

**GEOPHYSICAL SURVEY AND
PRELIMINARY SITE ASSESSMENT REPORT
E.J. Pope & Son, Inc. Property
Parcel 35
South Main Street (NC 33)
Princeville, North Carolina
WBS Element # 32782.1.1
Edgecombe County**

North Carolina Department of Transportation
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

January 4, 2008

**GEOPHYSICAL SURVEY AND
PRELIMINARY SITE ASSESSMENT REPORT**

**E.J. Pope & Son, Inc. Property
Parcel 35
South Main Street (NC 33)
Princeville, North Carolina
Rocky Mount Northern Outer Loop
From US 258/NC 111-122 (Mutual Boulevard)
to SR 1308 (Albemarle Avenue)
WBS Element # 32782.1.1
State Project B-2965
Edgecombe County**

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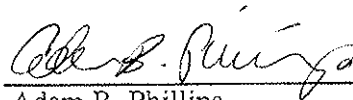
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This document, entitled "Geophysical Survey and Preliminary Site Assessment Report," has been prepared for the E.J. Pope & Son, Inc. Property, Parcel 35, located on South Main Street (NC 33) in Princeville, North Carolina (WBS Element # 32782.1.1, State Project B-2965, Edgecombe County). It has been prepared by GEL Engineering of NC, Inc. in accordance with the Notice to Proceed provided by the North Carolina Department of Transportation-GeoEnvironmental Section, Geotechnical Engineering Unit for the exclusive use of the North Carolina Department of Transportation. It has been prepared in accordance with accepted quality control practices and has been reviewed by the undersigned.

GEL ENGINEERING OF NC, INC.
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Executive Summary

The subject site is Parcel 35 (the E.J. Pope & Son, Inc. Property), located on South Main Street (NC 33) in Princeville, North Carolina. The primary purpose of this investigation was to determine the presence or absence of constituents of concern in soil and groundwater within the proposed North Carolina Department of Transportation (NCDOT) Right-of-Way (ROW) of Parcel 35 as a result of previous and/or current operations at the subject site.

Currently, the site is cleared and undeveloped. The site previously housed a gasoline station. GEL Engineering of NC, Inc. (GEL) performed a geophysical evaluation and a preliminary site assessment at the subject site that included the collection and analysis of soil samples and one groundwater sample. Underground utilities and two subsurface anomalies were identified within the proposed NCDOT ROW during the geophysical survey.

Soil samples were collected for analysis from nine borings constructed on the subject site. The soil samples were analyzed for diesel range organics (DRO) and gasoline range organics (GRO). Analytical results for soil samples collected from five soil borings indicated that the detected DRO and/or GRO concentrations exceed the respective NCDENR recommended DRO and/or GRO action level of 10 milligrams per kilogram (mg/kg). Therefore, these analytical results are potentially indicative of soil impact. However, analysis of the soil for petroleum constituents and/or a target list of organic compounds would be needed to confirm the soil impact. The total estimated quantity of impacted soil (DRO and GRO >10 mg/kg) at the subject site is approximately 486 cubic yards.

One groundwater sample was collected from an existing on-site permanent groundwater monitoring well, SS-6-GWMW. Analytical results for this sample indicate that there is petroleum contamination in groundwater within the vicinity of SS-6-GWMW. The detection of an elevated DRO concentration in the groundwater sample collected during the preliminary site assessment indicates there may have been a release at the former gasoline station on the subject site. Additional groundwater assessment would most likely be required to confirm and delineate the groundwater impact within the proposed NCDOT ROW.

Based on the soil and groundwater data generated from this investigation, there is no evidence that a significant release(s) of petroleum hydrocarbon constituents of concern has occurred within the proposed NCDOT ROW at the subject site.

It is recommended that the anomalies identified within the proposed ROW during the geophysical survey be further investigated and possibly removed prior to construction excavation activities (if any) in this vicinity, and that further soil assessment be performed at that time to determine the presence or absence of soil impact. Furthermore, it is recommended that confirmation soil samples be collected and analyzed for petroleum hydrocarbon constituents following any planned excavation in the vicinity of borings SS-4, SS-5, SS-6, and SS-9 in order to confirm the presence or absence of soil impact from petroleum hydrocarbons.

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1.0 Introduction

This document presents the details of a geophysical survey and preliminary site assessment performed within the proposed North Carolina Department of Transportation (NCDOT) Right-of-Way (ROW) at the above referenced property (the subject site). The subject site is referenced as Parcel 35 (the E.J. Pope & Son, Inc. Property), located on South Main Street (NC 33), north of the intersection of NC 258 and South Main Street (NC 33), in Princeville, North Carolina. The subject site is owned by E.J. Pope & Son, Inc. The site is currently cleared and undeveloped. The site location is shown on Figure 1, an excerpt from the United States Geological Survey (USGS) 7.5-minute quadrangle map of Tarboro, North Carolina. This geophysical survey and preliminary site assessment were conducted by GEL Engineering of NC, Inc. (GEL) in accordance with the Notice to Proceed issued by the NCDOT on October 15, 2007.

The primary purpose of this investigation was to determine the presence or absence of on-site constituents of concern in soil and groundwater within the subject site as a result of current and/or former operations.

2.0 Background

NCDOT is planning road improvements to the area in the vicinity of BR 24 over the Tar River on NC 33 (Main Street) from US 258/NC 111-122 (Mutual Boulevard) to SR 1308 (Albemarle Avenue). NCDOT wanted to assess the proposed ROW at the subject site to evaluate the presence or absence of soil and groundwater contamination related to the current and/or former on-site operations, and the impact (if any) of these operations on the proposed road improvements. Figure 2 shows the general site layout.

3.0 Local Geology and Hydrogeology

The site is in a developed area of Princeville in Edgecombe County, North Carolina. Surrounding land uses include residential and light commercial development. The site is located in the Coastal Plain physiographic province of North Carolina. The Coastal Plain consists of a wedge of mostly marine sedimentary rocks that gradually thicken to the east. The Cretaceous Cape Fear and Black Creek Formations underlie the subject site. They consist of sandstone and sandy mudstone comprised of mostly estuarine and marine deposits. These Formations are overlain by Cenozoic unconsolidated alluvial, estuarine, and marine sediments in the vicinity of the subject site.

Uppermost soils are characterized mostly of gravel, sand, and clayey sediments associated with alluvial morphology of the Tar River, including Pleistocene terraces and floodplain deposits. The United States Department of Agriculture's *Soil Survey of Edgecombe County, North Carolina* (1908) classifies the soil in the vicinity of the site as belonging to the Norfolk-Portsmouth series, which typically consists of sand and sandy loam soils. The soil encountered in the vicinity of this site during the preliminary site assessment was predominately brown/grey/tan sandy fill material and clayey sand.

Groundwater was encountered during the preliminary site assessment and a groundwater assessment was performed. Groundwater was encountered at a depth of approximately 15 feet below land surface (bls). Based on the topographic map in Figure 1, the subject site is located approximately 20 feet above mean sea level (MSL).

The nearest perennial surface water body to the subject site is the Tar River. The watercourse is located approximately 100 feet north of the subject site. Based on the United States Geological Survey topographic map presented as Figure 1, the groundwater flow direction underlying the subject site is most likely northerly towards the Tar River.

4.0 Subsurface Investigation

To determine the presence or absence of impact to subsurface soil within the proposed NCDOT ROW at the subject site, GEL performed a limited site assessment that consisted of the following tasks:

- Performance of a geophysical evaluation to identify the presence or absence of underground storage tanks (USTs) and associated appurtenances, and other underground anomalies, including utilities, at the subject site and their locations.

- Soil vapor screening of soil samples from subsurface soil borings to determine the potential presence or absence of soil impact from petroleum constituents of concern.
- Laboratory analysis of collected soil samples.

The details of these tasks are discussed in the following sections.

4.1 Geophysical Evaluation

The geophysical investigation included the deployment of ground penetrating radar technology, radio frequency electromagnetic technology, and time domain electromagnetic technology to the site. These technologies were used in concert with one another in order to identify subsurface metallic anomalies and, in particular, to identify the presence of underground storage tanks (USTs) on site. A brief description of each technology is presented in the following paragraphs followed by a discussion of the results of the geophysical evaluation.

4.1.1 Ground Penetrating Radar Methodology

A RAMAC digital radar control system configured with a 250 Megahertz (MHz) antenna array was used in this investigation. Ground Penetrating Radar (GPR) is an electromagnetic geophysical method that detects interfaces between subsurface materials with differing dielectric constants. The GPR system consists of an antenna that houses the transmitter and receiver, a digital control unit that both generates and digitally records the GPR data, and a color video monitor to view data as they are collected in the field.

The transmitter radiates repetitive short-duration electromagnetic waves (at radar frequencies) into the earth from an antenna moving across the ground surface. These radar waves are reflected back to the receiver from the interface of materials with different dielectric constants. The intensity of the reflected signal is a function of the contrast in the dielectric constant between the materials, the conductivity of the material through which the wave is traveling, and the frequency of the signal. Subsurface features that commonly cause such reflections are: 1) natural geologic conditions, such as changes in sediment composition, bedding, and cementation horizons and voids; or 2) unnatural changes to the subsurface, such as disturbed soils, soil backfill, buried debris, tanks, pipelines, and utilities. The digital control unit processes the signal from the receiver and produces a continuous cross-section of the subsurface interface reflection events.

GPR data profiles are collected along transects, which are measured paths along which the GPR antenna is moved. During a survey, marks are placed in the data by the operator at designated points along the GPR transects or with a survey wheel odometer. These marks allow for a correlation between the GPR data and the position of the GPR antenna on the ground.

