

NC Department of Transportation Preliminary Site Assessment State Project: R-4047 WBS Element: 34599.1.1

Thomas R. Morgan Property Site #1 October 1, 2009

AMEC Earth and Environmental, Inc. of North Carolina AMEC Project: 562114047

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1.0 INTRODUCTION

In accordance with the North Carolina Department of Transportation (NCDOT) Notice to Proceed dated August 24, 2009, AMEC Earth and Environmental, Inc. of North Carolina (AMEC) has performed a Preliminary Site Assessment (PSA) for the Thomas R. Morgan Property (the Site) to be acquired for a road building project along Hwy 209 (Crabtree Road). Thomas R. Morgan owns the property, which is identified as Site #1 within the NCDOT R-4047 design project. The property is located on Paragon Parkway in Clyde, Haywood County, North Carolina. The investigation was conducted in accordance with AMEC's Technical and Cost proposal dated August 24, 2009.

NCDOT contracted AMEC to perform a PSA on the Thomas R. Morgan Property due to usage of Underground Storage Tanks (UST) on the property. The property currently operates as a Shoney's Restaurant, Burger King, and Shell gas station with mini-market (the Site). The PSA was performed to determine if soils have been impacted by petroleum compounds as a result of past or present uses of the property within the proposed expanded right-of-way (ROW). The investigation was specifically completed to determine the presence or absence of petroleum hydrocarbons along the proposed ROW.

The following report describes our field investigations and results of chemical analyses. It includes the evaluation of the analytical data with regards to the presence or absence of soil contamination within the proposed right-of-way (ROW) and estimates the extent of soil contamination.

1.1 Site Location and History

The Thomas R. Morgan Property is located on the northwestern side of Paragon Parkway, approximately 200 feet northeast of Hwy 209 (Crabtree Road) in Clyde, Haywood County, North Carolina. It is located within the Sedimentary and Metamorphic sediments of the Blue Ridge Belt Physiographic Province of western North Carolina. Figure 1 shows the site location and vicinity.

AMEC studied the NCDENR UST Database for Incident Management and Registered Facilities and did not find any incidents reported for this site.



1.2 Site Description

Two single story buildings and an unattached canopy covering three pump islands occupy the Site. The proposed road widening will traverse the entire property of Site #1. Two separate tank beds exist. The primary tank bed, located east of the canopy, includes three underground storage tanks (UST); two 12,000 gallon with regular unleaded fuel and one 10,000 gallon with diesel fuel. A second tank bed with a 4,000 gallon kerosene UST is situated at the southern end of the gas station building, along with an associated dispenser. The UST were installed in 1997. No monitoring wells are located at this facility. Appendix 1 includes a photo log for Site 1.

The Property Northeast of the Site is an abandoned commercial property that was formerly Wal-Mart. Across Hwy 209 (Crabtree Road), to the west is a small motel. Northwest of the Property is a small residential area.

2.0 GEOLOGY

2.1 Regional Geology

The Thomas R. Morgan Property is located within the Biotite Gneiss group of the Blue Ridge Belt Physiographic Province of western North Carolina. The Biotite Gneiss group is migmatic, interlayered and gradational with biotite garnet gneiss and amphibolite.

2.2 Site Geology

Site geology was observed through the sampling of 11 shallow direct push probe soil borings (SB) onsite. Borings extended to a total depth of 15 feet below ground surface (bgs). Soils generally consisted of fine and medium-grained sandy silt. Boring logs are presented in Appendix 2. One boring was drilled into bedrock for the purpose of constructing a temporary monitoring well, S1-MW1. Bedrock was encountered at a depth of 28 feet bgs and a few unproductive fractures were observed down to 82 feet bgs. After leaving the borehole open for a few hours water slowly entered the borehole and the temporary well construction occurred. This boring log with construction information is also found in Appendix 2.



Saturated conditions (ground water) were not encountered in any of the borings performed but the equilibrated depth to water in the temporary well was 36.5 feet bgs.

3.0 FIELD ACTIVITIES

3.1 Preliminary Activities

Prior to commencing field sampling activities at the site, several tasks were accomplished in preparation for the subsurface investigation. 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 of selected boring locations. Priority Underground Locating Services of Huntersville, North Carolina was coordinated by AMEC for utility locating services. SAEDACCO (South Atlantic Environmental Drilling and Construction Co.) of Fort Mill, South Carolina was retained by AMEC to perform the direct push sampling for soil borings and air rotary drilling for temporary well installations. AMEC subcontracted Mashburn's Concrete Inc to perform six cores to facilitate soil boring through concrete round cover in select areas. AMEC coordinated with Schnabel Engineering South (Schnabel) who performed two geophysical surveys (electromagnetic and ground penetrating radar) onsite during August. The geophysical results were reviewed and discussed at the completion of each survey. Prism Laboratories, Inc. was contacted for acquisition of sample bottles. Soil boring locations were focused around the tank beds and dispensers, with some boring locations placed north of the Shell Station to establish that those areas were free from soil contamination.

3.2 Site Reconnaissance

AMEC personnel completed site reconnaissance on August 5, 2009. The area was visually examined for the presence of any UST or areas/obstructions that could potentially affect the subsurface investigation and the geophysical subcontractor was met in the field. Marking of boring locations occurred on August 26, 2009.

3.3 Well Survey

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



3.4 Soil Sampling

Soil boring occurred between August 26 and September 2, 2009 at Site 1. Nine direct push soil borings were conducted adjacent to tank beds, dispenser pumps and dispenser piping on Site #1. Figure 2 presents the Site Map with sample locations and identifications. These samples were located to optimize the likelihood of intercepting any potential soil contamination. The first boring (SB-1) was placed on the southern tip of the primary dispenser islands of Site #1. Subsequent borings SB-2 through SB-3 continued eastward toward the eastern edge of the primary dispenser islands. Sample SB-3 could not be obtained due to refusal at 3 feet. Borings SB-4 and SB-5 flanked the western and southern extents of the primary tank beds. Borings SB-9 and SB-10 were located near the kerosene dispenser and tank bed. SB-11 and SB-12 were sampled to the north of the tank beds in the part of the property situated between the Shell station and Shoney's Restaurant buildings.

No signs of staining, odor or significant Photo Ionization Detector (PID) reading were detected in any of the soil borings. Soil samples were collected in accordance with EPA protocols in laboratory-supplied containers. The soil samples for Total Petroleum Hydrocarbons (TPH) –Gasoline Range Organics (GRO) analysis were collected using the 5030 prep method with methanol preservation. Samples for TPH-Diesel Range Organics (DRO) analysis were collected in 4oz. glass containers. Once placed in the containers, the 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 to Prism Laboratories, a North Carolina Certified Laboratory following proper chain-of-custody procedures.

3.5 Groundwater Sampling

One temporary groundwater well was installed on Site #1 on August 26, 2009 and abandoned on September 2, 2009. The well was installed west of the kerosene dispenser.

No signs of discoloration or odor were detected in the groundwater sample. The water sample was collected in accordance with EPA protocols in laboratory-supplied containers. The water sample for the 625 analysis was collected using 1 L unpreserved amber bottles. The sample for 601/602 analysis was collected in Volatile Organic Analysis bottles with hydrochloric acid preservation. Once placed in the containers, the 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 to Prism Laboratories, a North Carolina Certified Laboratory following proper chain-of-custody procedures.

4.0 RESULTS

4.1 Soil Sampling Results

AMEC conducted soil sampling at the Site on August 26 and September 2, 2009. The purpose of the sampling was to determine if releases of petroleum hydrocarbons had occurred, and if so, to estimate the volume of soil that might require special handling during construction activities. The sampling was accomplished using direct push methods accompanied by field screening for organic vapors with a PID. The laboratory results with PID readings are tabulated in Table 1 and shown on Figure 3.

A minimum of one soil sample was collected from each of the 11 completed soil borings from Site #1. When impacted soil was identified, additional soil samples were obtained. PID readings warranted that four additional samples be acquired. Analyses of soil samples for DRO and GRO did not indicate any detectable concentrations in any of the 15 samples. Copies of the original laboratory report and chain-of-custody documentation are included as Appendix 3.

4.2 Groundwater Sampling Results

AMEC conducted groundwater sampling at the Site on August 28, 2009. The purpose of the sampling was to determine if potential releases of petroleum hydrocarbons had impacted the uppermost groundwater body. Analysis of the groundwater sample for volatile and semi-volatile organic compounds did not indicate any detectable concentrations.



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 August 26, August 28, and September 2, 2009.

- The property contains 4 UST that were installed in 1997.
- The commercial buildings at the Site are occupied by Shoney's Restaurant, Burger King and a Shell gas station with a convenience store.
- PID readings indicated the possibility of petroleum contaminants in 4 of 11 completed boring locations.
- Laboratory analyses of soil samples determined that GRO and DRO were not present above the 10 mg/kg reporting limit.

6.0 RECOMMENDATIONS

If NCDOT acquires the Morgan Property, the four UST and associated dispensers must be closed by removal per the UST guidelines, which requires additional sampling.



