Preliminary Site Assessment

Omni Supply Company Property, Parcel #1
Caldwell County, North Carolina

NCDOT State Project: 33419.1.1 (B-4054)
AMEC Project: 549014054

November 20, 2006

Prepared for:

North Carolina Department of Transportation
Geotechnical Unit
1020 Birch Ridge Drive
Raleigh, NC 27610
Telephone: 919-250-4088

Prepared By:

AMEC Earth and Environmental, Inc. of North Carolina
9800 West Kincey Avenue, Suite 190
Huntersville, North Carolina 28078
(704) 875-3570

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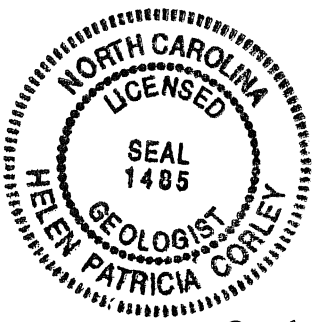
November 20, 2006



Helen P. Corley

Helen P. Corley, L.G.
Senior Geologist/Project Manager

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1.0 INTRODUCTION

In accordance with the North Carolina Department of Transportation (NCDOT) Notice to Proceed dated September 20, 2006, AMEC Earth and Environmental, Inc. of North Carolina (AMEC) has performed a Preliminary Site Assessment (PSA) for the portion of the Omni Supply, Inc Property, Parcel #1 to be acquired for the right-of-way (ROW) and construction of replacement bridge #334, which will cross the Yadkin River. The property is located at the intersection of Yadkin River Road and Whisnant Road in Patterson, Caldwell County, North Carolina. The parcel has a concrete slab from a former garage that will be removed for the bridge construction. The investigation was conducted in accordance with AMEC's Technical and Cost proposal dated September 19, 2006.

NCDOT contracted AMEC to perform a PSA on the Omni Supply Property because of past usage of the property. According to preliminary site reconnaissance, the concrete slab was part of a garage used by Omni Supply for vehicle maintenance. The building structure was washed away in a flood in the 1970's and was never replaced. During the site reconnaissance, Omni Supply personnel indicated a UST was present on the Site, west of the concrete slab. The PSA was performed to determine if a UST was present on the Site within the proposed ROW and determine if soils had been impacted by petroleum compounds as a result of past uses of the property.

The following report describes the field investigations and results of chemical analyses of soil samples and one groundwater sample. It includes evaluation of the analytical data with regards to the presence or absence of soil contamination within the existing ROW and estimates the extent of soil contamination.

1.1 Site Location

The Omni Supply, Inc Property is located on the north side of Whisnant Road at the intersection of Yadkin River Road in Patterson, Caldwell County, North Carolina. It is located within the Inner Piedmont physiographic province of western North Carolina.

Figure 1 shows the site location and vicinity. Site photographs are shown in Appendix 1.

1.2 Site Description

The site is approximately a 1 acre parcel with a concrete slab measuring 31 by 51 feet. Within the slab is a former grease pit measuring 3 by 12 feet with a depth of approximately 7 feet. A pump house is also present on the property, but is not located in the proposed ROW.

The portion of parcel containing the concrete slab is located within the proposed ROW for the bridge construction and road widening planned along the south and east sides of the property. The area in and around the concrete slab was targeted for the placement of soil borings. The area west of the concrete slab and the concrete were targeted for the geophysical investigation.

The site layout is shown in Figure 2.

Adjacent properties include the Omni Supply facility to the south and residences to the east across the Yadkin River. The properties to the north and west are undeveloped.

2.0 GEOLOGY

2.1 Regional Geology

The Site is located in the Inner Piedmont Block of the Western Piedmont physiographic province of western North Carolina. The Inner Piedmont Block is composed primarily of schists, gneisses, amphibolites, sparse ultramific bodies, and intrusive granitioids. According to the 1985 "Geology of North Carolina" map, the Site is located within the biotite gneiss and schist region of the Inner Piedmont. These metamorphic rocks are described as irrequigranular, locally abundant potassic feldspar and garnet; interlayered with calc-silicate rock, sillimanite-mica schist, mica schist and amphibolite. The Inner Piedmont Block also contains small masses of granitic rock.

2.2 Site Geology

Site geology was observed through the sampling of 12 direct push probe borings. Borings extended to total depths ranging between 8 and 12 ft below ground surface (bgs). Soils generally consisted of orange-red to yellow-orange micaceous sandy silt saprolite to depths ranging between 5 and 7 feet bgs. The saprolite was underlain by partially weathered rock consisting of black and white medium- to coarse-grained sand. Partially weathered schist was also observed in some of the borings at depths ranging between 8 and 10 feet bgs. Boring logs are presented in Appendix 2.

Wet soils were encountered at approximately 8 feet bgs. The site topography slopes toward the east and groundwater flow direction is assumed to be to the east, toward the Yadkin River.

3.0 FIELD ACTIVITIES

3.1 Preliminary Activities

Prior to commencing field activities at the site, several tasks were accomplished in preparation for the subsurface investigation. The Health and Safety Plan (HSP) was modified to include the site-specific health and safety information necessary for the field activities. North Carolina-1-Call was contacted to facilitate the location of underground utilities in the vicinity Site. Probe Utility Locating of Concord, North Carolina was also contacted to provide additional locating services in the area of the concrete pad. Schnabel Engineering of Greensboro, North Carolina was contacted to conduct a geophysical survey of the area west of the concrete slab as wells as on and around the concrete to determine if any USTs were present on the Site. Environmental Drilling and Probing Services, LLC of Pineville, North Carolina was retained by AMEC to perform the direct push sampling and Pace Laboratories, Inc. was contacted for acquisition of sample bottles.

3.2 Site Reconnaissance

AMEC personnel completed site reconnaissance on September 6, 2006. The area was visually examined to determine the past use of the concrete slab. During this time, it was noted that a former grease pit was visible on the south side of the concrete slab. The grease pit measured 3 feet wide by 12 feet long and contained soil at the ground surface. Interviews with Omni Supply personnel indicated that the concrete slab was the location of a former garage used by the company for vehicle maintenance. The garage structure was washed away in a flood in the 1970's and was never rebuilt. In addition, Omni Supply personnel indicated a UST was likely present on the west side of the Site.

3.3 Geophysical Survey

Schnabel Engineering personnel conducted the geophysical survey at the site on September 21, 2006. The survey was conducted on the west side of the property, on and around the concrete slab, and along the current ROW on Whisnant Avenue using ground-penetrating radar (GPR) and electromagnetic induction. Due to the temporary presence of a trailer, only the northern portion of the concrete pad could be surveyed. The results of the geophysical survey exhibited no UST present in any of the areas surveyed.

A copy of the geophysical report is included as Appendix 3.

3.4 Well Survey

No well survey was performed as part of this PSA and no water supply wells were observed by AMEC on the site.

3.5 Soil and Groundwater Sampling

Direct push sampling was conducted on September 29, 2006 in 12 soil borings installed in and around the concrete slab within the proposed construction easement. These samples were used to target the future right-of-way and road construction areas to determine if a petroleum release had occurred within the easement. Nine borings were installed through the concrete slab and three additional borings were installed around the perimeter of the concrete to the north, south, and west. Due to the steep sloping topography from the concrete slab eastward to the river, no borings could be installed in that direction. The borings were completed to depths ranging between 8 and 12 ft bgs, which was predicted to be below the deepest cut depth for construction activities and deep enough to evaluate a potential release from the base of the former grease pit.

The sample locations are shown on Figure 2.

Field observations (i.e. petroleum odors, petroleum staining, flame-ionizing detector (FID) response) indicated potential soil contamination in several of the borings, particularly those installed through the concrete pad. FID screening results are incorporated in Table 1 and on the boring logs included as Appendix 2.

The depth at which the soils samples were collected from each boring was determined by the field observations. In general, the soils exhibiting the highest screening values above the saturated zone were collected for analysis. Staining was also used as an indicator of contamination and in some borings (SB-5 and SB-6) the soils exhibiting noticeable staining were collected for analysis. Additionally, very coarse-grained pebbles and rock fragments were observed above the zone of saturation in some of the borings. In those borings, samples were collected from above the area of fragmented rock.

Soil samples were collected in accordance with EPA protocols in laboratory-supplied containers for analysis of total petroleum hydrocarbons (TPH) gasoline-range organics (GRO) and diesel-range organics (DRO) as well as oil & grease (O&G). The samples for GRO analysis were collected using the 5030 preparation method with methanol

preservation and samples for the DRO and O&G analyses were collected in unpreserved 4oz. glass containers.

Wet soils were encountered in most of the borings at a depth of approximately 8 feet. One groundwater sample was collected in order to evaluate the potential groundwater for contamination. The groundwater was collected from the soil boring installed through the former grease pit (SB-5), which was selected based on its location as a potential source well as FID screening results and visual observations (see Figure 3). The soil boring was converted into a temporary monitoring well using 1" PVC with five feet of 0.010" slotted screen from 7 to 12 feet bgs. The well was purged using a peristaltic pump until little to no turbidity was observed in the groundwater. Groundwater samples were collected and submitted for analysis of volatile organic compounds (VOC) using EPA Method 6210D and semi-volatile organic compounds (SVOC) using EPA Method 625.

Once placed in the containers, all samples were labeled with the sample number, time of collection, date of collection, name of the collector, and the requested analysis. The samples were packed on ice, and then hand delivered the same day to Pace Analytical, a North Carolina Certified Laboratory, following proper chain-of-custody procedures.

All equipment used for obtaining samples was decontaminated in accordance with EPA protocols. This included steam cleaning for the direct push equipment and the following for sampling tools:

- equipment thoroughly cleaned with a phosphorous-free detergent;
- rinsed with tap water;
- rinsed with methanol; and,
- rinsed with de-ionized water.

4.0 RESULTS

4.1 Soil Sampling Results

One soil sample was collected from each of the 12 soil borings. Noticeable petroleum odors and/or petroleum staining was observed in five of the soil borings. Laboratory analyses indicated detectable concentrations of DRO in six of the samples, ranging from 8.8 mg/kg to 870 mg/kg. The highest concentrations of DRO were measured in SB-2 (62 mg/kg) and SB-6 (870 mg/kg), both of which exceeded the action level defined in the *North Carolina Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater*, July 2000. These samples were located along the southeastern edge of the concrete pad. The locations of the remaining samples included the former grease pit, the northeast corner of the concrete pad and the borings located to the north and south of the concrete pad. In general the area of impacted soil appears to be along the east and south sides of the concrete pad.

Laboratory analysis of O&G indicated detectable concentrations in two of the samples (SB-2 and SB-6). The concentrations in SB-2 (530 mg/kg) and SB-6 (11,000 mg/kg) exceeded the North Carolina action level. No other samples indicated measurable O&G concentrations.

Results of chemical analyses of soil samples are summarized in Table 1 and shown on Figure 3. Copies of the original laboratory report and chain-of-custody documentation are included as Appendix 4.

4.2 Extent of Impacted Soils

This investigation and analytical program were implemented to determine the presence or absence of petroleum hydrocarbons and, if possible, to estimate the volume of impacted soil present within the Right-of-Way/Easement area.

Analytical detections of DRO were measured in six of the samples. The area of impacted unsaturated soils in the area of the concrete slab is estimated to be 867 ft^2 with an unsaturated thickness of 8 feet. Based on these results, AMEC estimates that potentially 6,9367 ft^3 (257 yd^3) of contaminated soil will require special handling during construction. The estimated area of impacted soil is shown in Figure 4.

4.3 Groundwater Sampling Results

Results of the groundwater laboratory analyses indicated no detectable concentrations of either VOCs or SVOCs. Results of the groundwater analyses are summarized in Table 2 and shown in Figure 3. Copies of the original laboratory report and chain-of-custody form are included in Appendix 4.

5.0 CONCLUSIONS

The following conclusions are based upon AMEC's evaluation of field observations and laboratory analyses of samples collected from the site on September 29, 2006.

- A 31 by 51 foot concrete pad occupies the eastern portion of the Omni Supply Company property.

- The concrete pad is the remnant of a former garage that was used by Omni Supply for vehicle maintenance. The building structure was washed away during a flood in the 1970's and was never replaced. The former grease pit associated with the garage is visible along the south side of the concrete pad. The grease pit measures 3 by 12 feet and is filled with soil.

- Results of the geophysical survey indicate no USTs are present in the area that will be affected by road construction or the future ROW.