Depth of investigation of the GPR signal is highly site-specific and is limited by signal attenuation (absorption) in the subsurface materials. Signal attenuation is dependent on the electrical conductivity of the subsurface materials. Signal attenuation is greatest in materials with relatively high electrical conductivities, such as clays, brackish groundwater, or groundwater with a high dissolved solid content from natural or man-made sources. Signal attenuation is lowest in relatively low-conductivity materials, such as dry sand or rock. Depth of investigation is also dependent on the antenna's transmitting frequency. Depth of investigation generally increases as transmitting frequency decreases; however, the ability to resolve smaller subsurface features is diminished as frequency is decreased.

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

4.1.2 Radio Frequency Electromagnetic Methodology

A Radio Detection RD4000PXL2 unit was used in this investigation. Radio Frequency Electromagnetic (EM) utility locating equipment consists of a transmitter and a dual-function receiver. The receiver can be operated in a “passive” mode or in an “active” mode. The two modes of operation provide various levels of detection capabilities depending on the specific target or application.

The system is operated in the “active” mode by either inducing or conducting a signal into the underground utility to be traced. A transmitter is placed over and in line with a suspected buried utility. The transmitter induces a signal that propagates along the buried utility. As the receiver is moved back and forth across the suspected path of the utility, the trace signal induces a signal into the receiver's coil sensor. A visual and audio response indicates when the receiver is directly over the buried utility. Another means of detecting in the “active” mode utilizes a method to “conduct” a signal within the buried utility. To accomplish this, a cable from the transmitter is clamped onto an exposed section of the buried utility and a signal propagates along the buried line. This technique minimizes any interference caused by parasitic emissions from adjacent cables in

congested areas. When the system is utilized in the “passive” mode, the receiver is responding to a 60-Hertz cycle current energized by underground utilities.

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

4.1.3 Time Domain Electromagnetic Methodology

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

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

4.1.4 Field Procedures

The geophysical field investigation was performed on October 29-30, 2007. A GPR system time range setting of 90 nanoseconds (ns) was used during the entire investigation. This range was determined after a series of test lines were conducted to evaluate the GPR response in the local geologic section. The GPR data were interpreted in the field and potential anomalies were marked on the ground. GPR data processing typically included band pass filtering, background removal, horizontal smoothing, and gain adjustments.

EM was used to scan the project site using both the passive (detecting 60-Hertz cycles from active electrical lines or induced 60-Hertz cycles on other metallic lines) and active modes (putting a traceable signal on utilities at points where the utility ties into

above ground installations or inducing a traceable signal from the surface). TDEM was also used to scan the project site. Electromagnetic anomalies indicative of buried metallic objects were marked in the field. Marked utilities, grid corners, buried metallic objects, and other reference points were surveyed with a surveying instrument (Trimble Geodimeter 600).

As shown on Figure 2, underground utilities were identified on the subject site during the investigation, and two subsurface anomalies were identified. These metallic subsurface anomalies are both located within the proposed right-of-way. Utilities below the maximum penetration depth were not detected with the geophysical techniques.

4.2 Subsurface Soil Investigation

To determine the presence or absence of impact to subsurface soil by constituents of concern, GEL collected soil samples from seven subsurface soil borings at the subject site on November 6, 2007, for analysis. Soil borings SS-2 through SS-10 were constructed within the subject site. The locations of soil borings SS-2 through SS-10 are shown on Figure 2, and the longitude and latitude coordinates for the boring locations are listed in the table below. The borings were located in areas on the site where there appeared to be a potential of soil impact based on former on-site activities of the subject site. No surface staining was observed.

All borings were advanced to a total depth of 8 feet bls. Soil samples were collected at 3-4 feet, 5-6 feet, and 7-8 feet bls from each borehole. All soil samples were inspected for indications of impact by constituents of concern including petroleum hydrocarbons, such as odors, discoloration, or visible sheen. This sampling was accomplished using direct push technology (DPT) provided by Regional Probing Services of Wake Forest, North Carolina (Regional Probing). Soil boring lithologic logs are attached as Appendix I of this document. No groundwater was encountered during construction of the borings.

The soil samples were screened for the presence of organic vapors using a portable photoionization detector (PID). The PID measures the concentration of organic compounds in the vapor space above a soil sample resulting from volatilization of organic compounds contained in the soil. To screen the soils, each sample was placed in a clean, resealable polyethylene bag. The bag was sealed, and the sample was allowed to equilibrate for approximately 5 minutes, after which time a small opening was made in the bag. The probe of the PID was then inserted into the bag, and the airspace above the soil was screened for organic vapors.

To assess the subsurface soil quality, one soil sample was collected from each soil boring at the sampled depth interval with the highest PID reading and submitted for laboratory analysis. The depth intervals and PID measurements of the collected soil samples submitted to the laboratory for analysis are listed below.

**Summary of Location Data and PID Measurements
for Soil Samples Collected for Analysis**

Soil Boring	Depth Interval of Soil Sample Collected for Analysis (feet bls)	PID Reading (ppm)	Latitude/Longitude (NAD83)
SS-2	3-4	6.1	35°53'33.76"N / 77°31'54.23"W
SS-3	5-6	3.6	35°53'33.40"N / 77°31'53.90"W
SS-4	5-6	25.9	35°53'33.76"N / 77°31'54.05"W
SS-5	7-8	586	35°53'34.44"N / 77°31'54.37"W
SS-6	7-8	9.0	35°53'34.94"N / 77°31'54.59"W
SS-7	7-8	15.8	35°53'34.69"N / 77°31'55.24"W
SS-8	7-8	4.4	35°53'35.02"N / 77°31'55.02"W
SS-9	3-4	7.7	35°53'35.05"N / 77°31'55.06"W
SS-10	7-8	4.6	35°53'34.98"N / 77°31'55.06"W

Notes:

- 1) Coordinates are based on North American Datum of 1983 (NAD83)
- 2) bls = below land surface
- 3) PID = photoionization detector
- 4) ppm = parts per million

Following completion of the sampling activities, all borings were abandoned by filling the boreholes with hydrated bentonite, and topped with asphalt patching, as required. Soil samples were submitted to Pace Analytical Service, Inc. in Huntersville, North Carolina (North Carolina Certification No. 37706) for analysis of diesel range organics (DRO) by EPA Method 8015 with EPA Method 3545 sample preparation, and gasoline range organics (GRO) by EPA Method 8015 with EPA Method 5035A/5030B sample preparation. The analytical results are summarized in the following table and are included on the Certificates of Analysis provided in Appendix II.

Summary of Analytical Results for Soil Samples

Soil Sample	Depth Interval of Soil Sample Collected for Analysis (feet bls)	DRO	GRO
SS-2	3-4	ND	ND
SS-3	5-6	ND	ND
SS-4	5-6	41.8	ND
SS-5	7-8	69.4	70.1
SS-6	7-8	114	ND
SS-7	7-8	ND	ND
SS-8	7-8	ND	ND
SS-9	3-4	18.0	ND
SS-10	7-8	ND	ND
NCDENR Action Level		10*	10

Notes:

- 1) ND = Not Detected
- 2) Concentrations shown are in milligram per kilogram (mg/kg).
- 3) **Bold** = detected concentration above the NCDENR action level
- 4) * = Recommended action level for DRO. Currently the enforced NCDENR action level is 40 mg/kg.

GRO was only detected in one of the nine soil samples collected at the site. DRO was detected at concentrations exceeding the recommended NCDENR action level for DRO (10 milligrams per kilogram (mg/kg)) in soil samples collected from borings SS-4 through SS-7, and SS-9. These DRO exceedances were for soil samples collected in an area that may have been the location of the former USTs on the site. Soil sample SS-9 was collected near an unknown subsurface anomaly. No soil staining was observed during the construction of these borings. Petroleum hydrocarbon odors were observed during the construction of soil borings SS-4 and SS-5.

It is estimated that there is an approximate total volume of 486 cubic yards of impacted soil (DRO and GRO >10 mg/kg) in the vicinity of borings SS-4 through SS-6, and SS-9, based on the following assumed areas (as shown on Figure 2) and depths of impacted soil:

- SS-4, SS-5, SS-6: 80 feet (length) x 20 feet (width) x 8 feet (depth) = 12,800 cubic feet (474 cubic yards)
- SS-9: 78.5 square feet (area) x 4 feet (depth) = 314 cubic feet (12 cubic yards)

4.3 Groundwater Investigation

GEL collected one groundwater sample at the subject site (SS-6-GWMW) to determine if groundwater has been impacted by constituents of concern. Groundwater sample SS-6-GWMW was collected from an existing permanent groundwater monitoring well, as shown in Figure 2. Groundwater sample SS-6-GWMW was collected at this location due to its proximity to the edge of the proposed NCDOT ROW.

GEL collected the groundwater sample using a manual bailing technique. Groundwater was encountered at a depth of approximately 15 feet bls. Approximately 9.5 gallons of water were purged from the well prior to sample collection. The collected groundwater sample was submitted to Pace Analytical Service, Inc. for analysis of DRO by EPA Method 8015 with EPA Method 3510 sample preparation, and GRO by EPA Method 8015 with EPA Method 5030 sample preparation. The analytical results for SS-6-GWMW indicate that DRO was detected at 120 micrograms per liter ($\mu\text{g/L}$). Therefore, groundwater impact in the vicinity of groundwater sample SS-6-GWMW is suspected based on the data collected. While this is indicative of groundwater contamination in the vicinity of SS-6-GWMW, it should also be noted that groundwater was encountered at a depth of approximately 15 feet bls. It is unlikely that groundwater will be encountered during construction activities for the proposed NCDOT ROW.