Table 1
Soil Sampling Analytical Results, DRO-GRO
Site 1, Morgan Property
Haywood County Property
Clyde, North Carolina

	SAMPLE	SAMPLE DEPTH (ft bgs)	PID READINGS	EPA Method 8015B	
SAMPLE ID	DATE			DRO (mg/kg)	GRO (mg/kg)
NC Action Levels				10	10
S1-SB1-1	8/26/2009	13 - 15	0.1	<9.9	<7.1
S1-SB1-2	8/26/2009	3 - 5	6.2	<9.4	<6.7
S1-SB2-1	8/26/2009	13 - 15	38.0	<9.5	<6.8
S1-SB2-2	8/26/2009	3 - 5	0.0	<9.1	<6.5
S1-SB4-1	8/26/2009	5 - 6	0.0	<9.9	<7.1
S1-SB5-1	9/2/2009	10 - 13	7.7	<9.7	<6.9
S1-SB5-2	9/2/2009	5 - 7	28.4	<8.5	<6.0
S1-SB6-1	9/2/2009	6 - 8	114.0	<8.7	<6.2
S1-SB6-2	9/2/2009	10 - 12	83.0	<9.4	<6.7
S1-SB7-1	9/2/2009	8 - 10	0.0	<8.3	<6.2
S1-SB8-1	9/2/2009	5 - 7	0.0	<8.6	<6.2
S1-SB9-1	9/2/2009	7 - 9	0.0	<9.5	<6.7
S1-SB10-1	9/2/2009	8 - 10	0.0	<8.7	<6.1
S1-SB11-1	9/2/2009	6 - 8	0.0	<8.9	<6.3
S1-SB12-1	9/2/2009	5 - 8	0.0	<10	<7.3

NOTES:

bgs = below ground surface

Bold Concentrations Exceed Action Levels

DRO = Diesel Range Organics

GRO = Gasoline Range Organics

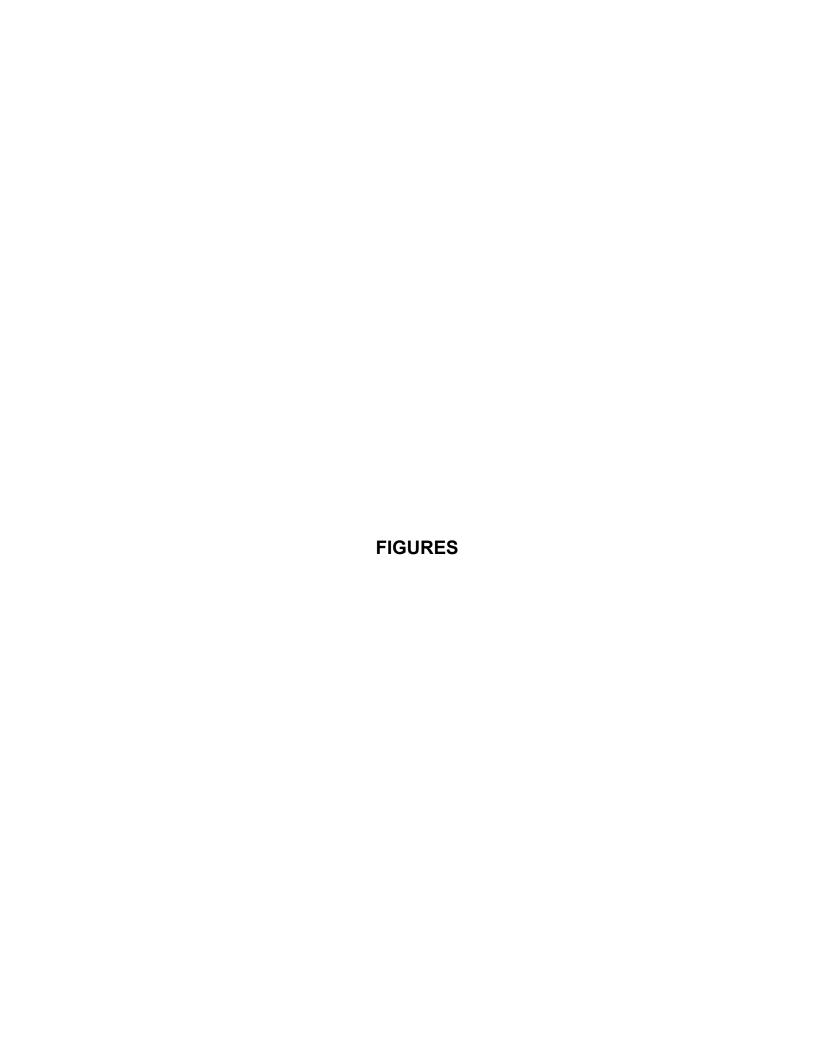
Standards derived from the North Carolina UST Section Guidelines for Assessment and Corrective Action

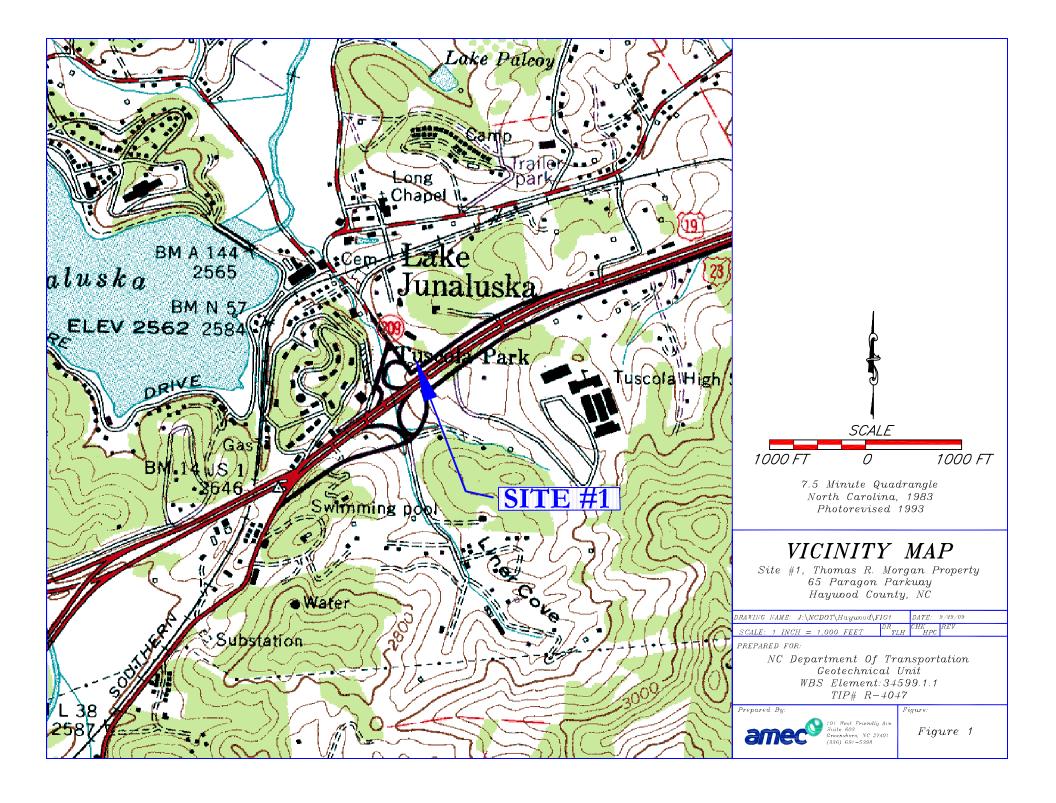
Table 2 Groundwater Sampling Analytical Results - VOCs, SVOCs Site 1, Morgan Property Haywood County Property Clyde , North Carolina

