	78-93-3	
n-Butylbenzene	ND	ug/kg	5.0	1		09/20/12 17:29	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.0	1		09/20/12 17:29	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.0	1		09/20/12 17:29	98-06-6	
Carbon tetrachloride	ND	ug/kg	5.0	1		09/20/12 17:29	56-23-5	
Chlorobenzene	ND	ug/kg	5.0	1		09/20/12 17:29	108-90-7	
Chloroethane	ND	ug/kg	10.0	1		09/20/12 17:29	75-00-3	
Chloroform	ND	ug/kg	5.0	1		09/20/12 17:29	67-66-3	
Chloromethane	ND	ug/kg	10.0	1		09/20/12 17:29	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.0	1		09/20/12 17:29	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.0	1		09/20/12 17:29	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	1		09/20/12 17:29	96-12-8	
Dibromochloromethane	ND	ug/kg	5.0	1		09/20/12 17:29	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	1		09/20/12 17:29	106-93-4	
Dibromomethane	ND	ug/kg	5.0	1		09/20/12 17:29	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.0	1		09/20/12 17:29	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-2(0-2) **Lab ID: 92131883012** Collected: 09/17/12 15:30 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	5.0	1		09/20/12 17:29	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.0	1		09/20/12 17:29	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	10.0	1		09/20/12 17:29	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.0	1		09/20/12 17:29	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.0	1		09/20/12 17:29	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.0	1		09/20/12 17:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.0	1		09/20/12 17:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.0	1		09/20/12 17:29	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.0	1		09/20/12 17:29	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.0	1		09/20/12 17:29	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.0	1		09/20/12 17:29	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.0	1		09/20/12 17:29	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	1		09/20/12 17:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	1		09/20/12 17:29	10061-02-6	
Diisopropyl ether	ND	ug/kg	5.0	1		09/20/12 17:29	108-20-3	
Ethylbenzene	ND	ug/kg	5.0	1		09/20/12 17:29	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	1		09/20/12 17:29	87-68-3	
2-Hexanone	ND	ug/kg	50.1	1		09/20/12 17:29	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	1		09/20/12 17:29	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.0	1		09/20/12 17:29	99-87-6	
Methylene Chloride	ND	ug/kg	20.0	1		09/20/12 17:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	50.1	1		09/20/12 17:29	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.0	1		09/20/12 17:29	1634-04-4	
Naphthalene	ND	ug/kg	5.0	1		09/20/12 17:29	91-20-3	
n-Propylbenzene	ND	ug/kg	5.0	1		09/20/12 17:29	103-65-1	
Styrene	ND	ug/kg	5.0	1		09/20/12 17:29	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	1		09/20/12 17:29	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	1		09/20/12 17:29	79-34-5	
Tetrachloroethene	ND	ug/kg	5.0	1		09/20/12 17:29	127-18-4	
Toluene	ND	ug/kg	5.0	1		09/20/12 17:29	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	1		09/20/12 17:29	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	1		09/20/12 17:29	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.0	1		09/20/12 17:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.0	1		09/20/12 17:29	79-00-5	
Trichloroethene	ND	ug/kg	5.0	1		09/20/12 17:29	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.0	1		09/20/12 17:29	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.0	1		09/20/12 17:29	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	1		09/20/12 17:29	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	1		09/20/12 17:29	108-67-8	
Vinyl acetate	ND	ug/kg	50.1	1		09/20/12 17:29	108-05-4	
Vinyl chloride	ND	ug/kg	10.0	1		09/20/12 17:29	75-01-4	
Xylene (Total)	ND	ug/kg	10.0	1		09/20/12 17:29	1330-20-7	
m&p-Xylene	ND	ug/kg	10.0	1		09/20/12 17:29	179601-23-1	
o-Xylene	ND	ug/kg	5.0	1		09/20/12 17:29	95-47-6	
Surrogates								
Dibromofluoromethane (S)	97	%	70-130	1		09/20/12 17:29	1868-53-7	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-2(0-2) **Lab ID: 92131883012** Collected: 09/17/12 15:30 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	98	%	70-130	1		09/20/12 17:29	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130	1		09/20/12 17:29	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-132	1		09/20/12 17:29	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.6**	%	0.10	1		09/19/12 13:38		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-3(0-2) **Lab ID: 92131883013** Collected: 09/17/12 16:00 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	5.9	1	09/19/12 08:45	09/20/12 20:07	68334-30-5	
Surrogates								
n-Pentacosane (S)	82	%	41-119	1	09/19/12 08:45	09/20/12 20:07	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	6.4	1	09/19/12 09:41	09/19/12 17:02	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	88	%	70-167	1	09/19/12 09:41	09/19/12 17:02	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**1.4**	mg/kg	0.54	1	09/19/12 03:50	09/19/12 18:00	7440-38-2	
Barium	**25.3**	mg/kg	0.54	1	09/19/12 03:50	09/19/12 18:00	7440-39-3	
Cadmium	**0.57**	mg/kg	0.11	1	09/19/12 03:50	09/19/12 18:00	7440-43-9	
Chromium	**12.3**	mg/kg	0.54	1	09/19/12 03:50	09/19/12 18:00	7440-47-3	
Lead	**3.8**	mg/kg	0.54	1	09/19/12 03:50	09/19/12 18:00	7439-92-1	
Selenium	**3.0**	mg/kg	1.1	1	09/19/12 03:50	09/19/12 18:00	7782-49-2	
Silver	ND	mg/kg	0.54	1	09/19/12 03:50	09/19/12 18:00	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.046**	mg/kg	0.0050	1	09/25/12 11:25	09/25/12 15:03	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	103	1		09/20/12 17:47	67-64-1	
Benzene	ND	ug/kg	5.1	1		09/20/12 17:47	71-43-2	
Bromobenzene	ND	ug/kg	5.1	1		09/20/12 17:47	108-86-1	
Bromochloromethane	ND	ug/kg	5.1	1		09/20/12 17:47	74-97-5	
Bromodichloromethane	ND	ug/kg	5.1	1		09/20/12 17:47	75-27-4	
Bromoform	ND	ug/kg	5.1	1		09/20/12 17:47	75-25-2	
Bromomethane	ND	ug/kg	10.3	1		09/20/12 17:47	74-83-9	
2-Butanone (MEK)	ND	ug/kg	103	1		09/20/12 17:47	78-93-3	
n-Butylbenzene	ND	ug/kg	5.1	1		09/20/12 17:47	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.1	1		09/20/12 17:47	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.1	1		09/20/12 17:47	98-06-6	
Carbon tetrachloride	ND	ug/kg	5.1	1		09/20/12 17:47	56-23-5	
Chlorobenzene	ND	ug/kg	5.1	1		09/20/12 17:47	108-90-7	
Chloroethane	ND	ug/kg	10.3	1		09/20/12 17:47	75-00-3	
Chloroform	ND	ug/kg	5.1	1		09/20/12 17:47	67-66-3	
Chloromethane	ND	ug/kg	10.3	1		09/20/12 17:47	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.1	1		09/20/12 17:47	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.1	1		09/20/12 17:47	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.1	1		09/20/12 17:47	96-12-8	
Dibromochloromethane	ND	ug/kg	5.1	1		09/20/12 17:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.1	1		09/20/12 17:47	106-93-4	
Dibromomethane	ND	ug/kg	5.1	1		09/20/12 17:47	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.1	1		09/20/12 17:47	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-3(0-2) **Lab ID: 92131883013** Collected: 09/17/12 16:00 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	5.1	1		09/20/12 17:47	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.1	1		09/20/12 17:47	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	10.3	1		09/20/12 17:47	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.1	1		09/20/12 17:47	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.1	1		09/20/12 17:47	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.1	1		09/20/12 17:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.1	1		09/20/12 17:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.1	1		09/20/12 17:47	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.1	1		09/20/12 17:47	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.1	1		09/20/12 17:47	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.1	1		09/20/12 17:47	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.1	1		09/20/12 17:47	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.1	1		09/20/12 17:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.1	1		09/20/12 17:47	10061-02-6	
Diisopropyl ether	ND	ug/kg	5.1	1		09/20/12 17:47	108-20-3	
Ethylbenzene	ND	ug/kg	5.1	1		09/20/12 17:47	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.1	1		09/20/12 17:47	87-68-3	
2-Hexanone	ND	ug/kg	51.3	1		09/20/12 17:47	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.1	1		09/20/12 17:47	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.1	1		09/20/12 17:47	99-87-6	
Methylene Chloride	ND	ug/kg	20.5	1		09/20/12 17:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	51.3	1		09/20/12 17:47	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.1	1		09/20/12 17:47	1634-04-4	
Naphthalene	ND	ug/kg	5.1	1		09/20/12 17:47	91-20-3	
n-Propylbenzene	ND	ug/kg	5.1	1		09/20/12 17:47	103-65-1	
Styrene	ND	ug/kg	5.1	1		09/20/12 17:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.1	1		09/20/12 17:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.1	1		09/20/12 17:47	79-34-5	
Tetrachloroethene	ND	ug/kg	5.1	1		09/20/12 17:47	127-18-4	
Toluene	ND	ug/kg	5.1	1		09/20/12 17:47	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.1	1		09/20/12 17:47	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.1	1		09/20/12 17:47	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.1	1		09/20/12 17:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.1	1		09/20/12 17:47	79-00-5	
Trichloroethene	ND	ug/kg	5.1	1		09/20/12 17:47	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.1	1		09/20/12 17:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.1	1		09/20/12 17:47	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.1	1		09/20/12 17:47	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.1	1		09/20/12 17:47	108-67-8	
Vinyl acetate	ND	ug/kg	51.3	1		09/20/12 17:47	108-05-4	
Vinyl chloride	ND	ug/kg	10.3	1		09/20/12 17:47	75-01-4	
Xylene (Total)	ND	ug/kg	10.3	1		09/20/12 17:47	1330-20-7	
m&p-Xylene	ND	ug/kg	10.3	1		09/20/12 17:47	179601-23-1	
o-Xylene	ND	ug/kg	5.1	1		09/20/12 17:47	95-47-6	
Surrogates								
Dibromofluoromethane (S)	93	%	70-130	1		09/20/12 17:47	1868-53-7	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-3(0-2) **Lab ID: 92131883013** Collected: 09/17/12 16:00 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	99	%	70-130	1		09/20/12 17:47	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130	1		09/20/12 17:47	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-132	1		09/20/12 17:47	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**14.7**	%	0.10	1		09/19/12 13:38		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-4(0-2) **Lab ID: 92131883014** Collected: 09/17/12 16:20 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	5.9	1	09/19/12 08:45	09/20/12 20:37	68334-30-5	
Surrogates								
n-Pentacosane (S)	58	%	41-119	1	09/19/12 08:45	09/20/12 20:37	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	5.5	1	09/19/12 09:41	09/19/12 17:25	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-167	1	09/19/12 09:41	09/19/12 17:25	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**1.4**	mg/kg	0.54	1	09/19/12 03:50	09/19/12 18:03	7440-38-2	
Barium	**19.7**	mg/kg	0.54	1	09/19/12 03:50	09/19/12 18:03	7440-39-3	
Cadmium	ND	mg/kg	0.11	1	09/19/12 03:50	09/19/12 18:03	7440-43-9	
Chromium	**7.4**	mg/kg	0.54	1	09/19/12 03:50	09/19/12 18:03	7440-47-3	
Lead	**3.8**	mg/kg	0.54	1	09/19/12 03:50	09/19/12 18:03	7439-92-1	
Selenium	**2.0**	mg/kg	1.1	1	09/19/12 03:50	09/19/12 18:03	7782-49-2	
Silver	ND	mg/kg	0.54	1	09/19/12 03:50	09/19/12 18:03	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.022**	mg/kg	0.0038	1	09/25/12 11:25	09/25/12 15:05	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	100	1		09/20/12 18:06	67-64-1	
Benzene	ND	ug/kg	5.0	1		09/20/12 18:06	71-43-2	
Bromobenzene	ND	ug/kg	5.0	1		09/20/12 18:06	108-86-1	
Bromochloromethane	ND	ug/kg	5.0	1		09/20/12 18:06	74-97-5	
Bromodichloromethane	ND	ug/kg	5.0	1		09/20/12 18:06	75-27-4	
Bromoform	ND	ug/kg	5.0	1		09/20/12 18:06	75-25-2	
Bromomethane	ND	ug/kg	10.0	1		09/20/12 18:06	74-83-9	
2-Butanone (MEK)	ND	ug/kg	100	1		09/20/12 18:06	78-93-3	
n-Butylbenzene	ND	ug/kg	5.0	1		09/20/12 18:06	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.0	1		09/20/12 18:06	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.0	1		09/20/12 18:06	98-06-6	
Carbon tetrachloride	ND	ug/kg	5.0	1		09/20/12 18:06	56-23-5	
Chlorobenzene	ND	ug/kg	5.0	1		09/20/12 18:06	108-90-7	
Chloroethane	ND	ug/kg	10.0	1		09/20/12 18:06	75-00-3	
Chloroform	ND	ug/kg	5.0	1		09/20/12 18:06	67-66-3	
Chloromethane	ND	ug/kg	10.0	1		09/20/12 18:06	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.0	1		09/20/12 18:06	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.0	1		09/20/12 18:06	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	1		09/20/12 18:06	96-12-8	
Dibromochloromethane	ND	ug/kg	5.0	1		09/20/12 18:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	1		09/20/12 18:06	106-93-4	
Dibromomethane	ND	ug/kg	5.0	1		09/20/12 18:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.0	1		09/20/12 18:06	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-4(0-2) **Lab ID: 92131883014** Collected: 09/17/12 16:20 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	5.0	1		09/20/12 18:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.0	1		09/20/12 18:06	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	10.0	1		09/20/12 18:06	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.0	1		09/20/12 18:06	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.0	1		09/20/12 18:06	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.0	1		09/20/12 18:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.0	1		09/20/12 18:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.0	1		09/20/12 18:06	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.0	1		09/20/12 18:06	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.0	1		09/20/12 18:06	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.0	1		09/20/12 18:06	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.0	1		09/20/12 18:06	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	1		09/20/12 18:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	1		09/20/12 18:06	10061-02-6	
Diisopropyl ether	ND	ug/kg	5.0	1		09/20/12 18:06	108-20-3	
Ethylbenzene	ND	ug/kg	5.0	1		09/20/12 18:06	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	1		09/20/12 18:06	87-68-3	
2-Hexanone	ND	ug/kg	50.2	1		09/20/12 18:06	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	1		09/20/12 18:06	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.0	1		09/20/12 18:06	99-87-6	
Methylene Chloride	ND	ug/kg	20.1	1		09/20/12 18:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	50.2	1		09/20/12 18:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.0	1		09/20/12 18:06	1634-04-4	
Naphthalene	ND	ug/kg	5.0	1		09/20/12 18:06	91-20-3	
n-Propylbenzene	ND	ug/kg	5.0	1		09/20/12 18:06	103-65-1	
Styrene	ND	ug/kg	5.0	1		09/20/12 18:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	1		09/20/12 18:06	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	1		09/20/12 18:06	79-34-5	
Tetrachloroethene	ND	ug/kg	5.0	1		09/20/12 18:06	127-18-4	
Toluene	ND	ug/kg	5.0	1		09/20/12 18:06	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	1		09/20/12 18:06	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	1		09/20/12 18:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.0	1		09/20/12 18:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.0	1		09/20/12 18:06	79-00-5	
Trichloroethene	ND	ug/kg	5.0	1		09/20/12 18:06	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.0	1		09/20/12 18:06	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.0	1		09/20/12 18:06	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	1		09/20/12 18:06	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	1		09/20/12 18:06	108-67-8	
Vinyl acetate	ND	ug/kg	50.2	1		09/20/12 18:06	108-05-4	
Vinyl chloride	ND	ug/kg	10.0	1		09/20/12 18:06	75-01-4	
Xylene (Total)	ND	ug/kg	10.0	1		09/20/12 18:06	1330-20-7	
m&p-Xylene	ND	ug/kg	10.0	1		09/20/12 18:06	179601-23-1	
o-Xylene	ND	ug/kg	5.0	1		09/20/12 18:06	95-47-6	
Surrogates								
Dibromofluoromethane (S)	92	%	70-130	1		09/20/12 18:06	1868-53-7	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-4(0-2) **Lab ID: 92131883014** Collected: 09/17/12 16:20 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	97	%	70-130	1		09/20/12 18:06	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130	1		09/20/12 18:06	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-132	1		09/20/12 18:06	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**15.0**	%	0.10	1		09/19/12 13:38		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-5(1-2) **Lab ID: 92131883015** Collected: 09/18/12 09:00 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	**29.6**	mg/kg	5.9	1	09/19/12 08:45	09/20/12 20:37	68334-30-5	
Surrogates								
n-Pentacosane (S)	83	%	41-119	1	09/19/12 08:45	09/20/12 20:37	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	5.2	1	09/19/12 09:41	09/19/12 17:48	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-167	1	09/19/12 09:41	09/19/12 17:48	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**2.1**	mg/kg	0.49	1	09/19/12 03:50	09/19/12 20:39	7440-38-2	
Barium	**26.8**	mg/kg	0.49	1	09/19/12 03:50	09/19/12 20:39	7440-39-3	
Cadmium	ND	mg/kg	0.097	1	09/19/12 03:50	09/19/12 20:39	7440-43-9	
Chromium	**6.5**	mg/kg	0.49	1	09/19/12 03:50	09/19/12 20:39	7440-47-3	
Lead	**9.0**	mg/kg	0.49	1	09/19/12 03:50	09/19/12 20:39	7439-92-1	
Selenium	**2.4**	mg/kg	0.97	1	09/19/12 03:50	09/19/12 20:39	7782-49-2	
Silver	ND	mg/kg	0.49	1	09/19/12 03:50	09/19/12 20:39	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.037**	mg/kg	0.0052	1	09/25/12 11:25	09/25/12 15:08	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	98.4	1		09/20/12 18:24	67-64-1	
Benzene	ND	ug/kg	4.9	1		09/20/12 18:24	71-43-2	
Bromobenzene	ND	ug/kg	4.9	1		09/20/12 18:24	108-86-1	
Bromochloromethane	ND	ug/kg	4.9	1		09/20/12 18:24	74-97-5	
Bromodichloromethane	ND	ug/kg	4.9	1		09/20/12 18:24	75-27-4	
Bromoform	ND	ug/kg	4.9	1		09/20/12 18:24	75-25-2	
Bromomethane	ND	ug/kg	9.8	1		09/20/12 18:24	74-83-9	
2-Butanone (MEK)	ND	ug/kg	98.4	1		09/20/12 18:24	78-93-3	
n-Butylbenzene	ND	ug/kg	4.9	1		09/20/12 18:24	104-51-8	
sec-Butylbenzene	ND	ug/kg	4.9	1		09/20/12 18:24	135-98-8	
tert-Butylbenzene	ND	ug/kg	4.9	1		09/20/12 18:24	98-06-6	
Carbon tetrachloride	ND	ug/kg	4.9	1		09/20/12 18:24	56-23-5	
Chlorobenzene	ND	ug/kg	4.9	1		09/20/12 18:24	108-90-7	
Chloroethane	ND	ug/kg	9.8	1		09/20/12 18:24	75-00-3	
Chloroform	ND	ug/kg	4.9	1		09/20/12 18:24	67-66-3	
Chloromethane	ND	ug/kg	9.8	1		09/20/12 18:24	74-87-3	
2-Chlorotoluene	ND	ug/kg	4.9	1		09/20/12 18:24	95-49-8	
4-Chlorotoluene	ND	ug/kg	4.9	1		09/20/12 18:24	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	4.9	1		09/20/12 18:24	96-12-8	
Dibromochloromethane	ND	ug/kg	4.9	1		09/20/12 18:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	4.9	1		09/20/12 18:24	106-93-4	
Dibromomethane	ND	ug/kg	4.9	1		09/20/12 18:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	4.9	1		09/20/12 18:24	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-5(1-2) **Lab ID: 92131883015** Collected: 09/18/12 09:00 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	4.9	1		09/20/12 18:24	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	4.9	1		09/20/12 18:24	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	9.8	1		09/20/12 18:24	75-71-8	
1,1-Dichloroethane	ND	ug/kg	4.9	1		09/20/12 18:24	75-34-3	
1,2-Dichloroethane	ND	ug/kg	4.9	1		09/20/12 18:24	107-06-2	
1,1-Dichloroethene	ND	ug/kg	4.9	1		09/20/12 18:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	4.9	1		09/20/12 18:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	4.9	1		09/20/12 18:24	156-60-5	
1,2-Dichloropropane	ND	ug/kg	4.9	1		09/20/12 18:24	78-87-5	
1,3-Dichloropropane	ND	ug/kg	4.9	1		09/20/12 18:24	142-28-9	
2,2-Dichloropropane	ND	ug/kg	4.9	1		09/20/12 18:24	594-20-7	
1,1-Dichloropropene	ND	ug/kg	4.9	1		09/20/12 18:24	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	4.9	1		09/20/12 18:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	4.9	1		09/20/12 18:24	10061-02-6	
Diisopropyl ether	ND	ug/kg	4.9	1		09/20/12 18:24	108-20-3	
Ethylbenzene	ND	ug/kg	4.9	1		09/20/12 18:24	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	4.9	1		09/20/12 18:24	87-68-3	
2-Hexanone	ND	ug/kg	49.2	1		09/20/12 18:24	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	4.9	1		09/20/12 18:24	98-82-8	
p-Isopropyltoluene	ND	ug/kg	4.9	1		09/20/12 18:24	99-87-6	
Methylene Chloride	ND	ug/kg	19.7	1		09/20/12 18:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	49.2	1		09/20/12 18:24	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	4.9	1		09/20/12 18:24	1634-04-4	
Naphthalene	ND	ug/kg	4.9	1		09/20/12 18:24	91-20-3	
n-Propylbenzene	ND	ug/kg	4.9	1		09/20/12 18:24	103-65-1	
Styrene	ND	ug/kg	4.9	1		09/20/12 18:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	4.9	1		09/20/12 18:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.9	1		09/20/12 18:24	79-34-5	
Tetrachloroethene	ND	ug/kg	4.9	1		09/20/12 18:24	127-18-4	
Toluene	ND	ug/kg	4.9	1		09/20/12 18:24	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	4.9	1		09/20/12 18:24	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	4.9	1		09/20/12 18:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	4.9	1		09/20/12 18:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	4.9	1		09/20/12 18:24	79-00-5	
Trichloroethene	ND	ug/kg	4.9	1		09/20/12 18:24	79-01-6	
Trichlorofluoromethane	ND	ug/kg	4.9	1		09/20/12 18:24	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	4.9	1		09/20/12 18:24	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	4.9	1		09/20/12 18:24	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	4.9	1		09/20/12 18:24	108-67-8	
Vinyl acetate	ND	ug/kg	49.2	1		09/20/12 18:24	108-05-4	
Vinyl chloride	ND	ug/kg	9.8	1		09/20/12 18:24	75-01-4	
Xylene (Total)	ND	ug/kg	9.8	1		09/20/12 18:24	1330-20-7	
m&p-Xylene	ND	ug/kg	9.8	1		09/20/12 18:24	179601-23-1	
o-Xylene	ND	ug/kg	4.9	1		09/20/12 18:24	95-47-6	
Surrogates								
Dibromofluoromethane (S)	127	%	70-130	1		09/20/12 18:24	1868-53-7	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-5(1-2) **Lab ID: 92131883015** Collected: 09/18/12 09:00 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	99	%	70-130	1		09/20/12 18:24	2037-26-5	
4-Bromofluorobenzene (S)	94	%	70-130	1		09/20/12 18:24	460-00-4	
1,2-Dichloroethane-d4 (S)	120	%	70-132	1		09/20/12 18:24	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**15.6**	%	0.10	1		09/19/12 13:38		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-6(1-2) **Lab ID: 92131883016** Collected: 09/18/12 10:50 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	5.6	1	09/19/12 08:45	09/20/12 21:07	68334-30-5	
Surrogates								
n-Pentacosane (S)	74	%	41-119	1	09/19/12 08:45	09/20/12 21:07	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	5.5	1	09/19/12 09:41	09/19/12 18:11	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-167	1	09/19/12 09:41	09/19/12 18:11	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**1.9**	mg/kg	0.56	1	09/19/12 03:50	09/19/12 20:46	7440-38-2	
Barium	**10.9**	mg/kg	0.56	1	09/19/12 03:50	09/19/12 20:46	7440-39-3	
Cadmium	ND	mg/kg	0.11	1	09/19/12 03:50	09/19/12 20:46	7440-43-9	
Chromium	**7.7**	mg/kg	0.56	1	09/19/12 03:50	09/19/12 20:46	7440-47-3	
Lead	**4.7**	mg/kg	0.56	1	09/19/12 03:50	09/19/12 20:46	7439-92-1	
Selenium	**2.1**	mg/kg	1.1	1	09/19/12 03:50	09/19/12 20:46	7782-49-2	
Silver	ND	mg/kg	0.56	1	09/19/12 03:50	09/19/12 20:46	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.016**	mg/kg	0.0041	1	09/25/12 11:25	09/25/12 15:10	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	87.9	1		09/20/12 18:42	67-64-1	
Benzene	ND	ug/kg	4.4	1		09/20/12 18:42	71-43-2	
Bromobenzene	ND	ug/kg	4.4	1		09/20/12 18:42	108-86-1	
Bromochloromethane	ND	ug/kg	4.4	1		09/20/12 18:42	74-97-5	
Bromodichloromethane	ND	ug/kg	4.4	1		09/20/12 18:42	75-27-4	
Bromoform	ND	ug/kg	4.4	1		09/20/12 18:42	75-25-2	
Bromomethane	ND	ug/kg	8.8	1		09/20/12 18:42	74-83-9	
2-Butanone (MEK)	ND	ug/kg	87.9	1		09/20/12 18:42	78-93-3	
n-Butylbenzene	ND	ug/kg	4.4	1		09/20/12 18:42	104-51-8	
sec-Butylbenzene	ND	ug/kg	4.4	1		09/20/12 18:42	135-98-8	
tert-Butylbenzene	ND	ug/kg	4.4	1		09/20/12 18:42	98-06-6	
Carbon tetrachloride	ND	ug/kg	4.4	1		09/20/12 18:42	56-23-5	
Chlorobenzene	ND	ug/kg	4.4	1		09/20/12 18:42	108-90-7	
Chloroethane	ND	ug/kg	8.8	1		09/20/12 18:42	75-00-3	
Chloroform	ND	ug/kg	4.4	1		09/20/12 18:42	67-66-3	
Chloromethane	ND	ug/kg	8.8	1		09/20/12 18:42	74-87-3	
2-Chlorotoluene	ND	ug/kg	4.4	1		09/20/12 18:42	95-49-8	
4-Chlorotoluene	ND	ug/kg	4.4	1		09/20/12 18:42	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	4.4	1		09/20/12 18:42	96-12-8	
Dibromochloromethane	ND	ug/kg	4.4	1		09/20/12 18:42	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	4.4	1		09/20/12 18:42	106-93-4	
Dibromomethane	ND	ug/kg	4.4	1		09/20/12 18:42	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	4.4	1		09/20/12 18:42	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-6(1-2) **Lab ID: 92131883016** Collected: 09/18/12 10:50 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	4.4	1		09/20/12 18:42	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	4.4	1		09/20/12 18:42	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	8.8	1		09/20/12 18:42	75-71-8	
1,1-Dichloroethane	ND	ug/kg	4.4	1		09/20/12 18:42	75-34-3	
1,2-Dichloroethane	ND	ug/kg	4.4	1		09/20/12 18:42	107-06-2	
1,1-Dichloroethene	ND	ug/kg	4.4	1		09/20/12 18:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	4.4	1		09/20/12 18:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	4.4	1		09/20/12 18:42	156-60-5	
1,2-Dichloropropane	ND	ug/kg	4.4	1		09/20/12 18:42	78-87-5	
1,3-Dichloropropane	ND	ug/kg	4.4	1		09/20/12 18:42	142-28-9	
2,2-Dichloropropane	ND	ug/kg	4.4	1		09/20/12 18:42	594-20-7	
1,1-Dichloropropene	ND	ug/kg	4.4	1		09/20/12 18:42	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	4.4	1		09/20/12 18:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	4.4	1		09/20/12 18:42	10061-02-6	
Diisopropyl ether	ND	ug/kg	4.4	1		09/20/12 18:42	108-20-3	
Ethylbenzene	ND	ug/kg	4.4	1		09/20/12 18:42	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	4.4	1		09/20/12 18:42	87-68-3	
2-Hexanone	ND	ug/kg	44.0	1		09/20/12 18:42	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	4.4	1		09/20/12 18:42	98-82-8	
p-Isopropyltoluene	ND	ug/kg	4.4	1		09/20/12 18:42	99-87-6	
Methylene Chloride	ND	ug/kg	17.6	1		09/20/12 18:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	44.0	1		09/20/12 18:42	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	4.4	1		09/20/12 18:42	1634-04-4	
Naphthalene	ND	ug/kg	4.4	1		09/20/12 18:42	91-20-3	
n-Propylbenzene	ND	ug/kg	4.4	1		09/20/12 18:42	103-65-1	
Styrene	ND	ug/kg	4.4	1		09/20/12 18:42	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	4.4	1		09/20/12 18:42	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.4	1		09/20/12 18:42	79-34-5	
Tetrachloroethene	ND	ug/kg	4.4	1		09/20/12 18:42	127-18-4	
Toluene	ND	ug/kg	4.4	1		09/20/12 18:42	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	4.4	1		09/20/12 18:42	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	4.4	1		09/20/12 18:42	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	4.4	1		09/20/12 18:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	4.4	1		09/20/12 18:42	79-00-5	
Trichloroethene	ND	ug/kg	4.4	1		09/20/12 18:42	79-01-6	
Trichlorofluoromethane	ND	ug/kg	4.4	1		09/20/12 18:42	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	4.4	1		09/20/12 18:42	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	4.4	1		09/20/12 18:42	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	4.4	1		09/20/12 18:42	108-67-8	
Vinyl acetate	ND	ug/kg	44.0	1		09/20/12 18:42	108-05-4	
Vinyl chloride	ND	ug/kg	8.8	1		09/20/12 18:42	75-01-4	
Xylene (Total)	ND	ug/kg	8.8	1		09/20/12 18:42	1330-20-7	
m&p-Xylene	ND	ug/kg	8.8	1		09/20/12 18:42	179601-23-1	
o-Xylene	ND	ug/kg	4.4	1		09/20/12 18:42	95-47-6	
Surrogates								
Dibromofluoromethane (S)	125	%	70-130	1		09/20/12 18:42	1868-53-7	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-6(1-2) **Lab ID: 92131883016** Collected: 09/18/12 10:50 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	100	%	70-130	1		09/20/12 18:42	2037-26-5	
4-Bromofluorobenzene (S)	93	%	70-130	1		09/20/12 18:42	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	70-132	1		09/20/12 18:42	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**10.2**	%	0.10	1		09/19/12 13:38		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-7(10-12) **Lab ID: 92131883017** Collected: 09/18/12 09:50 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	**281**	mg/kg	6.0	1	09/19/12 08:45	09/20/12 21:07	68334-30-5	
Surrogates								
n-Pentacosane (S)	77	%	41-119	1	09/19/12 08:45	09/20/12 21:07	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	**97.2**	mg/kg	7.0	1	09/19/12 09:41	09/19/12 18:34	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	145	%	70-167	1	09/19/12 09:41	09/19/12 18:34	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**2.7**	mg/kg	0.59	1	09/19/12 03:50	09/19/12 21:01	7440-38-2	
Barium	**17.1**	mg/kg	0.59	1	09/19/12 03:50	09/19/12 21:01	7440-39-3	
Cadmium	ND	mg/kg	0.12	1	09/19/12 03:50	09/19/12 21:01	7440-43-9	
Chromium	**2.5**	mg/kg	0.59	1	09/19/12 03:50	09/19/12 21:01	7440-47-3	
Lead	**9.1**	mg/kg	0.59	1	09/19/12 03:50	09/19/12 21:01	7439-92-1	
Selenium	**1.5**	mg/kg	1.2	1	09/19/12 03:50	09/19/12 21:01	7782-49-2	
Silver	ND	mg/kg	0.59	1	09/19/12 03:50	09/19/12 21:01	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.0095**	mg/kg	0.0058	1	09/25/12 11:25	09/25/12 15:13	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	6830	50		09/20/12 19:01	67-64-1	
Benzene	ND	ug/kg	342	50		09/20/12 19:01	71-43-2	
Bromobenzene	ND	ug/kg	342	50		09/20/12 19:01	108-86-1	
Bromochloromethane	ND	ug/kg	342	50		09/20/12 19:01	74-97-5	
Bromodichloromethane	ND	ug/kg	342	50		09/20/12 19:01	75-27-4	
Bromoform	ND	ug/kg	342	50		09/20/12 19:01	75-25-2	
Bromomethane	ND	ug/kg	683	50		09/20/12 19:01	74-83-9	
2-Butanone (MEK)	ND	ug/kg	6830	50		09/20/12 19:01	78-93-3	
n-Butylbenzene	**464**	ug/kg	342	50		09/20/12 19:01	104-51-8	
sec-Butylbenzene	ND	ug/kg	342	50		09/20/12 19:01	135-98-8	
tert-Butylbenzene	ND	ug/kg	342	50		09/20/12 19:01	98-06-6	
Carbon tetrachloride	ND	ug/kg	342	50		09/20/12 19:01	56-23-5	
Chlorobenzene	ND	ug/kg	342	50		09/20/12 19:01	108-90-7	
Chloroethane	ND	ug/kg	683	50		09/20/12 19:01	75-00-3	
Chloroform	ND	ug/kg	342	50		09/20/12 19:01	67-66-3	
Chloromethane	ND	ug/kg	683	50		09/20/12 19:01	74-87-3	
2-Chlorotoluene	ND	ug/kg	342	50		09/20/12 19:01	95-49-8	
4-Chlorotoluene	ND	ug/kg	342	50		09/20/12 19:01	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	342	50		09/20/12 19:01	96-12-8	
Dibromochloromethane	ND	ug/kg	342	50		09/20/12 19:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	342	50		09/20/12 19:01	106-93-4	
Dibromomethane	ND	ug/kg	342	50		09/20/12 19:01	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	342	50		09/20/12 19:01	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-7(10-12) **Lab ID: 92131883017** Collected: 09/18/12 09:50 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	342	50		09/20/12 19:01	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	342	50		09/20/12 19:01	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	683	50		09/20/12 19:01	75-71-8	D3
1,1-Dichloroethane	ND	ug/kg	342	50		09/20/12 19:01	75-34-3	
1,2-Dichloroethane	ND	ug/kg	342	50		09/20/12 19:01	107-06-2	
1,1-Dichloroethene	ND	ug/kg	342	50		09/20/12 19:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	342	50		09/20/12 19:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	342	50		09/20/12 19:01	156-60-5	
1,2-Dichloropropane	ND	ug/kg	342	50		09/20/12 19:01	78-87-5	
1,3-Dichloropropane	ND	ug/kg	342	50		09/20/12 19:01	142-28-9	
2,2-Dichloropropane	ND	ug/kg	342	50		09/20/12 19:01	594-20-7	
1,1-Dichloropropene	ND	ug/kg	342	50		09/20/12 19:01	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	342	50		09/20/12 19:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	342	50		09/20/12 19:01	10061-02-6	
Diisopropyl ether	ND	ug/kg	342	50		09/20/12 19:01	108-20-3	
Ethylbenzene	ND	ug/kg	342	50		09/20/12 19:01	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	342	50		09/20/12 19:01	87-68-3	
2-Hexanone	ND	ug/kg	3420	50		09/20/12 19:01	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	342	50		09/20/12 19:01	98-82-8	
p-Isopropyltoluene	**623**	ug/kg	342	50		09/20/12 19:01	99-87-6	
Methylene Chloride	ND	ug/kg	1370	50		09/20/12 19:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	3420	50		09/20/12 19:01	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	342	50		09/20/12 19:01	1634-04-4	
Naphthalene	**1050**	ug/kg	342	50		09/20/12 19:01	91-20-3	
n-Propylbenzene	ND	ug/kg	342	50		09/20/12 19:01	103-65-1	
Styrene	ND	ug/kg	342	50		09/20/12 19:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	342	50		09/20/12 19:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	342	50		09/20/12 19:01	79-34-5	
Tetrachloroethene	ND	ug/kg	342	50		09/20/12 19:01	127-18-4	
Toluene	ND	ug/kg	342	50		09/20/12 19:01	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	342	50		09/20/12 19:01	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	342	50		09/20/12 19:01	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	342	50		09/20/12 19:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	342	50		09/20/12 19:01	79-00-5	
Trichloroethene	ND	ug/kg	342	50		09/20/12 19:01	79-01-6	
Trichlorofluoromethane	ND	ug/kg	342	50		09/20/12 19:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	342	50		09/20/12 19:01	96-18-4	
1,2,4-Trimethylbenzene	**2550**	ug/kg	342	50		09/20/12 19:01	95-63-6	
1,3,5-Trimethylbenzene	**1030**	ug/kg	342	50		09/20/12 19:01	108-67-8	
Vinyl acetate	ND	ug/kg	3420	50		09/20/12 19:01	108-05-4	
Vinyl chloride	ND	ug/kg	683	50		09/20/12 19:01	75-01-4	
Xylene (Total)	**1720**	ug/kg	683	50		09/20/12 19:01	1330-20-7	
m&p-Xylene	**1240**	ug/kg	683	50		09/20/12 19:01	179601-23-1	
o-Xylene	**482**	ug/kg	342	50		09/20/12 19:01	95-47-6	
Surrogates								
Dibromofluoromethane (S)	142	%	70-130	50		09/20/12 19:01	1868-53-7	S5