5.0 Conclusions and Recommendations

GEL performed a geophysical evaluation and a preliminary site assessment to determine the presence or absence of impact to subsurface soil by petroleum constituents of concern at the subject site. Underground utilities were identified on site, and two on-site subsurface anomalies were identified within the proposed NCDOT ROW during the geophysical survey.

Soil samples were collected for analysis from nine borings constructed on the subject site. The soil samples were analyzed for DRO and GRO. Analytical results for soil samples collected from four soil borings indicated that the detected DRO concentrations exceeded the NCDENR recommended DRO action level of 10 mg/kg, and analytical results for one soil sample collected from one soil boring indicated that the detected GRO concentrations exceeded the NCDENR recommended GRO action level of 10 mg/kg. Therefore, these analytical results are potentially indicative of soil impact.

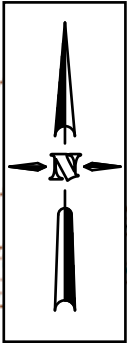
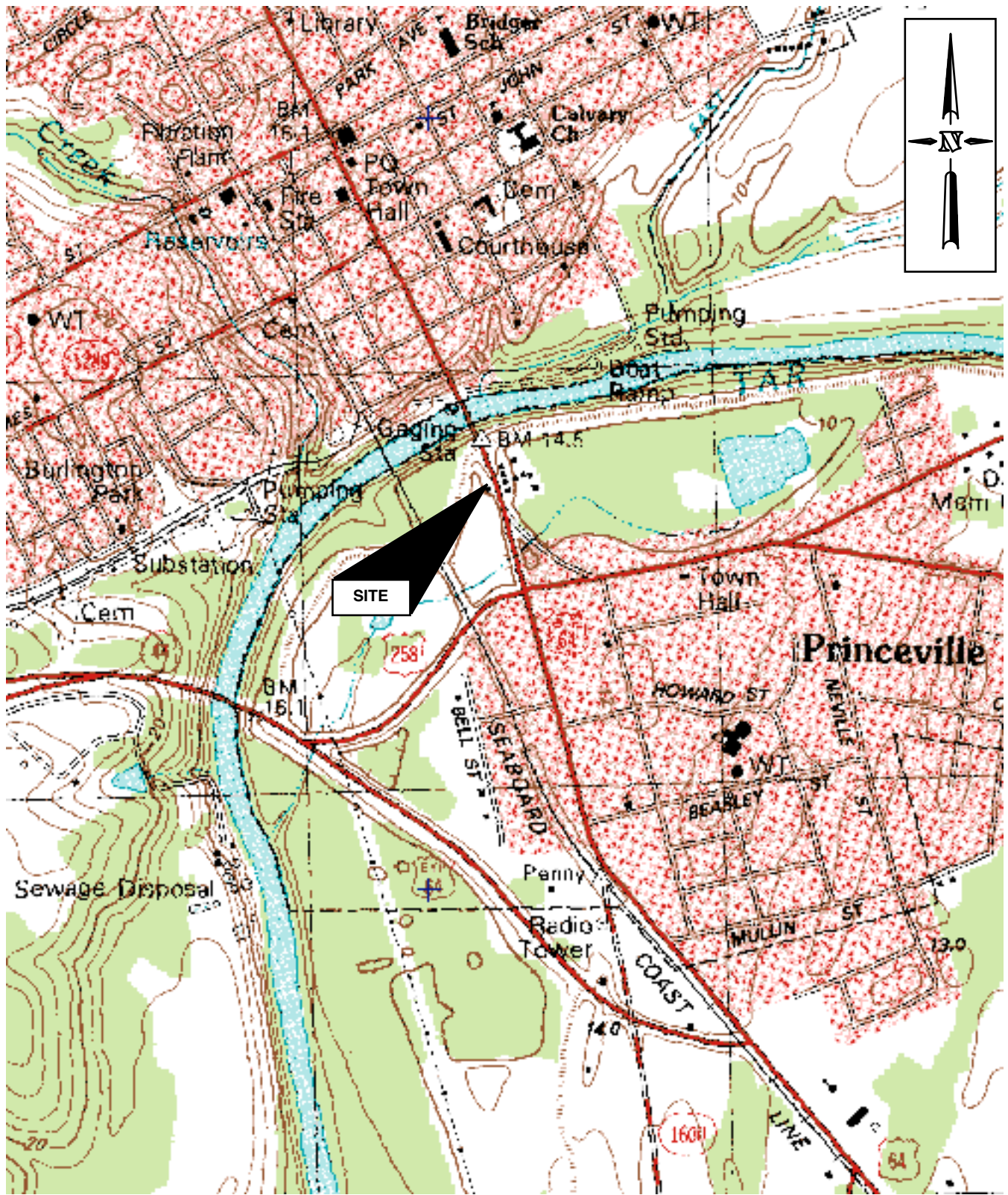
The elevated DRO concentrations detected in soil samples SS-4 through SS-6 are most likely the result of minor spillage and/or leaks associated with the former on-site

gasoline station and USTs. However, analysis of the soil for petroleum hydrocarbon constituents would be needed to confirm the presence or absence of soil impact from petroleum. The total estimated quantity of impacted soil (DRO and GRO >10 mg/kg) at the subject site is approximately 486 cubic yards in localized areas encompassing soil borings SS-4 through SS-6, and SS-9.

One groundwater sample was collected from an existing on-site permanent groundwater monitoring well, SS-6-GWMW. Analytical results for this sample indicate that there is petroleum contamination in groundwater within the vicinity of SS-6-GWMW. Additional groundwater assessment would most likely be required to confirm and delineate the groundwater impact within the proposed NCDOT ROW.

Based on the soil and groundwater data generated from this investigation, there is evidence that a release(s) of petroleum hydrocarbon constituents of concern may have occurred within the proposed NCDOT ROW at the subject site.

It is recommended that the anomalies identified within the proposed ROW during the geophysical survey be further investigated and possibly removed prior to construction excavation activities (if any) in this vicinity, and that further soil assessment be performed at that time to determine the presence or absence of soil impact. Furthermore, it is recommended that confirmation soil samples be collected and analyzed for potential constituents of concern (e.g., petroleum constituents, volatile organic compounds, semi-volatile organic compounds) following any planned excavation in the vicinity of borings SS-4 through SS-7, and SS-9 in order to confirm the presence or absence of soil impact.



SITE

APPROXIMATE SCALE: 1"= 1000'



MAP TAKEN FROM USGS 7.5-MINUTE QUADRANGLE FOR TARBORO, NC

GEL Engineering OF NC, Inc.
an Affiliate of THE GEL GROUP, Inc.



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PROJECT: ncdt00907c

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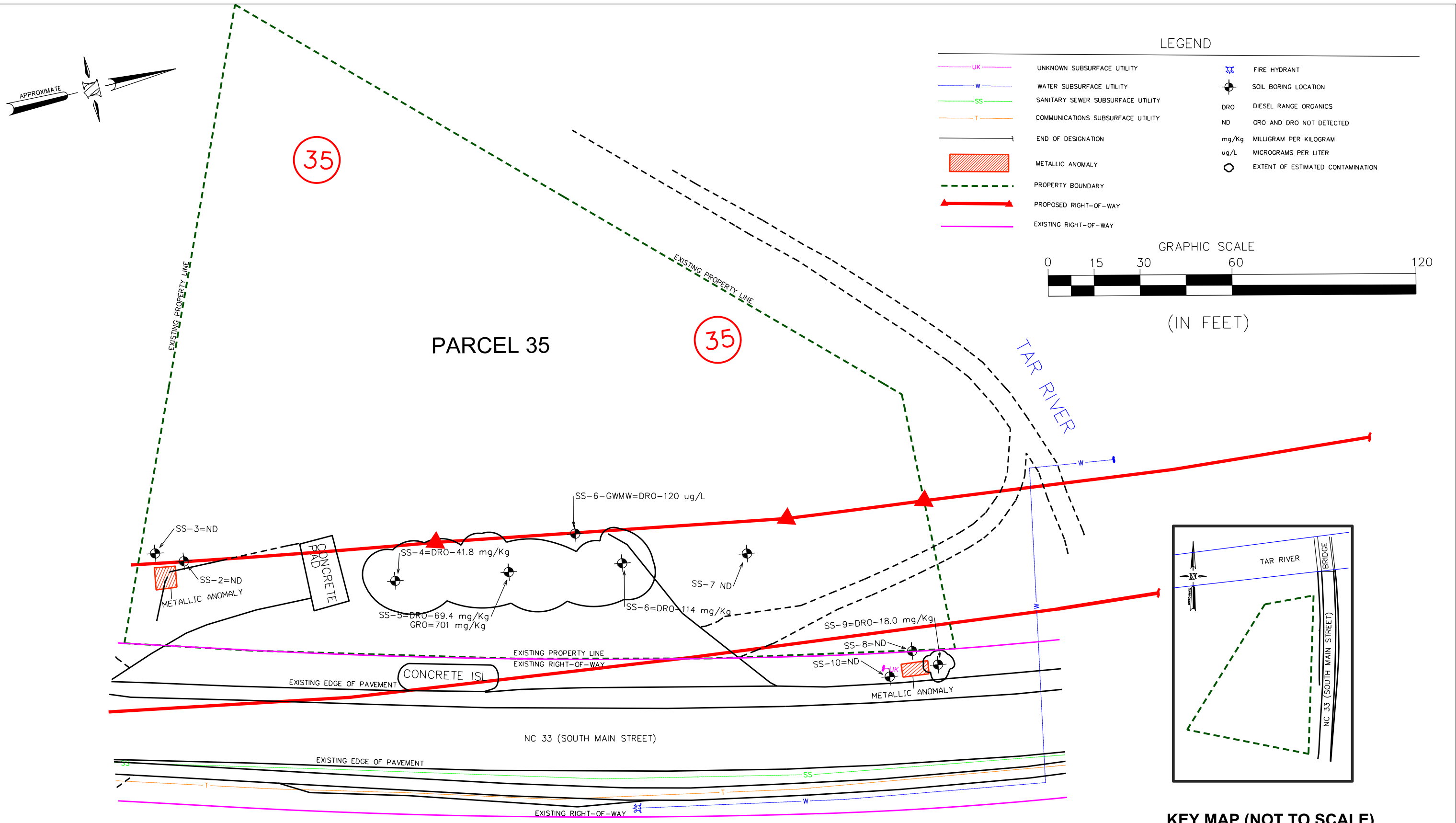
SITE LOCATION
MAP