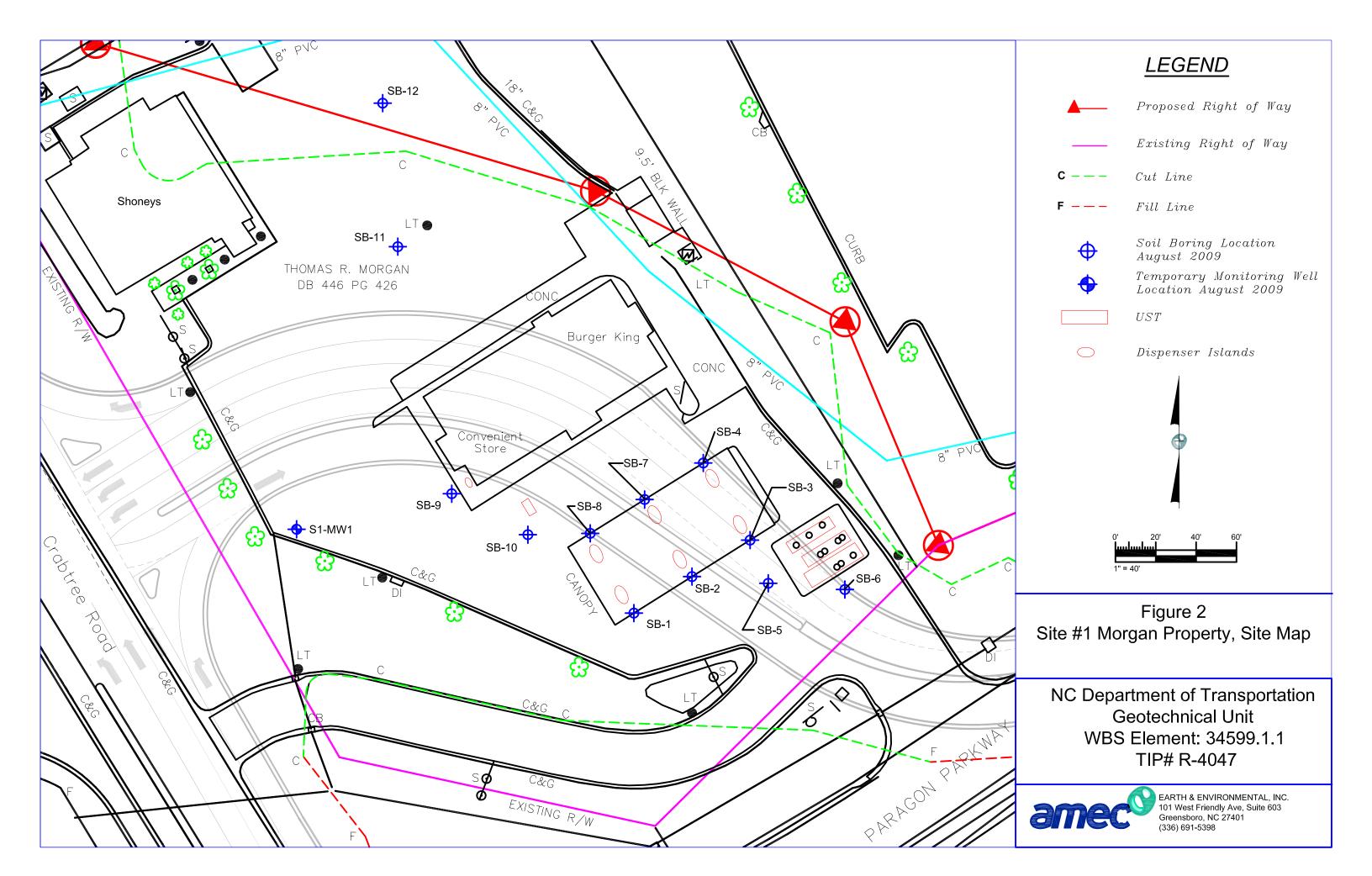
	SAMPLE	EPA Method 601/602		
SAMPLE ID	DATE	VOCs	SVOCs	
NC Action Levels				
S1-MW1	8/28/2009	All analytes were be	elow reporting limits.	

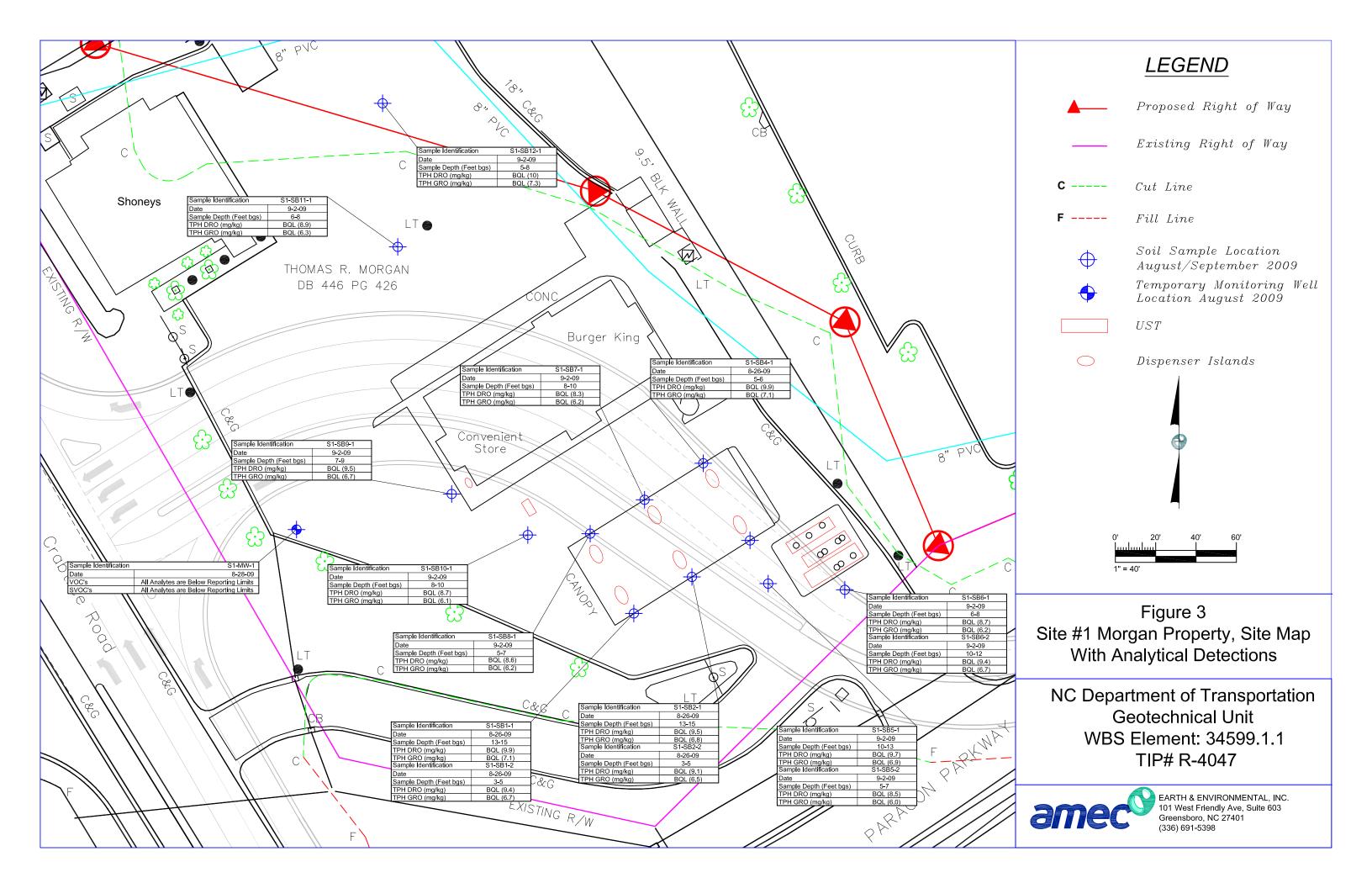
NOTES:

VOCs = volatile organic compounds SVOCs = semi-volatile organic compounds









APPENDIX 1

PHOTO LOG



Photo No.

Date: 08/5/09

Direction Photo Taken:

West

Description:

View of tank bed containing 10,000 – 12,000 and 20,000 UST's



Photo No.

Date: 08/5/09

Direction Photo Taken:

Northeast

Description:

View of six dispenser islands





Photo No.

Date: 08/5/09

Direction Photo Taken:

Northeast

Description:

View of kerosene dispenser



Photo No.

Date: 08/5/09

Direction Photo Taken:

Northwest

Description:

View of kerosene UST





Photo No. Date: 08/5/09

Direction Photo Taken:

South

Description:

View of back parking lot where SB-11 and SB-12 were placed



Photo No.

6 Date: 08/25/09

Direction Photo Taken:

West

Description:

View of coring machine cutting through concrete



Photo Log PAGE 4 of 5



Photo No.

Date:

7

08/25/09

Direction Photo Taken:

Southwest

Description:

View of driller using a hand auger for the initial 5 feet.



Photo No. 8

Date: 08/25/09

Direction Photo Taken:

Southeast

Description:

View of driller setting rig up over hand augered soil boring



Photo Log PAGE 5 of 5



Tel (336) 691-5398

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Photo No.

Date: 08/27/09

Direction Photo Taken:

North

Description:

View of air rotary rig driller for monitoring well



Photo No.

Date:

08/27/09

Direction Photo Taken:

Southeast

Description:

View of silts brought up by the air rotary rig.



APPENDIX 2
BORING LOGS



Boring/Well No.: S1-SB1	Site Name: Thomas R. Morgan Property
Date: 8-26-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0 - 7"			Concrete
0.55 - 5	6.2		Tan micaceous SILT
5 - 9	2.3		Red clayey, micaceous SILT
9 - 13	3.1		Red clayey, micaceous SILT Tan micaceous SILT
13 - 15	0.1		Tan micaceous SILT with white blebs
		WELL CONS	TRUCTION DETAILS (If Applicable)
Well Type/Diar	neter:		Outer Casing Interval:
Total Depth:			Outer Casing Diameter:
Screen Interva	l:		Bentonite Interval:
Sand Interval:			Slot Size:
Sand Interval.			Olot Olizo.