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-7(10-12) **Lab ID: 92131883017** Collected: 09/18/12 09:50 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	98	%	70-130	50		09/20/12 19:01	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130	50		09/20/12 19:01	460-00-4	
1,2-Dichloroethane-d4 (S)	126	%	70-132	50		09/20/12 19:01	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.3**	%	0.10	1		09/19/12 13:39		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-8(8-10) **Lab ID: 92131883018** Collected: 09/18/12 10:25 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	**80.6**	mg/kg	6.3	1	09/19/12 08:45	09/20/12 21:37	68334-30-5	
Surrogates								
n-Pentacosane (S)	74	%	41-119	1	09/19/12 08:45	09/20/12 21:37	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	**15.4**	mg/kg	7.0	1	09/19/12 09:41	09/19/12 18:57	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	117	%	70-167	1	09/19/12 09:41	09/19/12 18:57	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**1.5**	mg/kg	0.63	1	09/19/12 03:50	09/19/12 21:04	7440-38-2	
Barium	**16.5**	mg/kg	0.63	1	09/19/12 03:50	09/19/12 21:04	7440-39-3	
Cadmium	ND	mg/kg	0.13	1	09/19/12 03:50	09/19/12 21:04	7440-43-9	
Chromium	**8.2**	mg/kg	0.63	1	09/19/12 03:50	09/19/12 21:04	7440-47-3	
Lead	**6.8**	mg/kg	0.63	1	09/19/12 03:50	09/19/12 21:04	7439-92-1	
Selenium	**2.5**	mg/kg	1.3	1	09/19/12 03:50	09/19/12 21:04	7782-49-2	
Silver	ND	mg/kg	0.63	1	09/19/12 03:50	09/19/12 21:04	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.016**	mg/kg	0.0055	1	09/25/12 11:25	09/25/12 15:21	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	1920	20		09/21/12 13:10	67-64-1	
Benzene	ND	ug/kg	96.0	20		09/21/12 13:10	71-43-2	
Bromobenzene	ND	ug/kg	96.0	20		09/21/12 13:10	108-86-1	
Bromochloromethane	ND	ug/kg	96.0	20		09/21/12 13:10	74-97-5	
Bromodichloromethane	ND	ug/kg	96.0	20		09/21/12 13:10	75-27-4	
Bromoform	ND	ug/kg	96.0	20		09/21/12 13:10	75-25-2	
Bromomethane	ND	ug/kg	192	20		09/21/12 13:10	74-83-9	
2-Butanone (MEK)	ND	ug/kg	1920	20		09/21/12 13:10	78-93-3	
n-Butylbenzene	ND	ug/kg	96.0	20		09/21/12 13:10	104-51-8	
sec-Butylbenzene	ND	ug/kg	96.0	20		09/21/12 13:10	135-98-8	
tert-Butylbenzene	ND	ug/kg	96.0	20		09/21/12 13:10	98-06-6	
Carbon tetrachloride	ND	ug/kg	96.0	20		09/21/12 13:10	56-23-5	
Chlorobenzene	ND	ug/kg	96.0	20		09/21/12 13:10	108-90-7	
Chloroethane	ND	ug/kg	192	20		09/21/12 13:10	75-00-3	
Chloroform	ND	ug/kg	96.0	20		09/21/12 13:10	67-66-3	
Chloromethane	ND	ug/kg	192	20		09/21/12 13:10	74-87-3	
2-Chlorotoluene	ND	ug/kg	96.0	20		09/21/12 13:10	95-49-8	
4-Chlorotoluene	ND	ug/kg	96.0	20		09/21/12 13:10	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	96.0	20		09/21/12 13:10	96-12-8	
Dibromochloromethane	ND	ug/kg	96.0	20		09/21/12 13:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	96.0	20		09/21/12 13:10	106-93-4	
Dibromomethane	ND	ug/kg	96.0	20		09/21/12 13:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	96.0	20		09/21/12 13:10	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-8(8-10) **Lab ID: 92131883018** Collected: 09/18/12 10:25 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	96.0	20		09/21/12 13:10	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	96.0	20		09/21/12 13:10	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	192	20		09/21/12 13:10	75-71-8	D3
1,1-Dichloroethane	ND	ug/kg	96.0	20		09/21/12 13:10	75-34-3	
1,2-Dichloroethane	ND	ug/kg	96.0	20		09/21/12 13:10	107-06-2	
1,1-Dichloroethene	ND	ug/kg	96.0	20		09/21/12 13:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	96.0	20		09/21/12 13:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	96.0	20		09/21/12 13:10	156-60-5	
1,2-Dichloropropane	ND	ug/kg	96.0	20		09/21/12 13:10	78-87-5	
1,3-Dichloropropane	ND	ug/kg	96.0	20		09/21/12 13:10	142-28-9	
2,2-Dichloropropane	ND	ug/kg	96.0	20		09/21/12 13:10	594-20-7	
1,1-Dichloropropene	ND	ug/kg	96.0	20		09/21/12 13:10	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	96.0	20		09/21/12 13:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	96.0	20		09/21/12 13:10	10061-02-6	
Diisopropyl ether	ND	ug/kg	96.0	20		09/21/12 13:10	108-20-3	
Ethylbenzene	ND	ug/kg	96.0	20		09/21/12 13:10	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	96.0	20		09/21/12 13:10	87-68-3	
2-Hexanone	ND	ug/kg	960	20		09/21/12 13:10	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	96.0	20		09/21/12 13:10	98-82-8	
p-Isopropyltoluene	ND	ug/kg	96.0	20		09/21/12 13:10	99-87-6	
Methylene Chloride	ND	ug/kg	384	20		09/21/12 13:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	960	20		09/21/12 13:10	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	96.0	20		09/21/12 13:10	1634-04-4	
Naphthalene	ND	ug/kg	96.0	20		09/21/12 13:10	91-20-3	
n-Propylbenzene	ND	ug/kg	96.0	20		09/21/12 13:10	103-65-1	
Styrene	ND	ug/kg	96.0	20		09/21/12 13:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	96.0	20		09/21/12 13:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	96.0	20		09/21/12 13:10	79-34-5	
Tetrachloroethene	ND	ug/kg	96.0	20		09/21/12 13:10	127-18-4	
Toluene	ND	ug/kg	96.0	20		09/21/12 13:10	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	96.0	20		09/21/12 13:10	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	96.0	20		09/21/12 13:10	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	96.0	20		09/21/12 13:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	96.0	20		09/21/12 13:10	79-00-5	
Trichloroethene	ND	ug/kg	96.0	20		09/21/12 13:10	79-01-6	
Trichlorofluoromethane	ND	ug/kg	96.0	20		09/21/12 13:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	96.0	20		09/21/12 13:10	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	96.0	20		09/21/12 13:10	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	96.0	20		09/21/12 13:10	108-67-8	
Vinyl acetate	ND	ug/kg	960	20		09/21/12 13:10	108-05-4	
Vinyl chloride	ND	ug/kg	192	20		09/21/12 13:10	75-01-4	
Xylene (Total)	ND	ug/kg	192	20		09/21/12 13:10	1330-20-7	
m&p-Xylene	ND	ug/kg	192	20		09/21/12 13:10	179601-23-1	
o-Xylene	ND	ug/kg	96.0	20		09/21/12 13:10	95-47-6	
Surrogates								
Dibromofluoromethane (S)	121	%	70-130	20		09/21/12 13:10	1868-53-7	S5