FIGURE

1

DATE: JANUARY 4, 2008

DRAWN BY: ABP APPRV. BY: RMM



KEY MAP (NOT TO SCALE)

<p>GEL Engineering of NC, Inc. an Affiliate of THE GEL GROUP, Inc.</p> <p>GEL</p> <p>P.O. BOX 14262 RESEARCH TRIANGLE PARK, NC 27709 (919) 544-1100</p>	<p>PROJECT: ncdt00907c</p>	<p>SITE MAP SHOWING THE RESULTS OF GEOPHYSICAL INVESTIGATION AND SOIL BORING LOCATIONS (E.J. POPE & SON, INC. PROPERTY)</p>	<p>FIGURE 2</p>
	<p>DATE: JANUARY 4, 2008</p>		
<p>GEOPHYSICAL INVESTIGATION AND PRELIMINARY SITE ASSESSMENT ROCKY MOUNT NORTHERN OUTER LOOP PRINCEVILLE, NORTH CAROLINA</p>			

APPENDIX I

SOIL BORING LITHOLOGIC LOGS

SOIL BORING LOG

Boring/Well No.: **SS-2**

Date Started: 11/06/07

Date Completed: 11/06/07

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0' - 4.0'	--	6.1	Brown/grey/red sandy, clayey fill material; dry, no odor.	
2	4.0' - 5.0'	--		Same (damp)	
3	5.0' - 6.0'	--	4.1	Same	
4	6.0' - 7.0'	--		Same	
5	7.0' - 8.0'	--	4.3	Same	
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SS-3**

Date Started: 11/06/07

Date Completed: 11/06/07

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0' – 4.0'	--	2.3	Brown/grey/red sandy, clayey fill material; damp to wet, no odor.	
2	4.0' – 5.0'	--		Same	
3	5.0' – 6.0'	--	3.6	Same (wet)	
4	6.0' – 7.0'	--		Same	
5	7.0' – 8.0'	--	3.0	Same	
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SS-4**

Date Started: 11/06/07

Date Completed: 11/06/07

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0' – 4.0'	--	4.3	Brown/tan sandy, clayey fill material with gravel and stone; dry, no odor.	
2	4.0' – 5.0'	--		Same	
3	5.0' – 6.0'	--	25.9	Black fill material (asphalt); slight odor; damp	
4	6.0' – 7.0'	--		Same	
5	7.0' – 8.0'	--	25.9	Same	
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SS-5**

Date Started: 11/06/07

Date Completed: 11/06/07

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0' – 4.0'	--	463	Brown/tan sandy, clayey fill material with concrete debris; damp, odor at 3-4'.	
2	4.0' – 5.0'	--		Same, turning more black with depth; damp, strong odor.	
3	5.0' – 6.0'	--	430	Same	
4	6.0' – 7.0'	--		Same	
5	7.0' – 8.0'	--	586	Same	
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SS-6**

Date Started: 11/06/07

Date Completed: 11/06/07

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0' – 4.0'	--	5.6	Brown sandy fill material; dry, no odor.	
2	4.0' – 5.0'	--		Same (with some red brick)	
3	5.0' – 6.0'	--	3.4	Same	
4	6.0' – 7.0'	--		Same	
5	6.0' – 8.0'	--	9.0	Same	
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SS-7**

Date Started: 11/06/07

Date Completed: 11/06/07

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0' – 4.0'	--	4.3	Brown sandy fill material with gravel and rock (dry) turning to grey clay (some silt and fine-grained sand); firm, but not plastic, damp.	
2	4.0' – 5.0'	--		Same (finer-grained sand and more plastic with depth)	SC
3	5.0' – 6.0'	--	5.1	Same; wet at 6'.	SC
4	6.0' – 7.0'	--		Same	SC
5	7.0' – 8.0'	--	15.8	Same	SC
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SS-8**

Date Started: 11/06/07

Date Completed: 11/06/07

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0' – 4.0'	--	3.8	Brown sandy silt and black fill material; friable, no odor.	
2	4.0' – 5.0'	--		Brown silty sand (poorly graded); no odor.	SM
3	5.0' – 6.0'	--	4.1	Same	SM
4	6.0' – 7.0'	--		Same	SM
5	7.0' – 8.0'	--	4.4	Brown silty sand with layers of black fill material and yellow clayey sand; plastic, no odor.	SM
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SS-9**

Date Started: 11/06/07

Date Completed: 11/06/07

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0' – 4.0'	--	7.7	Brown sandy silt to black fill material; friable, no odor.	
2	4.0' – 5.0'	--		Black fill material to poorly graded yellow sand; no odor.	SC
3	5.0' – 6.0'	--	1.2	Same	SC
4	6.0' – 7.0'	--		Same	SC
5	7.0' – 8.0'	--	3.0	Poorly graded yellow clayey sand, slightly plastic; no odor.	SC
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

SOIL BORING LOG

Boring/Well No.: **SS-10**

Date Started: 11/06/07

Date Completed: 11/06/07

No.	Depth Interval	Blow Counts	PID (ppm)	Soil Description	Soil Type
1	0.0' – 4.0'	--	3.4	Yellow sand with fill material to black silty sand; no odor.	SM
2	4.0' – 5.0'	--		Alternating yellow and black silty sand; friable, medium graded, no odor.	SM
3	5.0' – 6.0'	--	3.8	Same	SM
4	6.0' – 7.0'	--		Same	SM
5	7.0' – 8.0'	--	4.6	Grey clayey sand turning to yellow (poorly graded); no odor.	SC
6				Total depth = 8 feet below land surface	
7					
8					
9					
10					
11					
12					

Notes:

- 1) 4-foot continuous cores using DPT.
- 2) PID readings shown are for discrete samples collected at indicated depth intervals.

APPENDIX II

**CERTIFICATES OF ANALYSIS AND
CHAIN OF CUSTODY RECORD FOR SOIL SAMPLES**

November 26, 2007

Mr. Bob Miller
General Engineering
PO Box 14262
Research Triangle, NC 27709

RE: Project: NCDOT 00907/WSB#32782.1.1
Pace Project No.: 927329

Dear Mr. Miller:

Enclosed are the analytical results for sample(s) received by the laboratory between November 07, 2007 and November 09, 2007. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

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

Sincerely,



Annette Scott

annette.scott@pacelabs.com
Project Manager

Enclosures

cc: Mr. Christopher Peoples, NCDOT- Materials & Test Unit

REPORT OF LABORATORY ANALYSIS

Page 1 of 52

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CERTIFICATIONS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Charlotte Certification IDs