- Petroleum odors and staining were noted in several soil borings during the field activities.

- Laboratory analyses of soil samples indicated detectable levels of DRO in six of the soil samples. Two samples (SB-2 and SB-6) indicated DRO concentrations that exceeded the North Carolina Action Level. In addition, detectable concentrations of O&G exceeding the NC Action Level were reported for these two samples.

- The area of petroleum impacted soil is approximately 867 ft^2 with a thickness of 8 feet resulting in 6,936 ft^3 (257 yd^3) of soil that will require special handling during construction activities.

- One soil boring (SB-5) was converted into a temporary monitoring well for groundwater collection.

- Laboratory analysis of the groundwater sample indicates no detectable concentrations of VOCs or SVOCs above the laboratory reporting limits.

6.0 RECOMMENDATIONS

If NCDOT excavates soil in the estimated area of petroleum impact, AMEC recommends the following action:

- Segregation during soil excavation followed by proper disposal of potentially petroleum-impacted soil.

TABLES

Table 1

SOIL ANALYTICAL RESULTS
NCDOT Parcel #1
Omni Supply Company Property
Patterson, North Carolina

Sample ID	Sample Date	Sample Depth (feet bgs)	Field Screening (ppm)	Oil & Grease Method 9071 (mg/kg)	Soils Method 8015	
					DRO (mg/kg)	GRO (mg/kg)
NC Action Levels				250	40	10
SB-1 (0-4)	09/29/2006	0-4	1.32	BQL (190)	BQL (5.8)	BQL (4.7)
SB-2 (5-6)	09/29/2006	5-6	1.43	**530**	**62**	BQL (7.4)
SB-3 (0-4)	09/29/2006	0-4	1.54	BQL (210)	BQL (6.3)	BQL (5.2)
SB-4 (0-4)	09/29/2006	0-4	1.72	BQL (190)	BQL (5.6)	BQL (4.8)
SB-5 (5-7)	09/29/2006	5-7	2.45	BQL (210)	33	BQL (4.7)
SB-6 (6.5-8)	09/29/2006	6.5-8	1.65	**11,000**	**870**	BQL (6.3)
SB-7 (4-8)	09/29/2006	4-8	1.58	BQL (180)	8.8	BQL (6.0)
SB-8 (4-8)	09/29/2006	4-8	0.54	BQL (200)	BQL (5.9)	BQL (4.8)
SB-9 (5-6)	09/29/2006	5-6	1.11	BQL (200)	BQL (6.0)	BQL (4.6)
SB-10 (0-4)	09/29/2006	0-4	1.37	BQL (200)	28	BQL (5.6)
SB-11 (4-6)	09/29/2006	4-6	1.56	BQL (190)	16	BQL (5.6)
SB-12	09/29/2006	4-6	1.62	BQL (180)	BQL (5.5)	BQL (6.2)

NOTES:
bgs = below ground surface
mg/kg = milligrams per kilogram
GRO = Gasoline Range Organics by Method 5035
DRO = Diesel Range Organics by Method 3550
BQL = analyte not detected above quantitation limit shown in ( )
Standards derived from the North Carolina Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater, July 2000

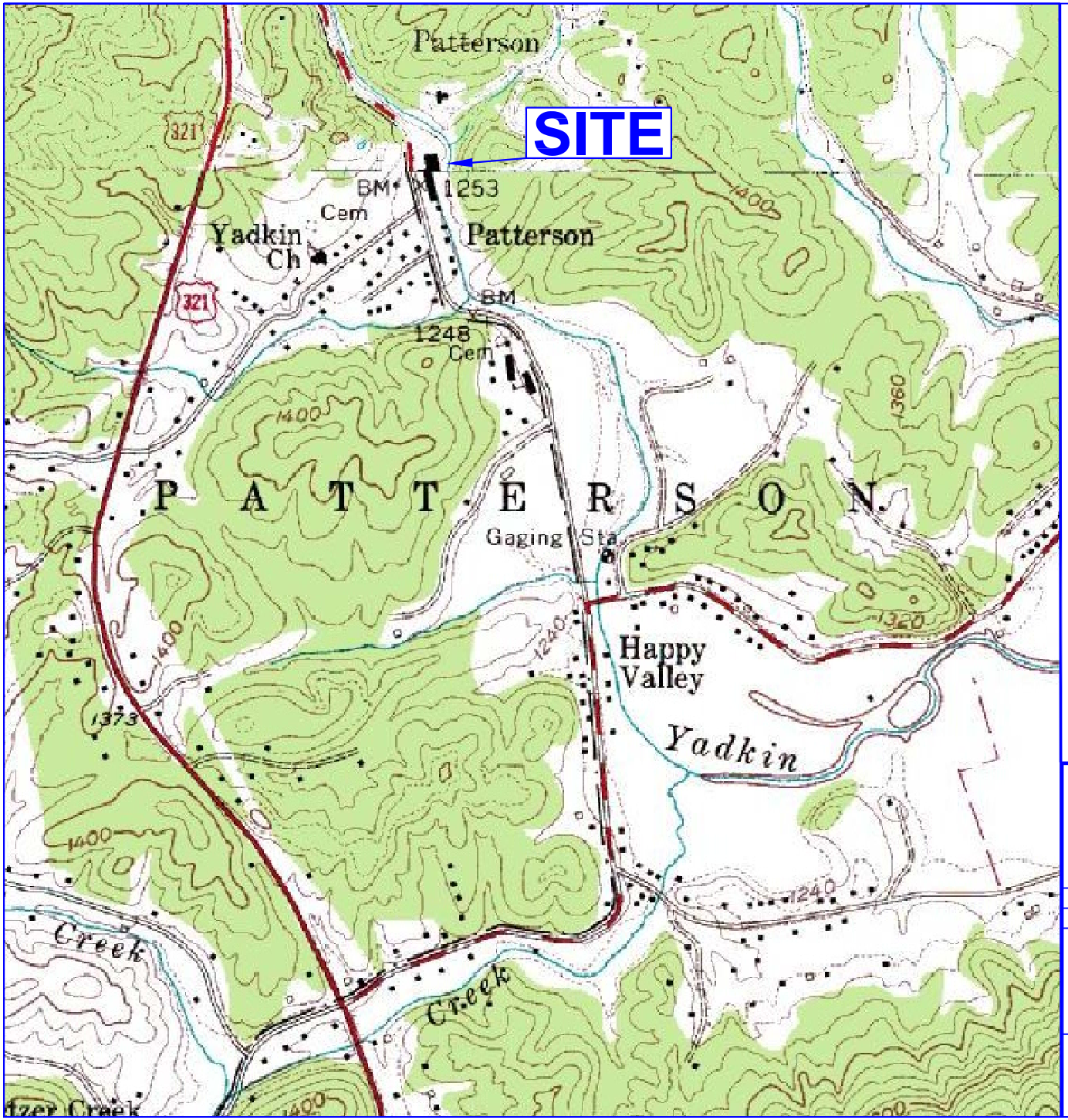
TABLE 2

Groundwater Analytical Results
NCDOT Parcel #1
Omni Supply Company Property
Patterson, North Carolina

		VOCs by Method 6210D (µg/L)	SVOCs by Method 625 (µg/L)
Sample Identification	**Sample Date**	**All Target Analytes**	**All Target Analytes**
Groundwater Gross Contamination Levels		Compound Specific	Compound Specific
Groundwater Quality Standards (2L)		Compound Specific	Compound Specific
GW-5	09/29/2006	BQL (0.5)	BQL (5.3)

NOTES:
All concentration quantified in µg/L (micrograms per liter)
BQL = analyte not detected above quantitation limit given in parentheses

FIGURES



VICINITY MAP

PARCEL #1, OMNI SUPPLY, Inc PROPERTY
CALDWELL CO., NORTH CAROLINA

DRAWING NAME: J:\NCDOT05\R-2813..\FIG1		DATE: 8/29/06	
SCALE: Not to Scale	DR TLH	CHK HPC	REV

PREPARED FOR:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL UNIT
TIP# R2813C – WBS Element: 34505.3.2

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FIGURE:
FIGURE 1

EXISTING R/W

EXISTING R/W

YADKIN RIVER

WOODS

WOODS

PROPOSED R/W

Yadkin River Rd.

Whisnant Rd (Proposed)

EXISTING R/W

Whisnant Rd (Existing)

REMOVE

EXISTING R/W

YADKIN RIVER

R/W

GW-5

Legend

- Grease Pit
- Location of Soil sample
- Location of Groundwater sample
- Concrete Pad

0' 15' 30' 45' 60'

1" = 30'

SITE MAP

Sept. 29, 2006

DRAWING NAME: J:\Act\NCDOT06\4054 | DATE: 10/25/06

SCALE: 1" TO 30' | DR TLH | CHK HPC | REV

PREPARED FOR:
NC DEPARTMENT of TRANSPORTATION
OMNI SUPPLY, Inc PROPERTY
PARCEL #1
PATTERSON, NORTH CAROLINA

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FIGURE:

FIGURE 2

Sample Identification	SB-9
Depth In Feet bgs	5-6
GRO	BQL (4.6)
DRO	BQL (6.0)
Oil and Grease	BQL (200)

Sample Identification	SB-10
Depth In Feet bgs	0-4
GRO	BQL (5.6)
DRO	28
Oil and Grease	BQL (200)

Sample Identification	SB-8
Depth In Feet bgs	4-8
GRO	BQL (4.8)
DRO	BQL (5.9)
Oil and Grease	BQL (200)

Sample Identification	SB-7
Depth In Feet bgs	4-8
GRO	BQL (6.0)
DRO	8.8
Oil and Grease	BQL (180)

Sample Identification	SB-3
Depth In Feet bgs	0-4
GRO	BQL (5.2)
DRO	BQL (6.3)
Oil and Grease	BQL (210)

Sample Identification	SB-2
Depth In Feet bgs	5-6
GRO	BQL (7.4)
DRO	**62**
Oil and Grease	**530**

Sample Identification	SB-12
Depth In Feet bgs	4-6
GRO	BQL (6.2)
DRO	BQL (5.5)
Oil and Grease	BQL (180)

Sample Identification	SB-4
Depth In Feet bgs	0-4
GRO	BQL (6.0)
DRO	BQL (4.8)
Oil and Grease	BQL (190)

Sample Identification	SB-6
Depth In Feet bgs	6.5-8
GRO	BQL (6.3)
DRO	**870**
Oil and Grease	**11,000**

Sample Identification	SB-1
Depth In Feet bgs	0-4
GRO	BQL (4.7)
DRO	BQL (5.8)
Oil and Grease	BQL (190)

Sample Identification	SB-11
Depth In Feet bgs	4-6
GRO	BQL (5.6)
DRO	16
Oil and Grease	BQL (190)

Sample Identification	SB-5
Depth In Feet bgs	5-7
GRO	BQL (4.7)
DRO	33
Oil and Grease	BQL (210)

Sample Identification	GW-5
VOC (All Analytes)	BQL (0.5)
SVOC (All Analytes)	BQL (5.3)

SB-9 SB-10 SB-8 SB-7 SB-3 SB-2 SB-12 SB-1 SB-4 SB-5 SB-6 SB-11 GW-5

Yadkin River

Legend

- Grease Pit
- Location of Soil sample
- Location of Groundwater sample
- Soil Analytical Data (in mg/kg)
- Groundwater Analytical Data (in µg/L)
- BQL (6.3) Below Quantitative Limits Listed in Parentheses
- Concrete Pad

0' 5' 10' 15' 20'

1" = 10'

SOIL AND GROUNDWATER SAMPLING RESULTS

Sept. 29, 2006

DRAWING NAME: J:\Act\NCDOT06\2616 DATE: 8/25/06

SCALE: 1" TO 10' DR TLH CHK HPC REV

PREPARED FOR:

NC DEPARTMENT of TRANSPORTATION
OMNI SUPPLY, Inc PROPERTY
PARCEL #1
PATTERSON, NORTH CAROLINA

PREPARED BY:
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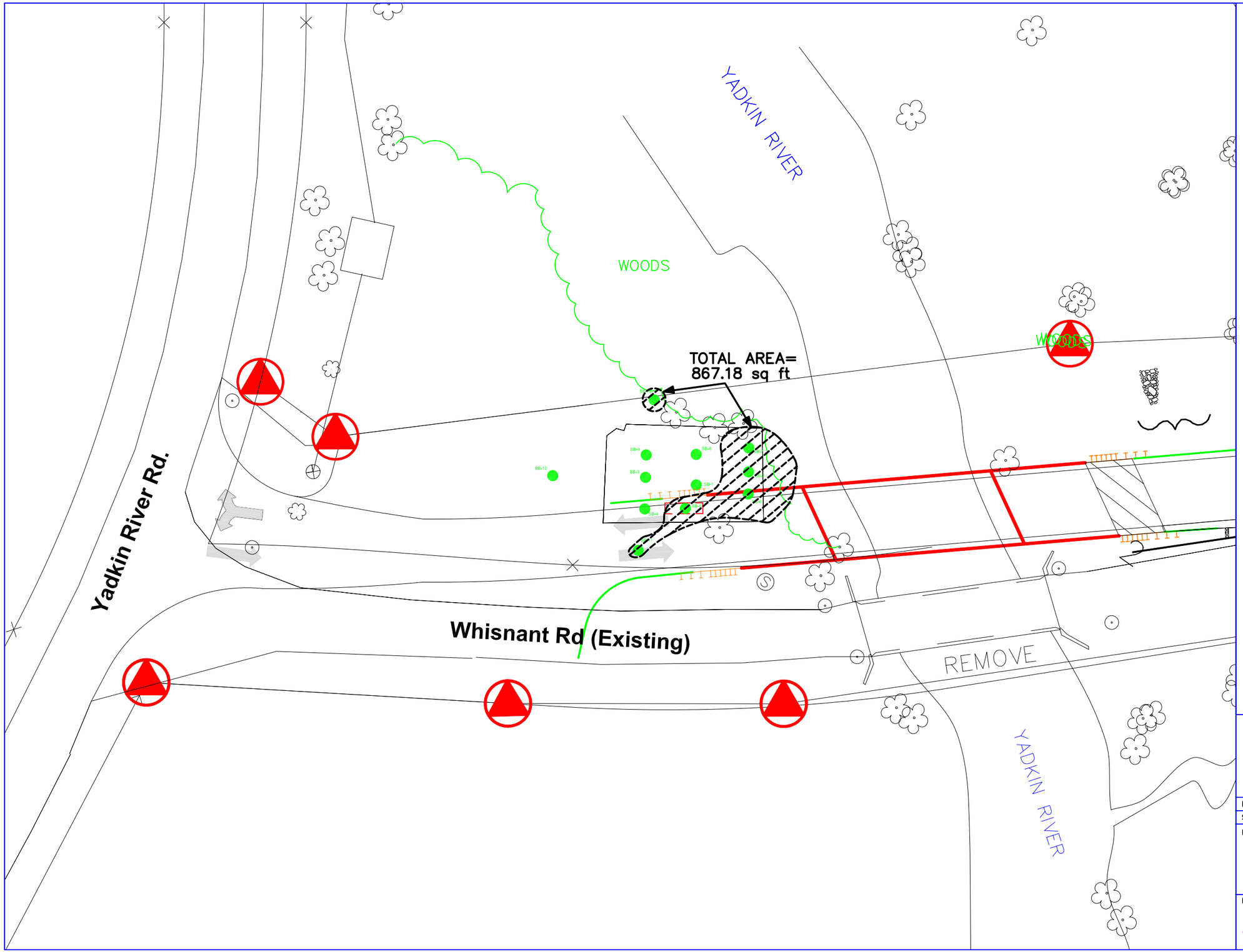
FIGURE:

FIGURE 3



Legend

- Grease Pit
- Location of Soil sample
- Concrete Pad
- Estimated Area of Impacted Soil

0' 15' 30' 45' 60'

1" = 30'

AREA OF ESTIMATED SOIL CONTAMINATION

Sept. 29, 2006

DRAWING NAME: J:\Act\NCDOT06\2616		DATE: 8/25/06	
SCALE: 1" TO 30'	DR TLH	CHK HPC	REV

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PARCEL #1
PATTERSON, NORTH CAROLINA

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FIGURE:
FIGURE 4

APPENDIX 1

SITE PHOTOGRAPHS

Photo Log

Photo No.	Date:
1	9/6/06

Direction Photo Taken: East

Description:

View of the concrete slab and former grease pit. The entrance of the former garage is in the forefront.

Photo No.	Date:
2	9/6/06

Direction Photo Taken:

North

Description:

Front of the former garage and metal catchment that likely held the garage doors.

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Photo No. 3	Date: 9/6/06	
Direction Photo Taken: East		
Description: Former grease pit.		

Photo No. 4	Date: 9/6/06	
Direction Photo Taken: South		
Description: Former grease pit.		

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Photo Log

Photo No. 5	**Date:** 9/6/06
Direction Photo Taken: Northeast	
Description: Current location of the concrete slab.	

Photo No. 6	**Date:** 9/6/06
Direction Photo Taken: East	
Description: Whisnant Road and the bridge currently being used.	

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APPENDIX 2

BORING LOGS

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-1

Project Number: 5-4901-4054

Project Location: Patterson, NC

Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
		Ground Surface			
0.0		**Concrete**			Collect Sample at 0'-4'
		Silty Clay Orange	CL	1.32	
2.0					
		Sandy Silt Brown	SM		
4.0					
6.0		Orangish-brown	SM	1.01	
		Sand Fine-grained, white Sand and multiple rock fragments	GM		
8.0		**PWR** Schist	MF		
		Sand Coarse-grained, grey sand and rock	GP		Wet at 9.5'
10.0		Coarse-grained with large quartz nodules			
			MN		Odor
12.0					

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-2

Project Number: 5-4901-4054

Project Location: Patterson, NC

Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
		Ground Surface			
0.0		**Concrete**			
		Silty Clay Orange			
2.0			CL	1.23	
4.0		**Fine Sandy Silt** Brown	SM		
		Sand Orangish-brown, fine-grained	GM	1.43	Collect Sample at 5'-6'
6.0		Brown, fine-grained			Moist at 6'
			GM		
8.0		**PWR** **Sand** Grey, coarse-grained with large quartz nodules			
			GM		
10.0		**PWR** Schist	MF		
12.0					

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-3

Project Number: 5-4901-4054

Project Location: Patterson, NC

Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
0.0		Ground Surface			
		Concrete			Collect Sample at 0'-4'
		Silty Clay Orange	CL	1.54	
2.0					
		Sandy Silt Brown	SM		Slight Odor
4.0					
6.0		Orangish-brown	SM	1.47	
		Sand Fine-grained, white Sand and multiple rock fragments	GM		
8.0		**Schist**	MF		
		Sand Coarse-grained, grey sand and rock	GP		
10.0		Coarse-grained with large quartz nodules			
			MN		
12.0					

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-4

Project Number: 5-4901-4054

Project Location: Patterson, NC

Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
0.0		Ground Surface			Collect Sample at 0'-4'
		Concrete			
		Silty Clay Orange	CL	1.72	
2.0					
		Sandy Silt Brown	SM		
4.0		**PWR** **Sand** Black with white, coarse-grained	GP		
6.0					
8.0		**Refusal at 8'**			
10.0					
12.0					

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-5

Project Number: 5-4901-4054

Project Location: Patterson, NC

Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
0.0		Ground Surface			
		FILL **Soil**			
2.0					
4.0		**Concrete**			
		Silty Clay Orange	CL	2.45	Collect Sample at 5'-7' Odor
6.0					
		Concrete			
8.0		**Rock**			
10.0			CG		
12.0					Wet with Odor

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

Project Number: 5-4901-4054

Drilling Company: EDPS

Driller: Tommy Bolyard

Drilling Method: Geoprobe

BORING NO: SB-6

Project Location: Patterson, NC

Date: 09/29/2006

Geologist: Brooke Sprouse

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
0.0		Ground Surface			
		Concrete			
		Silty Clay Orange			
2.0			CL		
4.0		**Sand** Brown, fine-grained		1.91	
			GM		
6.0		**Silty Clay** Orange	CL		Collect Sample at 6.5'-8'
		Sandy Silt Dark brown to black fine-grained	SM	1.65	Staining
8.0		**PWR** Grey, coarse-grained Sand with large quartz nodules			
10.0			MN		
12.0					

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-7

Project Number: 5-4901-4054

Project Location: Patterson, NC

Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
		Ground Surface			
0.0		**Concrete**			
		Silty Clay Orange			
2.0			CL	1.31	
4.0		**Sand** Orange, fine-grained			
			GM		
6.0		Brown, fine grained			
			GM	1.58	Collect Sample at 4'-8'
		Quartz	MN		
		Sandy Silt Brown, micaceous, fine-grained	SM		
8.0			GP		
		PWR **Sand** Black, white, pink, coarse-grained	CG		
		Brown, fine-grained Sand with rock fragments			
10.0					
12.0					

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-8

Project Number: 5-4901-4054

Project Location: Patterson, NC

Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
		Ground Surface			
0.0		**Concrete**			
		Silty Clay Orange	CL	0.19	
2.0		**Silty Sand** Brown, fine-grained micaceous	SM		
4.0		Orange	SM	0.54	Collect Sample at 4'-8'
6.0					
		Sand Brown, fine-grained with rock fragments	GM		
8.0		Reddish-brown, medium grained	GM		Wet with Odor
10.0		Quartz	MN		
		Sand Grey, coarse-grained with fragments	GP		Odor
		Yellowish-orange, coarse-grained	GP		Odor
12.0					

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-9

Project Number: 5-4901-4054

Project Location: Patterson, NC

Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
		Ground Surface			
0.0		**Concrete**			
		Silty Clay Orange	CL	1.02	
2.0		**Silty Sand** Orange, fine-grained micaceous	SM		
4.0		Brown, fine-grained	SM		
		Clayey Silty Sand Brown, fine-grained with Quartz vein	SC		
6.0		**PWR** **Sand** Coarse-grained with fragments and quartz nodules	MN	1.11	Collect Sample at 5'-6'
8.0		Coarse-grained Sand with rock			Wet at 9'
10.0			CG		
12.0					

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-10

Project Number: 5-4901-4054

Project Location: Patterson, NC

Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
0.0		Ground Surface			Collect Sample at 0'-4'
		Soil			
		Silty Sand Light brown, micaceous	SM		
2.0					
4.0		**Schist** Weathered with rock fragments		1.37	
6.0			MF		
		Granite fragments	MN		
8.0		**Refusal at 8'**			
10.0					
12.0					

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-11

Project Number: 5-4901-4054

Project Location: Patterson, NC

Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe

Depth (ft)	Symbol	Description	USCS	Field FID Results (ppm)	Sample Comments
0.0		Ground Surface			
		Soil			
		Silty Clay Orange	CL	0.26	
2.0		**Silty Sand** Orange	SM		
		Quartz	MN		
		Silty Sand Orange and micaceous			
4.0			SM	1.56	Collect Sample at 4'-6'
6.0		Brown, micaceous	SM		
		Sand Reddish, coarse-grained			
8.0			GP		Wet at 8'
10.0		**PWR** **Sand** Grey, very coarse-grained with Sand pebbles	GP		
		Very coarse-grained Sand with rock	GP		
12.0					

Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

Project Name: NCDOT Yadkin River PSA

BORING NO: SB-12

Project Number: 5-4901-4054

Project Location: Patterson, NC

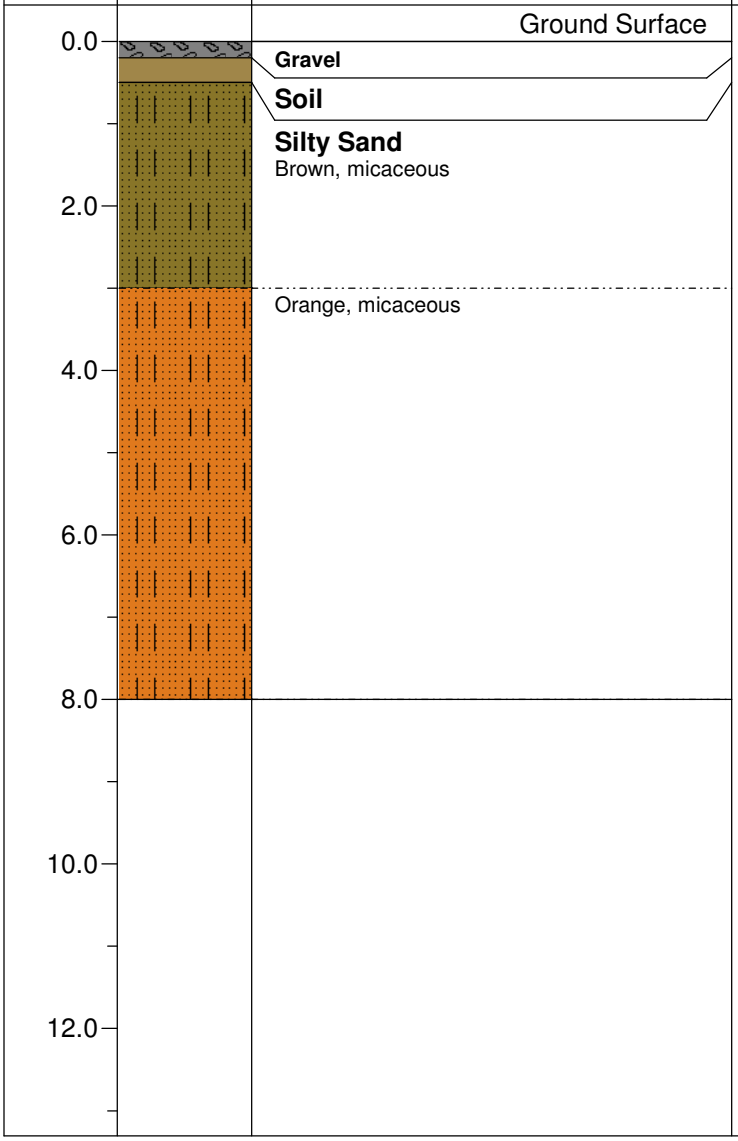
Drilling Company: EDPS

Date: 09/29/2006

Driller: Tommy Bolyard

Geologist: Brooke Sprouse

Drilling Method: Geoprobe



Hole Size: 2"

AMEC Earth & Environmental, Inc.
9800 West Kincey Ave, Suite 190
Huntersville, North Carolina 28078

APPENDIX 3

GEOPHYSICAL SURVEY

Schnabel Engineering South, P.C.