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-8(8-10) **Lab ID: 92131883018** Collected: 09/18/12 10:25 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	101	%	70-130	20		09/21/12 13:10	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130	20		09/21/12 13:10	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-132	20		09/21/12 13:10	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.4**	%	0.10	1		09/19/12 13:39		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-9(2-4) **Lab ID: 92131883019** Collected: 09/18/12 11:20 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.8	1	09/19/12 08:45	09/20/12 21:37	68334-30-5	
Surrogates								
n-Pentacosane (S)	74	%	41-119	1	09/19/12 08:45	09/20/12 21:37	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	8.4	1	09/19/12 14:00	09/19/12 21:14	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	87	%	70-167	1	09/19/12 14:00	09/19/12 21:14	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	ND	mg/kg	0.66	1	09/19/12 03:50	09/19/12 21:07	7440-38-2	
Barium	**10.8**	mg/kg	0.66	1	09/19/12 03:50	09/19/12 21:07	7440-39-3	
Cadmium	**22.1**	mg/kg	0.13	1	09/19/12 03:50	09/19/12 21:07	7440-43-9	
Chromium	**99.3**	mg/kg	0.66	1	09/19/12 03:50	09/19/12 21:07	7440-47-3	
Lead	**20.9**	mg/kg	0.66	1	09/19/12 03:50	09/19/12 21:07	7439-92-1	
Selenium	**10.3**	mg/kg	1.3	1	09/19/12 03:50	09/19/12 21:07	7782-49-2	
Silver	ND	mg/kg	0.66	1	09/19/12 03:50	09/19/12 21:07	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.17**	mg/kg	0.0064	1	09/25/12 11:25	09/25/12 15:24	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	153	1		09/20/12 19:37	67-64-1	
Benzene	ND	ug/kg	7.7	1		09/20/12 19:37	71-43-2	
Bromobenzene	ND	ug/kg	7.7	1		09/20/12 19:37	108-86-1	
Bromochloromethane	ND	ug/kg	7.7	1		09/20/12 19:37	74-97-5	
Bromodichloromethane	ND	ug/kg	7.7	1		09/20/12 19:37	75-27-4	
Bromoform	ND	ug/kg	7.7	1		09/20/12 19:37	75-25-2	
Bromomethane	ND	ug/kg	15.3	1		09/20/12 19:37	74-83-9	
2-Butanone (MEK)	ND	ug/kg	153	1		09/20/12 19:37	78-93-3	
n-Butylbenzene	ND	ug/kg	7.7	1		09/20/12 19:37	104-51-8	
sec-Butylbenzene	ND	ug/kg	7.7	1		09/20/12 19:37	135-98-8	
tert-Butylbenzene	ND	ug/kg	7.7	1		09/20/12 19:37	98-06-6	
Carbon tetrachloride	ND	ug/kg	7.7	1		09/20/12 19:37	56-23-5	
Chlorobenzene	ND	ug/kg	7.7	1		09/20/12 19:37	108-90-7	
Chloroethane	ND	ug/kg	15.3	1		09/20/12 19:37	75-00-3	
Chloroform	ND	ug/kg	7.7	1		09/20/12 19:37	67-66-3	
Chloromethane	ND	ug/kg	15.3	1		09/20/12 19:37	74-87-3	
2-Chlorotoluene	ND	ug/kg	7.7	1		09/20/12 19:37	95-49-8	
4-Chlorotoluene	ND	ug/kg	7.7	1		09/20/12 19:37	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	7.7	1		09/20/12 19:37	96-12-8	
Dibromochloromethane	ND	ug/kg	7.7	1		09/20/12 19:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	7.7	1		09/20/12 19:37	106-93-4	
Dibromomethane	ND	ug/kg	7.7	1		09/20/12 19:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	7.7	1		09/20/12 19:37	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-9(2-4) **Lab ID: 92131883019** Collected: 09/18/12 11:20 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	7.7	1		09/20/12 19:37	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	7.7	1		09/20/12 19:37	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	15.3	1		09/20/12 19:37	75-71-8	
1,1-Dichloroethane	ND	ug/kg	7.7	1		09/20/12 19:37	75-34-3	
1,2-Dichloroethane	ND	ug/kg	7.7	1		09/20/12 19:37	107-06-2	
1,1-Dichloroethene	ND	ug/kg	7.7	1		09/20/12 19:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	7.7	1		09/20/12 19:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	7.7	1		09/20/12 19:37	156-60-5	
1,2-Dichloropropane	ND	ug/kg	7.7	1		09/20/12 19:37	78-87-5	
1,3-Dichloropropane	ND	ug/kg	7.7	1		09/20/12 19:37	142-28-9	
2,2-Dichloropropane	ND	ug/kg	7.7	1		09/20/12 19:37	594-20-7	
1,1-Dichloropropene	ND	ug/kg	7.7	1		09/20/12 19:37	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	7.7	1		09/20/12 19:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	7.7	1		09/20/12 19:37	10061-02-6	
Diisopropyl ether	ND	ug/kg	7.7	1		09/20/12 19:37	108-20-3	
Ethylbenzene	ND	ug/kg	7.7	1		09/20/12 19:37	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	7.7	1		09/20/12 19:37	87-68-3	
2-Hexanone	ND	ug/kg	76.7	1		09/20/12 19:37	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	7.7	1		09/20/12 19:37	98-82-8	
p-Isopropyltoluene	ND	ug/kg	7.7	1		09/20/12 19:37	99-87-6	
Methylene Chloride	ND	ug/kg	30.7	1		09/20/12 19:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	76.7	1		09/20/12 19:37	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	7.7	1		09/20/12 19:37	1634-04-4	
Naphthalene	ND	ug/kg	7.7	1		09/20/12 19:37	91-20-3	
n-Propylbenzene	ND	ug/kg	7.7	1		09/20/12 19:37	103-65-1	
Styrene	ND	ug/kg	7.7	1		09/20/12 19:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	7.7	1		09/20/12 19:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	7.7	1		09/20/12 19:37	79-34-5	
Tetrachloroethene	ND	ug/kg	7.7	1		09/20/12 19:37	127-18-4	
Toluene	ND	ug/kg	7.7	1		09/20/12 19:37	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	7.7	1		09/20/12 19:37	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	7.7	1		09/20/12 19:37	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	7.7	1		09/20/12 19:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	7.7	1		09/20/12 19:37	79-00-5	
Trichloroethene	ND	ug/kg	7.7	1		09/20/12 19:37	79-01-6	
Trichlorofluoromethane	ND	ug/kg	7.7	1		09/20/12 19:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	7.7	1		09/20/12 19:37	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	7.7	1		09/20/12 19:37	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	7.7	1		09/20/12 19:37	108-67-8	
Vinyl acetate	ND	ug/kg	76.7	1		09/20/12 19:37	108-05-4	
Vinyl chloride	ND	ug/kg	15.3	1		09/20/12 19:37	75-01-4	
Xylene (Total)	ND	ug/kg	15.3	1		09/20/12 19:37	1330-20-7	
m&p-Xylene	ND	ug/kg	15.3	1		09/20/12 19:37	179601-23-1	
o-Xylene	ND	ug/kg	7.7	1		09/20/12 19:37	95-47-6	
Surrogates								
Dibromofluoromethane (S)	142	%	70-130	1		09/20/12 19:37	1868-53-7	S3