Florida/NELAP Certification Number: E87627

Kansas Certification Number: E-10364

Louisiana/LELAP Certification Number: 04034

North Carolina Drinking Water Certification Number: 37706

North Carolina Wastewater Certification Number: 12

North Carolina Field Services Certification Number: 5342

South Carolina Certification Number: 990060001

South Carolina Bioassay Certification Number: 990060003

Tennessee Certification Number: 04010

Virginia Certification Number: 00213

Asheville Certification IDs

Florida/NELAP Certification Number: E87648

Louisiana/LELAP Certification Number: 03095

New Jersey Certification Number: NC011

North Carolina Drinking Water Certification Number: 37712

North Carolina Wastewater Certification Number: 40

North Carolina Bioassay Certification Number: 9

Pennsylvania Certification Number: 68-03578

South Carolina Certification Number: 99030001

South Carolina Bioassay Certification Number: 99030002

Tennessee Certification Number: 2980

Virginia Certification Number: 00072

Eden Certification IDs

North Carolina Drinking Water Certification Number: 37738

Virginia Drinking Water Certification Number: 00424

North Carolina Wastewater Certification Number: 633

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-12-5 **Lab ID: 927329001** Collected: 11/06/07 12:30 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.4	1	11/10/07 00:00	11/13/07 14:58	68334-30-5	
n-Pentacosane (S)	54	%	50-135	1	11/10/07 00:00	11/13/07 14:58	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	7.2	1	11/09/07 10:34	11/09/07 19:53	8006-61-9	
4-Bromofluorobenzene (S)	104	%	50-135	1	11/09/07 10:34	11/09/07 19:53	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	7.9	%	0.10	1		11/08/07 14:03		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-13-3 **Lab ID: 927329002** Collected: 11/06/07 12:45 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.9	1	11/10/07 00:00	11/13/07 02:53	68334-30-5	
n-Pentacosane (S)	56	%	50-135	1	11/10/07 00:00	11/13/07 02:53	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.4	1	11/09/07 10:34	11/09/07 20:54	8006-61-9	
4-Bromofluorobenzene (S)	95	%	50-135	1	11/09/07 10:34	11/09/07 20:54	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	15.7	%	0.10	1		11/08/07 14:03		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-14-7 **Lab ID: 927329003** Collected: 11/06/07 13:00 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.9	1	11/10/07 00:00	11/13/07 03:18	68334-30-5	
n-Pentacosane (S)	53	%	50-135	1	11/10/07 00:00	11/13/07 03:18	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	11/09/07 10:34	11/09/07 21:15	8006-61-9	
4-Bromofluorobenzene (S)	95	%	50-135	1	11/09/07 10:34	11/09/07 21:15	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	15.4	%	0.10	1		11/08/07 14:04		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-15-5 **Lab ID: 927329004** Collected: 11/06/07 13:15 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	6.0	1	11/10/07 00:00	11/13/07 03:18	68334-30-5	
n-Pentacosane (S)	70	%	50-135	1	11/10/07 00:00	11/13/07 03:18	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	8.7	1	11/09/07 10:34	11/09/07 21:35	8006-61-9	
4-Bromofluorobenzene (S)	97	%	50-135	1	11/09/07 10:34	11/09/07 21:35	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	16.3	%	0.10	1		11/08/07 14:04		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-17-5 **Lab ID: 927329005** Collected: 11/06/07 13:55 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.8	1	11/10/07 00:00	11/13/07 03:44	68334-30-5	
n-Pentacosane (S)	64	%	50-135	1	11/10/07 00:00	11/13/07 03:44	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	11/09/07 10:34	11/09/07 21:56	8006-61-9	
4-Bromofluorobenzene (S)	94	%	50-135	1	11/09/07 10:34	11/09/07 21:56	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	14.5	%	0.10	1		11/08/07 14:04		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-3-5 **Lab ID: 927329006** Collected: 11/06/07 14:25 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.6	1	11/10/07 00:00	11/13/07 03:44	68334-30-5	
n-Pentacosane (S)	68	%	50-135	1	11/10/07 00:00	11/13/07 03:44	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.9	1	11/09/07 10:34	11/09/07 22:16	8006-61-9	
4-Bromofluorobenzene (S)	96	%	50-135	1	11/09/07 10:34	11/09/07 22:16	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	11.4	%	0.10	1		11/08/07 14:04		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-2-3 **Lab ID: 927329007** Collected: 11/06/07 14:45 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.7	1	11/10/07 00:00	11/13/07 04:10	68334-30-5	
n-Pentacosane (S)	65	%	50-135	1	11/10/07 00:00	11/13/07 04:10	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.6	1	11/09/07 10:34	11/09/07 22:36	8006-61-9	
4-Bromofluorobenzene (S)	95	%	50-135	1	11/09/07 10:34	11/09/07 22:36	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	12.4	%	0.10	1		11/09/07 13:54		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-4-5 **Lab ID: 927329008** Collected: 11/06/07 15:00 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	41.8	mg/kg	5.6	1	11/12/07 00:00	11/13/07 19:13	68334-30-5	
n-Pentacosane (S)	108	%	50-135	1	11/12/07 00:00	11/13/07 19:13	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	11/09/07 10:34	11/09/07 22:57	8006-61-9	
4-Bromofluorobenzene (S)	106	%	50-135	1	11/09/07 10:34	11/09/07 22:57	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	10.2	%	0.10	1		11/09/07 13:55		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-5-7 **Lab ID: 927329009** Collected: 11/06/07 15:20 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	69.4	mg/kg	5.6	1	11/12/07 00:00	11/13/07 19:38	68334-30-5	
n-Pentacosane (S)	114	%	50-135	1	11/12/07 00:00	11/13/07 19:38	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	70.1	mg/kg	6.1	1	11/09/07 10:34	11/09/07 23:17	8006-61-9	
4-Bromofluorobenzene (S)	111	%	50-135	1	11/09/07 10:34	11/09/07 23:17	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	10.2	%	0.10	1		11/09/07 13:55		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-6-7 **Lab ID: 927329010** Collected: 11/06/07 15:40 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	114	mg/kg	5.8	1	11/12/07 00:00	11/13/07 19:38	68334-30-5	
n-Pentacosane (S)	141	%	50-135	1	11/12/07 00:00	11/13/07 19:38	629-99-2	S5
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	6.8	1	11/09/07 10:34	11/09/07 23:38	8006-61-9	
4-Bromofluorobenzene (S)	91	%	50-135	1	11/09/07 10:34	11/09/07 23:38	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	14.2	%	0.10	1		11/09/07 13:55		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-7-7 **Lab ID: 927329011** Collected: 11/06/07 15:55 Received: 11/07/07 15:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.9	1	11/12/07 00:00	11/13/07 20:04	68334-30-5	
n-Pentacosane (S)	71	%	50-135	1	11/12/07 00:00	11/13/07 20:04	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.1	1	11/09/07 10:34	11/09/07 23:58	8006-61-9	
4-Bromofluorobenzene (S)	94	%	50-135	1	11/09/07 10:34	11/09/07 23:58	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	15.6	%	0.10	1		11/09/07 13:55		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-12-8 **Lab ID: 927329012** Collected: 11/06/07 16:20 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.7	1	11/12/07 00:00	11/13/07 20:04	68334-30-5	
n-Pentacosane (S)	71	%	50-135	1	11/12/07 00:00	11/13/07 20:04	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.3	1	11/13/07 16:45	11/13/07 21:18	8006-61-9	
4-Bromofluorobenzene (S)	99	%	50-135	1	11/13/07 16:45	11/13/07 21:18	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	12.0	%	0.10	1		11/14/07 09:05		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-9-3 **Lab ID: 927329013** Collected: 11/06/07 16:30 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	18.0	mg/kg	5.9	1	11/12/07 00:00	11/13/07 20:30	68334-30-5	
n-Pentacosane (S)	82	%	50-135	1	11/12/07 00:00	11/13/07 20:30	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	7.6	1	11/13/07 16:45	11/13/07 21:39	8006-61-9	
4-Bromofluorobenzene (S)	99	%	50-135	1	11/13/07 16:45	11/13/07 21:39	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	14.9	%	0.10	1		11/14/07 09:05		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS8-7 **Lab ID: 927329014** Collected: 11/06/07 16:50 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.6	1	11/12/07 00:00	11/13/07 20:30	68334-30-5	
n-Pentacosane (S)	70	%	50-135	1	11/12/07 00:00	11/13/07 20:30	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	6.8	1	11/13/07 16:45	11/13/07 21:59	8006-61-9	
4-Bromofluorobenzene (S)	95	%	50-135	1	11/13/07 16:45	11/13/07 21:59	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	10.7	%	0.10	1		11/14/07 09:06		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-16-7 **Lab ID: 927329015** Collected: 11/07/07 09:35 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	26.3	mg/kg	5.4	1	11/12/07 00:00	11/13/07 20:55	68334-30-5	
n-Pentacosane (S)	73	%	50-135	1	11/12/07 00:00	11/13/07 20:55	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	65.0	mg/kg	5.8	1	11/13/07 16:45	11/13/07 22:20	8006-61-9	
4-Bromofluorobenzene (S)	113	%	50-135	1	11/13/07 16:45	11/13/07 22:20	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	7.6	%	0.10	1		11/14/07 09:16		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-13-5 **Lab ID: 927329016** Collected: 11/07/07 11:00 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	9.6	mg/kg	5.8	1	11/12/07 00:00	11/13/07 21:21	68334-30-5	
n-Pentacosane (S)	67	%	50-135	1	11/12/07 00:00	11/13/07 21:21	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.4	1	11/13/07 16:45	11/13/07 22:40	8006-61-9	
4-Bromofluorobenzene (S)	94	%	50-135	1	11/13/07 16:45	11/13/07 22:40	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	13.2	%	0.10	1		11/14/07 09:17		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-14-5 **Lab ID: 927329017** Collected: 11/07/07 11:15 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.8	1	11/12/07 00:00	11/13/07 21:46	68334-30-5	
n-Pentacosane (S)	77	%	50-135	1	11/12/07 00:00	11/13/07 21:46	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.1	1	11/13/07 16:45	11/13/07 23:00	8006-61-9	
4-Bromofluorobenzene (S)	91	%	50-135	1	11/13/07 16:45	11/13/07 23:00	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	14.4	%	0.10	1		11/14/07 09:17		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-15-5 **Lab ID: 927329018** Collected: 11/07/07 11:45 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.8	1	11/12/07 00:00	11/13/07 22:11	68334-30-5	
n-Pentacosane (S)	68	%	50-135	1	11/12/07 00:00	11/13/07 22:11	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.3	1	11/13/07 16:45	11/14/07 00:02	8006-61-9	
4-Bromofluorobenzene (S)	91	%	50-135	1	11/13/07 16:45	11/14/07 00:02	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	13.5	%	0.10	1		11/14/07 09:17		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-16-5 **Lab ID: 927329019** Collected: 11/07/07 13:40 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	6.1	1	11/12/07 00:00	11/13/07 22:37	68334-30-5	
n-Pentacosane (S)	62	%	50-135	1	11/12/07 00:00	11/13/07 22:37	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	11/13/07 16:45	11/14/07 00:22	8006-61-9	
4-Bromofluorobenzene (S)	97	%	50-135	1	11/13/07 16:45	11/14/07 00:22	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	17.5	%	0.10	1		11/14/07 09:17		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-17-5 **Lab ID: 927329020** Collected: 11/07/07 14:00 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.4	1	11/13/07 00:00	11/14/07 17:14	68334-30-5	
n-Pentacosane (S)	67	%	50-135	1	11/13/07 00:00	11/14/07 17:14	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	11/13/07 16:45	11/14/07 00:43	8006-61-9	
4-Bromofluorobenzene (S)	94	%	50-135	1	11/13/07 16:45	11/14/07 00:43	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	6.8	%	0.10	1		11/14/07 09:18		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-18-5 **Lab ID: 927329021** Collected: 11/07/07 14:10 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	6.3	1	11/15/07 00:00	11/19/07 03:48	68334-30-5	
n-Pentacosane (S)	57	%	50-135	1	11/15/07 00:00	11/19/07 03:48	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	6.7	1	11/13/07 16:45	11/14/07 01:03	8006-61-9	
4-Bromofluorobenzene (S)	98	%	50-135	1	11/13/07 16:45	11/14/07 01:03	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	20.2	%	0.10	1		11/14/07 09:18		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-19-5 **Lab ID: 927329022** Collected: 11/07/07 15:15 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	33.4	1	11/15/07 00:00	11/19/07 04:14	68334-30-5	
n-Pentacosane (S)	65	%	50-135	1	11/15/07 00:00	11/19/07 04:14	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	6.1	1	11/13/07 16:45	11/14/07 01:24	8006-61-9	
4-Bromofluorobenzene (S)	95	%	50-135	1	11/13/07 16:45	11/14/07 01:24	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	10.1	%	0.10	1		11/14/07 09:18		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-20-7 **Lab ID: 927329023** Collected: 11/08/07 11:40 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.1	1	11/13/07 00:00	11/14/07 17:39	68334-30-5	
n-Pentacosane (S)	78	%	50-135	1	11/13/07 00:00	11/14/07 17:39	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	6.7	1	11/13/07 16:45	11/14/07 01:44	8006-61-9	
4-Bromofluorobenzene (S)	97	%	50-135	1	11/13/07 16:45	11/14/07 01:44	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	1.6	%	0.10	1		11/14/07 09:19		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-21-7 **Lab ID: 927329024** Collected: 11/08/07 11:55 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.7	1	11/13/07 00:00	11/14/07 18:05	68334-30-5	
n-Pentacosane (S)	72	%	50-135	1	11/13/07 00:00	11/14/07 18:05	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	6.9	1	11/13/07 16:45	11/14/07 02:05	8006-61-9	
4-Bromofluorobenzene (S)	96	%	50-135	1	11/13/07 16:45	11/14/07 02:05	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	12.7	%	0.10	1		11/14/07 09:19		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-22-5 **Lab ID: 927329025** Collected: 11/08/07 13:16 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.9	1	11/13/07 00:00	11/14/07 18:05	68334-30-5	
n-Pentacosane (S)	75	%	50-135	1	11/13/07 00:00	11/14/07 18:05	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	11/13/07 16:45	11/14/07 02:26	8006-61-9	
4-Bromofluorobenzene (S)	100	%	50-135	1	11/13/07 16:45	11/14/07 02:26	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	15.4	%	0.10	1		11/14/07 09:19		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-23-7 **Lab ID: 927329026** Collected: 11/08/07 13:30 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.3	1	11/13/07 00:00	11/14/07 18:30	68334-30-5	
n-Pentacosane (S)	74	%	50-135	1	11/13/07 00:00	11/14/07 18:30	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	11/13/07 16:45	11/14/07 02:46	8006-61-9	
4-Bromofluorobenzene (S)	99	%	50-135	1	11/13/07 16:45	11/14/07 02:46	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	4.8	%	0.10	1		11/14/07 09:19		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-24-3 **Lab ID: 927329027** Collected: 11/08/07 14:05 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.9	1	11/13/07 00:00	11/14/07 18:30	68334-30-5	
n-Pentacosane (S)	63	%	50-135	1	11/13/07 00:00	11/14/07 18:30	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	11/13/07 16:45	11/14/07 03:07	8006-61-9	
4-Bromofluorobenzene (S)	93	%	50-135	1	11/13/07 16:45	11/14/07 03:07	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	14.9	%	0.10	1		11/14/07 09:19		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-25-3 **Lab ID: 927329028** Collected: 11/08/07 14:50 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.8	1	11/15/07 00:00	11/19/07 04:14	68334-30-5	
n-Pentacosane (S)	66	%	50-135	1	11/15/07 00:00	11/19/07 04:14	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	11/16/07 17:01	11/17/07 04:02	8006-61-9	
4-Bromofluorobenzene (S)	78	%	50-135	1	11/16/07 17:01	11/17/07 04:02	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	14.3	%	0.10	1		11/14/07 09:19		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-16-GW		Lab ID: 927329029	Collected: 11/07/07 09:40	Received: 11/09/07 16:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3510						
Diesel Components	0.30 mg/L		0.14	1	11/14/07 00:00	11/15/07 17:42	68334-30-5	
n-Pentacosane (S)	71 %		50-135	1	11/14/07 00:00	11/15/07 17:42	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 5030/8015 Mod.						
Gasoline Range Organics	ND mg/L		0.080	1		11/16/07 20:53	8006-61-9	
4-Bromofluorobenzene (S)	80 %		50-150	1		11/16/07 20:53	460-00-4	