11-A Oak Branch Drive
Greensboro, NC 27407

Phone (336) 274-9456
Fax (336) 274-9486
www.schnabel-eng.com

October 17, 2006

Ms. Helen Corley, L.G.
AMEC Earth and Environmental
9800 West Kincey Avenue
Suite 190
Huntersville, NC 28078

Via email (pdf)

cc: Mr. Cyrus Parker, Mr. Don Moore, NCDOT, via email (pdf)

RE: State Project: B-4054, WBS Element: 33419.1.1, Caldwell County
Bridge 334 over Yadkin River on SR 1517 (Whisnant Road)

SUBJECT: Report on Geophysical Surveys for Locating Possible USTs on 1 Parcel
Schnabel Engineering Project No. 06210013.01-02

Dear Ms. Corley:

This letter contains our report on the geophysical surveys we conducted on the subject property. This letter report includes two 8.5x11 color figures and two 11x17 color figures.

1.0 INTRODUCTION

The work described in this report was conducted by Schnabel Engineering under our contract with the NCDOT. The work was conducted at the location indicated by AMEC to support their environmental assessment of the subject parcel. The purpose of the geophysical survey was to locate possible metal underground storage tanks (USTs) in the accessible areas within the proposed right-of-way of the site.

Schnabel Engineering conducted geophysical surveys on September 21, 2006, in the accessible areas within the proposed right-of-way on Parcel 1. This property, owned by Omni Supply, Inc., is located at the northeast corner of the intersection of Yadkin River Road and Whisnant Road in Caldwell County. Photographs of Parcel 1 are included on Figure 1.

The geophysical investigation consisted of electromagnetic (EM) induction surveys using a Geonics EM61-MK2 instrument. The EM61 metal detector is used to locate metal objects buried up to about eight feet below ground surface. Ground-penetrating radar (GPR) investigations were conducted using a Geophysical Survey Systems SIR-2000 system equipped with a 400 MHz antenna. Photographs of these instruments are shown in Figure 2.

2.0 FIELD METHODOLOGY

2.1 Location Control

An X-Y survey grid was set up on Parcel 1 to determine relative locations of geophysical data points and site features. References to direction and location in this report are based on this local site grid. The locations of existing site features (concrete pads, signs, etc.) were recorded for later correlation with the geophysical data and for location references to the NCDOT drawings.

2.2 Data Collection

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

3.0 DISCUSSION OF RESULTS

The contoured EM61 data are shown on Figures 3 and 4. The EM61 early time gate results are plotted on Figure 3. The early time gate data provide the most sensitive detection of metal object targets, regardless of size. Figure 4 shows the difference between the response of the top and bottom coils of the EM61 instrument (differential response). The difference is taken to remove the effect of surface and very shallowly buried metallic objects. Typically, the differential response emphasizes anomalies from deeper and larger objects such as USTs.

The early time gate and differential results (Figures 3 and 4) show several linear anomalies probably caused by buried utilities, several small anomalies probably caused by insignificant buried metal objects, and several anomalies caused by known site features. GPR surveys were conducted over and around the reinforced concrete pad, and in an area by one of the trailers. The GPR data did not indicate the presence of USTs in the areas surveyed.

4.0 CONCLUSIONS

Our evaluation of the geophysical data collected on Parcel 1 on State Project B-4054 in Caldwell County, NC indicate the following:

- The geophysical data do not indicate the presence of USTs in the areas surveyed on Parcel 1.

- Survey areas were limited by the presence of trailers and other equipment. USTs may be present in these locations.

5.0 LIMITATIONS

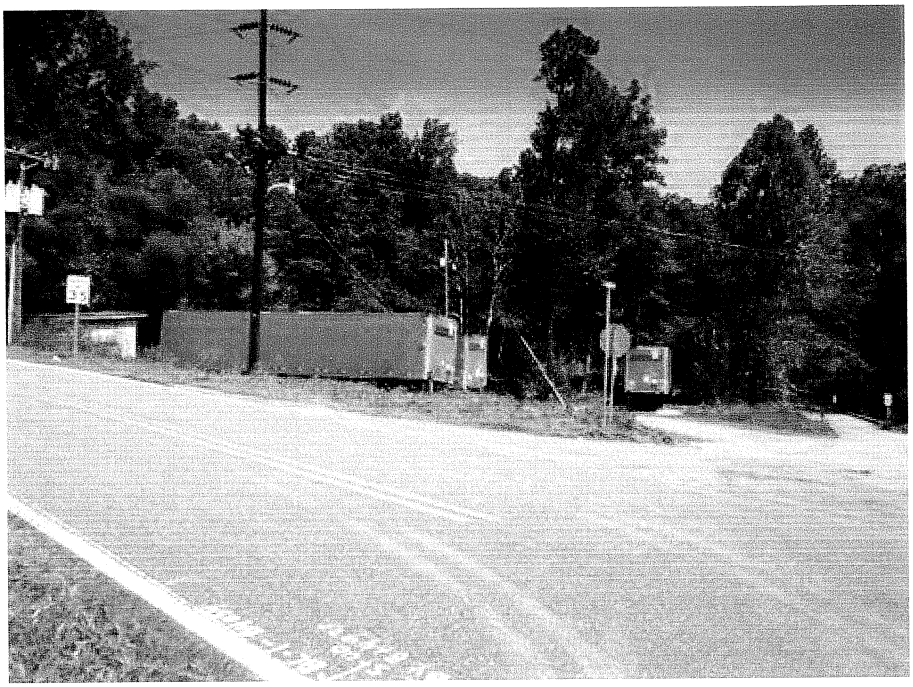
These services have been performed and this report prepared for the North Carolina Department of Transportation in accordance with generally accepted guidelines for conducting geophysical surveys. It is generally recognized that the results of geophysical surveys are non-unique and may not represent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

Thank you for the opportunity to serve you on this project. Please call if you need additional information or have any questions.

Sincerely,

Jeremy S. Strohmeyer, L.G.
Project Manager

JS/FR/NB
Attachment: Figures (1-4)
FILE: G:\2006_PROJECTS\06210013 (NCDOT GEOPHYSICS-GEOTECH 2006)\PHASE 1 GEOPHYSICAL TASKS\TASK 02 (B-4054, CALDWELL COUNTY)\REPORT\REPORT ON TASK 2 (B-4054, CALDWELL COUNTY) WITH FIGURES.DOC



Parcel 1, Omni Supply, Inc. Property, looking northeast

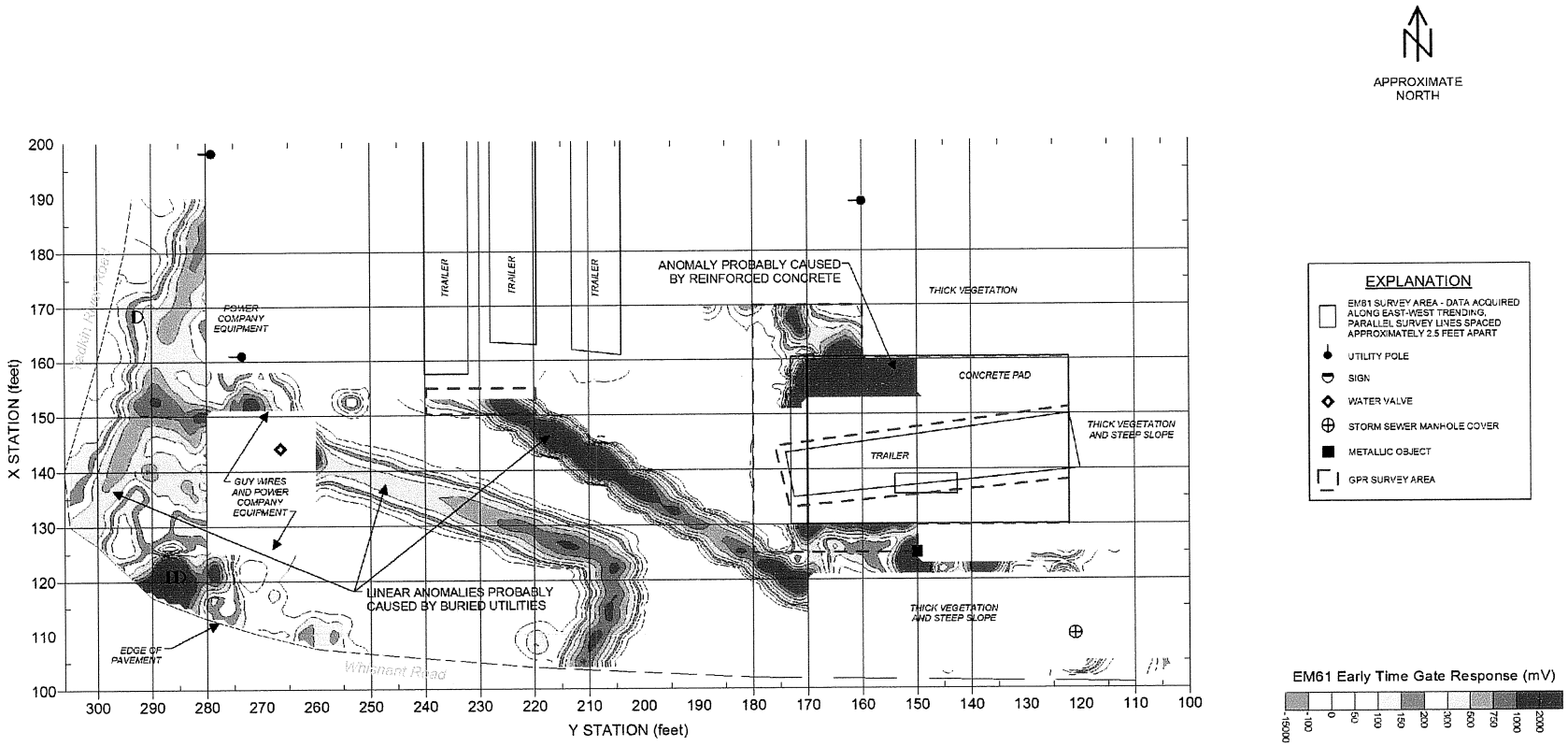
Parcel 1, Omni Supply, Inc. Property, looking northeast

Schnabel Engineering	NC Department of Transportation Geotechnical Engineering Unit	**SITE PHOTOS**
	State Project No. B-4054 Caldwell County, North Carolina	FIGURE 1