Boring/Well No.: S1-SB2	Site Name: Thomas R. Morgan Property
Date: 8-26-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0 - 7"			Concrete
0.55 - 5	0		Tan micaceous SILT
5 - 8	2.3		Tan, pink, white micaceous SILT
8 - 15	38		Tan/orange micaceous SILT
		WELL CONS	TRUCTION DETAILS (If Applicable)
Well Type/Dian	neter:		Outer Casing Interval:
Total Depth: Screen Interval			Outer Casing Diameter: Bentonite Interval:
Screen Interval: Sand Interval:			Slot Size:



Sand Interval:

Grout Interval:

AMEC Earth & Environmental, Inc. BORING LOG

Boring/Well No.: S1-SB3	Site Name: Thomas R. Morgan Property
Date: 8-26-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856
Remarks:	

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0 - 0.5			Asphalt
0.5 - 1			Gravel
1 - 3			Tan micaceous SILT
			Refusal at 3'.
		 	
		WELL CONS	TRUCTION DETAILS (If Applicable)
Well Type/Dian	neter:		Outer Casing Interval:
Total Depth:			Outer Casing Diameter:
Screen Interval	•		Bentonite Interval:

Slot Size:



Boring/Well No.: S1-SB4	Site Name: Thomas R. Morgan Property
Date: 8-26-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0 - 7"	,		Concrete
0.55 - 1			Gravel
1 - 5	0		Brown micaceous SILT
5 - 9	0		Tan micaceous SILT
9 - 12	0		Tan clayey micaceous SILT
12 - 13	0		White clayey SILT
13 - 15	0		Tan clayey SILT
		WELL CONS	TRUCTION DETAILS (If Applicable)
Well Type/Diar	neter:		Outer Casing Interval:
Total Depth:			Outer Casing Diameter:
Screen Interval:			Bentonite Interval:

Slot Size:



Boring/Well No.: S1-SB5	Site Name: Thomas R. Morgan Property
Date: 9-2-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0 - 0.5	(1-1- /		Asphalt
0.5 - 1.5			Aggregate
1.5 - 5	0.0		Light brown micaceous SILT
5 - 7	28.4		Light brown micaceous SILT
7 - 10	14.8		Red micaceous SILT
10 - 13	36.2		Light brown micaceous SILT
13 - 15	7.7		Light brown micaceous SILT
		WELL CONS	 TRUCTION DETAILS (If Applicable)
Well Type/Diameter:			Outer Casing Interval:
Total Depth:			Outer Casing Diameter:
Screen Interval:			Bentonite Interval:
One of later cells			

Slot Size:



Boring/Well No.: S1-SB6	Site Name: Thomas R. Morgan Property
Date: 9-2-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	
0 - 0.5			Asphalt
0.5 - 1.5			Aggregate
1.5 - 2.5	33.2		Tan micaceous SILT
2.5 - 6	40.1		Red clayey micaceous SILT
6 - 8	114		Tan micaceous SILT with black specs
8 - 9	29.8		Marbled white/orange red SILT
9 - 10	15.1		Orange sandy SILT
10 - 15	8.3		Tan micaceous SILT
		+	
		1	
		1	
		1	
		WELL CONS	TRUCTION DETAILS (If Applicable)
Well Type/Diameter:			Outer Casing Interval:
Total Depth:			Outer Casing Diameter:
Screen Interval:			Bentonite Interval:
Cond Interval.			OLI OLI

Slot Size:



Boring/Well No.: S1-SB7	Site Name: Thomas R. Morgan Property
Date: 9-2-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	-
0 - 0.55			Concrete
0.55 - 1			Aggregate
1 - 2.5	0		Light brown micaceous SILT
1 - 2.5 2.5 - 10	0		Light brown micaceous SILT
10 - 12	0		Orange/brown SILT
12 - 15	0		Orange/brown SILT
Vall Type = /Disc	a a ba su	WELL CONS	TRUCTION DETAILS (If Applicable)
Well Type/Diameter:			Outer Casing Interval:
Total Depth:			Outer Casing Diameter:
Screen Interval:			Bentonite Interval:
Sand Interval:			Slot Size:



	Site Name: Thomas R. Morgan Property
Date: 9-2-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Screen Interval:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	
0 - 0.55			Concrete
0.55 - 1			Aggregate
1 - 3	0		Light brown micaceous SILT
3 - 4.5	0		Orange/yellow micaceous SILT
4.5 - 7	0		Orange tan micaceous SILT
7 - 8.5	0		Brown/gray CLAY
8.5 - 9	0		Brown clayey SILT
9 - 9.5			Rock and mica
9.5 - 13	0		Orange brown clayey SILT
13 - 13.5			Quartz
13.5 - 15	0		Brown SILT
		WELL CONS	TRUCTION DETAILS (If Applicable)
			Outer Casing Interval:
Total Depth:			Outer Casing Diameter:

Bentonite Interval:

Static Water Level:

Slot Size:



Boring/Well No.: S1-SB9	Site Name: Thomas R. Morgan Property
Date: 9-2-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description	
0 - 0.5			Asphalt	
0.5 - 1			Aggregate	
1 - 6	0		Tan micaceous SILT with orange blebs	
6 - 7	0		Red clayey SILT	
7 - 9	0		Rust colored micaceous SILT	
9 - 10.5	0		Orange micaceous SILT	
10.5 - 11			Quartz	
11 - 15	0		Orange brown clayey SILT	
		MELL CONS	TRUCTION RETAIL O (IS A collect 1.)	
WELL CONSTRUCTION DETAILS (If Applicable)				
Well Type/Diameter:			Outer Casing Interval:	
Total Depth:			Outer Casing Diameter:	
Screen Interval:			Bentonite Interval:	

Slot Size:



Boring/Well No.: S1-SB10	Site Name: Thomas R. Morgan Property
Date: 9-2-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description
0 - 0.5			Asphalt
0.5 - 1			Aggregate
1 - 5.5	0		Tan micaceous SILT
5.5 - 6.5	0		Orange brown micaceous SILT
6.5 - 7.5	0		Orange micaceous SILT
7.5 - 9	0		Tan micaceous SILT with orange blebs
9 - 12	0		Tan micaceous SILT with orange blebs
12 - 15	0		Tan micaceous SILT with orange blebs
			<u> </u>
		WELL CONS	TRUCTION DETAILS (If Applicable)
Well Type/Diameter:			Outer Casing Interval:
Total Depth:			Outer Casing Diameter:
Screen Interval:			Bentonite Interval:
Screen interval.			Denionite interval.

Slot Size:



Boring/Well No.: S1-SB11	Site Name: Thomas R. Morgan Property
Date: 9-2-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description		
0 - 0.5			Asphalt		
0.5 - 1			Aggregate		
1 - 2	0		Light brown micaceous SILT with orange specs		
2 - 4	0		Orange micaceous SILT		
4 - 8	0		Orange micaceous SILT		
8 - 10	0		Orange micaceous SILT		
10 - 15	0		Orange micaceous SILT with white sand		
			<u> </u>		
WELL CONSTRUCTION DETAILS (If Applicable)					
	Well Type/Diameter:		Outer Casing Interval:		
Total Depth:			Outer Casing Diameter:		
Screen Interval:			Bentonite Interval:		

Slot Size:



Boring/Well No.: S1-SB12	Site Name: Thomas R. Morgan Property
Date: 9-2-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: SAEDACCO	Driller Name/Cert #: Keith Speece - 2856

Remarks:

Depth	PID/OVA Reading	Blow Counts	Soil/Lithologic Description
(ft BLS)	(ppm)		
0 - 0.5	(I-I- /		Asphalt
0.5 - 1			Aggregate
1 - 5	0		Tan micaceous SILT
5 - 8	0		Tan micaceous SILT
8 - 10	0		Orange micaceous SILT
10 - 15	0		Orange clayey SILT
		 	TRUCTION DETAIL O (ICA - III - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
MAZ-II To 1970		WELL CONS	TRUCTION DETAILS (If Applicable)
Well Type/Diameter:			Outer Casing Interval:
Total Depth:			Outer Casing Diameter:
Screen Interval:			Bentonite Interval:
Sand Interval:			Slot Size:
Grout Interval:			Static Water Level:



Bentonite Chips Interval: 0.5-49 ft

AMEC Earth & Environmental, Inc. **BORING AND WELL CONSTRUCTION LOG**

Boring/Well No.: S1-MW1	Site Name: Thomas R. Morgan Property
Date: 8-27-09	Location: Clyde, Haywood Co., NC
Job No.: 562114047	Sample Method: NA
AMEC Rep: Troy Holzschuh	Drilling Method: Air Rotary
Drilling Company: SAEDACCO	Driller Name/Cert #: Robert Miller - # 2675

Remarks:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	
0 - 28			Tan Silt
28-37			Bedrock
37-38			Fracture in Bedrock
38-40			Bedrock
40-43			Fracture w/ tan silt
43-82			Bedrock
		WELL CONS	TRUCTION DETAILS (If Applicable)
Well Type/Diameter: 1 -inch			Outer Casing Interval: none
Гotal Depth: 82 ft			Outer Casing Diameter: none
Screen Interval: 52-82 ft			Grout Interval: none
Sand Interval: 49-82 ft			Slot Size: 0.010
Zana intorval. To OZ It			

Static Water Level:36.5 ft

APPENDIX 3 LABORATORY ANALYTICAL RESULTS

Case Narrative (Revised)



Date:

09/14/09

Company: N. C. Department of Transportation

Contact:

Helen Corley

Address: c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Client Project ID:

NCDOT: Haywood County

Prism COC Group No:

G0809749

Collection Date(s): Lab Submittal Date(s): 08/28/09 08/28/09

Client Project Name Or No:

WBS #34599.1.1

This is a revised report and supersedes our original laboratory report dated 9/12/09. Sample ID for S2-MW-2 was corrected.