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-9(2-4) **Lab ID: 92131883019** Collected: 09/18/12 11:20 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	101	%	70-130	1		09/20/12 19:37	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130	1		09/20/12 19:37	460-00-4	
1,2-Dichloroethane-d4 (S)	128	%	70-132	1		09/20/12 19:37	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**26.2**	%	0.10	1		09/19/12 13:39		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-10(2-4) **Lab ID: 92131883020** Collected: 09/18/12 11:35 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.8	1	09/19/12 08:45	09/20/12 22:06	68334-30-5	
Surrogates								
n-Pentacosane (S)	71	%	41-119	1	09/19/12 08:45	09/20/12 22:06	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	6.5	1	09/19/12 14:00	09/19/12 22:22	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	88	%	70-167	1	09/19/12 14:00	09/19/12 22:22	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**1.2**	mg/kg	0.62	1	09/19/12 03:50	09/19/12 21:11	7440-38-2	
Barium	**12.4**	mg/kg	0.62	1	09/19/12 03:50	09/19/12 21:11	7440-39-3	
Cadmium	**2.7**	mg/kg	0.12	1	09/19/12 03:50	09/19/12 21:11	7440-43-9	
Chromium	**35.4**	mg/kg	0.62	1	09/19/12 03:50	09/19/12 21:11	7440-47-3	
Lead	**7.2**	mg/kg	0.62	1	09/19/12 03:50	09/19/12 21:11	7439-92-1	
Selenium	**6.1**	mg/kg	1.2	1	09/19/12 03:50	09/19/12 21:11	7782-49-2	
Silver	ND	mg/kg	0.62	1	09/19/12 03:50	09/19/12 21:11	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.36**	mg/kg	0.024	5	09/25/12 11:25	09/25/12 15:37	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	124	1		09/20/12 19:55	67-64-1	
Benzene	ND	ug/kg	6.2	1		09/20/12 19:55	71-43-2	
Bromobenzene	ND	ug/kg	6.2	1		09/20/12 19:55	108-86-1	
Bromochloromethane	ND	ug/kg	6.2	1		09/20/12 19:55	74-97-5	
Bromodichloromethane	ND	ug/kg	6.2	1		09/20/12 19:55	75-27-4	
Bromoform	ND	ug/kg	6.2	1		09/20/12 19:55	75-25-2	
Bromomethane	ND	ug/kg	12.4	1		09/20/12 19:55	74-83-9	
2-Butanone (MEK)	ND	ug/kg	124	1		09/20/12 19:55	78-93-3	
n-Butylbenzene	ND	ug/kg	6.2	1		09/20/12 19:55	104-51-8	
sec-Butylbenzene	ND	ug/kg	6.2	1		09/20/12 19:55	135-98-8	
tert-Butylbenzene	ND	ug/kg	6.2	1		09/20/12 19:55	98-06-6	
Carbon tetrachloride	ND	ug/kg	6.2	1		09/20/12 19:55	56-23-5	
Chlorobenzene	ND	ug/kg	6.2	1		09/20/12 19:55	108-90-7	
Chloroethane	ND	ug/kg	12.4	1		09/20/12 19:55	75-00-3	
Chloroform	ND	ug/kg	6.2	1		09/20/12 19:55	67-66-3	
Chloromethane	ND	ug/kg	12.4	1		09/20/12 19:55	74-87-3	
2-Chlorotoluene	ND	ug/kg	6.2	1		09/20/12 19:55	95-49-8	
4-Chlorotoluene	ND	ug/kg	6.2	1		09/20/12 19:55	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.2	1		09/20/12 19:55	96-12-8	
Dibromochloromethane	ND	ug/kg	6.2	1		09/20/12 19:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	6.2	1		09/20/12 19:55	106-93-4	
Dibromomethane	ND	ug/kg	6.2	1		09/20/12 19:55	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	6.2	1		09/20/12 19:55	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-10(2-4) **Lab ID: 92131883020** Collected: 09/18/12 11:35 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	6.2	1		09/20/12 19:55	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	6.2	1		09/20/12 19:55	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	12.4	1		09/20/12 19:55	75-71-8	
1,1-Dichloroethane	ND	ug/kg	6.2	1		09/20/12 19:55	75-34-3	
1,2-Dichloroethane	ND	ug/kg	6.2	1		09/20/12 19:55	107-06-2	
1,1-Dichloroethene	ND	ug/kg	6.2	1		09/20/12 19:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	6.2	1		09/20/12 19:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	6.2	1		09/20/12 19:55	156-60-5	
1,2-Dichloropropane	ND	ug/kg	6.2	1		09/20/12 19:55	78-87-5	
1,3-Dichloropropane	ND	ug/kg	6.2	1		09/20/12 19:55	142-28-9	
2,2-Dichloropropane	ND	ug/kg	6.2	1		09/20/12 19:55	594-20-7	
1,1-Dichloropropene	ND	ug/kg	6.2	1		09/20/12 19:55	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	6.2	1		09/20/12 19:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	6.2	1		09/20/12 19:55	10061-02-6	
Diisopropyl ether	ND	ug/kg	6.2	1		09/20/12 19:55	108-20-3	
Ethylbenzene	ND	ug/kg	6.2	1		09/20/12 19:55	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	6.2	1		09/20/12 19:55	87-68-3	
2-Hexanone	ND	ug/kg	62.2	1		09/20/12 19:55	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	6.2	1		09/20/12 19:55	98-82-8	
p-Isopropyltoluene	ND	ug/kg	6.2	1		09/20/12 19:55	99-87-6	
Methylene Chloride	ND	ug/kg	24.9	1		09/20/12 19:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	62.2	1		09/20/12 19:55	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	6.2	1		09/20/12 19:55	1634-04-4	
Naphthalene	ND	ug/kg	6.2	1		09/20/12 19:55	91-20-3	
n-Propylbenzene	ND	ug/kg	6.2	1		09/20/12 19:55	103-65-1	
Styrene	ND	ug/kg	6.2	1		09/20/12 19:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	6.2	1		09/20/12 19:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.2	1		09/20/12 19:55	79-34-5	
Tetrachloroethene	ND	ug/kg	6.2	1		09/20/12 19:55	127-18-4	
Toluene	ND	ug/kg	6.2	1		09/20/12 19:55	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	6.2	1		09/20/12 19:55	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	6.2	1		09/20/12 19:55	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	6.2	1		09/20/12 19:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	6.2	1		09/20/12 19:55	79-00-5	
Trichloroethene	ND	ug/kg	6.2	1		09/20/12 19:55	79-01-6	
Trichlorofluoromethane	ND	ug/kg	6.2	1		09/20/12 19:55	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	6.2	1		09/20/12 19:55	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	6.2	1		09/20/12 19:55	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	6.2	1		09/20/12 19:55	108-67-8	
Vinyl acetate	ND	ug/kg	62.2	1		09/20/12 19:55	108-05-4	
Vinyl chloride	ND	ug/kg	12.4	1		09/20/12 19:55	75-01-4	
Xylene (Total)	ND	ug/kg	12.4	1		09/20/12 19:55	1330-20-7	
m&p-Xylene	ND	ug/kg	12.4	1		09/20/12 19:55	179601-23-1	
o-Xylene	ND	ug/kg	6.2	1		09/20/12 19:55	95-47-6	
Surrogates								
Dibromofluoromethane (S)	97	%	70-130	1		09/20/12 19:55	1868-53-7	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-10(2-4) **Lab ID: 92131883020** Collected: 09/18/12 11:35 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	99	%	70-130	1		09/20/12 19:55	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130	1		09/20/12 19:55	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-132	1		09/20/12 19:55	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**26.9**	%	0.10	1		09/19/12 13:39		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-11(2-4) **Lab ID: 92131883021** Collected: 09/18/12 11:45 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	**21.4**	mg/kg	6.1	1	09/19/12 08:45	09/20/12 22:06	68334-30-5	
Surrogates								
n-Pentacosane (S)	76	%	41-119	1	09/19/12 08:45	09/20/12 22:06	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	7.5	1	09/19/12 14:00	09/19/12 22:45	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	88	%	70-167	1	09/19/12 14:00	09/19/12 22:45	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**0.97**	mg/kg	0.60	1	09/19/12 03:50	09/19/12 21:14	7440-38-2	
Barium	**14.9**	mg/kg	0.60	1	09/19/12 03:50	09/19/12 21:14	7440-39-3	
Cadmium	**0.91**	mg/kg	0.12	1	09/19/12 03:50	09/19/12 21:14	7440-43-9	
Chromium	**12.5**	mg/kg	0.60	1	09/19/12 03:50	09/19/12 21:14	7440-47-3	
Lead	**4.5**	mg/kg	0.60	1	09/19/12 03:50	09/19/12 21:14	7439-92-1	
Selenium	**3.9**	mg/kg	1.2	1	09/19/12 03:50	09/19/12 21:14	7782-49-2	
Silver	ND	mg/kg	0.60	1	09/19/12 03:50	09/19/12 21:14	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.24**	mg/kg	0.023	5	09/25/12 11:25	09/25/12 15:51	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	133	1		09/20/12 20:14	67-64-1	
Benzene	ND	ug/kg	6.6	1		09/20/12 20:14	71-43-2	
Bromobenzene	ND	ug/kg	6.6	1		09/20/12 20:14	108-86-1	
Bromochloromethane	ND	ug/kg	6.6	1		09/20/12 20:14	74-97-5	
Bromodichloromethane	ND	ug/kg	6.6	1		09/20/12 20:14	75-27-4	
Bromoform	ND	ug/kg	6.6	1		09/20/12 20:14	75-25-2	
Bromomethane	ND	ug/kg	13.3	1		09/20/12 20:14	74-83-9	
2-Butanone (MEK)	ND	ug/kg	133	1		09/20/12 20:14	78-93-3	
n-Butylbenzene	ND	ug/kg	6.6	1		09/20/12 20:14	104-51-8	
sec-Butylbenzene	ND	ug/kg	6.6	1		09/20/12 20:14	135-98-8	
tert-Butylbenzene	ND	ug/kg	6.6	1		09/20/12 20:14	98-06-6	
Carbon tetrachloride	ND	ug/kg	6.6	1		09/20/12 20:14	56-23-5	
Chlorobenzene	ND	ug/kg	6.6	1		09/20/12 20:14	108-90-7	
Chloroethane	ND	ug/kg	13.3	1		09/20/12 20:14	75-00-3	
Chloroform	ND	ug/kg	6.6	1		09/20/12 20:14	67-66-3	
Chloromethane	ND	ug/kg	13.3	1		09/20/12 20:14	74-87-3	
2-Chlorotoluene	ND	ug/kg	6.6	1		09/20/12 20:14	95-49-8	
4-Chlorotoluene	ND	ug/kg	6.6	1		09/20/12 20:14	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.6	1		09/20/12 20:14	96-12-8	
Dibromochloromethane	ND	ug/kg	6.6	1		09/20/12 20:14	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	6.6	1		09/20/12 20:14	106-93-4	
Dibromomethane	ND	ug/kg	6.6	1		09/20/12 20:14	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	6.6	1		09/20/12 20:14	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-11(2-4) **Lab ID: 92131883021** Collected: 09/18/12 11:45 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	6.6	1		09/20/12 20:14	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	6.6	1		09/20/12 20:14	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	13.3	1		09/20/12 20:14	75-71-8	
1,1-Dichloroethane	ND	ug/kg	6.6	1		09/20/12 20:14	75-34-3	
1,2-Dichloroethane	ND	ug/kg	6.6	1		09/20/12 20:14	107-06-2	
1,1-Dichloroethene	ND	ug/kg	6.6	1		09/20/12 20:14	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	6.6	1		09/20/12 20:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	6.6	1		09/20/12 20:14	156-60-5	
1,2-Dichloropropane	ND	ug/kg	6.6	1		09/20/12 20:14	78-87-5	
1,3-Dichloropropane	ND	ug/kg	6.6	1		09/20/12 20:14	142-28-9	
2,2-Dichloropropane	ND	ug/kg	6.6	1		09/20/12 20:14	594-20-7	
1,1-Dichloropropene	ND	ug/kg	6.6	1		09/20/12 20:14	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	6.6	1		09/20/12 20:14	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	6.6	1		09/20/12 20:14	10061-02-6	
Diisopropyl ether	ND	ug/kg	6.6	1		09/20/12 20:14	108-20-3	
Ethylbenzene	ND	ug/kg	6.6	1		09/20/12 20:14	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	6.6	1		09/20/12 20:14	87-68-3	
2-Hexanone	ND	ug/kg	66.4	1		09/20/12 20:14	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	6.6	1		09/20/12 20:14	98-82-8	
p-Isopropyltoluene	ND	ug/kg	6.6	1		09/20/12 20:14	99-87-6	
Methylene Chloride	ND	ug/kg	26.6	1		09/20/12 20:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	66.4	1		09/20/12 20:14	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	6.6	1		09/20/12 20:14	1634-04-4	
Naphthalene	ND	ug/kg	6.6	1		09/20/12 20:14	91-20-3	
n-Propylbenzene	ND	ug/kg	6.6	1		09/20/12 20:14	103-65-1	
Styrene	ND	ug/kg	6.6	1		09/20/12 20:14	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	6.6	1		09/20/12 20:14	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.6	1		09/20/12 20:14	79-34-5	
Tetrachloroethene	ND	ug/kg	6.6	1		09/20/12 20:14	127-18-4	
Toluene	ND	ug/kg	6.6	1		09/20/12 20:14	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	6.6	1		09/20/12 20:14	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	6.6	1		09/20/12 20:14	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	6.6	1		09/20/12 20:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	6.6	1		09/20/12 20:14	79-00-5	
Trichloroethene	ND	ug/kg	6.6	1		09/20/12 20:14	79-01-6	
Trichlorofluoromethane	ND	ug/kg	6.6	1		09/20/12 20:14	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	6.6	1		09/20/12 20:14	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	6.6	1		09/20/12 20:14	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	6.6	1		09/20/12 20:14	108-67-8	
Vinyl acetate	ND	ug/kg	66.4	1		09/20/12 20:14	108-05-4	
Vinyl chloride	ND	ug/kg	13.3	1		09/20/12 20:14	75-01-4	
Xylene (Total)	ND	ug/kg	13.3	1		09/20/12 20:14	1330-20-7	
m&p-Xylene	ND	ug/kg	13.3	1		09/20/12 20:14	179601-23-1	
o-Xylene	ND	ug/kg	6.6	1		09/20/12 20:14	95-47-6	
Surrogates								
Dibromofluoromethane (S)	150	%	70-130	1		09/20/12 20:14	1868-53-7	S3