Geonics EM61-MK2

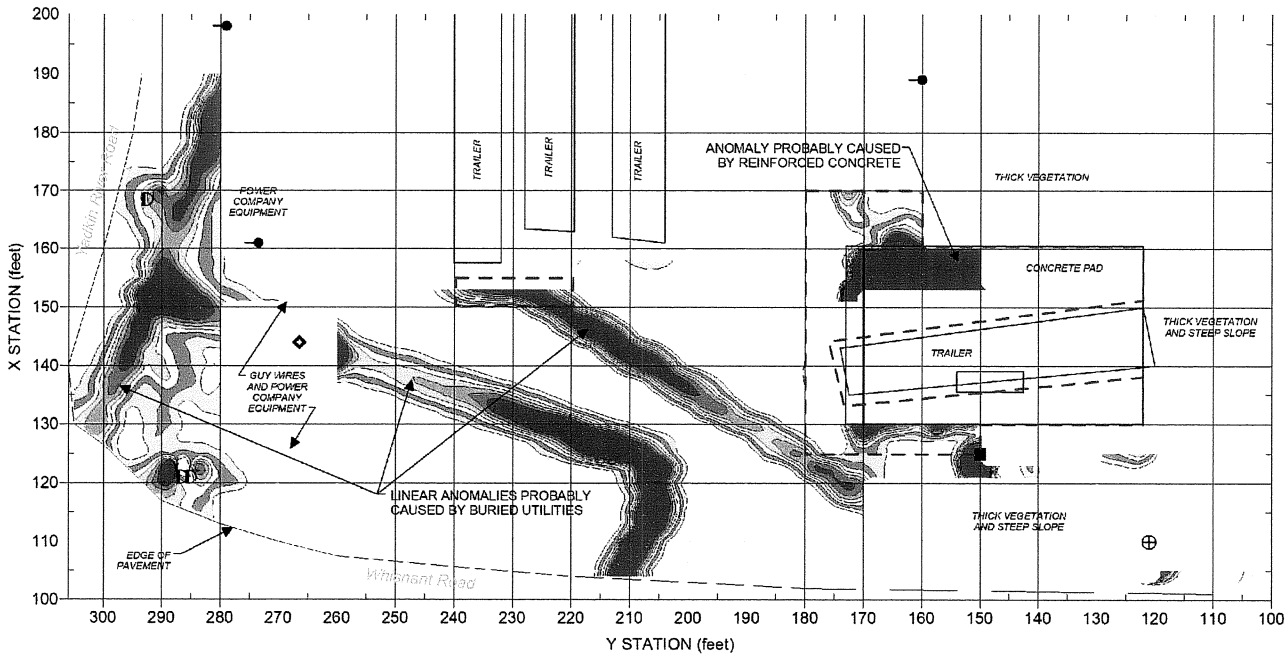
Geophysical Survey Systems SIR-2000 with 400 MHz antenna

Schnabel Engineering	NC Department of Transportation Geotechnical Engineering Unit State Project No. B-4054 Caldwell County, North Carolina	**PHOTOS OF GEOPHYSICAL EQUIPMENT** FIGURE 2



Note: The contour plot shows the earliest and most sensitive time gate of the EM61 bottom coil/channel in millivolts (mV). The EM data were collected on September 21, 2006, using a Geonics EM61-MK2 instrument. An X-Y survey grid was set up across this parcel as location control for the geophysical surveys. GPR data were acquired on September 21, 2006, using a Geophysical Survey Systems, Inc. SIR-2000 equipped with a 400 MHz antenna.

Schnabel Engineering	NC Department of Transportation Geotechnical Engineering Unit State Project No. B-4054 Caldwell County, North Carolina	**PARCEL 1** **EM61 EARLY TIME GATE RESPONSE** FIGURE 3



APPROXIMATE NORTH

EXPLANATION

- EM61 SURVEY AREA - DATA ACQUIRED ALONG EAST-WEST TRENDING, PARALLEL SURVEY LINES SPACED APPROXIMATELY 2.5 FEET APART
- UTILITY POLE
- SIGN
- WATER VALVE
- STORM SEWER MANHOLE COVER
- METALLIC OBJECT
- GPR SURVEY AREA

EM61 Differential Response (mV)

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

Note: The contour plot shows the difference, in millivolts (mV), between the readings from the top and bottom coils of the EM61. The difference is taken to reduce the effect of shallow metal objects and emphasize anomalies caused by deeper metallic objects, such as pipes and tanks. The EM data were collected on September 21, 2006, using a Geonics EM61-MK2 instrument. An X-Y survey grid was set up across this parcel as location control for the geophysical surveys. GPR data were acquired on September 21, 2006, using a Geophysical Survey Systems, Inc. SIR-2000 equipped with a 400 MHz antenna.

Schnabel Engineering

NC Department of Transportation
Geotechnical Engineering Unit

State Project No. B-4054
Caldwell County, North Carolina

PARCEL 1
EM61 DIFFERENTIAL RESPONSE

FIGURE 4

APPENDIX 4

LABORATORY ANALYTICAL REPORT
&
CHAIN OF CUSTODY

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Pace Analytical Services, Inc.
2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

October 13, 2006

Ms. Helen Corley
AMEC
9800 West Kincey Ave
Suite 190
Huntersville, NC 28078

RE: Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Dear Ms. Corley:

Enclosed are the analytical results for sample(s) received by the laboratory on September 29, 2006. 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 Charlotte laboratory unless otherwise footnoted.

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

Sincerely,

Richard Swartz
richard.swartz@pacelabs.com
(704) 875-9092 ext. 237
Project Manager

Enclosures

Pace Analytical
www.pacelabs.com

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Pace Analytical Services, Inc.
2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Solid results are reported on a dry weight basis

Lab Sample No: 927501239 Project Sample Number: 92129001-001 Date Collected: 09/29/06 10:00
Client Sample ID: SB-1 (0-4) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	14.1	%		10/03/06 09:13	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	5.8	10/11/06 12:08	KBS	68334-30-5		
n-Pentacosane (S)	90	%		10/11/06 12:08	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	ND	mg/kg	190	10/09/06 13:30	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	4.7	10/11/06 15:36	DHW			
4-Bromofluorobenzene (S)	96	%		10/11/06 15:36	DHW	460-00-4		

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Pace Analytical Services, Inc.
2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501254 Project Sample Number: 92129001-002 Date Collected: 09/29/06 10:25
Client Sample ID: SB-2 (5-6) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	8.4	%		10/03/06 09:13	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	62.	mg/kg	5.5	10/11/06 18:16	KBS	68334-30-5		
n-Pentacosane (S)	125	%		10/11/06 18:16	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	530	mg/kg	180	10/10/06 13:53	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	7.4	10/10/06 00:19	DHW			
4-Bromofluorobenzene (S)	129	%		10/10/06 00:19	DHW	460-00-4		

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2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501262 Project Sample Number: 92129001-003 Date Collected: 09/29/06 10:40
Client Sample ID: SB-3 (0-4) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	20.9	%		10/03/06 09:14	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.3	10/11/06 18:59	KBS	68334-30-5		
n-Pentacosane (S)	54	%		10/11/06 18:59	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	ND	mg/kg	210	10/09/06 13:30	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	5.2	10/10/06 00:48	DHW			
4-Bromofluorobenzene (S)	113	%		10/10/06 00:48	DHW	460-00-4		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501288 Project Sample Number: 92129001-004 Date Collected: 09/29/06 10:55
Client Sample ID: SB-4 (0-4) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	11.3	%		10/03/06 09:14	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	5.6	10/12/06 12:36	KBS	68334-30-5		
n-Pentacosane (S)	82	%		10/12/06 12:36	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	ND	mg/kg	190	10/10/06 13:53	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	4.8	10/10/06 01:16	DHW			
4-Bromofluorobenzene (S)	106	%		10/10/06 01:16	DHW	460-00-4		