This data package contains the analytical results for the project identified above and includes a Case Narrative, Laboratory Report and Quality Control Data totaling 35 pages. A chain-of-custody is also attached for the samples submitted to Prism for this project.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative. Quality control statements and/or sample specific remarks are included in the sample comments section of the laboratory report for each sample affected.

Semi Volatile Analysis

Analysis Note for Q44380 LCS Di-n-octylphthalate: LCS recovery outside the control limits. This compound was not detected in samples associated with this batch. No further action was taken.

Analysis Note for Q44380 LCS Pyrene: LCS recovery outside the control limits. This compound was not detected in samples associated with this batch. No further action was taken.

Analysis Note for Q44380 MSD Dimethylphthalate: MSD recovery outside the control limits.

Volatile Analysis

No Anomalies Reported

Metals Analysis

N/A

Wet Lab and Micro Analysis

N/A

Please call if you have any questions relating to this analytical report.

Data Reviewed by: Steven H. Guptill Project Manager: Robbi A. Jones

for Ribbi John Signature: Signature: 09/14/09 09/14/09 Approval Date: Review Date:

Data Qualifiers Key Reference:

- B: Compound also detected in the method blank.
- #: Result outside of the QC limits.
- DO: Compound diluted out.
 - E: Estimated concentration, calibration range exceeded.
 - J: The analyte was positively identified but the value is estimated below the reporting limit.
 - H: Estimated concentration with a high bias.
 - L: Estimated concentration with a low bias.
 - M: A matrix effect is present.

Notes: This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc. The results in this report relate only to the samples submitted for analysis.



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-MW1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256469

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 8:30

Time Submitted: 08/28/09

14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Purgeable Halocarbons and Aror	natics by GC-P	ID/ELCD							
1,1,1-Trichloroethane	BRL	μg/L	1.0	0.21	1	601/602	09/08/09 16:11 eru	ussell	Q44354
1,1,2,2-Tetrachloroethane	BRL	μg/L	1.0	0.21	1	601/602	09/08/09 16:11 en	ussell	Q44354
1,1,2-Trichloroethane	BRL	μg/L	1.0	0.13	1	601/602	09/08/09 16:11 er	ussell	Q44354
1,1-Dichloroethane	BRL	μg/L	1.0	0.14	1	601/602	09/08/09 16:11 er	ussell	Q44354
1,1-Dichloroethene	BRL	μg/Ľ	1.0	0.19	1	601/602	09/08/09 16:11 er	ussell	Q44354
1,2-Dibromoethane (EDB)	BRL	μg/L	1.0	0.12	1	601/602	09/08/09 16:11 er	russell	Q44354
1,2-Dichlorobenzene	BRL	μg/L	1.0	0.096	1	601/602	09/08/09 16:11 en	russell	Q44354
1,2-Dichloroethane	BRL	μg/L	1.0	0.16	1	601/602	09/08/09 16:11 er	ussell	Q44354
1,2-Dichloropropane	BRL	μg/L	1.0	0.16	1	601/602	09/08/09 16:11 er	ussell	Q44354
1,3-Dichlorobenzene	BRL	μg/L	1.0	0.17	1	601/602	09/08/09 16:11 er	russell	Q44354
1,4-Dichlorobenzene	BRL	μg/L	1.0	0.12	1	601/602	09/08/09 16:11 er	russell	Q44354
Benzene	BRL	μg/L	0.50	0.19	1	601/602	09/08/09 16:11 er	russell	Q44354
Bromodichloromethane	BRL	μg/L	1.0	0.11	1	601/602	09/08/09 16:11 er	russell	Q44354
Bromoform	BRL	μg/L	1.0	0.094	1	601/602	09/08/09 16:11 er	russell	Q44354
Bromomethane	BRL	μg/L	5.0	0.087	1 1	601/602	09/08/09 16:11 er	russell	Q44354
Carbon tetrachloride	BRL	μg/L	1.0	0.23	1	601/602	09/08/09 16:11 er	russell	Q44354
Chlorobenzene	BRL	μg/L	1.0	0.37	1	601/602	09/08/09 16:11 er	russell	Q44354
Chloroethane	BRL	μg/L	5.0	0.25	1	601/602	09/08/09 16:11 er	russell	Q44354
Chloroform	BRL	μg/L	1.0	0.18	1	601/602	09/08/09 16:11 er	russell	Q44354
Chloromethane	BRL	μg/L	5.0	0.24	, 1	601/602	09/08/09 16:11 e	russell	Q44354
cis-1,2-Dichloroethene	BRL	μg/L	1.0	0.51	. 1	601/602	09/08/09 16:11 e	russell	Q44354
cis-1,3-Dichloropropene	BRL	μg/L	1.0	0.16	1	601/602	09/08/09 16:11 e	russell	Q44354
Dibromochloromethane	BRL	μg/L	1.0	0.12	1	601/602	09/08/09 16:11 e	russell	Q44354
Dichlorodifluoromethane	BRL	μg/L	5.0	0.21	1	601/602	09/08/09 16:11 e	russell	Q44354
Ethylbenzene	BRL	μg/L	1.0	0.28	-1	601/602	09/08/09 16:11 e	russell	Q44354
Isopropyl ether (IPE)	BRL	μg/L	5.0	0.18	1	601/602	09/08/09 16:11 e	russell	Q44354
m,p-Xylenes	BRL	μg/L	2.0	0.51	1	601/602	09/08/09 16:11 e	russell	Q44354
-									



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood CountyClient Sample ID: S1-MW1

Project No.:

Sample Matrix: Water

WBS #34599.1.1

Prism Sample ID: 256469

COC Group:

G0809749

Time Collected:

08/28/09

Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis A Date/Time	Analyst	Batch ID
Methyl t-butyl ether (MTBE)	BRL	μg/L	5.0	0.17	1	601/602	09/08/09 16:11 eru	ıssell	Q44354
Methylene Chloride	BRL	μg/L	1.0	0.12	1	601/602	09/08/09 16:11 eru	ıssell	Q44354
Naphthalene	BRL	μg/L	1.0	0.63	1	601/602	09/08/09 16:11 eru	ıssell	Q44354
o-Xylene	BRL	μg/L	1.0	0.31	1	601/602	09/08/09 16:11 eru	ussell	Q44354
Tetrachloroethene	BRL	μg/L	1.0	0.26	1	601/602	09/08/09 16:11 eru	ussell	Q44354
Toluene	BRL	μg/L	1.0	0.23	1	601/602	09/08/09 16:11 eru	ussell	Q44354
trans-1,2-Dichloroethene	BRL	μg/L	1.0	0.17	1	601/602	09/08/09 16:11 eru	ussell	Q44354
trans-1,3-Dichloropropene	BRL	μg/L	1.0	0.19	1	601/602	09/08/09 16:11 eru	ussell	Q44354
Trichloroethene	BRL	μg/L	1.0	0.21	1	601/602	09/08/09 16:11 eru	ussell	Q44354
Trichlorofluoromethane	BRL	μg/L	5.0	0.24	1	601/602	09/08/09 16:11 eru	ussell	Q44354
Vinyl chloride	BRL	μg/L	1.0	0.33	1	601/602	09/08/09 16:11 eru	ussell	Q44354

					Surrogate	•	% Re	covery		Control Limits
					Bromochlo	orobenzene-ELC	D	97		56 - 148
					1,4-Difluor	robenzene-PID		104		69 - 140
Semivolatile Organic Compounds b	y GC/MS									
1,2,4-Trichlorobenzene	BRL	μg/L	9.8	1.7	1	625	09/09/09	10:31	rselph	Q4438
1,2-Dichlorobenzene	BRL	μg/L	9.8	1.9	1	625	09/09/09	10:31	rselph	Q4438
1,3-Dichlorobenzene	BRL	μg/L	9.8	2.0	1	625	09/09/09	10:31	rselph	Q4438
1,4-Dichlorobenzene	BRL	μg/L	9.8	1.8	1	625	09/09/09	10:31	rselph	Q4438
2,4,5-Trichlorophenol	BRL	μg/L	9.8	2.6	1	625	09/09/09	10:31	rselph	Q4438
2,4,6-Trichlorophenol	BRL	μg/L	9.8	3.1	1	625	09/09/09	10:31	rselph	Q4438
2,4-Dichlorophenol	BRL	μg/L	9.8	1.5	1	625	09/09/09	10:31	rselph	Q4438
2,4-Dimethylphenol	BRL	μg/L	9.8	2.4	1	625	09/09/09	10:31	rselph	Q4438
2,4-Dinitrophenol	BRL	μg/L	49	1.1	1	625	09/09/09	10:31	rselph	Q4438
2,4-Dinitrotoluene	BRL	μg/L	9.8	3.9	1	625	09/09/09	10:31	rselph	Q4438
2,6-Dinitrotoluene	BRL	μg/L	9.8	2.8	1	625	09/09/09	10:31	rselph	Q4438