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-11(2-4) **Lab ID: 92131883021** Collected: 09/18/12 11:45 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	100	%	70-130	1		09/20/12 20:14	2037-26-5	
4-Bromofluorobenzene (S)	94	%	70-130	1		09/20/12 20:14	460-00-4	
1,2-Dichloroethane-d4 (S)	136	%	70-132	1		09/20/12 20:14	17060-07-0	S3
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**18.7**	%	0.10	1		09/19/12 13:39		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-12(2-4) **Lab ID: 92131883022** Collected: 09/18/12 13:40 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	**604**	mg/kg	11.8	2	09/19/12 08:45	09/21/12 11:39	68334-30-5	
Surrogates								
n-Pentacosane (S)	71	%	41-119	2	09/19/12 08:45	09/21/12 11:39	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	**45.5**	mg/kg	5.1	1	09/19/12 14:00	09/19/12 23:08	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	159	%	70-167	1	09/19/12 14:00	09/19/12 23:08	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**1.1**	mg/kg	0.52	1	09/19/12 03:50	09/19/12 21:17	7440-38-2	
Barium	**20.0**	mg/kg	0.52	1	09/19/12 03:50	09/19/12 21:17	7440-39-3	
Cadmium	**0.35**	mg/kg	0.10	1	09/19/12 03:50	09/19/12 21:17	7440-43-9	
Chromium	**12.7**	mg/kg	0.52	1	09/19/12 03:50	09/19/12 21:17	7440-47-3	
Lead	**4.6**	mg/kg	0.52	1	09/19/12 03:50	09/19/12 21:17	7439-92-1	
Selenium	**2.5**	mg/kg	1.0	1	09/19/12 03:50	09/19/12 21:17	7782-49-2	
Silver	ND	mg/kg	0.52	1	09/19/12 03:50	09/19/12 21:17	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.027**	mg/kg	0.0042	1	09/25/12 11:25	09/25/12 15:46	7439-97-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	8960	100		09/21/12 13:28	67-64-1	
Benzene	ND	ug/kg	448	100		09/21/12 13:28	71-43-2	
Bromobenzene	ND	ug/kg	448	100		09/21/12 13:28	108-86-1	
Bromochloromethane	ND	ug/kg	448	100		09/21/12 13:28	74-97-5	
Bromodichloromethane	ND	ug/kg	448	100		09/21/12 13:28	75-27-4	
Bromoform	ND	ug/kg	448	100		09/21/12 13:28	75-25-2	
Bromomethane	ND	ug/kg	896	100		09/21/12 13:28	74-83-9	
2-Butanone (MEK)	ND	ug/kg	8960	100		09/21/12 13:28	78-93-3	
n-Butylbenzene	ND	ug/kg	448	100		09/21/12 13:28	104-51-8	
sec-Butylbenzene	ND	ug/kg	448	100		09/21/12 13:28	135-98-8	
tert-Butylbenzene	ND	ug/kg	448	100		09/21/12 13:28	98-06-6	
Carbon tetrachloride	ND	ug/kg	448	100		09/21/12 13:28	56-23-5	
Chlorobenzene	ND	ug/kg	448	100		09/21/12 13:28	108-90-7	
Chloroethane	ND	ug/kg	896	100		09/21/12 13:28	75-00-3	
Chloroform	ND	ug/kg	448	100		09/21/12 13:28	67-66-3	
Chloromethane	ND	ug/kg	896	100		09/21/12 13:28	74-87-3	
2-Chlorotoluene	ND	ug/kg	448	100		09/21/12 13:28	95-49-8	
4-Chlorotoluene	ND	ug/kg	448	100		09/21/12 13:28	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	448	100		09/21/12 13:28	96-12-8	
Dibromochloromethane	ND	ug/kg	448	100		09/21/12 13:28	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	448	100		09/21/12 13:28	106-93-4	
Dibromomethane	ND	ug/kg	448	100		09/21/12 13:28	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	448	100		09/21/12 13:28	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-12(2-4) **Lab ID: 92131883022** Collected: 09/18/12 13:40 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	448	100		09/21/12 13:28	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	448	100		09/21/12 13:28	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	896	100		09/21/12 13:28	75-71-8	D3
1,1-Dichloroethane	ND	ug/kg	448	100		09/21/12 13:28	75-34-3	
1,2-Dichloroethane	ND	ug/kg	448	100		09/21/12 13:28	107-06-2	
1,1-Dichloroethene	ND	ug/kg	448	100		09/21/12 13:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	448	100		09/21/12 13:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	448	100		09/21/12 13:28	156-60-5	
1,2-Dichloropropane	ND	ug/kg	448	100		09/21/12 13:28	78-87-5	
1,3-Dichloropropane	ND	ug/kg	448	100		09/21/12 13:28	142-28-9	
2,2-Dichloropropane	ND	ug/kg	448	100		09/21/12 13:28	594-20-7	
1,1-Dichloropropene	ND	ug/kg	448	100		09/21/12 13:28	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	448	100		09/21/12 13:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	448	100		09/21/12 13:28	10061-02-6	
Diisopropyl ether	ND	ug/kg	448	100		09/21/12 13:28	108-20-3	
Ethylbenzene	**474**	ug/kg	448	100		09/21/12 13:28	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	448	100		09/21/12 13:28	87-68-3	
2-Hexanone	ND	ug/kg	4480	100		09/21/12 13:28	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	448	100		09/21/12 13:28	98-82-8	
p-Isopropyltoluene	ND	ug/kg	448	100		09/21/12 13:28	99-87-6	
Methylene Chloride	ND	ug/kg	1790	100		09/21/12 13:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	4480	100		09/21/12 13:28	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	448	100		09/21/12 13:28	1634-04-4	
Naphthalene	**1460**	ug/kg	448	100		09/21/12 13:28	91-20-3	
n-Propylbenzene	ND	ug/kg	448	100		09/21/12 13:28	103-65-1	
Styrene	ND	ug/kg	448	100		09/21/12 13:28	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	448	100		09/21/12 13:28	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	448	100		09/21/12 13:28	79-34-5	
Tetrachloroethene	ND	ug/kg	448	100		09/21/12 13:28	127-18-4	
Toluene	ND	ug/kg	448	100		09/21/12 13:28	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	448	100		09/21/12 13:28	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	448	100		09/21/12 13:28	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	448	100		09/21/12 13:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	448	100		09/21/12 13:28	79-00-5	
Trichloroethene	ND	ug/kg	448	100		09/21/12 13:28	79-01-6	
Trichlorofluoromethane	ND	ug/kg	448	100		09/21/12 13:28	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	448	100		09/21/12 13:28	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	448	100		09/21/12 13:28	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	448	100		09/21/12 13:28	108-67-8	
Vinyl acetate	ND	ug/kg	4480	100		09/21/12 13:28	108-05-4	
Vinyl chloride	ND	ug/kg	896	100		09/21/12 13:28	75-01-4	
Xylene (Total)	ND	ug/kg	896	100		09/21/12 13:28	1330-20-7	
m&p-Xylene	ND	ug/kg	896	100		09/21/12 13:28	179601-23-1	
o-Xylene	ND	ug/kg	448	100		09/21/12 13:28	95-47-6	
Surrogates								
Dibromofluoromethane (S)	101	%	70-130	100		09/21/12 13:28	1868-53-7	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-12(2-4) **Lab ID: 92131883022** Collected: 09/18/12 13:40 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	102	%	70-130	100		09/21/12 13:28	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130	100		09/21/12 13:28	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-132	100		09/21/12 13:28	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**15.6**	%	0.10	1		09/21/12 13:22		

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-13(2-4) **Lab ID: 92131883023** Collected: 09/18/12 14:10 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	6.0	1	09/19/12 08:45	09/20/12 22:36	68334-30-5	
Surrogates								
n-Pentacosane (S)	78	%	41-119	1	09/19/12 08:45	09/20/12 22:36	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	ND	mg/kg	6.3	1	09/19/12 14:00	09/19/12 23:31	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	90	%	70-167	1	09/19/12 14:00	09/19/12 23:31	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**0.74**	mg/kg	0.51	1	09/19/12 03:50	09/19/12 21:20	7440-38-2	
Barium	**48.4**	mg/kg	0.51	1	09/19/12 03:50	09/19/12 21:20	7440-39-3	
Cadmium	**0.11**	mg/kg	0.10	1	09/19/12 03:50	09/19/12 21:20	7440-43-9	
Chromium	**3.2**	mg/kg	0.51	1	09/19/12 03:50	09/19/12 21:20	7440-47-3	
Lead	**4.6**	mg/kg	0.51	1	09/19/12 03:50	09/19/12 21:20	7439-92-1	
Selenium	**1.3**	mg/kg	1.0	1	09/19/12 03:50	09/19/12 21:20	7782-49-2	
Silver	ND	mg/kg	0.51	1	09/19/12 03:50	09/19/12 21:20	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	**0.0062**	mg/kg	0.0042	1	09/25/12 10:25	09/25/12 15:59	7439-97-6	M1
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	103	1		09/21/12 13:47	67-64-1	
Benzene	ND	ug/kg	5.2	1		09/21/12 13:47	71-43-2	
Bromobenzene	ND	ug/kg	5.2	1		09/21/12 13:47	108-86-1	
Bromochloromethane	ND	ug/kg	5.2	1		09/21/12 13:47	74-97-5	
Bromodichloromethane	ND	ug/kg	5.2	1		09/21/12 13:47	75-27-4	
Bromoform	ND	ug/kg	5.2	1		09/21/12 13:47	75-25-2	
Bromomethane	ND	ug/kg	10.3	1		09/21/12 13:47	74-83-9	
2-Butanone (MEK)	ND	ug/kg	103	1		09/21/12 13:47	78-93-3	
n-Butylbenzene	ND	ug/kg	5.2	1		09/21/12 13:47	104-51-8	
sec-Butylbenzene	ND	ug/kg	5.2	1		09/21/12 13:47	135-98-8	
tert-Butylbenzene	ND	ug/kg	5.2	1		09/21/12 13:47	98-06-6	
Carbon tetrachloride	ND	ug/kg	5.2	1		09/21/12 13:47	56-23-5	
Chlorobenzene	ND	ug/kg	5.2	1		09/21/12 13:47	108-90-7	
Chloroethane	ND	ug/kg	10.3	1		09/21/12 13:47	75-00-3	
Chloroform	ND	ug/kg	5.2	1		09/21/12 13:47	67-66-3	
Chloromethane	ND	ug/kg	10.3	1		09/21/12 13:47	74-87-3	
2-Chlorotoluene	ND	ug/kg	5.2	1		09/21/12 13:47	95-49-8	
4-Chlorotoluene	ND	ug/kg	5.2	1		09/21/12 13:47	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.2	1		09/21/12 13:47	96-12-8	
Dibromochloromethane	ND	ug/kg	5.2	1		09/21/12 13:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5.2	1		09/21/12 13:47	106-93-4	
Dibromomethane	ND	ug/kg	5.2	1		09/21/12 13:47	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5.2	1		09/21/12 13:47	95-50-1	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-13(2-4) **Lab ID: 92131883023** Collected: 09/18/12 14:10 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/kg	5.2	1		09/21/12 13:47	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5.2	1		09/21/12 13:47	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	10.3	1		09/21/12 13:47	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5.2	1		09/21/12 13:47	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.2	1		09/21/12 13:47	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.2	1		09/21/12 13:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.2	1		09/21/12 13:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.2	1		09/21/12 13:47	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.2	1		09/21/12 13:47	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5.2	1		09/21/12 13:47	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5.2	1		09/21/12 13:47	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5.2	1		09/21/12 13:47	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5.2	1		09/21/12 13:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.2	1		09/21/12 13:47	10061-02-6	
Diisopropyl ether	ND	ug/kg	5.2	1		09/21/12 13:47	108-20-3	
Ethylbenzene	ND	ug/kg	5.2	1		09/21/12 13:47	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5.2	1		09/21/12 13:47	87-68-3	
2-Hexanone	ND	ug/kg	51.7	1		09/21/12 13:47	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	5.2	1		09/21/12 13:47	98-82-8	
p-Isopropyltoluene	ND	ug/kg	5.2	1		09/21/12 13:47	99-87-6	
Methylene Chloride	ND	ug/kg	20.7	1		09/21/12 13:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	51.7	1		09/21/12 13:47	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5.2	1		09/21/12 13:47	1634-04-4	
Naphthalene	ND	ug/kg	5.2	1		09/21/12 13:47	91-20-3	
n-Propylbenzene	ND	ug/kg	5.2	1		09/21/12 13:47	103-65-1	
Styrene	ND	ug/kg	5.2	1		09/21/12 13:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.2	1		09/21/12 13:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.2	1		09/21/12 13:47	79-34-5	
Tetrachloroethene	ND	ug/kg	5.2	1		09/21/12 13:47	127-18-4	
Toluene	ND	ug/kg	5.2	1		09/21/12 13:47	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5.2	1		09/21/12 13:47	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5.2	1		09/21/12 13:47	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5.2	1		09/21/12 13:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.2	1		09/21/12 13:47	79-00-5	
Trichloroethene	ND	ug/kg	5.2	1		09/21/12 13:47	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5.2	1		09/21/12 13:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5.2	1		09/21/12 13:47	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	5.2	1		09/21/12 13:47	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	5.2	1		09/21/12 13:47	108-67-8	
Vinyl acetate	ND	ug/kg	51.7	1		09/21/12 13:47	108-05-4	
Vinyl chloride	ND	ug/kg	10.3	1		09/21/12 13:47	75-01-4	
Xylene (Total)	ND	ug/kg	10.3	1		09/21/12 13:47	1330-20-7	
m&p-Xylene	ND	ug/kg	10.3	1		09/21/12 13:47	179601-23-1	
o-Xylene	ND	ug/kg	5.2	1		09/21/12 13:47	95-47-6	
Surrogates								
Dibromofluoromethane (S)	83	%	70-130	1		09/21/12 13:47	1868-53-7	

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ANALYTICAL RESULTS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Sample: 5H-13(2-4) **Lab ID: 92131883023** Collected: 09/18/12 14:10 Received: 09/18/12 16:52 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Surrogates								
Toluene-d8 (S)	104	%	70-130	1		09/21/12 13:47	2037-26-5	
4-Bromofluorobenzene (S)	107	%	70-130	1		09/21/12 13:47	460-00-4	
1,2-Dichloroethane-d4 (S)	72	%	70-132	1		09/21/12 13:47	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.9**	%	0.10	1		09/21/12 13:22		

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: GCV/6273 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 92131883001, 92131883002, 92131883003, 92131883004, 92131883005, 92131883006, 92131883007, 92131883011, 92131883012, 92131883013, 92131883014, 92131883015, 92131883016, 92131883017, 92131883018

METHOD BLANK: 835900 Matrix: Solid
Associated Lab Samples: 92131883001, 92131883002, 92131883003, 92131883004, 92131883005, 92131883006, 92131883007, 92131883011, 92131883012, 92131883013, 92131883014, 92131883015, 92131883016, 92131883017, 92131883018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	5.6	09/19/12 10:11	
4-Bromofluorobenzene (S)	%	93	70-167	09/19/12 10:11	

LABORATORY CONTROL SAMPLE: 835901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	23.4	24.6	105	70-165	
4-Bromofluorobenzene (S)	%			96	70-167	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 835902 835903

Parameter	Units	92131838001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Gasoline Range Organics	mg/kg	ND	22.3	22.3	25.1	25.5	109	111	47-187	2	
4-Bromofluorobenzene (S)	%						95	89	70-167		

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: GCV/6275 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 92131883019, 92131883020, 92131883021, 92131883022, 92131883023

METHOD BLANK: 836408 Matrix: Solid
Associated Lab Samples: 92131883019, 92131883020, 92131883021, 92131883022, 92131883023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	5.9	09/19/12 20:51	
4-Bromofluorobenzene (S)	%	86	70-167	09/19/12 20:51	

LABORATORY CONTROL SAMPLE: 836409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	24.7	24.6	100	70-165	
4-Bromofluorobenzene (S)	%			89	70-167	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 836410 836411

Parameter	Units	92131883019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Gasoline Range Organics	mg/kg	ND	35.1	35.1	35.3	35.9	98	100	47-187	2	
4-Bromofluorobenzene (S)	%						87	90	70-167		

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: MERP/4524 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 92131883008, 92131883009, 92131883010, 92131883011, 92131883012, 92131883013, 92131883014, 92131883015, 92131883016, 92131883017, 92131883018, 92131883019, 92131883020, 92131883021, 92131883022

METHOD BLANK: 837162 Matrix: Solid
Associated Lab Samples: 92131883008, 92131883009, 92131883010, 92131883011, 92131883012, 92131883013, 92131883014, 92131883015, 92131883016, 92131883017, 92131883018, 92131883019, 92131883020, 92131883021, 92131883022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	ND	0.0050	09/25/12 14:17	

LABORATORY CONTROL SAMPLE: 837163

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.067	0.056	84	80-120	

MATRIX SPIKE SAMPLE: 837164

Parameter	Units	92131565001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	0.12	.069	0.17	77	75-125	

SAMPLE DUPLICATE: 837165

Parameter	Units	92131565002 Result	Dup Result	RPD	Qualifiers
Mercury	mg/kg	0.048	0.050	5	

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: MERP/4526
QC Batch Method: EPA 7471
Analysis Method: EPA 7471
Analysis Description: 7471 Mercury
Associated Lab Samples: 92131883023

METHOD BLANK: 837184 Matrix: Solid
Associated Lab Samples: 92131883023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	ND	0.0050	09/25/12 15:54	

LABORATORY CONTROL SAMPLE: 837185

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.067	0.066	98	80-120	

MATRIX SPIKE SAMPLE: 837186

Parameter	Units	92131883023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	0.0062	.071	0.051	63	75-125	M1

SAMPLE DUPLICATE: 837187

Parameter	Units	92131970001 Result	Dup Result	RPD	Qualifiers
Mercury	mg/kg	ND	.0015J		

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: MPRP/11526 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 92131883008, 92131883009, 92131883010, 92131883011, 92131883012, 92131883013, 92131883014

METHOD BLANK: 835859 Matrix: Solid
Associated Lab Samples: 92131883008, 92131883009, 92131883010, 92131883011, 92131883012, 92131883013, 92131883014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.50	09/19/12 16:10	
Barium	mg/kg	ND	0.50	09/19/12 16:10	
Cadmium	mg/kg	ND	0.10	09/19/12 16:10	
Chromium	mg/kg	ND	0.50	09/19/12 16:10	
Lead	mg/kg	ND	0.50	09/19/12 16:10	
Selenium	mg/kg	ND	1.0	09/19/12 16:10	
Silver	mg/kg	ND	0.50	09/19/12 16:10	

LABORATORY CONTROL SAMPLE: 835860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	48.5	97	80-120	
Barium	mg/kg	50	48.6	97	80-120	
Cadmium	mg/kg	50	49.9	100	80-120	
Chromium	mg/kg	50	53.1	106	80-120	
Lead	mg/kg	50	49.8	100	80-120	
Selenium	mg/kg	50	50.0	100	80-120	
Silver	mg/kg	25	25.4	102	80-120	

MATRIX SPIKE SAMPLE: 835861

Parameter	Units	92130767004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	6.2	60.9	58.6	86	75-125	
Barium	mg/kg	25.1	60.9	83.7	96	75-125	
Cadmium	mg/kg	2.2	60.9	59.7	94	75-125	
Chromium	mg/kg	19.3	60.9	89.1	114	75-125	
Lead	mg/kg	21.7	60.9	74.6	87	75-125	
Selenium	mg/kg	5.1	60.9	51.2	76	75-125	
Silver	mg/kg	ND	30.5	31.1	102	75-125	