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Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501296 Project Sample Number: 92129001-005 Date Collected: 09/29/06 11:40
Client Sample ID: SB-5 (5-7) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	19.6	%		10/03/06 09:15	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	33.	mg/kg	6.2	10/11/06 12:30	KBS	68334-30-5		
n-Pentacosane (S)	82	%		10/11/06 12:30	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	ND	mg/kg	210	10/10/06 13:54	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	4.7	10/10/06 01:45	DHW			
4-Bromofluorobenzene (S)	99	%		10/10/06 01:45	DHW	460-00-4		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501304 Project Sample Number: 92129001-006 Date Collected: 09/29/06 12:05
Client Sample ID: SB-6 (6.5-8) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	22.9	%		10/03/06 09:15	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	870	mg/kg	32.	10/11/06 08:28	KBS	68334-30-5	1	
n-Pentacosane (S)	348	%		10/11/06 08:28	KBS	629-99-2	2	
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	11000	mg/kg	220	10/10/06 13:54	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	6.3	10/10/06 02:14	DHW			
4-Bromofluorobenzene (S)	97	%		10/10/06 02:14	DHW	460-00-4		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501312 Project Sample Number: 92129001-007 Date Collected: 09/29/06 12:30
Client Sample ID: SB-7 (4-8) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	9.3	%		10/03/06 09:15	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	8.8	mg/kg	5.5	10/11/06 17:54	KBS	68334-30-5		
n-Pentacosane (S)	74	%		10/11/06 17:54	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	ND	mg/kg	180	10/10/06 13:54	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	6.0	10/10/06 02:43	DHW			
4-Bromofluorobenzene (S)	94	%		10/10/06 02:43	DHW	460-00-4		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501320 Project Sample Number: 92129001-008 Date Collected: 09/29/06 14:05
Client Sample ID: SB-8 (4-8) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	14.6	%		10/03/06 09:15	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	5.9	10/12/06 17:07	KBS	68334-30-5		
n-Pentacosane (S)	114	%		10/12/06 17:07	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	ND	mg/kg	200	10/09/06 13:30	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	4.8	10/10/06 03:11	DHW			
4-Bromofluorobenzene (S)	94	%		10/10/06 03:11	DHW	460-00-4		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501338 Project Sample Number: 92129001-009 Date Collected: 09/29/06 14:10
Client Sample ID: SB-9 (5-6) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	16.4	%		10/03/06 09:16	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	6.0	10/12/06 17:29	KBS	68334-30-5		
n-Pentacosane (S)	100	%		10/12/06 17:29	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	ND	mg/kg	200	10/10/06 13:55	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	4.6	10/10/06 04:37	DHW			
4-Bromofluorobenzene (S)	105	%		10/10/06 04:37	DHW	460-00-4		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501346 Project Sample Number: 92129001-010 Date Collected: 09/29/06 14:35
Client Sample ID: SB-10 (0-4) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	15.0	%		10/03/06 09:16	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	28.	mg/kg	5.9	10/11/06 17:33	KBS	68334-30-5		
n-Pentacosane (S)	83	%		10/11/06 17:33	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	ND	mg/kg	200	10/10/06 13:55	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	5.6	10/10/06 05:06	DHW			
4-Bromofluorobenzene (S)	98	%		10/10/06 05:06	DHW	460-00-4		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501353 Project Sample Number: 92129001-011 Date Collected: 09/29/06 15:10
Client Sample ID: SB-11 (4-16) Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	10.5	%		10/03/06 09:16	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	16.	mg/kg	5.6	10/11/06 19:43	KBS	68334-30-5		
n-Pentacosane (S)	50	%		10/11/06 19:43	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	ND	mg/kg	190	10/10/06 13:55	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	5.6	10/10/06 05:35	DHW			
4-Bromofluorobenzene (S)	96	%		10/10/06 05:35	DHW	460-00-4		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501361 Project Sample Number: 92129001-012 Date Collected: 09/29/06 15:50
Client Sample ID: SB-12 Matrix: Soil Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Percent Moisture	Method: % Moisture							
Percent Moisture	9.4	%		10/03/06 09:17	TNM			
GC Semivolatiles								
TPH in Soil by 3545/8015	Prep/Method: EPA 3545 / EPA 8015							
Diesel Fuel	ND	mg/kg	5.5	10/13/06 14:06	KBS	68334-30-5		
n-Pentacosane (S)	102	%		10/13/06 14:06	KBS	629-99-2		
Date Extracted	10/02/06			10/02/06				
Oil & Grease in Soil	Method: EPA 9071B							
Oil and Grease	ND	mg/kg	180	10/10/06 13:55	JAD			
GC Volatiles								
GAS, Soil, North Carolina	Method: EPA 8015							
Gasoline	ND	mg/kg	6.2	10/10/06 06:03	DHW			
4-Bromofluorobenzene (S)	76	%		10/10/06 06:03	DHW	460-00-4		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501387 Project Sample Number: 92129001-013 Date Collected: 09/29/06 16:15
Client Sample ID: SB-5 Matrix: Water Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Semivolatiles								
Extractables in Water by 625	Prep/Method: EPA 625 SF / EPA 625							
Acenaphthene	ND	ug/l	5.3	10/06/06 12:53	BET	83-32-9		
Acenaphthylene	ND	ug/l	5.3	10/06/06 12:53	BET	208-96-8		
Anthracene	ND	ug/l	5.3	10/06/06 12:53	BET	120-12-7		
Benzidine	ND	ug/l	53.	10/06/06 12:53	BET	92-87-5		
Benzo(k)fluoranthene	ND	ug/l	5.3	10/06/06 12:53	BET	207-08-9		
Benzo(b)fluoranthene	ND	ug/l	5.3	10/06/06 12:53	BET	205-99-2		
Benzo(a)anthracene	ND	ug/l	5.3	10/06/06 12:53	BET	56-55-3		
Benzo(g,h,i)perylene	ND	ug/l	5.3	10/06/06 12:53	BET	191-24-2		
Benzo(a)pyrene	ND	ug/l	5.3	10/06/06 12:53	BET	50-32-8		
4-Bromophenylphenyl ether	ND	ug/l	5.3	10/06/06 12:53	BET	101-55-3		
Butylbenzylphthalate	ND	ug/l	5.3	10/06/06 12:53	BET	85-68-7		
4-Chloro-3-methylphenol	ND	ug/l	5.3	10/06/06 12:53	BET	59-50-7		
bis(2-Chloroethoxy)methane	ND	ug/l	5.3	10/06/06 12:53	BET	111-91-1		
bis(2-Chloroethyl) ether	ND	ug/l	5.3	10/06/06 12:53	BET	111-44-4		
bis(2-Chloroisopropyl) ether	ND	ug/l	5.3	10/06/06 12:53	BET	39638-32-9		
2-Chloronaphthalene	ND	ug/l	5.3	10/06/06 12:53	BET	91-58-7		
2-Chlorophenol	ND	ug/l	5.3	10/06/06 12:53	BET	95-57-8		
4-Chlorophenylphenyl ether	ND	ug/l	5.3	10/06/06 12:53	BET	7005-72-3		
Chrysene	ND	ug/l	5.3	10/06/06 12:53	BET	218-01-9		
Dibenz(a,h)anthracene	ND	ug/l	5.3	10/06/06 12:53	BET	53-70-3		
1,2-Dichlorobenzene	ND	ug/l	5.3	10/06/06 12:53	BET	95-50-1		
1,3-Dichlorobenzene	ND	ug/l	5.3	10/06/06 12:53	BET	541-73-1		
1,4-Dichlorobenzene	ND	ug/l	5.3	10/06/06 12:53	BET	106-46-7		
3,3'-Dichlorobenzidine	ND	ug/l	11.	10/06/06 12:53	BET	91-94-1		
2,4-Dichlorophenol	ND	ug/l	5.3	10/06/06 12:53	BET	120-83-2		
Diethylphthalate	ND	ug/l	5.3	10/06/06 12:53	BET	84-66-2		
2,4-Dimethylphenol	ND	ug/l	5.3	10/06/06 12:53	BET	105-67-9		
Dimethylphthalate	ND	ug/l	5.3	10/06/06 12:53	BET	131-11-3		
Di-n-butylphthalate	ND	ug/l	5.3	10/06/06 12:53	BET	84-74-2		
4,6-Dinitro-2-methylphenol	ND	ug/l	26.	10/06/06 12:53	BET	534-52-1		
2,4-Dinitrophenol	ND	ug/l	26.	10/06/06 12:53	BET	51-28-5		
2,4-Dinitrotoluene	ND	ug/l	5.3	10/06/06 12:53	BET	121-14-2		
2,6-Dinitrotoluene	ND	ug/l	5.3	10/06/06 12:53	BET	606-20-2		
Di-n-octylphthalate	ND	ug/l	5.3	10/06/06 12:53	BET	117-84-0		
bis(2-Ethylhexyl)phthalate	ND	ug/l	5.3	10/06/06 12:53	BET	117-81-7		
Fluoranthene	ND	ug/l	5.3	10/06/06 12:53	BET	206-44-0		
Fluorene	ND	ug/l	5.3	10/06/06 12:53	BET	86-73-7		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501387 Project Sample Number: 92129001-013 Date Collected: 09/29/06 16:15
Client Sample ID: SB-5 Matrix: Water Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Hexachloro-1,3-butadiene	ND	ug/l	5.3	10/06/06 12:53	BET	87-68-3		
Hexachlorobenzene	ND	ug/l	5.3	10/06/06 12:53	BET	118-74-1		
Hexachlorocyclopentadiene	ND	ug/l	11.	10/06/06 12:53	BET	77-47-4		
Hexachloroethane	ND	ug/l	5.3	10/06/06 12:53	BET	67-72-1		
Indeno(1,2,3-cd)pyrene	ND	ug/l	5.3	10/06/06 12:53	BET	193-39-5		
Isophorone	ND	ug/l	5.3	10/06/06 12:53	BET	78-59-1		
Naphthalene	ND	ug/l	5.3	10/06/06 12:53	BET	91-20-3		
Nitrobenzene	ND	ug/l	5.3	10/06/06 12:53	BET	98-95-3		
2-Nitrophenol	ND	ug/l	5.3	10/06/06 12:53	BET	88-75-5		
4-Nitrophenol	ND	ug/l	26.	10/06/06 12:53	BET	100-02-7		
N-Nitrosodimethylamine	ND	ug/l	5.3	10/06/06 12:53	BET	62-75-9		
N-Nitroso-di-n-propylamine	ND	ug/l	5.3	10/06/06 12:53	BET	621-64-7		
N-Nitrosodiphenylamine	ND	ug/l	5.3	10/06/06 12:53	BET	86-30-6		
Pentachlorophenol	ND	ug/l	26.	10/06/06 12:53	BET	87-86-5		
Phenanthrene	ND	ug/l	5.3	10/06/06 12:53	BET	85-01-8		
Phenol	ND	ug/l	5.3	10/06/06 12:53	BET	108-95-2		
Pyrene	ND	ug/l	5.3	10/06/06 12:53	BET	129-00-0		
1,2,4-Trichlorobenzene	ND	ug/l	5.3	10/06/06 12:53	BET	120-82-1		
2,4,6-Trichlorophenol	ND	ug/l	5.3	10/06/06 12:53	BET	88-06-2		
Nitrobenzene-d5 (S)	54	%		10/06/06 12:53	BET	4165-60-0		
2-Fluorobiphenyl (S)	62	%		10/06/06 12:53	BET	321-60-8		
Terphenyl-d14 (S)	79	%		10/06/06 12:53	BET	1718-51-0		
Phenol-d5 (S)	12	%		10/06/06 12:53	BET	4165-62-2		
2-Fluorophenol (S)	22	%		10/06/06 12:53	BET	367-12-4		
2,4,6-Tribromophenol (S)	64	%		10/06/06 12:53	BET	118-79-6		
Date Extracted	10/05/06			10/05/06				
GC/MS Volatiles								
SM 6210D VOCs	Method: SM 6210D							
Benzene	ND	ug/l	0.50	10/04/06 01:34	MSF	71-43-2		
Bromobenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	108-86-1		
Bromochloromethane	ND	ug/l	0.50	10/04/06 01:34	MSF	74-97-5		
Bromodichloromethane	ND	ug/l	0.50	10/04/06 01:34	MSF	75-27-4		
Bromoform	ND	ug/l	0.50	10/04/06 01:34	MSF	75-25-2		
Bromomethane	ND	ug/l	0.50	10/04/06 01:34	MSF	74-83-9		
n-Butylbenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	104-51-8		
sec-Butylbenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	135-98-8		
tert-Butylbenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	98-06-6		
Carbon tetrachloride	ND	ug/l	0.50	10/04/06 01:34	MSF	56-23-5		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501387 Project Sample Number: 92129001-013 Date Collected: 09/29/06 16:15
Client Sample ID: SB-5 Matrix: Water Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Chlorobenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	108-90-7		
Chloroethane	ND	ug/l	1.0	10/04/06 01:34	MSF	75-00-3		
Chloroform	ND	ug/l	0.50	10/04/06 01:34	MSF	67-66-3		
Chloromethane	ND	ug/l	1.0	10/04/06 01:34	MSF	74-87-3		
2-Chlorotoluene	ND	ug/l	0.50	10/04/06 01:34	MSF	95-49-8		
4-Chlorotoluene	ND	ug/l	0.50	10/04/06 01:34	MSF	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	10/04/06 01:34	MSF	96-12-8		
Dibromochloromethane	ND	ug/l	0.50	10/04/06 01:34	MSF	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	0.50	10/04/06 01:34	MSF	106-93-4		
Dibromomethane	ND	ug/l	0.50	10/04/06 01:34	MSF	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	95-50-1		
1,3-Dichlorobenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	541-73-1		
1,4-Dichlorobenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	106-46-7		
Dichlorodifluoromethane	ND	ug/l	1.0	10/04/06 01:34	MSF	75-71-8		
1,1-Dichloroethane	ND	ug/l	0.50	10/04/06 01:34	MSF	75-34-3		
1,2-Dichloroethane	ND	ug/l	0.50	10/04/06 01:34	MSF	107-06-2		
1,1-Dichloroethene	ND	ug/l	0.50	10/04/06 01:34	MSF	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	0.50	10/04/06 01:34	MSF	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	0.50	10/04/06 01:34	MSF	156-60-5		
1,2-Dichloropropane	ND	ug/l	0.50	10/04/06 01:34	MSF	78-87-5		
1,3-Dichloropropane	ND	ug/l	0.50	10/04/06 01:34	MSF	142-28-9		
2,2-Dichloropropane	ND	ug/l	0.50	10/04/06 01:34	MSF	594-20-7		
1,1-Dichloropropene	ND	ug/l	0.50	10/04/06 01:34	MSF	563-58-6		
cis-1,3-Dichloropropene	ND	ug/l	0.50	10/04/06 01:34	MSF	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	0.50	10/04/06 01:34	MSF	10061-02-6		
Diisopropyl ether	ND	ug/l	0.50	10/04/06 01:34	MSF	108-20-3		
Ethylbenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/l	2.0	10/04/06 01:34	MSF	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/l	0.50	10/04/06 01:34	MSF	98-82-8		
p-Isopropyltoluene	ND	ug/l	0.50	10/04/06 01:34	MSF	99-87-6		
Methylene chloride	ND	ug/l	2.0	10/04/06 01:34	MSF	75-09-2		
Methyl-tert-butyl ether	ND	ug/l	0.50	10/04/06 01:34	MSF	1634-04-4		
Naphthalene	ND	ug/l	2.0	10/04/06 01:34	MSF	91-20-3		
n-Propylbenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	103-65-1		
Styrene	ND	ug/l	0.50	10/04/06 01:34	MSF	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	10/04/06 01:34	MSF	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	10/04/06 01:34	MSF	79-34-5		
Tetrachloroethene	ND	ug/l	0.50	10/04/06 01:34	MSF	127-18-4		
Toluene	ND	ug/l	0.50	10/04/06 01:34	MSF	108-88-3		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

Lab Sample No: 927501387 Project Sample Number: 92129001-013 Date Collected: 09/29/06 16:15
Client Sample ID: SB-5 Matrix: Water Date Received: 09/29/06 18:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,2,3-Trichlorobenzene	ND	ug/l	2.0	10/04/06 01:34	MSF	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/l	2.0	10/04/06 01:34	MSF	120-82-1		
1,1,1-Trichloroethane	ND	ug/l	0.50	10/04/06 01:34	MSF	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	0.50	10/04/06 01:34	MSF	79-00-5		
Trichloroethene	ND	ug/l	0.50	10/04/06 01:34	MSF	79-01-6		
Trichlorofluoromethane	ND	ug/l	1.0	10/04/06 01:34	MSF	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	0.50	10/04/06 01:34	MSF	96-18-4		
1,2,4-Trimethylbenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/l	0.50	10/04/06 01:34	MSF	108-67-8		
Vinyl chloride	ND	ug/l	1.0	10/04/06 01:34	MSF	75-01-4		
m&p-Xylene	ND	ug/l	1.0	10/04/06 01:34	MSF			
o-Xylene	ND	ug/l	0.50	10/04/06 01:34	MSF	95-47-6		
Toluene-d8 (S)	98	%		10/04/06 01:34	MSF	2037-26-5		
4-Bromofluorobenzene (S)	96	%		10/04/06 01:34	MSF	460-00-4		
Dibromofluoromethane (S)	96	%		10/04/06 01:34	MSF	1868-53-7		
1,2-Dichloroethane-d4 (S)	94	%		10/04/06 01:34	MSF	17060-07-0		

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

PARAMETER FOOTNOTES

Method 9071B modified to use ASE.