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-15-GW	Lab ID: 927329030	Collected: 11/07/07 11:55	Received: 11/09/07 16:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3510						
Diesel Components	ND mg/L		0.14	1	11/14/07 00:00	11/15/07 18:07	68334-30-5	
n-Pentacosane (S)	77 %		50-135	1	11/14/07 00:00	11/15/07 18:07	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 5030/8015 Mod.						
Gasoline Range Organics	ND mg/L		0.080	1		11/14/07 19:13	8006-61-9	
4-Bromofluorobenzene (S)	86 %		50-150	1		11/14/07 19:13	460-00-4	

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-18-GW		Lab ID: 927329031	Collected: 11/07/07 14:15	Received: 11/09/07 16:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3510						
Diesel Components	ND mg/L		0.11	1	11/14/07 00:00	11/15/07 18:07	68334-30-5	
n-Pentacosane (S)	71 %		50-135	1	11/14/07 00:00	11/15/07 18:07	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 5030/8015 Mod.						
Gasoline Range Organics	ND mg/L		0.080	1		11/14/07 19:33	8006-61-9	
4-Bromofluorobenzene (S)	78 %		50-150	1		11/14/07 19:33	460-00-4	

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-23-GW	Lab ID: 927329032	Collected: 11/08/07 13:35	Received: 11/09/07 16:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3510						
Diesel Components	ND mg/L		0.12	1	11/14/07 00:00	11/15/07 18:33	68334-30-5	
n-Pentacosane (S)	78 %		50-135	1	11/14/07 00:00	11/15/07 18:33	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 5030/8015 Mod.						
Gasoline Range Organics	ND mg/L		0.080	1		11/14/07 19:54	8006-61-9	
4-Bromofluorobenzene (S)	90 %		50-150	1		11/14/07 19:54	460-00-4	

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-26-3 **Lab ID: 927329033** Collected: 11/08/07 15:10 Received: 11/09/07 16:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	19.1	mg/kg	5.3	1	11/15/07 00:00	11/19/07 04:39	68334-30-5	
n-Pentacosane (S)	70	%	50-135	1	11/15/07 00:00	11/19/07 04:39	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.4	1	11/16/07 17:01	11/17/07 04:55	8006-61-9	
4-Bromofluorobenzene (S)	73	%	50-135	1	11/16/07 17:01	11/17/07 04:55	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	5.5	%	0.10	1		11/14/07 09:20		

ANALYTICAL RESULTS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

Sample: SS-26-GWMW		Lab ID: 927329034	Collected: 11/08/07 15:15	Received: 11/09/07 16:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3510						
Diesel Components	0.12 mg/L		0.11	1	11/16/07 00:00	11/20/07 22:12	68334-30-5	
n-Pentacosane (S)	79 %		50-135	1	11/16/07 00:00	11/20/07 22:12	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 5030/8015 Mod.						
Gasoline Range Organics	ND mg/L		0.080	1		11/20/07 16:49	8006-61-9	
4-Bromofluorobenzene (S)	78 %		50-150	1		11/20/07 16:49	460-00-4	

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch: PMST/1208

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 927329007, 927329008, 927329009, 927329010, 927329011

SAMPLE DUPLICATE: 38744

Parameter	Units	927467001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	16.7	12.6	28	R1

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch: GCV/1342 Analysis Method: EPA 8015 Modified
 QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
 Associated Lab Samples: 927329001, 927329002, 927329003, 927329004, 927329005, 927329006, 927329007, 927329008, 927329009, 927329010, 927329011

METHOD BLANK: 38850

Associated Lab Samples: 927329001, 927329002, 927329003, 927329004, 927329005, 927329006, 927329007, 927329008, 927329009, 927329010, 927329011

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Gasoline Range Organics	mg/kg	ND	6.0	
4-Bromofluorobenzene (S)	%	101	50-135	

LABORATORY CONTROL SAMPLE: 38851

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	25	29.5	118	70-150	
4-Bromofluorobenzene (S)	%			104	50-135	

MATRIX SPIKE SAMPLE: 38852

Parameter	Units	927295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	ND	32.1	38.2	111	70-148	
4-Bromofluorobenzene (S)	%				95	50-135	

SAMPLE DUPLICATE: 38853

Parameter	Units	927295002 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/kg	ND	ND	89	
4-Bromofluorobenzene (S)	%		104	3	