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-MW1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256469

Sample Matrix: Water

COC Group: Time Collected: G0809749

08/28/09

Time Submitted: 08/28/09

14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2-Chloronaphthalene	BRL	μg/L	9.8	2.9	1	625	09/09/09 10:31	rselph	Q44380
2-Chlorophenol	BRL	μg/L	9.8	1.7	1	625	09/09/09 10:31	rselph	Q44380
2-Methylphenol	BRL	μg/L	9.8	1.8	1	625	09/09/09 10:31	rselph	Q44380
2-Nitrophenol	BRL	μg/L	9.8	2.2	1	625	09/09/09 10:31	rselph	Q44380
3&4-Methylphenol	BRL	μg/L	9.8	1.9	1	625	09/09/09 10:31	rselph	Q44380
3,3'-Dichlorobenzidine	BRL	μg/L	49	2.5	1	625	09/09/09 10:31	rselph	Q44380
4,6-Dinitro-2-methylphenol	BRL	μg/L	49	1.8	1	625	09/09/09 10:31	rselph	Q44380
4-Bromophenylphenylether	BRL	μg/L	9.8	1.9	1	625	09/09/09 10:31	rselph	Q44380
4-Chloro-3-methylphenol	BRL	μg/L	9.8	2.2	1	625	09/09/09 10:31	rselph	Q44380
4-Chlorophenylphenylether	BRL	μg/L	9.8	2.8	1	625	09/09/09 10:31	rselph	Q44380
4-Nitrophenol	BRL	μg/L	49	0.74	1	625	09/09/09 10:31	rselph	Q44380
Acenaphthene	BRL	μg/L	9.8	4.1	1	625	09/09/09 10:31	rselph	Q44380
Acenaphthylene	BRL	μg/L	9.8	2.7	, , 1	625	09/09/09 10:31	rselph	Q44380
Anthracene	BRL	μg/L	9.8	1.7	1	625	09/09/09 10:31	rselph	Q44380
Benzo(a)anthracene	BRL	μg/L	9.8	2.1	1	625	09/09/09 10:31	rselph	Q44380
Benzo(a)pyrene	BRL	μg/L	9.8	1.6	1	625	09/09/09 10:31	rselph	Q44380
Benzo(b)fluoranthene	BRL	μg/L	9.8	1.2	1	625	09/09/09 10:31	rselph	Q44380
Benzo(g,h,i)perylene	BRL	μg/L	9.8	2.1	1	625	09/09/09 10:31	rselph	Q44380
Benzo(k)fluoranthene	BRL	μg/L	9.8	2.6	1	625	09/09/09 10:31	rselph	Q44380
Bis(2-chloroethoxy)methane	BRL	μg/L	9.8	2.3	1	625	09/09/09 10:31	rselph	Q44380
Bis(2-chloroethyl)ether	BRL	μg/L	9.8	1.9	1 .	625	09/09/09 10:31	rselph	Q44380
Bis(2-chloroisopropyl)ether	BRL	μg/L	9.8	2.3	1	625	09/09/09 10:31	rselph	Q44380
Bis(2-ethylhexyl)phthalate	BRL	μg/L	9.8	2.7	1	625	09/09/09 10:31	rselph	Q44380
Butylbenzylphthalate	BRL	μg/L	9.8	1.9	1	625	09/09/09 10:31	rselph	Q44380
Chrysene	BRL	μg/L	9.8	3.0	1	625	09/09/09 10:31	1 rselph	Q44380
Di-n-butylphthalate	BRL	μg/L	9.8	1.5	1	625	09/09/09 10:31	1 rselph	Q44380
Di-n-octylphthalate	BRL	μg/L	9.8	2.5	1	625	09/09/09 10:3	1 rselph	Q44380



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-MW1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256469

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 8:30

Time Submitted: 08/28/09

14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibenzo(a,h)anthracene	BRL	μg/L	9.8	2.2	1	625	09/09/09 10:31	rselph	Q44380
Dibenzofuran	BRL	μg/L	9.8	3.5	1	625	09/09/09 10:31	rselph	Q44380
Diethylphthalate	BRL	μg/L	9.8	2.1	1	625	09/09/09 10:31	rselph	Q44380
Dimethylphthalate	BRL	μg/L	9.8	1.9	1	625	09/09/09 10:31	rselph	Q44380
Fluoranthene	BRL	µg/L	9.8	1.5	1	625	09/09/09 10:31	rselph	Q44380
Fluorene	BRL	μg/L	9.8	4.3	1	625	09/09/09 10:31	rselph	Q44380
Hexachlorobenzene	BRL	μg/L	9.8	2.0	1	625	09/09/09 10:31	rselph	Q44380
Hexachlorobutadiene	BRL	μg/L	9.8	1.7	1	625	09/09/09 10:31	rselph	Q44380
Hexachlorocyclopentadiene	BRL	μg/L	9.8	2.0	1	625	09/09/09 10:31	rselph	Q44380
Hexachloroethane	BRL	μg/L	9.8	2.2	1	625	09/09/09 10:31	rselph	Q44380
Indeno(1,2,3-cd)pyrene	BRL	μg/L	9.8	3.6	1	625	09/09/09 10:31	rselph	Q44380
Isophorone	BRL	μg/L	9.8	2.6	1	625	09/09/09 10:31	rselph	Q44380
N-Nitrosodi-n-propylamine	BRL	μg/L	9.8	2.2	1	625	09/09/09 10:31	rselph	Q44380
Naphthalene	BRL	μg/L	9.8	1.6	1	625	09/09/09 10:31	rselph	Q44380
Nitrobenzene	BRL	μg/L	9.8	2.1	1	625	09/09/09 10:31	rselph	Q44380
Pentachlorophenol	BRL	μg/L	9.8	2.0	1	625	09/09/09 10:31	rselph	Q44380
Phenanthrene	BRL	μg/L	9.8	1.2	1	625	09/09/09 10:31	rselph	Q44380
Phenol	BRL	μg/L	9.8	0.57	1	625	09/09/09 10:31	rselph	Q44380
Pyrene	BRL	μg/L	9.8	1.8	1	625	09/09/09 10:31	rselph	Q44380



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-MW1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256469

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 8:30

Time Submitted: 08/28/09

14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Sample Preparation:			10	020 mL	/ 1 mL	625	09/04/09 8:00	smanivanh	P25512
					Surrogate		% Recovery	Contr	ol Limits
					Terphenyl-	d14	100	10	0 - 154
					Phenol-d5		22	10	0 - 48
					Nitrobenze	ne-d5	95	2:	2 - 103
					2-Fluoroph	enol	34	10	0 - 59
					2-Fluorobip	henyl	105	2	9 - 112
					2,4,6-Tribro	omophenol	97	2	7 - 125

TIC's By 625	Est.Conc	Units
Unknown phenol	31	ug/L
Unknown	76	ug/L
Unknown	110	ug/L
Benzophenone	34	ug/L

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL.

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a wet-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256470