All pH, Free Chlorine, Total Chlorine and Ferrous Iron analyses conducted outside of EPA recommended immediate hold time.

Depending on the moisture content the PRLs can be elevated for all soil samples reported on a dry weight basis.

2-Chloroethyl vinyl ether has been shown to degrade in the presence of acid.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate
[1]	The sample extract could not be concentrated to the normal final volume. This resulted in an elevated reporting limit.
[2]	The surrogate recovery was outside QC acceptance limits due to matrix interference.

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

QC Batch: 169125 — Analysis Method: EPA 8015
QC Batch Method: EPA 3545 — Analysis Description: TPH in Soil by 3545/8015
Associated Lab Samples: 927501239 927501254 927501262 927501288 927501296 927501304 927501312 927501320 927501338 927501346 927501353 927501361

METHOD BLANK: 927502468
Associated Lab Samples: 927501239 927501254 927501262 927501288 927501296 927501304 927501312 927501320 927501338 927501346 927501353 927501361

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Diesel Fuel	mg/kg	ND	5.0	
n-Pentacosane (S)	%	75		

LABORATORY CONTROL SAMPLE: 927502476

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Diesel Fuel	mg/kg	166.70	124.7	75	
n-Pentacosane (S)				91	

LABORATORY CONTROL SAMPLE: 927509471

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Diesel Fuel	mg/kg	166.70	138.6	83	
n-Pentacosane (S)				93	

LABORATORY CONTROL SAMPLE: 927538199

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Diesel Fuel	mg/kg	166.70	158.8	95	
n-Pentacosane (S)				102	

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 927502484 927502492

Parameter	Units	927501320 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Diesel Fuel	mg/kg	3.630	195.10	122.4	110.3	61	55	10	
n-Pentacosane (S)						80	70		

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

QC Batch: 169707 — Analysis Method: EPA 9071B
QC Batch Method: EPA 9071B — Analysis Description: Oil & Grease in Soil
Associated Lab Samples: 927501239 927501254 927501262 927501288 927501296 927501304 927501312 927501320 927501338 927501346 927501353 927501361

METHOD BLANK: 927532101
Associated Lab Samples: 927501239 927501254 927501262 927501288 927501296 927501304 927501312 927501320 927501338 927501346 927501353 927501361

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Oil and Grease	mg/kg	ND	170	

LABORATORY CONTROL SAMPLE: 927532119

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Oil and Grease	mg/kg	1333.00	1233	92	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 927532127 927532135

Parameter	Units	927505602 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Oil and Grease	mg/kg	3.867	1547.00	1470	1481	95	96	1	

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

QC Batch: 169695 — Analysis Method: EPA 8015
QC Batch Method: EPA 8015 — Analysis Description: GAS, Soil, North Carolina
Associated Lab Samples: 927501239 927501254 927501262 927501288 927501296 927501304 927501312 927501320 927501338 927501346 927501353 927501361

METHOD BLANK: 927531996
Associated Lab Samples: 927501239 927501254 927501262 927501288 927501296 927501304 927501312 927501320 927501338 927501346 927501353 927501361

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Gasoline	mg/kg	ND	5.0	
4-Bromofluorobenzene (S)	%	117		

LABORATORY CONTROL SAMPLE: 927532002

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Gasoline	mg/kg	25.00	29.39	118	
4-Bromofluorobenzene (S)				108	

MATRIX SPIKE: 927532010

Parameter	Units	927517789 Result	Spike Conc.	MS Result	MS % Rec	Footnotes
Gasoline	mg/kg	0.4519	26.88	32.95	121	
4-Bromofluorobenzene (S)					98	

SAMPLE DUPLICATE: 927532028

Parameter	Units	927517797 Result	DUP Result	RPD	Footnotes
Gasoline	mg/kg	560.0	130.0	126	1
4-Bromofluorobenzene (S)	%	101	130		

Date: 10/13/06

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

QC Batch: 169330 Analysis Method: EPA 625
QC Batch Method: EPA 625 SF Analysis Description: Extractables in Water by 625
Associated Lab Samples: 927501387

METHOD BLANK: 927510784
Associated Lab Samples: 927501387

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Acenaphthene	ug/l	ND	5.0	
Acenaphthylene	ug/l	ND	5.0	
Anthracene	ug/l	ND	5.0	
Benzidine	ug/l	ND	50.	
Benzo(k)fluoranthene	ug/l	ND	5.0	
Benzo(b)fluoranthene	ug/l	ND	5.0	
Benzo(a)anthracene	ug/l	ND	5.0	
Benzo(g,h,i)perylene	ug/l	ND	5.0	
Benzo(a)pyrene	ug/l	ND	5.0	
4-Bromophenylphenyl ether	ug/l	ND	5.0	
Butylbenzylphthalate	ug/l	ND	5.0	
4-Chloro-3-methylphenol	ug/l	ND	5.0	
bis(2-Chloroethoxy)methane	ug/l	ND	5.0	
bis(2-Chloroethyl) ether	ug/l	ND	5.0	
bis(2-Chloroisopropyl) ether	ug/l	ND	5.0	
2-Chloronaphthalene	ug/l	ND	5.0	
2-Chlorophenol	ug/l	ND	5.0	
4-Chlorophenylphenyl ether	ug/l	ND	5.0	
Chrysene	ug/l	ND	5.0	
Dibenz(a,h)anthracene	ug/l	ND	5.0	
1,2-Dichlorobenzene	ug/l	ND	5.0	
1,3-Dichlorobenzene	ug/l	ND	5.0	
1,4-Dichlorobenzene	ug/l	ND	5.0	
3,3'-Dichlorobenzidine	ug/l	ND	10.	
2,4-Dichlorophenol	ug/l	ND	5.0	
Diethylphthalate	ug/l	ND	5.0	
2,4-Dimethylphenol	ug/l	ND	5.0	
Dimethylphthalate	ug/l	ND	5.0	
Di-n-butylphthalate	ug/l	ND	5.0	
4,6-Dinitro-2-methylphenol	ug/l	ND	25.	
2,4-Dinitrophenol	ug/l	ND	25.	

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

METHOD BLANK: 927510784
Associated Lab Samples: 927501387

Parameter	Units	Blank Result	Reporting Limit	Footnotes
2,4-Dinitrotoluene	ug/l	ND	5.0	
2,6-Dinitrotoluene	ug/l	ND	5.0	
Di-n-octylphthalate	ug/l	ND	5.0	
bis(2-Ethylhexyl)phthalate	ug/l	ND	5.0	
Fluoranthene	ug/l	ND	5.0	
Fluorene	ug/l	ND	5.0	
Hexachloro-1,3-butadiene	ug/l	ND	5.0	
Hexachlorobenzene	ug/l	ND	5.0	
Hexachlorocyclopentadiene	ug/l	ND	10.	
Hexachloroethane	ug/l	ND	5.0	
Indeno(1,2,3-cd)pyrene	ug/l	ND	5.0	
Isophorone	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Nitrobenzene	ug/l	ND	5.0	
2-Nitrophenol	ug/l	ND	5.0	
4-Nitrophenol	ug/l	ND	25.	
N-Nitrosodimethylamine	ug/l	ND	5.0	
N-Nitroso-di-n-propylamine	ug/l	ND	5.0	
N-Nitrosodiphenylamine	ug/l	ND	5.0	
Pentachlorophenol	ug/l	ND	25.	
Phenanthrene	ug/l	ND	5.0	
Phenol	ug/l	ND	5.0	
Pyrene	ug/l	ND	5.0	
1,2,4-Trichlorobenzene	ug/l	ND	5.0	
2,4,6-Trichlorophenol	ug/l	ND	5.0	
Nitrobenzene-d5 (S)	%	57		
2-Fluorobiphenyl (S)	%	67		
Terphenyl-d14 (S)	%	75		
Phenol-d5 (S)	%	21		
2-Fluorophenol (S)	%	34		
2,4,6-Tribromophenol (S)	%	64		

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

LABORATORY CONTROL SAMPLE: 927510792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Acenaphthene	ug/l	50.00	39.45	79	
Acenaphthylene	ug/l	50.00	40.33	81	
Anthracene	ug/l	50.00	43.46	87	
Benzidine	ug/l	100.00	26.19	26	
Benzo(k)fluoranthene	ug/l	50.00	37.23	74	
Benzo(b)fluoranthene	ug/l	50.00	43.94	88	
Benzo(a)anthracene	ug/l	50.00	40.27	80	
Benzo(g,h,i)perylene	ug/l	50.00	39.78	80	
Benzo(a)pyrene	ug/l	50.00	43.45	87	
4-Bromophenylphenyl ether	ug/l	50.00	36.69	73	
Butylbenzylphthalate	ug/l	50.00	41.85	84	
4-Chloro-3-methylphenol	ug/l	50.00	39.46	79	
bis(2-Chloroethoxy)methane	ug/l	50.00	33.37	67	
bis(2-Chloroethyl) ether	ug/l	50.00	38.07	76	
bis(2-Chloroisopropyl) ether	ug/l	50.00	28.21	56	
2-Chloronaphthalene	ug/l	50.00	40.01	80	
2-Chlorophenol	ug/l	50.00	29.24	58	
4-Chlorophenylphenyl ether	ug/l	50.00	42.33	85	
Chrysene	ug/l	50.00	40.56	81	
Dibenz(a,h)anthracene	ug/l	50.00	38.43	77	
1,2-Dichlorobenzene	ug/l	50.00	25.08	50	
1,3-Dichlorobenzene	ug/l	50.00	22.86	46	
1,4-Dichlorobenzene	ug/l	50.00	23.42	47	
3,3'-Dichlorobenzidine	ug/l	100.00	41.80	42	
2,4-Dichlorophenol	ug/l	50.00	37.04	74	
Diethylphthalate	ug/l	50.00	44.73	90	
2,4-Dimethylphenol	ug/l	50.00	33.51	67	
Dimethylphthalate	ug/l	50.00	43.60	87	
Di-n-butylphthalate	ug/l	50.00	40.37	81	
4,6-Dinitro-2-methylphenol	ug/l	50.00	30.73	62	
2,4-Dinitrophenol	ug/l	50.00	5.809	12	
2,4-Dinitrotoluene	ug/l	50.00	46.63	93	
2,6-Dinitrotoluene	ug/l	50.00	45.53	91	
Di-n-octylphthalate	ug/l	50.00	41.83	84	
bis(2-Ethylhexyl)phthalate	ug/l	50.00	41.18	82	
Fluoranthene	ug/l	50.00	40.13	80	
Fluorene	ug/l	50.00	43.43	87	

Date: 10/13/06

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

LABORATORY CONTROL SAMPLE: 927510792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Hexachloro-1,3-butadiene	ug/l	50.00	20.67	41	
Hexachlorobenzene	ug/l	50.00	36.39	73	
Hexachlorocyclopentadiene	ug/l	50.00	12.40	25	
Hexachloroethane	ug/l	50.00	20.58	41	
Indeno(1,2,3-cd)pyrene	ug/l	50.00	38.37	77	
Isophorone	ug/l	50.00	44.81	90	
Naphthalene	ug/l	50.00	30.46	61	
Nitrobenzene	ug/l	50.00	30.86	62	
2-Nitrophenol	ug/l	50.00	31.16	62	
4-Nitrophenol	ug/l	50.00	14.74	30	
N-Nitrosodimethylamine	ug/l	50.00	19.28	39	
N-Nitroso-di-n-propylamine	ug/l	50.00	32.73	66	
N-Nitrosodiphenylamine	ug/l	50.00	90.90	182	2
Pentachlorophenol	ug/l	50.00	19.41	39	
Phenanthrene	ug/l	50.00	40.33	81	
Phenol	ug/l	50.00	12.04	24	
Pyrene	ug/l	50.00	41.80	84	
1,2,4-Trichlorobenzene	ug/l	50.00	27.28	55	
2,4,6-Trichlorophenol	ug/l	50.00	39.34	79	
Nitrobenzene-d5 (S)				59	
2-Fluorobiphenyl (S)				74	
Terphenyl-d14 (S)				80	
Phenol-d5 (S)				25	
2-Fluorophenol (S)				36	
2,4,6-Tribromophenol (S)				79	