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch: OEXT/1697 Analysis Method: EPA 8015 Modified
 QC Batch Method: EPA 3545 Analysis Description: 8015 Solid GCSV
 Associated Lab Samples: 927329001, 927329002, 927329003, 927329004, 927329005, 927329006, 927329007

METHOD BLANK: 39631

Associated Lab Samples: 927329001, 927329002, 927329003, 927329004, 927329005, 927329006, 927329007

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Diesel Components	mg/kg	ND	5.0	
n-Pentacosane (S)	%	88	50-135	

LABORATORY CONTROL SAMPLE: 39632

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Components	mg/kg	167	100	60	50-114	
n-Pentacosane (S)	%			68	50-135	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 40587 40588

Parameter	Units	927170003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Diesel Components	mg/kg	59.9	167	167	178	215	71	93	50-107	19	
n-Pentacosane (S)	%						97	103	50-135		

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch: OEXT/1720 Analysis Method: EPA 8015 Modified
 QC Batch Method: EPA 3545 Analysis Description: 8015 Solid GCSV
 Associated Lab Samples: 927329020, 927329023, 927329024, 927329025, 927329026, 927329027

METHOD BLANK: 40371

Associated Lab Samples: 927329020, 927329023, 927329024, 927329025, 927329026, 927329027

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Diesel Components	mg/kg	ND	5.0	
n-Pentacosane (S)	%	74	50-135	

LABORATORY CONTROL SAMPLE: 40372

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Components	mg/kg	167	118	71	50-114	
n-Pentacosane (S)	%			80	50-135	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 40373 40374

Parameter	Units	927631001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Diesel Components	mg/kg	10800	190	190	10400	9080	-204	-916	50-107	14	1g
n-Pentacosane (S)	%						4520	12000	50-135		S5

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch:	PMST/1220	Analysis Method:	ASTM D2974-87
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	927329015, 927329016, 927329017, 927329018, 927329019, 927329020, 927329021, 927329022, 927329023, 927329024, 927329025, 927329026, 927329027, 927329028, 927329033		

SAMPLE DUPLICATE: 40502

Parameter	Units	927631001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	11.9	12.4	4	

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch: GCV/1363 Analysis Method: EPA 8015 Modified
 QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
 Associated Lab Samples: 927329012, 927329013, 927329014, 927329015, 927329016, 927329017, 927329018, 927329019, 927329020, 927329021, 927329022, 927329023, 927329024, 927329025, 927329026, 927329027

METHOD BLANK: 40536

Associated Lab Samples: 927329012, 927329013, 927329014, 927329015, 927329016, 927329017, 927329018, 927329019, 927329020, 927329021, 927329022, 927329023, 927329024, 927329025, 927329026, 927329027

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Gasoline Range Organics	mg/kg	ND	6.0	
4-Bromofluorobenzene (S)	%	98	50-135	

LABORATORY CONTROL SAMPLE: 40537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	25	26.7	107	70-150	
4-Bromofluorobenzene (S)	%			100	50-135	

MATRIX SPIKE SAMPLE: 40538

Parameter	Units	927566001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	ND	25.9	27.7	100	70-148	
4-Bromofluorobenzene (S)	%				103	50-135	

SAMPLE DUPLICATE: 40539

Parameter	Units	927566003 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/kg	ND	ND	113	
4-Bromofluorobenzene (S)	%		102	2	

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch: GCV/1366

Analysis Method: EPA 5030/8015 Mod.

QC Batch Method: EPA 5030/8015 Mod.

Analysis Description: Gasoline Range Organics

Associated Lab Samples: 927329029, 927329030, 927329031, 927329032

METHOD BLANK: 40795

Associated Lab Samples: 927329029, 927329030, 927329031, 927329032

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Gasoline Range Organics	mg/L	ND	0.080	
4-Bromofluorobenzene (S)	%	104	50-150	

LABORATORY CONTROL SAMPLE: 40796

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/L	.5	0.54	107	70-137	
4-Bromofluorobenzene (S)	%			99	50-150	

MATRIX SPIKE SAMPLE: 40797

Parameter	Units	927030001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/L	ND	.5	0.47	90	53-150	
4-Bromofluorobenzene (S)	%				94	50-150	

SAMPLE DUPLICATE: 40798

Parameter	Units	927030002 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/L	3.2	3.2	1	
4-Bromofluorobenzene (S)	%	101	101	0	

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch: OEXT/1743 Analysis Method: EPA 8015 Modified
 QC Batch Method: EPA 3545 Analysis Description: 8015 Solid GCSV
 Associated Lab Samples: 927329021, 927329022, 927329028, 927329033

METHOD BLANK: 41892

Associated Lab Samples: 927329021, 927329022, 927329028, 927329033

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Diesel Components	mg/kg	ND	5.0	
n-Pentacosane (S)	%	73	50-135	

LABORATORY CONTROL SAMPLE: 41893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Components	mg/kg	167	120	72	50-114	
n-Pentacosane (S)	%			85	50-135	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41894 41895

Parameter	Units	927895001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Diesel Components	mg/kg	837	185	185	858	706	12	-71	50-107	19	2g
n-Pentacosane (S)	%						78	71	50-135		

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch: OEXT/1762	Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 3510	Analysis Description: 8015 GCS
Associated Lab Samples: 927329034	

METHOD BLANK: 42530

Associated Lab Samples: 927329034

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Diesel Components	mg/L	ND	0.10	
n-Pentacosane (S)	%	89	50-135	

LABORATORY CONTROL SAMPLE & LCSD: 42531

42532

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Components	mg/L	5	4.1	4.1	81	81	50-110	.2	30	
n-Pentacosane (S)	%				96	93	50-135			

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch: GCV/1380 Analysis Method: EPA 8015 Modified
 QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
 Associated Lab Samples: 927329028, 927329033

METHOD BLANK: 42698

Associated Lab Samples: 927329028, 927329033

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Gasoline Range Organics	mg/kg	ND	6.0	
4-Bromofluorobenzene (S)	%	64	50-135	

LABORATORY CONTROL SAMPLE: 42699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	25	26.7	107	70-150	
4-Bromofluorobenzene (S)	%			82	50-135	

MATRIX SPIKE SAMPLE: 42700

Parameter	Units	927329028 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	ND	26.1	28.9	111	70-148	
4-Bromofluorobenzene (S)	%				81	50-135	

SAMPLE DUPLICATE: 42701

Parameter	Units	927329033 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/kg	ND	ND	0	
4-Bromofluorobenzene (S)	%		75	3	

QUALITY CONTROL DATA

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

QC Batch: GCV/1393

Analysis Method: EPA 5030/8015 Mod.

QC Batch Method: EPA 5030/8015 Mod.

Analysis Description: Gasoline Range Organics

Associated Lab Samples: 927329034

METHOD BLANK: 43953

Associated Lab Samples: 927329034

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Gasoline Range Organics	mg/L	ND	0.080	
4-Bromofluorobenzene (S)	%	77	50-150	

LABORATORY CONTROL SAMPLE: 43954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/L	.5	0.55	111	70-137	
4-Bromofluorobenzene (S)	%			85	50-150	

SAMPLE DUPLICATE: 43955

Parameter	Units	927329034 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/L	ND	ND	0	
4-Bromofluorobenzene (S)	%	78	79	1	

QUALIFIERS

Project: NCDOT 00907/WSB#32782.1.1

Pace Project No.: 927329

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.

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.

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

ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

S5 Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

1g The spike Recovery was outside acceptance limits for the MS and MSD due to an analyte concentration in the sample at four times greater than the spike concentration. The QC batch was accepted based upon LCS recoveries within acceptance limits.

2g The spike recovery was outside acceptance limits for the MS and MSD due to an analyte concentration in the sample at four times greater than the spike concentration. The QC batch was accepted based upon LCS recoveries within acceptance limits.

November 27, 2007

Mr. Bob Miller
General Engineering
PO Box 14262
Research Triangle, NC 27709

RE: Project: NCDT00907C/WBS#32782.1.1
Pace Project No.: 927717

Dear Mr. Miller:

Enclosed are the analytical results for sample(s) received by the laboratory on November 13, 2007. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

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

Sincerely,



Annette Scott

annette.scott@pacelabs.com
Project Manager

Enclosures

cc: Mr. Christopher Peoples, NCDOT- Materials & Test Unit

REPORT OF LABORATORY ANALYSIS

Page 1 of 19

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CERTIFICATIONS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Charlotte Certification IDs

Florida/NELAP Certification Number: E87627

Kansas Certification Number: E-10364

Louisiana/LELAP Certification Number: 04034

North Carolina Drinking Water Certification Number: 37706

North Carolina Wastewater Certification Number: 12

North Carolina Field Services Certification Number: 5342

South Carolina Certification Number: 990060001

South Carolina Bioassay Certification Number: 990060003

Tennessee Certification Number: 04010

Virginia Certification Number: 00213

Asheville Certification IDs

Florida/NELAP Certification Number: E87648

Louisiana/LELAP Certification Number: 03095

New Jersey Certification Number: NC011

North Carolina Drinking Water Certification Number: 37712

North Carolina Wastewater Certification Number: 40

North Carolina Bioassay Certification Number: 9

Pennsylvania Certification Number: 68-03578

South Carolina Certification Number: 99030001

South Carolina Bioassay Certification Number: 99030002

Tennessee Certification Number: 2980

Virginia Certification Number: 00072

Eden Certification IDs

North Carolina Drinking Water Certification Number: 37738

Virginia Drinking Water Certification Number: 00424

North Carolina Wastewater Certification Number: 633

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-27-7 **Lab ID: 927717001** Collected: 11/09/07 09:25 Received: 11/13/07 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.1	1	11/16/07 00:00	11/19/07 20:22	68334-30-5	
n-Pentacosane (S)	69	%	50-135	1	11/16/07 00:00	11/19/07 20:22	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	11/16/07 18:50	11/16/07 22:36	8006-61-9	
4-Bromofluorobenzene (S)	83	%	50-135	1	11/16/07 18:50	11/16/07 22:36	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	2.2	%	0.10	1		11/15/07 15:49		

ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-28-7 **Lab ID: 927717002** Collected: 11/09/07 10:30 Received: 11/13/07 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	9.9 mg/kg		5.5	1	11/16/07 00:00	11/19/07 20:22	68334-30-5	
n-Pentacosane (S)	73 %		50-135	1	11/16/07 00:00	11/19/07 20:22	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND mg/kg		5.0	1	11/16/07 18:50	11/16/07 23:37	8006-61-9	
4-Bromofluorobenzene (S)	81 %		50-135	1	11/16/07 18:50	11/16/07 23:37	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	9.1 %		0.10	1		11/15/07 15:49		

ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-29-7 **Lab ID: 927717003** Collected: 11/09/07 10:45 Received: 11/13/07 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	6.3	1	11/16/07 00:00	11/19/07 20:48	68334-30-5	
n-Pentacosane (S)	61	%	50-135	1	11/16/07 00:00	11/19/07 20:48	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	7.2	1	11/16/07 18:50	11/16/07 23:58	8006-61-9	
4-Bromofluorobenzene (S)	71	%	50-135	1	11/16/07 18:50	11/16/07 23:58	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	21.2	%	0.10	1		11/15/07 15:49		

ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-30-5 **Lab ID: 927717004** Collected: 11/09/07 11:05 Received: 11/13/07 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.1	1	11/16/07 00:00	11/19/07 20:48	68334-30-5	
n-Pentacosane (S)	78	%	50-135	1	11/16/07 00:00	11/19/07 20:48	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	11/16/07 18:50	11/17/07 00:18	8006-61-9	
4-Bromofluorobenzene (S)	81	%	50-135	1	11/16/07 18:50	11/17/07 00:18	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	1.7	%	0.10	1		11/15/07 15:50		

ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-31-3 **Lab ID: 927717005** Collected: 11/09/07 11:25 Received: 11/13/07 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.3	1	11/16/07 00:00	11/19/07 21:13	68334-30-5	
n-Pentacosane (S)	72	%	50-135	1	11/16/07 00:00	11/19/07 21:13	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	4.8	1	11/16/07 18:50	11/17/07 00:39	8006-61-9	
4-Bromofluorobenzene (S)	81	%	50-135	1	11/16/07 18:50	11/17/07 00:39	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	6.5	%	0.10	1		11/15/07 15:50		

ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-32-7 **Lab ID: 927717006** Collected: 11/09/07 11:45 Received: 11/13/07 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.3	1	11/16/07 00:00	11/19/07 21:13	68334-30-5	
n-Pentacosane (S)	67	%	50-135	1	11/16/07 00:00	11/19/07 21:13	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	11/16/07 18:50	11/17/07 00:59	8006-61-9	
4-Bromofluorobenzene (S)	79	%	50-135	1	11/16/07 18:50	11/17/07 00:59	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	5.6	%	0.10	1		11/15/07 15:50		

ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-33-5 **Lab ID: 927717007** Collected: 11/09/07 12:00 Received: 11/13/07 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	10.9	1	11/16/07 00:00	11/19/07 21:39	68334-30-5	
n-Pentacosane (S)	73	%	50-135	1	11/16/07 00:00	11/19/07 21:39	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.0	1	11/16/07 18:50	11/17/07 01:19	8006-61-9	
4-Bromofluorobenzene (S)	78	%	50-135	1	11/16/07 18:50	11/17/07 01:19	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	8.6	%	0.10	1		11/15/07 15:50		

ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-34-7 **Lab ID: 927717008** Collected: 11/09/07 12:15 Received: 11/13/07 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.8	1	11/16/07 00:00	11/19/07 21:39	68334-30-5	
n-Pentacosane (S)	64	%	50-135	1	11/16/07 00:00	11/19/07 21:39	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	4.6	1	11/16/07 18:50	11/17/07 01:40	8006-61-9	
4-Bromofluorobenzene (S)	80	%	50-135	1	11/16/07 18:50	11/17/07 01:40	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	14.1	%	0.10	1		11/15/07 15:50		

ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-35-3 **Lab ID: 927717009** Collected: 11/09/07 12:30 Received: 11/13/07 16:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel for ASE		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3545						
Diesel Components	ND	mg/kg	5.8	1	11/16/07 00:00	11/20/07 09:33	68334-30-5	
n-Pentacosane (S)	89	%	50-135	1	11/16/07 00:00	11/20/07 09:33	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B						
Gasoline Range Organics	ND	mg/kg	5.4	1	11/16/07 18:50	11/17/07 02:00	8006-61-9	
4-Bromofluorobenzene (S)	80	%	50-135	1	11/16/07 18:50	11/17/07 02:00	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	14.0	%	0.10	1		11/15/07 15:51		

ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-27-GW		Lab ID: 927717010	Collected: 11/09/07 09:35	Received: 11/13/07 16:35	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3510						
Diesel Components	ND mg/L		0.12	1	11/14/07 00:00	11/15/07 18:58	68334-30-5	
n-Pentacosane (S)	75 %		50-135	1	11/14/07 00:00	11/15/07 18:58	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 5030/8015 Mod.						
Gasoline Range Organics	ND mg/L		0.080	1		11/20/07 17:30	8006-61-9	
4-Bromofluorobenzene (S)	80 %		50-150	1		11/20/07 17:30	460-00-4	

ANALYTICAL RESULTS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

Sample: SS-35-GW		Lab ID: 927717011	Collected: 11/09/07 14:00	Received: 11/13/07 16:35	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel		Analytical Method: EPA 8015 Modified Preparation Method: EPA 3510						
Diesel Components	0.70 mg/L		0.50	1	11/14/07 00:00	11/15/07 18:58	68334-30-5	
n-Pentacosane (S)	76 %		50-135	1	11/14/07 00:00	11/15/07 18:58	629-99-2	
Gasoline Range Organics		Analytical Method: EPA 5030/8015 Mod.						
Gasoline Range Organics	2.8 mg/L		0.080	1		11/20/07 17:50	8006-61-9	
4-Bromofluorobenzene (S)	91 %		50-150	1		11/20/07 17:50	460-00-4	

QUALITY CONTROL DATA

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

QC Batch:	OEXT/1729	Analysis Method:	EPA 8015 Modified
QC Batch Method:	EPA 3510	Analysis Description:	8015 GCS
Associated Lab Samples:	927717010, 927717011		

METHOD BLANK: 41069

Associated Lab Samples: 927717010, 927717011

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Diesel Components	mg/L	ND	0.10	
n-Pentacosane (S)	%	76	50-135	

LABORATORY CONTROL SAMPLE & LCSD: 41070

41071

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Components	mg/L	5	3.6	4.1	72	81	50-110	12	30	
n-Pentacosane (S)	%				84	85	50-135			

QUALITY CONTROL DATA

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

QC Batch: GCV/1382

Analysis Method: EPA 8015 Modified

QC Batch Method: EPA 5035A/5030B

Analysis Description: Gasoline Range Organics

Associated Lab Samples: 927717001, 927717002, 927717003, 927717004, 927717005, 927717006, 927717007, 927717008, 927717009

METHOD BLANK: 42859

Associated Lab Samples: 927717001, 927717002, 927717003, 927717004, 927717005, 927717006, 927717007, 927717008, 927717009

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Gasoline Range Organics	mg/kg	ND	6.0	
4-Bromofluorobenzene (S)	%	84	50-135	

LABORATORY CONTROL SAMPLE: 42860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	25	29.3	117	70-150	
4-Bromofluorobenzene (S)	%			80	50-135	

MATRIX SPIKE SAMPLE: 42861

Parameter	Units	927626001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	ND	32.5	37.9	117	70-148	
4-Bromofluorobenzene (S)	%				92	50-135	

SAMPLE DUPLICATE: 42862

Parameter	Units	927626002 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/kg	ND	ND	0	
4-Bromofluorobenzene (S)	%		78	3	

QUALITY CONTROL DATA

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

QC Batch: GCV/1393

Analysis Method: EPA 5030/8015 Mod.

QC Batch Method: EPA 5030/8015 Mod.

Analysis Description: Gasoline Range Organics

Associated Lab Samples: 927717010, 927717011

METHOD BLANK: 43953

Associated Lab Samples: 927717010, 927717011

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Gasoline Range Organics	mg/L	ND	0.080	
4-Bromofluorobenzene (S)	%	77	50-150	

LABORATORY CONTROL SAMPLE: 43954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/L	.5	0.55	111	70-137	
4-Bromofluorobenzene (S)	%			85	50-150	

SAMPLE DUPLICATE: 43955

Parameter	Units	927329034 Result	Dup Result	RPD	Qualifiers
Gasoline Range Organics	mg/L	ND	ND	0	
4-Bromofluorobenzene (S)	%	78	79	1	

QUALIFIERS

Project: NCDT00907C/WBS#32782.1.1

Pace Project No.: 927717

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.

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.

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

ANALYTE QUALIFIERS

M0 Matrix spike recovery was outside laboratory control limits.

S5 Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