SAMPLE DUPLICATE: 835863

Parameter	Units	92130767005 Result	Dup Result	RPD	Qualifiers
Arsenic	mg/kg	4.2	5.3	23	D6
Barium	mg/kg	30.2	32.4	7	
Cadmium	mg/kg	0.51	1.6	102	D6
Chromium	mg/kg	12.5	23.0	59	D6
Lead	mg/kg	16.9	22.0	26	D6

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

SAMPLE DUPLICATE: 835863

Parameter	Units	92130767005 Result	Dup Result	RPD	Qualifiers
Selenium	mg/kg	1.9	3.8	69	D6
Silver	mg/kg	ND	.077J		

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: MPRP/11527
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 92131883015, 92131883016, 92131883017, 92131883018, 92131883019, 92131883020, 92131883021, 92131883022, 92131883023

METHOD BLANK: 835864 Matrix: Solid
Associated Lab Samples: 92131883015, 92131883016, 92131883017, 92131883018, 92131883019, 92131883020, 92131883021, 92131883022, 92131883023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.50	09/19/12 20:33	
Barium	mg/kg	ND	0.50	09/19/12 20:33	
Cadmium	mg/kg	ND	0.10	09/19/12 20:33	
Chromium	mg/kg	ND	0.50	09/19/12 20:33	
Lead	mg/kg	ND	0.50	09/19/12 20:33	
Selenium	mg/kg	ND	1.0	09/19/12 20:33	
Silver	mg/kg	ND	0.50	09/19/12 20:33	

LABORATORY CONTROL SAMPLE: 835865

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	47.7	95	80-120	
Barium	mg/kg	50	47.4	95	80-120	
Cadmium	mg/kg	50	48.2	96	80-120	
Chromium	mg/kg	50	51.7	103	80-120	
Lead	mg/kg	50	48.1	96	80-120	
Selenium	mg/kg	50	48.9	98	80-120	
Silver	mg/kg	25	24.6	98	80-120	

MATRIX SPIKE SAMPLE: 835866

Parameter	Units	92131883015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	2.1	51.1	43.2	81	75-125	
Barium	mg/kg	26.8	51.1	77.5	99	75-125	
Cadmium	mg/kg	ND	51.1	45.6	89	75-125	
Chromium	mg/kg	6.5	51.1	58.0	101	75-125	
Lead	mg/kg	9.0	51.1	51.8	84	75-125	
Selenium	mg/kg	2.4	51.1	43.2	80	75-125	
Silver	mg/kg	ND	25.6	24.1	94	75-125	

SAMPLE DUPLICATE: 835868

Parameter	Units	92131883016 Result	Dup Result	RPD	Qualifiers
Arsenic	mg/kg	1.9	1.2	51	D6
Barium	mg/kg	10.9	10.1	7	
Cadmium	mg/kg	ND	ND		
Chromium	mg/kg	7.7	6.7	14	

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

SAMPLE DUPLICATE: 835868

Parameter	Units	92131883016 Result	Dup Result	RPD	Qualifiers
Lead	mg/kg	4.7	4.2	12	
Selenium	mg/kg	2.1	2.0	4	
Silver	mg/kg	ND	ND		

QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: MSV/20444 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 92131883011, 92131883012, 92131883013, 92131883014, 92131883015, 92131883016, 92131883017, 92131883019, 92131883020, 92131883021

METHOD BLANK: 837065 Matrix: Solid
Associated Lab Samples: 92131883011, 92131883012, 92131883013, 92131883014, 92131883015, 92131883016, 92131883017, 92131883019, 92131883020, 92131883021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.4	09/20/12 12:52	
1,1,1-Trichloroethane	ug/kg	ND	5.4	09/20/12 12:52	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.4	09/20/12 12:52	
1,1,2-Trichloroethane	ug/kg	ND	5.4	09/20/12 12:52	
1,1-Dichloroethane	ug/kg	ND	5.4	09/20/12 12:52	
1,1-Dichloroethene	ug/kg	ND	5.4	09/20/12 12:52	
1,1-Dichloropropene	ug/kg	ND	5.4	09/20/12 12:52	
1,2,3-Trichlorobenzene	ug/kg	ND	5.4	09/20/12 12:52	
1,2,3-Trichloropropane	ug/kg	ND	5.4	09/20/12 12:52	
1,2,4-Trichlorobenzene	ug/kg	ND	5.4	09/20/12 12:52	
1,2,4-Trimethylbenzene	ug/kg	ND	5.4	09/20/12 12:52	
1,2-Dibromo-3-chloropropane	ug/kg	ND	5.4	09/20/12 12:52	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.4	09/20/12 12:52	
1,2-Dichlorobenzene	ug/kg	ND	5.4	09/20/12 12:52	
1,2-Dichloroethane	ug/kg	ND	5.4	09/20/12 12:52	
1,2-Dichloropropane	ug/kg	ND	5.4	09/20/12 12:52	
1,3,5-Trimethylbenzene	ug/kg	ND	5.4	09/20/12 12:52	
1,3-Dichlorobenzene	ug/kg	ND	5.4	09/20/12 12:52	
1,3-Dichloropropane	ug/kg	ND	5.4	09/20/12 12:52	
1,4-Dichlorobenzene	ug/kg	ND	5.4	09/20/12 12:52	
2,2-Dichloropropane	ug/kg	ND	5.4	09/20/12 12:52	
2-Butanone (MEK)	ug/kg	ND	107	09/20/12 12:52	
2-Chlorotoluene	ug/kg	ND	5.4	09/20/12 12:52	
2-Hexanone	ug/kg	ND	53.6	09/20/12 12:52	
4-Chlorotoluene	ug/kg	ND	5.4	09/20/12 12:52	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	53.6	09/20/12 12:52	
Acetone	ug/kg	ND	107	09/20/12 12:52	
Benzene	ug/kg	ND	5.4	09/20/12 12:52	
Bromobenzene	ug/kg	ND	5.4	09/20/12 12:52	
Bromochloromethane	ug/kg	ND	5.4	09/20/12 12:52	
Bromodichloromethane	ug/kg	ND	5.4	09/20/12 12:52	
Bromoform	ug/kg	ND	5.4	09/20/12 12:52	
Bromomethane	ug/kg	ND	10.7	09/20/12 12:52	
Carbon tetrachloride	ug/kg	ND	5.4	09/20/12 12:52	
Chlorobenzene	ug/kg	ND	5.4	09/20/12 12:52	
Chloroethane	ug/kg	ND	10.7	09/20/12 12:52	
Chloroform	ug/kg	ND	5.4	09/20/12 12:52	
Chloromethane	ug/kg	ND	10.7	09/20/12 12:52	
cis-1,2-Dichloroethene	ug/kg	ND	5.4	09/20/12 12:52	
cis-1,3-Dichloropropene	ug/kg	ND	5.4	09/20/12 12:52	
Dibromochloromethane	ug/kg	ND	5.4	09/20/12 12:52	

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

METHOD BLANK: 837065 Matrix: Solid

Associated Lab Samples: 92131883011, 92131883012, 92131883013, 92131883014, 92131883015, 92131883016, 92131883017, 92131883019, 92131883020, 92131883021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/kg	ND	5.4	09/20/12 12:52	
Dichlorodifluoromethane	ug/kg	ND	10.7	09/20/12 12:52	
Diisopropyl ether	ug/kg	ND	5.4	09/20/12 12:52	
Ethylbenzene	ug/kg	ND	5.4	09/20/12 12:52	
Hexachloro-1,3-butadiene	ug/kg	ND	5.4	09/20/12 12:52	
Isopropylbenzene (Cumene)	ug/kg	ND	5.4	09/20/12 12:52	
m&p-Xylene	ug/kg	ND	10.7	09/20/12 12:52	
Methyl-tert-butyl ether	ug/kg	ND	5.4	09/20/12 12:52	
Methylene Chloride	ug/kg	ND	21.5	09/20/12 12:52	
n-Butylbenzene	ug/kg	ND	5.4	09/20/12 12:52	
n-Propylbenzene	ug/kg	ND	5.4	09/20/12 12:52	
Naphthalene	ug/kg	ND	5.4	09/20/12 12:52	
o-Xylene	ug/kg	ND	5.4	09/20/12 12:52	
p-Isopropyltoluene	ug/kg	ND	5.4	09/20/12 12:52	
sec-Butylbenzene	ug/kg	ND	5.4	09/20/12 12:52	
Styrene	ug/kg	ND	5.4	09/20/12 12:52	
tert-Butylbenzene	ug/kg	ND	5.4	09/20/12 12:52	
Tetrachloroethene	ug/kg	ND	5.4	09/20/12 12:52	
Toluene	ug/kg	ND	5.4	09/20/12 12:52	
trans-1,2-Dichloroethene	ug/kg	ND	5.4	09/20/12 12:52	
trans-1,3-Dichloropropene	ug/kg	ND	5.4	09/20/12 12:52	
Trichloroethene	ug/kg	ND	5.4	09/20/12 12:52	
Trichlorofluoromethane	ug/kg	ND	5.4	09/20/12 12:52	
Vinyl acetate	ug/kg	ND	53.6	09/20/12 12:52	
Vinyl chloride	ug/kg	ND	10.7	09/20/12 12:52	
Xylene (Total)	ug/kg	ND	10.7	09/20/12 12:52	
1,2-Dichloroethane-d4 (S)	%	99	70-132	09/20/12 12:52	
4-Bromofluorobenzene (S)	%	101	70-130	09/20/12 12:52	
Dibromofluoromethane (S)	%	103	70-130	09/20/12 12:52	
Toluene-d8 (S)	%	100	70-130	09/20/12 12:52	

LABORATORY CONTROL SAMPLE: 837066

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	58.3	60.2	103	70-131	
1,1,1-Trichloroethane	ug/kg	58.3	63.9	110	70-141	
1,1,2,2-Tetrachloroethane	ug/kg	58.3	63.1	108	70-130	
1,1,2-Trichloroethane	ug/kg	58.3	65.2	112	70-132	
1,1-Dichloroethane	ug/kg	58.3	62.4	107	70-143	
1,1-Dichloroethene	ug/kg	58.3	62.2	107	70-137	
1,1-Dichloropropene	ug/kg	58.3	57.7	99	70-135	
1,2,3-Trichlorobenzene	ug/kg	58.3	62.2	107	69-153	
1,2,3-Trichloropropane	ug/kg	58.3	64.7	111	70-130	
1,2,4-Trichlorobenzene	ug/kg	58.3	59.0	101	55-171	

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

LABORATORY CONTROL SAMPLE: 837066

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	58.3	60.9	104	70-149	
1,2-Dibromo-3-chloropropane	ug/kg	58.3	70.2	120	68-141	
1,2-Dibromoethane (EDB)	ug/kg	58.3	63.7	109	70-130	
1,2-Dichlorobenzene	ug/kg	58.3	62.4	107	70-140	
1,2-Dichloroethane	ug/kg	58.3	61.6	106	70-137	
1,2-Dichloropropane	ug/kg	58.3	59.5	102	70-133	
1,3,5-Trimethylbenzene	ug/kg	58.3	60.7	104	70-143	
1,3-Dichlorobenzene	ug/kg	58.3	59.0	101	70-144	
1,3-Dichloropropane	ug/kg	58.3	61.5	105	70-132	
1,4-Dichlorobenzene	ug/kg	58.3	59.9	103	70-142	
2,2-Dichloropropane	ug/kg	58.3	64.0	110	68-152	
2-Butanone (MEK)	ug/kg	117	141	121	70-149	
2-Chlorotoluene	ug/kg	58.3	60.5	104	70-141	
2-Hexanone	ug/kg	117	139	119	70-149	
4-Chlorotoluene	ug/kg	58.3	60.4	104	70-149	
4-Methyl-2-pentanone (MIBK)	ug/kg	117	140	120	70-153	
Acetone	ug/kg	117	133	114	70-157	
Benzene	ug/kg	58.3	59.4	102	70-130	
Bromobenzene	ug/kg	58.3	62.9	108	70-141	
Bromochloromethane	ug/kg	58.3	57.4	99	70-149	
Bromodichloromethane	ug/kg	58.3	60.0	103	70-130	
Bromoform	ug/kg	58.3	68.3	117	70-131	
Bromomethane	ug/kg	58.3	66.5	114	64-136	
Carbon tetrachloride	ug/kg	58.3	55.9	96	70-154	
Chlorobenzene	ug/kg	58.3	59.9	103	70-135	
Chloroethane	ug/kg	58.3	65.0	112	68-151	
Chloroform	ug/kg	58.3	58.6	101	70-130	
Chloromethane	ug/kg	58.3	51.6	89	70-132	
cis-1,2-Dichloroethene	ug/kg	58.3	63.2	108	70-140	
cis-1,3-Dichloropropene	ug/kg	58.3	61.9	106	70-137	
Dibromochloromethane	ug/kg	58.3	65.1	112	70-130	
Dibromomethane	ug/kg	58.3	57.3	98	70-136	
Dichlorodifluoromethane	ug/kg	58.3	54.2	93	36-148	
Diisopropyl ether	ug/kg	58.3	62.1	107	70-139	
Ethylbenzene	ug/kg	58.3	58.7	101	70-137	
Hexachloro-1,3-butadiene	ug/kg	58.3	62.3	107	70-145	
Isopropylbenzene (Cumene)	ug/kg	58.3	60.2	103	70-141	
m&p-Xylene	ug/kg	117	119	102	70-140	
Methyl-tert-butyl ether	ug/kg	58.3	70.4	121	45-150	
Methylene Chloride	ug/kg	58.3	64.9	111	70-133	
n-Butylbenzene	ug/kg	58.3	59.8	103	65-155	
n-Propylbenzene	ug/kg	58.3	60.2	103	70-148	
Naphthalene	ug/kg	58.3	64.4	111	70-148	
o-Xylene	ug/kg	58.3	59.8	103	70-141	
p-Isopropyltoluene	ug/kg	58.3	59.4	102	70-148	
sec-Butylbenzene	ug/kg	58.3	61.0	105	70-145	
Styrene	ug/kg	58.3	64.1	110	70-138	
tert-Butylbenzene	ug/kg	58.3	60.7	104	70-143	

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

LABORATORY CONTROL SAMPLE: 837066

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/kg	58.3	61.3	105	70-140	
Toluene	ug/kg	58.3	59.1	101	70-130	
trans-1,2-Dichloroethene	ug/kg	58.3	62.6	107	70-136	
trans-1,3-Dichloropropene	ug/kg	58.3	65.8	113	70-138	
Trichloroethene	ug/kg	58.3	58.2	100	70-132	
Trichlorofluoromethane	ug/kg	58.3	55.7	96	69-134	
Vinyl acetate	ug/kg	117	124	106	24-161	
Vinyl chloride	ug/kg	58.3	55.2	95	55-140	
Xylene (Total)	ug/kg	175	179	102	70-141	
1,2-Dichloroethane-d4 (S)	%			100	70-132	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 838069

Parameter	Units	92131883013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/kg	ND	52.3	42.5	81	49-180	
Benzene	ug/kg	ND	52.3	56.1	107	50-166	
Chlorobenzene	ug/kg	ND	52.3	58.9	113	43-169	
Toluene	ug/kg	ND	52.3	56.4	108	52-163	
Trichloroethene	ug/kg	ND	52.3	59.2	113	49-167	
1,2-Dichloroethane-d4 (S)	%				64	70-132	S0
4-Bromofluorobenzene (S)	%				98	70-130	
Dibromofluoromethane (S)	%				73	70-130	
Toluene-d8 (S)	%				97	70-130	

SAMPLE DUPLICATE: 838068

Parameter	Units	92131883012 Result	Dup Result	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	ND		
1,1,1-Trichloroethane	ug/kg	ND	ND		
1,1,2,2-Tetrachloroethane	ug/kg	ND	ND		
1,1,2-Trichloroethane	ug/kg	ND	ND		
1,1-Dichloroethane	ug/kg	ND	ND		
1,1-Dichloroethene	ug/kg	ND	ND		
1,1-Dichloropropene	ug/kg	ND	ND		
1,2,3-Trichlorobenzene	ug/kg	ND	ND		
1,2,3-Trichloropropane	ug/kg	ND	ND		
1,2,4-Trichlorobenzene	ug/kg	ND	ND		
1,2,4-Trimethylbenzene	ug/kg	ND	ND		
1,2-Dibromo-3-chloropropane	ug/kg	ND	ND		
1,2-Dibromoethane (EDB)	ug/kg	ND	ND		
1,2-Dichlorobenzene	ug/kg	ND	ND		
1,2-Dichloroethane	ug/kg	ND	ND		