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

QC Batch: 169227 — Analysis Method: SM 6210D
QC Batch Method: SM 6210D — Analysis Description: SM 6210D VOCs
Associated Lab Samples: 927501387

METHOD BLANK: 927504688
Associated Lab Samples: 927501387

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	0.50	
Bromobenzene	ug/l	ND	0.50	
Bromochloromethane	ug/l	ND	0.50	
Bromodichloromethane	ug/l	ND	0.50	
Bromoform	ug/l	ND	0.50	
Bromomethane	ug/l	ND	0.50	
n-Butylbenzene	ug/l	ND	0.50	
sec-Butylbenzene	ug/l	ND	0.50	
tert-Butylbenzene	ug/l	ND	0.50	
Carbon tetrachloride	ug/l	ND	0.50	
Chlorobenzene	ug/l	ND	0.50	
Chloroethane	ug/l	ND	1.0	
Chloroform	ug/l	ND	0.50	
Chloromethane	ug/l	ND	1.0	
2-Chlorotoluene	ug/l	ND	0.50	
4-Chlorotoluene	ug/l	ND	0.50	
1,2-Dibromo-3-chloropropane	ug/l	ND	1.0	
Dibromochloromethane	ug/l	ND	0.50	
1,2-Dibromoethane (EDB)	ug/l	ND	0.50	
Dibromomethane	ug/l	ND	0.50	
1,2-Dichlorobenzene	ug/l	ND	0.50	
1,3-Dichlorobenzene	ug/l	ND	0.50	
1,4-Dichlorobenzene	ug/l	ND	0.50	
Dichlorodifluoromethane	ug/l	ND	1.0	
1,1-Dichloroethane	ug/l	ND	0.50	
1,2-Dichloroethane	ug/l	ND	0.50	
1,1-Dichloroethene	ug/l	ND	0.50	
cis-1,2-Dichloroethene	ug/l	ND	0.50	
trans-1,2-Dichloroethene	ug/l	ND	0.50	
1,2-Dichloropropane	ug/l	ND	0.50	
1,3-Dichloropropane	ug/l	ND	0.50	

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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Pace Analytical Services, Inc.
2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

METHOD BLANK: 927504688
Associated Lab Samples: 927501387

Parameter	Units	Blank Result	Reporting Limit	Footnotes
2,2-Dichloropropane	ug/l	ND	0.50	
1,1-Dichloropropene	ug/l	ND	0.50	
cis-1,3-Dichloropropene	ug/l	ND	0.50	
trans-1,3-Dichloropropene	ug/l	ND	0.50	
Diisopropyl ether	ug/l	ND	0.50	
Ethylbenzene	ug/l	ND	0.50	
Hexachloro-1,3-butadiene	ug/l	ND	2.0	
Isopropylbenzene (Cumene)	ug/l	ND	0.50	
p-Isopropyltoluene	ug/l	ND	0.50	
Methylene chloride	ug/l	ND	2.0	
Methyl-tert-butyl ether	ug/l	ND	0.50	
Naphthalene	ug/l	ND	2.0	
n-Propylbenzene	ug/l	ND	0.50	
Styrene	ug/l	ND	0.50	
1,1,1,2-Tetrachloroethane	ug/l	ND	0.50	
1,1,2,2-Tetrachloroethane	ug/l	ND	0.50	
Tetrachloroethene	ug/l	ND	0.50	
Toluene	ug/l	ND	0.50	
1,2,3-Trichlorobenzene	ug/l	ND	2.0	
1,2,4-Trichlorobenzene	ug/l	ND	2.0	
1,1,1-Trichloroethane	ug/l	ND	0.50	
1,1,2-Trichloroethane	ug/l	ND	0.50	
Trichloroethene	ug/l	ND	0.50	
Trichlorofluoromethane	ug/l	ND	1.0	
1,2,3-Trichloropropane	ug/l	ND	0.50	
1,2,4-Trimethylbenzene	ug/l	ND	0.50	
1,3,5-Trimethylbenzene	ug/l	ND	0.50	
Vinyl chloride	ug/l	ND	1.0	
m&p-Xylene	ug/l	ND	1.0	
o-Xylene	ug/l	ND	0.50	
Toluene-d8 (S)	%	99		
4-Bromofluorobenzene (S)	%	96		
Dibromofluoromethane (S)	%	95		
1,2-Dichloroethane-d4 (S)	%	92		

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

LABORATORY CONTROL SAMPLE: 927504696

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	10.00	11.13	111	
Bromobenzene	ug/l	10.00	10.44	104	
Bromochloromethane	ug/l	10.00	10.84	108	
Bromodichloromethane	ug/l	10.00	9.414	94	
Bromoform	ug/l	10.00	9.906	99	
Bromomethane	ug/l	10.00	9.992	100	
n-Butylbenzene	ug/l	10.00	9.359	94	
sec-Butylbenzene	ug/l	10.00	10.30	103	
tert-Butylbenzene	ug/l	10.00	10.22	102	
Carbon tetrachloride	ug/l	10.00	9.605	96	
Chlorobenzene	ug/l	10.00	9.884	99	
Chloroethane	ug/l	10.00	10.78	108	
Chloroform	ug/l	10.00	9.940	99	
Chloromethane	ug/l	10.00	9.843	98	
2-Chlorotoluene	ug/l	10.00	10.06	101	
4-Chlorotoluene	ug/l	10.00	10.14	101	
1,2-Dibromo-3-chloropropane	ug/l	10.00	10.78	108	
Dibromochloromethane	ug/l	10.00	9.287	93	
1,2-Dibromoethane (EDB)	ug/l	10.00	9.448	94	
Dibromomethane	ug/l	10.00	10.05	101	
1,2-Dichlorobenzene	ug/l	10.00	10.23	102	
1,3-Dichlorobenzene	ug/l	10.00	10.11	101	
1,4-Dichlorobenzene	ug/l	10.00	10.12	101	
Dichlorodifluoromethane	ug/l	10.00	9.317	93	
1,1-Dichloroethane	ug/l	10.00	10.42	104	
1,2-Dichloroethane	ug/l	10.00	10.23	102	
1,1-Dichloroethene	ug/l	10.00	11.27	113	
cis-1,2-Dichloroethene	ug/l	10.00	10.95	109	
trans-1,2-Dichloroethene	ug/l	10.00	10.96	110	
1,2-Dichloropropane	ug/l	10.00	9.886	99	
1,3-Dichloropropane	ug/l	10.00	9.646	96	
2,2-Dichloropropane	ug/l	10.00	9.252	92	
1,1-Dichloropropene	ug/l	10.00	10.23	102	
cis-1,3-Dichloropropene	ug/l	10.00	9.209	92	
trans-1,3-Dichloropropene	ug/l	10.00	9.208	92	
Diisopropyl ether	ug/l	10.00	9.852	98	
Ethylbenzene	ug/l	10.00	10.11	101	

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

LABORATORY CONTROL SAMPLE: 927504696

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Hexachloro-1,3-butadiene	ug/l	10.00	11.73	117	
Isopropylbenzene (Cumene)	ug/l	10.00	10.29	103	
p-Isopropyltoluene	ug/l	10.00	9.629	96	
Methylene chloride	ug/l	10.00	9.249	92	
Methyl-tert-butyl ether	ug/l	10.00	9.841	98	
Naphthalene	ug/l	10.00	19.60	196	2
n-Propylbenzene	ug/l	10.00	10.46	105	
Styrene	ug/l	10.00	10.22	102	
1,1,1,2-Tetrachloroethane	ug/l	10.00	9.645	96	
1,1,2,2-Tetrachloroethane	ug/l	10.00	9.459	95	
Tetrachloroethene	ug/l	10.00	9.756	98	
Toluene	ug/l	10.00	13.25	132	
1,2,3-Trichlorobenzene	ug/l	10.00	10.83	108	
1,2,4-Trichlorobenzene	ug/l	10.00	10.70	107	
1,1,1-Trichloroethane	ug/l	10.00	9.979	100	
1,1,2-Trichloroethane	ug/l	10.00	9.795	98	
Trichloroethene	ug/l	10.00	10.46	105	
Trichlorofluoromethane	ug/l	10.00	11.27	113	
1,2,3-Trichloropropane	ug/l	10.00	10.57	106	
1,2,4-Trimethylbenzene	ug/l	10.00	9.615	96	
1,3,5-Trimethylbenzene	ug/l	10.00	9.467	95	
Vinyl chloride	ug/l	10.00	9.016	90	
m&p-Xylene	ug/l	20.00	21.44	107	
o-Xylene	ug/l	10.00	10.43	104	
Toluene-d8 (S)				99	
4-Bromofluorobenzene (S)				98	
Dibromofluoromethane (S)				101	
1,2-Dichloroethane-d4 (S)				94	

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QUALITY CONTROL DATA

Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

QC Batch: 169205 — Analysis Method: % Moisture
QC Batch Method: — Analysis Description: Percent Moisture
Associated Lab Samples: 927501239, 927501254, 927501262, 927501288, 927501296, 927501304, 927501312, 927501320, 927501338, 927501346, 927501353, 927501361

SAMPLE DUPLICATE: 927503607

Parameter	Units	927502450 Result	DUP Result	RPD	Footnotes
Percent Moisture	%	42.00	41.40	2	

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Lab Project Number: 92129001
Client Project ID: NCDOT 33419.1.1 YADKIN

QUALITY CONTROL DATA PARAMETER FOOTNOTES

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

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	Sample re-analysis confirmed the sample is not homogeneous.
[2]	Recovery falls outside of QC limits, however, this compound is not found in the associated samples.

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical®

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

Page: 1 of 2

1003282

Section A Required Client Information:

Company	AMEC
Address	
Email To:	Helen.Corley@amec.com
Phone / Fax	(704)9753570
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Helen Corley
Copy To:	
Purchase Order No.:	
Project Name:	NCDOT Yadkin
Project Number:	WBS: 33419.1.1

Section C Invoice Information:

Attention:	
Company Name:	NCDOT
Address:	
Pace Quote Reference:	
Pace Project Manager:	RES
Pace Profile #:	3578-8

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ Other_____

SITE LOCATION ☐GA ☐IL ☐IN ☐MI ☐MN ☐NC ☐OH ☐SC ☐WI ☐OTHER _____

Section D Required Client Information

SAMPLE ID

One Character per box.
(A-Z, 0-9 / ,-)
Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis: 0+G DRO 6RO	Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D
1	SB-1 (0-4)	SL	G	9/29	1000				3							2					92501239
2	SB-2 (5-6)				1025																1254
3	SB-3 (0-4)				1040																1262
4	SB-4 (0-4)				1055																1288
5	SB-5 (5-7)				1140																1296
6	SB-6 (6.5-8)				1205																1304
7	SB-7 (4-8)				1230																1312
8	SB-8 (4-8)				1405																1320
9	SB-9 (5-6)				1410																1338
10	SB-10 (0-4)				1435																1346
11	SB-11 (4-16)				1510																1353
12	SB-12				1550																1361

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Brooke Sprouse	9/29	1625	DWG	9/29/08	1625

SAMPLE CONDITION

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
2.2	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brooke Sprouse

SIGNATURE of SAMPLER: Brooke Sprouse

DATE Signed (MM / DD / YY): 9/29

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL

ALL0020rev3.21Mar05

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

1003283

Section A
Required Client Information:

Company: AMEC	
Address:	
Email To: Helen.Corley@amec.com	
Phone: (704)875-3520	Fax:
Requested Due Date/TAT:	

Section B
Required Project Information:

Report To: Helen Corley	
Copy To:	
Purchase Order No.:	
Project Name: NCDOT Yadkin	
Project Number: WBS.33419.1.1	

Section C
Invoice Information:

Attention:	
Company Name: NCDOT	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ Other_____

SITE LOCATION ☐GA ☐IL ☐IN ☐MI ☐MN ☐NC ☐OH ☐SC ☐WI ☐OTHER _____

Section D **Required** Client Information

SAMPLE ID

One Character per box.
(A-Z, 0-9 / ,-)
Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: 625 / 6210D	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D
1	SB-5	SW		9/29	1625				2			3						✓	✓		92750138 7
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

92129001 Pace Project Number

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Brooke Sprouse	9/29	1825	DWG	9/29/06	1825

SAMPLE CONDITION

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
2.2	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brooke Sprouse

SIGNATURE of SAMPLER: Brooke Sprouse

DATE Signed (MM / DD / YY): 9/29

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL

ALLQ020rev.3 31Mar05