Sample Matrix: Water

COC Group: Time Collected: G0809749

08/28/09 9:15

Time Submitted: 08/28/09

14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Purgeable Halocarbons and Arom			40	0.4	10	601/602	09/09/09 3:10	erussell	Q44354
1,1,1-Trichloroethane	BRL	μg/L	10	2.1	10				
1,1,2,2-Tetrachloroethane	BRL	μg/L	10	2.1	10	601/602	09/09/09 3:10	erussell	Q44354
1,1,2-Trichloroethane	BRL	μg/L	10	1.3	10	601/602	09/09/09 3:10	erussell	Q44354
1,1-Dichloroethane	BRL	μg/L	10	1.4	10	601/602	09/09/09 3:10	erussell	Q44354
1,1-Dichloroethene	BRL	μg/L	10	1.9	10	601/602	09/09/09 3:10	erussell	Q44354
1,2-Dibromoethane (EDB)	BRL	μg/L	10	1.2	10	601/602	09/09/09 3:10	erussell	Q44354
1,2-Dichlorobenzene	BRL	μg/L	10	0.96	10	601/602	09/09/09 3:10	erussell	Q44354
1,2-Dichloroethane	BRL	μg/L	10	1.6	10	601/602	09/09/09 3:10	erussell	Q44354
1,2-Dichloropropane	BRL	μg/L	10	1.6	10	601/602	09/09/09 3:10	erussell	Q44354
1,3-Dichlorobenzene	BRL	μg/L	10	1.8	10	601/602	09/09/09 3:10	erussell	Q44354
1,4-Dichlorobenzene	BRL	μg/L	10	1.2	10	601/602	09/09/09 3:10	erussell	Q44354
Benzene	21	μg/L	5.0	1.9	10	601/602	09/09/09 3:10	erussell	Q44354
Bromodichloromethane	BRL	μg/L	10	1.1	10	601/602	09/09/09 3:10	erussell	Q44354
Bromoform	BRL	μg/L	10	0.94	10	601/602	09/09/09 3:10	erussell	Q44354
Bromomethane	BRL	μg/L	50	0.87	10	601/602	09/09/09 3:10	erussell	Q44354
Carbon tetrachloride	BRL	µg/L	10	2.3	10	601/602	09/09/09 3:10	erussell	Q44354
Chlorobenzene	BRL	μg/L	. 10	3.7	10	601/602	09/09/09 3:10	erussell	Q44354
Chloroethane	BRL	μg/L	50	2.5	10	601/602	09/09/09 3:10	erussell	Q44354
Chloroform	BRL	μg/L	10	1.8	10	601/602	09/09/09 3:10	erussell	Q44354
Chloromethane	BRL	μg/L	50	2.4	10	601/602	09/09/09 3:10	erussell	Q44354
cis-1,2-Dichloroethene	BRL	μg/L	10	5.1	10	601/602	09/09/09 3:10	erussell	Q44354
cis-1,3-Dichloropropene	BRL	μg/L	10	1.6	10	601/602	09/09/09 3:10	erussell	Q44354
Dibromochloromethane	BRL	μg/L	10	1.2	10	601/602	09/09/09 3:10	erussell	Q44354
Dichlorodifluoromethane	BRL	μg/L	50	2.1	10	601/602	09/09/09 3:10	erussell	Q44354
Ethylbenzene	210	μg/L	10	2.8	10	601/602	09/09/09 3:10	erussell	Q44354
Isopropyl ether (IPE)	BRL	μg/L	50	1.8	10	601/602	09/09/09 3:10	erussell	Q44354
m,p-Xylenes	680	μg/L	20	5.0	10	601/602	09/09/09 3:10	erussell	Q44354



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256470

Sample Matrix: Water

COC Group:

G0809749

Time Collected: 08/28/09 9:15

Time Submitted: 08/28/09

14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methyl t-butyl ether (MTBE)	BRL	μg/L	50	1.7	10	601/602	09/09/09 3:10	erussell	Q44354
Methylene Chloride	BRL	μg/L	10	1.2	10	601/602	09/09/09 3:10	erussell	Q44354
Naphthalene	45	μg/L	10	6.3	10	601/602	09/09/09 3:10	erussell	Q44354
o-Xylene	350	μg/L	10	3.1	10	601/602	09/09/09 3:10	erussell	Q44354
Tetrachloroethene	BRL	μg/L	10	2.6	10	601/602	09/09/09 3:10	erussell	Q44354
Toluene	1400	μg/L	100	23	100	601/602	09/10/09 9:40	erussell	Q44354
trans-1,2-Dichloroethene	BRL	μg/L	10	1.7	10	601/602	09/09/09 3:10	erussell	Q44354
trans-1,3-Dichloropropene	BRL	μg/L	10	1.9	10	601/602	09/09/09 3:10	erussell	Q44354
Trichloroethene	BRL	μg/L	10	2.1	10	601/602	09/09/09 3:10	erussell	Q44354
Trichlorofluoromethane	BRL	μg/L	50	2.5	10	601/602	09/09/09 3:10	erussell	Q44354
Vinyl chloride	BRL	μg/L	10	3.3	10	601/602	09/09/09 3:10	erussell	Q44354

					Surrogate	e	% Re	covery	Control Limits
					Bromochl	orobenzene-ELC	D	98	56 - 148
					1,4-Difluo	robenzene-PID		99	69 - 140
Semivolatile Organic Compound	s bv GC/MS								
1,2,4-Trichlorobenzene	BRL	μg/L	9.8	1.7	1	625	09/09/09	12:23 rselp	h Q44380
1,2-Dichlorobenzene	BRL	μg/L	9.8	1.9	, 1	625	09/09/09	12:23 rselp	oh Q44380
1,3-Dichlorobenzene	BRL	μg/L	9.8	2.0	1	625	09/09/09	12:23 rselp	oh Q44380
1,4-Dichlorobenzene	BRL	μg/L	9.8	1.8	1	625	09/09/09	12:23 rselp	oh Q44380
2,4,5-Trichlorophenol	BRL	μg/L	9.8	2.6	1	625	09/09/09	12:23 rselp	oh Q44380
2,4,6-Trichlorophenol	BRL	μg/L	9.8	3.1	1	625	09/09/09	12:23 rselp	oh Q44380
2,4-Dichlorophenol	BRL	μg/L	9.8	1.5	1	625	09/09/09	12:23 rselp	oh Q44380
2,4-Dimethylphenol	BRL	μg/L	9.8	2.4	1	625	09/09/09	12:23 rselp	oh Q44380
2,4-Dinitrophenol	BRL	μg/L	49	1.1	1	625	09/09/09	12:23 rsel	oh Q44380
2,4-Dinitrotoluene	BRL	μg/L	9.8	3.9	1	625	09/09/09	12:23 rsel	oh Q44380
2,6-Dinitrotoluene	BRL	μg/L	9.8	2.8	1	625	09/09/09	12:23 rsel	ph Q44380



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256470

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 9:15

Time Submitted: 08/28/09

14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2-Chloronaphthalene	BRL	μg/L	9.8	2.9	1	625	09/09/09 12:23	rselph	Q44380
2-Chlorophenol	BRL	μg/L	9.8	1.7	1	625	09/09/09 12:23	rselph	Q44380
2-Methylphenol	6.0 J	μg/L	9.8	1.8	1	625	09/09/09 12:23	rselph	Q44380
2-Nitrophenol	BRL	μg/L	9.8	2.2	1	625	09/09/09 12:23	rselph	Q44380
3&4-Methylphenol	BRL	μg/L	9.8	1.9	1	625	09/09/09 12:23	rselph	Q44380
3,3'-Dichlorobenzidine	BRL	μg/L	49	2.5	1	625	09/09/09 12:23	rselph	Q44380
4,6-Dinitro-2-methylphenol	BRL	μg/L	49	1.8	1	625	09/09/09 12:23	rselph	Q44380
4-Bromophenylphenylether	BRL	μg/L	9.8	1.9	1	625	09/09/09 12:23	rselph	Q44380
4-Chloro-3-methylphenol	BRL	μg/L	9.8	2.2	1	625	09/09/09 12:23	rselph	Q44380
4-Chlorophenylphenylether	BRL	μg/L	9.8	2.8	1	625	09/09/09 12:23	rselph	Q44380
4-Nitrophenol	BRL	μg/L	49	0.74	1	625	09/09/09 12:23	rselph	Q44380
Acenaphthene	BRL	μg/L	9.8	4.1	1	625	09/09/09 12:23	rselph	Q44380
Acenaphthylene	BRL	μg/L	9.8	2.7	1	625	09/09/09 12:23	rselph	Q44380
Anthracene	BRL	μg/L	9.8	1.7	. 1	625	09/09/09 12:23	rselph	Q44380
Benzo(a)anthracene	BRL	μg/L	9.8	2.1	1	625	09/09/09 12:23	rselph	Q44380
Benzo(a)pyrene	BRL	μg/L	9.8	1.6	1	625	09/09/09 12:23	rselph	Q44380
Benzo(b)fluoranthene	BRL	μg/L	9.8	1.2	1	625	09/09/09 12:23	rselph	Q44380
Benzo(g,h,i)perylene	BRL	μg/L	9.8	2.1	. 1	625	09/09/09 12:23	rselph	Q44380
Benzo(k)fluoranthene	BRL	μg/L	9.8	2.6	1	625	09/09/09 12:23	rselph	Q44380
Bis(2-chloroethoxy)methane	BRL	μg/L	9.8	2.3	1	625	09/09/09 12:23	rselph	Q44380
Bis(2-chloroethyl)ether	BRL	μg/L	9.8	1.9	1	625	09/09/09 12:23	rselph	Q44380
Bis(2-chloroisopropyl)ether	BRL	μg/L	9.8	2.3	1	625	09/09/09 12:23	rselph	Q44380
Bis(2-ethylhexyl)phthalate	BRL	μg/L	9.8	2.7	1	625	09/09/09 12:23	rselph	Q44380
Butylbenzylphthalate	BRL	μg/L	9.8	1.9	1	625	09/09/09 12:23	s rselph	Q44380
Chrysene	BRL	μg/L	9.8	3.0	1	625	09/09/09 12:23	3 rselph	Q44380
Di-n-butylphthalate	BRL	μg/L	9.8	1.5	1	625	09/09/09 12:23	3 rselph	Q44380
Di-n-octylphthalate	BRL	μg/L	9.8	2.5	1	625	09/09/09 12:23	3 rselph	Q44380