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

SAMPLE DUPLICATE: 838068

Parameter	Units	92131883012 Result	Dup Result	RPD	Qualifiers
1,2-Dichloropropane	ug/kg	ND	ND		
1,3,5-Trimethylbenzene	ug/kg	ND	ND		
1,3-Dichlorobenzene	ug/kg	ND	ND		
1,3-Dichloropropane	ug/kg	ND	ND		
1,4-Dichlorobenzene	ug/kg	ND	ND		
2,2-Dichloropropane	ug/kg	ND	ND		
2-Butanone (MEK)	ug/kg	ND	ND		
2-Chlorotoluene	ug/kg	ND	ND		
2-Hexanone	ug/kg	ND	ND		
4-Chlorotoluene	ug/kg	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	ND		
Acetone	ug/kg	ND	11.1J		
Benzene	ug/kg	ND	ND		
Bromobenzene	ug/kg	ND	ND		
Bromochloromethane	ug/kg	ND	ND		
Bromodichloromethane	ug/kg	ND	ND		
Bromoform	ug/kg	ND	ND		
Bromomethane	ug/kg	ND	ND		
Carbon tetrachloride	ug/kg	ND	ND		
Chlorobenzene	ug/kg	ND	ND		
Chloroethane	ug/kg	ND	ND		
Chloroform	ug/kg	ND	ND		
Chloromethane	ug/kg	ND	ND		
cis-1,2-Dichloroethene	ug/kg	ND	ND		
cis-1,3-Dichloropropene	ug/kg	ND	ND		
Dibromochloromethane	ug/kg	ND	ND		
Dibromomethane	ug/kg	ND	ND		
Dichlorodifluoromethane	ug/kg	ND	ND		
Diisopropyl ether	ug/kg	ND	ND		
Ethylbenzene	ug/kg	ND	ND		
Hexachloro-1,3-butadiene	ug/kg	ND	ND		
Isopropylbenzene (Cumene)	ug/kg	ND	ND		
m&p-Xylene	ug/kg	ND	ND		
Methyl-tert-butyl ether	ug/kg	ND	ND		
Methylene Chloride	ug/kg	ND	ND		
n-Butylbenzene	ug/kg	ND	ND		
n-Propylbenzene	ug/kg	ND	ND		
Naphthalene	ug/kg	ND	ND		
o-Xylene	ug/kg	ND	ND		
p-Isopropyltoluene	ug/kg	ND	ND		
sec-Butylbenzene	ug/kg	ND	ND		
Styrene	ug/kg	ND	ND		
tert-Butylbenzene	ug/kg	ND	ND		
Tetrachloroethene	ug/kg	ND	ND		
Toluene	ug/kg	ND	ND		
trans-1,2-Dichloroethene	ug/kg	ND	ND		
trans-1,3-Dichloropropene	ug/kg	ND	ND		
Trichloroethene	ug/kg	ND	ND		

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

SAMPLE DUPLICATE: 838068

Parameter	Units	92131883012 Result	Dup Result	RPD	Qualifiers
Trichlorofluoromethane	ug/kg	ND	ND		
Vinyl acetate	ug/kg	ND	ND		
Vinyl chloride	ug/kg	ND	ND		
Xylene (Total)	ug/kg	ND	ND		
1,2-Dichloroethane-d4 (S)	%	94	88	1	
4-Bromofluorobenzene (S)	%	97	99	10	
Dibromofluoromethane (S)	%	97	92	3	
Toluene-d8 (S)	%	98	97	7	

QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: MSV/20464 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 92131883018, 92131883022, 92131883023

METHOD BLANK: 838159 Matrix: Solid
Associated Lab Samples: 92131883018, 92131883022, 92131883023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.2	09/21/12 11:00	
1,1,1-Trichloroethane	ug/kg	ND	5.2	09/21/12 11:00	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.2	09/21/12 11:00	
1,1,2-Trichloroethane	ug/kg	ND	5.2	09/21/12 11:00	
1,1-Dichloroethane	ug/kg	ND	5.2	09/21/12 11:00	
1,1-Dichloroethene	ug/kg	ND	5.2	09/21/12 11:00	
1,1-Dichloropropene	ug/kg	ND	5.2	09/21/12 11:00	
1,2,3-Trichlorobenzene	ug/kg	ND	5.2	09/21/12 11:00	
1,2,3-Trichloropropane	ug/kg	ND	5.2	09/21/12 11:00	
1,2,4-Trichlorobenzene	ug/kg	ND	5.2	09/21/12 11:00	
1,2,4-Trimethylbenzene	ug/kg	ND	5.2	09/21/12 11:00	
1,2-Dibromo-3-chloropropane	ug/kg	ND	5.2	09/21/12 11:00	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.2	09/21/12 11:00	
1,2-Dichlorobenzene	ug/kg	ND	5.2	09/21/12 11:00	
1,2-Dichloroethane	ug/kg	ND	5.2	09/21/12 11:00	
1,2-Dichloropropane	ug/kg	ND	5.2	09/21/12 11:00	
1,3,5-Trimethylbenzene	ug/kg	ND	5.2	09/21/12 11:00	
1,3-Dichlorobenzene	ug/kg	ND	5.2	09/21/12 11:00	
1,3-Dichloropropane	ug/kg	ND	5.2	09/21/12 11:00	
1,4-Dichlorobenzene	ug/kg	ND	5.2	09/21/12 11:00	
2,2-Dichloropropane	ug/kg	ND	5.2	09/21/12 11:00	
2-Butanone (MEK)	ug/kg	ND	104	09/21/12 11:00	
2-Chlorotoluene	ug/kg	ND	5.2	09/21/12 11:00	
2-Hexanone	ug/kg	ND	51.9	09/21/12 11:00	
4-Chlorotoluene	ug/kg	ND	5.2	09/21/12 11:00	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	51.9	09/21/12 11:00	
Acetone	ug/kg	ND	104	09/21/12 11:00	
Benzene	ug/kg	ND	5.2	09/21/12 11:00	
Bromobenzene	ug/kg	ND	5.2	09/21/12 11:00	
Bromochloromethane	ug/kg	ND	5.2	09/21/12 11:00	
Bromodichloromethane	ug/kg	ND	5.2	09/21/12 11:00	
Bromoform	ug/kg	ND	5.2	09/21/12 11:00	
Bromomethane	ug/kg	ND	10.4	09/21/12 11:00	
Carbon tetrachloride	ug/kg	ND	5.2	09/21/12 11:00	
Chlorobenzene	ug/kg	ND	5.2	09/21/12 11:00	
Chloroethane	ug/kg	ND	10.4	09/21/12 11:00	
Chloroform	ug/kg	ND	5.2	09/21/12 11:00	
Chloromethane	ug/kg	ND	10.4	09/21/12 11:00	
cis-1,2-Dichloroethene	ug/kg	ND	5.2	09/21/12 11:00	
cis-1,3-Dichloropropene	ug/kg	ND	5.2	09/21/12 11:00	
Dibromochloromethane	ug/kg	ND	5.2	09/21/12 11:00	
Dibromomethane	ug/kg	ND	5.2	09/21/12 11:00	
Dichlorodifluoromethane	ug/kg	ND	10.4	09/21/12 11:00	

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

METHOD BLANK: 838159 Matrix: Solid

Associated Lab Samples: 92131883018, 92131883022, 92131883023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/kg	ND	5.2	09/21/12 11:00	
Ethylbenzene	ug/kg	ND	5.2	09/21/12 11:00	
Hexachloro-1,3-butadiene	ug/kg	ND	5.2	09/21/12 11:00	
Isopropylbenzene (Cumene)	ug/kg	ND	5.2	09/21/12 11:00	
m&p-Xylene	ug/kg	ND	10.4	09/21/12 11:00	
Methyl-tert-butyl ether	ug/kg	ND	5.2	09/21/12 11:00	
Methylene Chloride	ug/kg	ND	20.7	09/21/12 11:00	
n-Butylbenzene	ug/kg	ND	5.2	09/21/12 11:00	
n-Propylbenzene	ug/kg	ND	5.2	09/21/12 11:00	
Naphthalene	ug/kg	ND	5.2	09/21/12 11:00	
o-Xylene	ug/kg	ND	5.2	09/21/12 11:00	
p-Isopropyltoluene	ug/kg	ND	5.2	09/21/12 11:00	
sec-Butylbenzene	ug/kg	ND	5.2	09/21/12 11:00	
Styrene	ug/kg	ND	5.2	09/21/12 11:00	
tert-Butylbenzene	ug/kg	ND	5.2	09/21/12 11:00	
Tetrachloroethene	ug/kg	ND	5.2	09/21/12 11:00	
Toluene	ug/kg	ND	5.2	09/21/12 11:00	
trans-1,2-Dichloroethene	ug/kg	ND	5.2	09/21/12 11:00	
trans-1,3-Dichloropropene	ug/kg	ND	5.2	09/21/12 11:00	
Trichloroethene	ug/kg	ND	5.2	09/21/12 11:00	
Trichlorofluoromethane	ug/kg	ND	5.2	09/21/12 11:00	
Vinyl acetate	ug/kg	ND	51.9	09/21/12 11:00	
Vinyl chloride	ug/kg	ND	10.4	09/21/12 11:00	
Xylene (Total)	ug/kg	ND	10.4	09/21/12 11:00	
1,2-Dichloroethane-d4 (S)	%	94	70-132	09/21/12 11:00	
4-Bromofluorobenzene (S)	%	100	70-130	09/21/12 11:00	
Dibromofluoromethane (S)	%	95	70-130	09/21/12 11:00	
Toluene-d8 (S)	%	98	70-130	09/21/12 11:00	

LABORATORY CONTROL SAMPLE: 838160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	54.9	56.2	102	70-131	
1,1,1-Trichloroethane	ug/kg	54.9	62.3	113	70-141	
1,1,2,2-Tetrachloroethane	ug/kg	54.9	58.3	106	70-130	
1,1,2-Trichloroethane	ug/kg	54.9	59.7	109	70-132	
1,1-Dichloroethane	ug/kg	54.9	60.2	110	70-143	
1,1-Dichloroethene	ug/kg	54.9	58.5	106	70-137	
1,1-Dichloropropene	ug/kg	54.9	54.9	100	70-135	
1,2,3-Trichlorobenzene	ug/kg	54.9	62.5	114	69-153	
1,2,3-Trichloropropane	ug/kg	54.9	58.6	107	70-130	
1,2,4-Trichlorobenzene	ug/kg	54.9	63.3	115	55-171	
1,2,4-Trimethylbenzene	ug/kg	54.9	60.4	110	70-149	
1,2-Dibromo-3-chloropropane	ug/kg	54.9	62.8	114	68-141	
1,2-Dibromoethane (EDB)	ug/kg	54.9	60.6	110	70-130	

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

LABORATORY CONTROL SAMPLE: 838160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichlorobenzene	ug/kg	54.9	59.9	109	70-140	
1,2-Dichloroethane	ug/kg	54.9	58.8	107	70-137	
1,2-Dichloropropane	ug/kg	54.9	56.8	103	70-133	
1,3,5-Trimethylbenzene	ug/kg	54.9	60.0	109	70-143	
1,3-Dichlorobenzene	ug/kg	54.9	59.9	109	70-144	
1,3-Dichloropropane	ug/kg	54.9	57.3	104	70-132	
1,4-Dichlorobenzene	ug/kg	54.9	59.9	109	70-142	
2,2-Dichloropropane	ug/kg	54.9	63.7	116	68-152	
2-Butanone (MEK)	ug/kg	110	129	117	70-149	
2-Chlorotoluene	ug/kg	54.9	59.1	108	70-141	
2-Hexanone	ug/kg	110	123	112	70-149	
4-Chlorotoluene	ug/kg	54.9	61.9	113	70-149	
4-Methyl-2-pentanone (MIBK)	ug/kg	110	125	114	70-153	
Acetone	ug/kg	110	128	117	70-157	
Benzene	ug/kg	54.9	58.5	106	70-130	
Bromobenzene	ug/kg	54.9	59.9	109	70-141	
Bromochloromethane	ug/kg	54.9	55.4	101	70-149	
Bromodichloromethane	ug/kg	54.9	56.1	102	70-130	
Bromoform	ug/kg	54.9	62.9	115	70-131	
Bromomethane	ug/kg	54.9	59.7	109	64-136	
Carbon tetrachloride	ug/kg	54.9	54.5	99	70-154	
Chlorobenzene	ug/kg	54.9	59.0	107	70-135	
Chloroethane	ug/kg	54.9	64.8	118	68-151	
Chloroform	ug/kg	54.9	56.8	103	70-130	
Chloromethane	ug/kg	54.9	54.4	99	70-132	
cis-1,2-Dichloroethene	ug/kg	54.9	60.4	110	70-140	
cis-1,3-Dichloropropene	ug/kg	54.9	58.4	106	70-137	
Dibromochloromethane	ug/kg	54.9	58.6	107	70-130	
Dibromomethane	ug/kg	54.9	54.7	100	70-136	
Dichlorodifluoromethane	ug/kg	54.9	66.6	121	36-148	
Diisopropyl ether	ug/kg	54.9	56.7	103	70-139	
Ethylbenzene	ug/kg	54.9	58.5	106	70-137	
Hexachloro-1,3-butadiene	ug/kg	54.9	63.8	116	70-145	
Isopropylbenzene (Cumene)	ug/kg	54.9	59.8	109	70-141	
m&p-Xylene	ug/kg	110	119	108	70-140	
Methyl-tert-butyl ether	ug/kg	54.9	64.8	118	45-150	
Methylene Chloride	ug/kg	54.9	61.3	112	70-133	
n-Butylbenzene	ug/kg	54.9	62.6	114	65-155	
n-Propylbenzene	ug/kg	54.9	60.6	110	70-148	
Naphthalene	ug/kg	54.9	62.3	113	70-148	
o-Xylene	ug/kg	54.9	57.2	104	70-141	
p-Isopropyltoluene	ug/kg	54.9	61.6	112	70-148	
sec-Butylbenzene	ug/kg	54.9	61.6	112	70-145	
Styrene	ug/kg	54.9	60.4	110	70-138	
tert-Butylbenzene	ug/kg	54.9	59.3	108	70-143	
Tetrachloroethene	ug/kg	54.9	62.5	114	70-140	
Toluene	ug/kg	54.9	58.1	106	70-130	
trans-1,2-Dichloroethene	ug/kg	54.9	61.3	112	70-136	

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

LABORATORY CONTROL SAMPLE: 838160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
trans-1,3-Dichloropropene	ug/kg	54.9	60.7	110	70-138	
Trichloroethene	ug/kg	54.9	57.4	104	70-132	
Trichlorofluoromethane	ug/kg	54.9	53.9	98	69-134	
Vinyl acetate	ug/kg	110	172	157	24-161	
Vinyl chloride	ug/kg	54.9	55.6	101	55-140	
Xylene (Total)	ug/kg	165	176	107	70-141	
1,2-Dichloroethane-d4 (S)	%			97	70-132	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 839168

Parameter	Units	92132153019 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/kg	ND	52.9	46.7	88	49-180	
Benzene	ug/kg	ND	52.9	45.9	87	50-166	
Chlorobenzene	ug/kg	ND	52.9	53.1	100	43-169	
Toluene	ug/kg	ND	52.9	49.7	94	52-163	
Trichloroethene	ug/kg	ND	52.9	52.0	98	49-167	
1,2-Dichloroethane-d4 (S)	%				104	70-132	
4-Bromofluorobenzene (S)	%				90	70-130	
Dibromofluoromethane (S)	%				120	70-130	
Toluene-d8 (S)	%				96	70-130	

SAMPLE DUPLICATE: 839167

Parameter	Units	92131565003 Result	Dup Result	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	ND		
1,1,1-Trichloroethane	ug/kg	ND	ND		
1,1,2,2-Tetrachloroethane	ug/kg	ND	ND		
1,1,2-Trichloroethane	ug/kg	ND	ND		
1,1-Dichloroethane	ug/kg	ND	ND		
1,1-Dichloroethene	ug/kg	ND	ND		
1,1-Dichloropropene	ug/kg	ND	ND		
1,2,3-Trichlorobenzene	ug/kg	ND	ND		
1,2,3-Trichloropropane	ug/kg	ND	ND		
1,2,4-Trichlorobenzene	ug/kg	ND	ND		
1,2,4-Trimethylbenzene	ug/kg	ND	ND		
1,2-Dibromo-3-chloropropane	ug/kg	ND	ND		
1,2-Dibromoethane (EDB)	ug/kg	ND	ND		
1,2-Dichlorobenzene	ug/kg	ND	1.9J		
1,2-Dichloroethane	ug/kg	ND	ND		
1,2-Dichloropropane	ug/kg	ND	ND		
1,3,5-Trimethylbenzene	ug/kg	ND	ND		
1,3-Dichlorobenzene	ug/kg	ND	ND		

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

SAMPLE DUPLICATE: 839167

Parameter	Units	92131565003 Result	Dup Result	RPD	Qualifiers
1,3-Dichloropropane	ug/kg	ND	ND		
1,4-Dichlorobenzene	ug/kg	ND	ND		
2,2-Dichloropropane	ug/kg	ND	ND		
2-Butanone (MEK)	ug/kg	ND	ND		
2-Chlorotoluene	ug/kg	ND	ND		
2-Hexanone	ug/kg	ND	ND		
4-Chlorotoluene	ug/kg	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	ND		
Acetone	ug/kg	385	145	90	R1
Benzene	ug/kg	ND	ND		
Bromobenzene	ug/kg	ND	ND		
Bromochloromethane	ug/kg	ND	ND		
Bromodichloromethane	ug/kg	ND	ND		
Bromoform	ug/kg	ND	ND		
Bromomethane	ug/kg	ND	ND		
Carbon tetrachloride	ug/kg	ND	ND		
Chlorobenzene	ug/kg	ND	ND		
Chloroethane	ug/kg	ND	ND		
Chloroform	ug/kg	ND	ND		
Chloromethane	ug/kg	ND	ND		
cis-1,2-Dichloroethene	ug/kg	ND	ND		
cis-1,3-Dichloropropene	ug/kg	ND	ND		
Dibromochloromethane	ug/kg	ND	ND		
Dibromomethane	ug/kg	ND	ND		
Dichlorodifluoromethane	ug/kg	ND	ND		
Diisopropyl ether	ug/kg	ND	ND		
Ethylbenzene	ug/kg	ND	ND		
Hexachloro-1,3-butadiene	ug/kg	ND	ND		
Isopropylbenzene (Cumene)	ug/kg	ND	ND		
m&p-Xylene	ug/kg	ND	ND		
Methyl-tert-butyl ether	ug/kg	ND	ND		
Methylene Chloride	ug/kg	ND	ND		
n-Butylbenzene	ug/kg	ND	ND		
n-Propylbenzene	ug/kg	ND	ND		
Naphthalene	ug/kg	ND	ND		
o-Xylene	ug/kg	ND	ND		
p-Isopropyltoluene	ug/kg	ND	ND		
sec-Butylbenzene	ug/kg	ND	ND		
Styrene	ug/kg	ND	ND		
tert-Butylbenzene	ug/kg	ND	ND		
Tetrachloroethene	ug/kg	ND	ND		
Toluene	ug/kg	ND	ND		
trans-1,2-Dichloroethene	ug/kg	ND	ND		
trans-1,3-Dichloropropene	ug/kg	ND	ND		
Trichloroethene	ug/kg	ND	ND		
Trichlorofluoromethane	ug/kg	ND	ND		
Vinyl acetate	ug/kg	ND	ND		
Vinyl chloride	ug/kg	ND	ND		

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

SAMPLE DUPLICATE: 839167

Parameter	Units	92131565003 Result	Dup Result	RPD	Qualifiers
Xylene (Total)	ug/kg	ND	ND		
1,2-Dichloroethane-d4 (S)	%	90	89	47	
4-Bromofluorobenzene (S)	%	94	95	45	
Dibromofluoromethane (S)	%	93	96	42	
Toluene-d8 (S)	%	98	98	45	

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: OEXT/18962 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 3546 Analysis Description: 8015 Solid GCSV
Associated Lab Samples: 92131883001, 92131883002, 92131883003, 92131883004, 92131883005, 92131883006, 92131883007, 92131883011, 92131883012, 92131883013, 92131883014, 92131883015, 92131883016, 92131883017, 92131883018, 92131883019, 92131883020, 92131883021, 92131883022, 92131883023

METHOD BLANK: 835937 Matrix: Solid
Associated Lab Samples: 92131883001, 92131883002, 92131883003, 92131883004, 92131883005, 92131883006, 92131883007, 92131883011, 92131883012, 92131883013, 92131883014, 92131883015, 92131883016, 92131883017, 92131883018, 92131883019, 92131883020, 92131883021, 92131883022, 92131883023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Components	mg/kg	ND	5.0	09/20/12 17:08	
n-Pentacosane (S)	%	61	41-119	09/20/12 17:08	

LABORATORY CONTROL SAMPLE: 835938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Components	mg/kg	66.7	36.5	55	49-113	
n-Pentacosane (S)	%			58	41-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 835939 835940

Parameter	Units	92131883006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Diesel Components	mg/kg	ND	80.9	80.9	35.2	40.7	42	49	10-146	14	
n-Pentacosane (S)	%						45	52	41-119		

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: PMST/4994
Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 92131883001, 92131883002, 92131883003, 92131883004, 92131883005, 92131883006, 92131883007, 92131883011, 92131883012, 92131883013, 92131883014, 92131883015, 92131883016, 92131883017, 92131883018, 92131883019, 92131883020, 92131883021

SAMPLE DUPLICATE: 835927

Parameter	Units	92131813004 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%		11.5		

SAMPLE DUPLICATE: 835928

Parameter	Units	92131883021 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	18.7	19.1	2	

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QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: PMST/4999
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 92131883022, 92131883023

SAMPLE DUPLICATE: 837913

Parameter	Units	92131883022 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	15.6	14.7	5	

SAMPLE DUPLICATE: 837914

Parameter	Units	92132281010 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	17.5	18.2	4	

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

QC Batch: PMST/5005 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 92131883008, 92131883009, 92131883010

SAMPLE DUPLICATE: 839582

Parameter	Units	92131883008 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	0.58	0.52	12	

SAMPLE DUPLICATE: 839583

Parameter	Units	92132573004 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	9.6	9.2	4	

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(336)623-8921

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QUALIFIERS

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92131883001	**4H-1(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883002	**4H-2(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883003	**4H-3(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883004	**4H-4(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883005	**4H-5(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883006	**4H-6(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883007	**4H-7(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883011	**5H-1(0-2)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883012	**5H-2(0-2)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883013	**5H-3(0-2)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883014	**5H-4(0-2)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883015	**5H-5(1-2)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883016	**5H-6(1-2)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883017	**5H-7(10-12)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883018	**5H-8(8-10)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883019	**5H-9(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883020	**5H-10(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883021	**5H-11(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883022	**5H-12(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883023	**5H-13(2-4)**	EPA 3546	OEXT/18962	EPA 8015 Modified	GCSV/12904
92131883001	**4H-1(2-4)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883002	**4H-2(2-4)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883003	**4H-3(2-4)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883004	**4H-4(2-4)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883005	**4H-5(2-4)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883006	**4H-6(2-4)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883007	**4H-7(2-4)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883011	**5H-1(0-2)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883012	**5H-2(0-2)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883013	**5H-3(0-2)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883014	**5H-4(0-2)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883015	**5H-5(1-2)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883016	**5H-6(1-2)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883017	**5H-7(10-12)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883018	**5H-8(8-10)**	EPA 5035A/5030B	GCV/6273	EPA 8015 Modified	GCV/6274
92131883019	**5H-9(2-4)**	EPA 5035A/5030B	GCV/6275	EPA 8015 Modified	GCV/6276
92131883020	**5H-10(2-4)**	EPA 5035A/5030B	GCV/6275	EPA 8015 Modified	GCV/6276
92131883021	**5H-11(2-4)**	EPA 5035A/5030B	GCV/6275	EPA 8015 Modified	GCV/6276
92131883022	**5H-12(2-4)**	EPA 5035A/5030B	GCV/6275	EPA 8015 Modified	GCV/6276
92131883023	**5H-13(2-4)**	EPA 5035A/5030B	GCV/6275	EPA 8015 Modified	GCV/6276
92131883008	**SAND-1**	EPA 3050	MPRP/11526	EPA 6010	ICP/10557
92131883009	**SAND-2**	EPA 3050	MPRP/11526	EPA 6010	ICP/10557
92131883010	**SAND-3**	EPA 3050	MPRP/11526	EPA 6010	ICP/10557
92131883011	**5H-1(0-2)**	EPA 3050	MPRP/11526	EPA 6010	ICP/10557
92131883012	**5H-2(0-2)**	EPA 3050	MPRP/11526	EPA 6010	ICP/10557
92131883013	**5H-3(0-2)**	EPA 3050	MPRP/11526	EPA 6010	ICP/10557
92131883014	**5H-4(0-2)**	EPA 3050	MPRP/11526	EPA 6010	ICP/10557

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92131883015	**5H-5(1-2)**	EPA 3050	MPRP/11527	EPA 6010	ICP/10558
92131883016	**5H-6(1-2)**	EPA 3050	MPRP/11527	EPA 6010	ICP/10558
92131883017	**5H-7(10-12)**	EPA 3050	MPRP/11527	EPA 6010	ICP/10558
92131883018	**5H-8(8-10)**	EPA 3050	MPRP/11527	EPA 6010	ICP/10558
92131883019	**5H-9(2-4)**	EPA 3050	MPRP/11527	EPA 6010	ICP/10558
92131883020	**5H-10(2-4)**	EPA 3050	MPRP/11527	EPA 6010	ICP/10558
92131883021	**5H-11(2-4)**	EPA 3050	MPRP/11527	EPA 6010	ICP/10558
92131883022	**5H-12(2-4)**	EPA 3050	MPRP/11527	EPA 6010	ICP/10558
92131883023	**5H-13(2-4)**	EPA 3050	MPRP/11527	EPA 6010	ICP/10558
92131883008	**SAND-1**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883009	**SAND-2**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883010	**SAND-3**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883011	**5H-1(0-2)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883012	**5H-2(0-2)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883013	**5H-3(0-2)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883014	**5H-4(0-2)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883015	**5H-5(1-2)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883016	**5H-6(1-2)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883017	**5H-7(10-12)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883018	**5H-8(8-10)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883019	**5H-9(2-4)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883020	**5H-10(2-4)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883021	**5H-11(2-4)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883022	**5H-12(2-4)**	EPA 7471	MERP/4524	EPA 7471	MERC/4437
92131883023	**5H-13(2-4)**	EPA 7471	MERP/4526	EPA 7471	MERC/4438
92131883011	**5H-1(0-2)**	EPA 8260	MSV/20444		
92131883012	**5H-2(0-2)**	EPA 8260	MSV/20444		
92131883013	**5H-3(0-2)**	EPA 8260	MSV/20444		
92131883014	**5H-4(0-2)**	EPA 8260	MSV/20444		
92131883015	**5H-5(1-2)**	EPA 8260	MSV/20444		
92131883016	**5H-6(1-2)**	EPA 8260	MSV/20444		
92131883017	**5H-7(10-12)**	EPA 8260	MSV/20444		
92131883018	**5H-8(8-10)**	EPA 8260	MSV/20464		
92131883019	**5H-9(2-4)**	EPA 8260	MSV/20444		
92131883020	**5H-10(2-4)**	EPA 8260	MSV/20444		
92131883021	**5H-11(2-4)**	EPA 8260	MSV/20444		
92131883022	**5H-12(2-4)**	EPA 8260	MSV/20464		
92131883023	**5H-13(2-4)**	EPA 8260	MSV/20464		
92131883001	**4H-1(2-4)**	ASTM D2974-87	PMST/4994		
92131883002	**4H-2(2-4)**	ASTM D2974-87	PMST/4994		
92131883003	**4H-3(2-4)**	ASTM D2974-87	PMST/4994		
92131883004	**4H-4(2-4)**	ASTM D2974-87	PMST/4994		
92131883005	**4H-5(2-4)**	ASTM D2974-87	PMST/4994		
92131883006	**4H-6(2-4)**	ASTM D2974-87	PMST/4994		
92131883007	**4H-7(2-4)**	ASTM D2974-87	PMST/4994		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: DOT-MECKLENBURG WBS#50000.1
Pace Project No.: 92131883

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92131883008	**SAND-1**	ASTM D2974-87	PMST/5005		
92131883009	**SAND-2**	ASTM D2974-87	PMST/5005		
92131883010	**SAND-3**	ASTM D2974-87	PMST/5005		
92131883011	**5H-1(0-2)**	ASTM D2974-87	PMST/4994		
92131883012	**5H-2(0-2)**	ASTM D2974-87	PMST/4994		
92131883013	**5H-3(0-2)**	ASTM D2974-87	PMST/4994		
92131883014	**5H-4(0-2)**	ASTM D2974-87	PMST/4994		
92131883015	**5H-5(1-2)**	ASTM D2974-87	PMST/4994		
92131883016	**5H-6(1-2)**	ASTM D2974-87	PMST/4994		
92131883017	**5H-7(10-12)**	ASTM D2974-87	PMST/4994		
92131883018	**5H-8(8-10)**	ASTM D2974-87	PMST/4994		
92131883019	**5H-9(2-4)**	ASTM D2974-87	PMST/4994		
92131883020	**5H-10(2-4)**	ASTM D2974-87	PMST/4994		
92131883021	**5H-11(2-4)**	ASTM D2974-87	PMST/4994		
92131883022	**5H-12(2-4)**	ASTM D2974-87	PMST/4999		
92131883023	**5H-13(2-4)**	ASTM D2974-87	PMST/4999		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1653469

Section A Required Client Information:

Company: Hart + Hickman
Address: 2923 S. Tryon St. #100
Charlotte NC 28203
Email To:
Phone: 704-586-0007 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: David Graham
Copy To:
Purchase Order No.:
Project Name: DOT - Mecklenburg County
Project Number: ROW-407

Section C Invoice Information:

Attention: NC DOT
Company Name: WBS 50000.1.STR13TD
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	RCRA Metals	TPH (C-R0, DRO)	VOCs (8260)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	4H-1 (2-4)	SL	G			09/7/12	1100		4	2						2				X				001
2	4H-2 (2-4)					09/7/12	1125													X				002
3	4H-3 (2-4)						1155													X				003
4	4H-4 (2-4)						1410													X				004
5	4H-5 (2-4)						1235													X				005
6	4H-6 (2-4)						1240													X				006
7	4H-7 (2-4)						1350		"	"						"				X				007
8	5H-1 (0-2)						1455		9	4					2	2				X	X	X		011
9	5H-2 (0-2)		↓				1530		9	4					2	3				X	X	X		012
10	SAND-1		C				1435		1	1										X				008
11	SAND-2		C				1440		1	1										X				009
12	SAND-3	↓	C			↓	1445		1	1										X				010

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	9/18/12	1652	[signature]	9/18/12	16:52	4.1	Y	W	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Trinh Dinh
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/18/12

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1653470

Section A Required Client Information:

Company: Hart + Hickman
Address: 2923 S. Tryon #100
Charlotte NC 28203
Email To:
Phone: 526-0007 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: David Graham
Copy To:
Purchase Order No.:
Project Name: DOT- Mecklenburg County
Project Number: ROW-407

Section C Invoice Information:

Attention: WBS: 50000.1.STR13T1B
Company Name: NC DOT
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: RCRA Metals	TPH (GRO, DRO)	VOCs 8260	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SH-3 (0-2)	SL	G			091712	1600		9	4					2	3		X	X	X		013
2	SH-4 (0-2)					091712	1620															014
3	SH-5 (1-2)					091812	900															015
4	SH-6 (1-2)						1050															016
5	SH-7 (10-12)						950															017
6	SH-8 (8-10)						1025															018
7	SH-9 (2-4)						1120															019
8	SH-10 (2-4)						1135															020
9	SH-11 (2-4)						1145															021
10	SH-12 (2-4)						1340															022
11	SH-13 (2-4)	↓	↓			↓	1410	↓	↓	↓					↓	↓		X	X	X		023
12																						

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		9/18/12	1652		9/18/12	1652	4.1	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John DeSa

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/18/12

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: May 7, 2012 Page 1 of 2
	Document Number: **F-CHR-CS-03-rev.07**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Hart & Hickman Project # 92131883

Where Received: [X] Huntersville [ ] Asheville [ ] Eden

Courier: [ ] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [X] Pace Other_____

Custody Seal on Cooler/Box Present: [ ] yes [X] no Seals intact: [ ] yes [ ] no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: [ ] Bubble Wrap [X] Bubble Bags [ ] None [ ] Other_____

Thermometer Used: IR Gun (T1101) T1102 **Type of Ice:** (Wet) Blue None [X] Samples on ice, cooling process has begun

Temp Correction Factor **T1101**: No Correction **T1102**: No Correction

Corrected Cooler Temp.: 4.1 C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Date and Initials of person examining contents: RP 9-18-12

		Comments:
Chain of Custody Present:	[X]Yes [ ]No [ ]N/A	1.
Chain of Custody Filled Out:	[X]Yes [ ]No [ ]N/A	2.
Chain of Custody Relinquished:	[X]Yes [ ]No [ ]N/A	3.
Sampler Name & Signature on COC:	[X]Yes [ ]No [ ]N/A	4.
Samples Arrived within Hold Time:	[X]Yes [ ]No [ ]N/A	5.
Short Hold Time Analysis (<72hr):	[ ]Yes [X]No [ ]N/A	6.
Rush Turn Around Time Requested:	[ ]Yes [X]No [ ]N/A	7.
Sufficient Volume:	[X]Yes [ ]No [ ]N/A	8.
Correct Containers Used:	[X]Yes [ ]No [ ]N/A	9.
-Pace Containers Used:	[X]Yes [ ]No [ ]N/A	
Containers Intact:	[X]Yes [ ]No [ ]N/A	10.
Filtered volume received for Dissolved tests	[ ]Yes [ ]No [X]N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:_____	[ ]Yes [X]No [ ]N/A	12. 15-H-6-8260 - NO TIME on sample - COC-10:50 2SH3 is missing VPH kit (3 vials) 3 Extra Kit - NO Date-TIME & Sample ID
All containers needing preservation have been checked.	[ ]Yes [ ]No [X]N/A	13. 4. Received Ziplog Soil - SH-7-(4-6) SH-7-(6-8)
All containers needing preservation are found to be in compliance with EPA recommendation.	[ ]Yes [ ]No [X]N/A	Not on COC.
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	[ ]Yes [ ]No	Initial when completed
Samples checked for dechlorination:	[ ]Yes [ ]No [X]N/A	14.
Headspace in VOA Vials (>6mm):	[ ]Yes [ ]No [X]N/A	15.
Trip Blank Present:	[ ]Yes [ ]No [X]N/A	16.
~~Trip Blank Custody Seals Present~~	~~[ ]Yes [ ]No [X]N/A~~	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: David Graham Date/Time: 9/19/12

Comments/ Resolution: David informed extra VPH kit was for SH-3(0-2). He also instructed to dispose of Ziplock bags. KG

SCURF Review: [illegible] Date: 9/18/12 **SRF Review:** CAH Date: 9/19/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)