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256470

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 9:15

Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibenzo(a,h)anthracene	BRL	μg/L	9.8	2.2	1	625	09/09/09 12:23	rselph	Q44380
Dibenzofuran	BRL	μg/L	9.8	3.5	1	625	09/09/09 12:23	rselph	Q44380
Diethylphthalate	BRL	μg/L	9.8	2.1	1	625	09/09/09 12:23	rselph	Q44380
Dimethylphthalate	BRL	μg/L	9.8	1.9	1	625	09/09/09 12:23	rselph	Q44380
Fluoranthene	BRL	μg/L	9.8	1.5	1	625	09/09/09 12:23	rselph	Q44380
Fluorene	BRL	μg/L	9.8	4.3	1	625	09/09/09 12:23	rselph	Q44380
Hexachlorobenzene	BRL	μg/L	9.8	2.0	1	625	09/09/09 12:23	rselph	Q44380
Hexachlorobutadiene	BRL	μg/L	9.8	1.7	1	625	09/09/09 12:23	rselph	Q44380
Hexachlorocyclopentadiene	BRL	μg/L	9.8	2.0	1	625	09/09/09 12:23	rselph	Q44380
Hexachloroethane	BRL	μg/L	9.8	2.2	1	625	09/09/09 12:23	rselph	Q44380
Indeno(1,2,3-cd)pyrene	BRL	μg/L	9.8	3.6	1	625	09/09/09 12:23	rselph	Q44380
Isophorone	BRL	μg/L	9.8	2.6	1	625	09/09/09 12:23	rselph	Q44380
N-Nitrosodi-n-propylamine	BRL	μg/L	9.8	2.2	1	625	09/09/09 12:23	rselph	Q44380
Naphthalene	BRL	μg/L	9.8	1.6	1	625	09/09/09 12:23	rselph	Q44380
Nitrobenzene	BRL	μg/L	9.8	2.1	1	625	09/09/09 12:23	rselph	Q44380
Pentachlorophenol	BRL	μg/L	9.8	2.0	1	625	09/09/09 12:23	rselph	Q44380
Phenanthrene	BRL	μg/L	9.8	1.2	, 1	625	09/09/09 12:23	rselph	Q44380
Phenol	BRL	μg/L	9.8	0.57	1	625	09/09/09 12:23	rselph	Q44380
Pyrene	BRL	μg/L	9.8	1.8	1	625	09/09/09 12:23	rselph	Q44380



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256470

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 9:15

Time Submitted: 08/28/09 14:02

Parameter		Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
,	Sample Preparation:			1	020 mL	/ 1 mL	625	09/04/09 8:00	smanivanh	P25512
						Surrogate		% Recovery	Contr	ol Limits
						Terphenyl-	d14	96	10	0 - 154
						Phenol-d5		20	1	0 - 48
						Nitrobenze	ne-d5	86	2:	2 - 103
						2-Fluoroph	enol	31	1	0 - 59
						2-Fluorobip	henyl	94	2	9 - 112
						2,4,6-Tribro	omophenol	103	2	7 - 125

TIC's By 625	Est.Conc	Units
Unknown aromatic	49	ug/L
Unknown aromatic	25	ug/L
Trimethylbenzene	38	ug/L
Trimethylbenzene	150	ug/L
Toluene	260	ug/L
m&p-Xylene	140	ug/L
Indane	22	ug/L
Ethylmethylbenzene	65	ug/L
Ethylmethylbenzene	59	ug/L
Ethylmethylbenzene	120	ug/L

Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256470

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09

14:02

Time Submitted: 08/28/09

Parameter	Result	Units	Report	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
			Limit		Factor		Date/Time		טו

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL.

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a wet-weight basis

Angela D. Overcash, V.P. Laboratory Services

Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-2

Project No.:

WBS #34599.1.1

Prism Sample ID: 256471

Sample Matrix: Water

COC Group:

G0809749

14:02

Time Collected:

08/28/09 10:15

Time Submitted: 08/28/09

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Purgeable Halocarbons and Aromati		ID/ELCD							
1,1,1-Trichloroethane	BRL	μg/L	1.0	0.21	1	601/602	09/09/09 3:57	erussell	Q44354
1,1,2,2-Tetrachloroethane	BRL	μg/L	1.0	0.21	1	601/602	09/09/09 3:57	erussell	Q44354
1,1,2-Trichloroethane	BRL	μg/L	1.0	0.13	1	601/602	09/09/09 3:57	erussell	Q44354
1,1-Dichloroethane	BRL	μg/L	1.0	0.14	1	601/602	09/09/09 3:57	erussell	Q44354
1,1-Dichloroethene	BRL	μg/L	1.0	0.19	1	601/602	09/09/09 3:57	erussell	Q44354
1,2-Dibromoethane (EDB)	BRL	μg/L	1.0	0.12	1	601/602	09/09/09 3:57	erussell	Q44354
1,2-Dichlorobenzene	BRL	μg/L	1.0	0.096	1	601/602	09/09/09 3:57	erussell	Q44354
1,2-Dichloroethane	BRL	μg/L	1.0	0.16	1	601/602	09/09/09 3:57	erussell	Q44354
1,2-Dichloropropane	BRL	μg/L	1.0	0.16	1	601/602	09/09/09 3:57	erussell	Q44354
1,3-Dichlorobenzene	BRL	μg/L	1.0	0.17	1	601/602	09/09/09 3:57	erussell	Q44354
1,4-Dichlorobenzene	BRL	μg/L	1.0	0.12	1	601/602	09/09/09 3:57	erussell	Q44354
Benzene	15	μg/L	0.50	0.19	1	601/602	09/09/09 3:57	erussell	Q44354
Bromodichloromethane	BRL	μg/L	1.0	0.11	1	601/602	09/09/09 3:57	erussell	Q44354
Bromoform	BRL	μg/L	1.0	0.094	1	601/602	09/09/09 3:57	erussell	Q44354
Bromomethane	BRL	μg/L	5.0	0.087	1	601/602	09/09/09 3:57	erussell	Q44354
Carbon tetrachloride	BRL	μg/L	1.0	0.23	1	601/602	09/09/09 3:57	erussell	Q44354
Chlorobenzene	BRL	μg/L	1.0	0.37	1	601/602	09/09/09 3:57	erussell	Q44354
Chloroethane	BRL	μg/L	5.0	0.25	-1	601/602	09/09/09 3:57	erussell	Q44354
Chloroform	BRL	μg/L	1.0	0.18	1	601/602	09/09/09 3:57	erussell	Q44354
Chloromethane	BRL	μg/L	5.0	0.24	1	601/602	09/09/09 3:57	erussell	Q44354
cis-1,2-Dichloroethene	BRL	μg/L	1.0	0.51	1	601/602	09/09/09 3:57	erussell	Q44354
cis-1,3-Dichloropropene	BRL	μg/L	1.0	0.16	1	601/602	09/09/09 3:57	erussell	Q44354
Dibromochloromethane	BRL	μg/L	1.0	0.12	1	601/602	09/09/09 3:57	erussell	Q44354
Dichlorodifluoromethane	BRL	μg/L	5.0	0.21	1	601/602	09/09/09 3:57	erussell	Q44354
Ethylbenzene	29	μg/L	1.0	0.28	1	601/602	09/09/09 3:57	erussell	Q44354
Isopropyl ether (IPE)	BRL	μg/L	5.0	0.18	1	601/602	09/09/09 3:57	erussell	Q44354
m,p-Xylenes	34	μg/L	2.0	0.51	1	601/602	09/09/09 3:57	erussell	Q44354



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-2

Project No.:

WBS #34599.1.1

Prism Sample ID: 256471

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 10:15

Time Submitted: 08/28/09

14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methyl t-butyl ether (MTBE)	BRL	μg/L	5.0	0.17	1	601/602	09/09/09 3:57	erussell	Q44354
Methylene Chloride	BRL	μg/L	1.0	0.12	1	601/602	09/09/09 3:57	erussell	Q44354
Naphthalene	20	μg/L	1.0	0.63	1	601/602	09/09/09 3:57	erussell	Q44354
o-Xylene	10	μg/L	1.0	0.31	1	601/602	09/09/09 3:57	erussell	Q44354
Tetrachloroethene	BRL	μg/L	1.0	0.26	1	601/602	09/09/09 3:57	erussell	Q44354
Toluene	5.9	μg/L	1.0	0.23	1	601/602	09/09/09 3:57	erussell	Q44354
trans-1,2-Dichloroethene	BRL	μg/L	1.0	0.17	1	601/602	09/09/09 3:57	erussell	Q44354
trans-1,3-Dichloropropene	BRL	μg/L	1.0	0.19	1	601/602	09/09/09 3:57	erussell	Q44354
Trichloroethene	BRL	μg/L	1.0	0.21	1	601/602	09/09/09 3:57	erussell	Q44354
Trichlorofluoromethane	BRL	μg/L	5.0	0.24	1	601/602	09/09/09 3:57	erussell	Q44354
Vinyl chloride	BRL	μg/L	1.0	0.33	1	601/602	09/09/09 3:57	erussell	Q44354

					Surrogate	9	% Re	covery	Control Limits
					Bromochlorobenzene-El		D 103		56 - 148
					1,4-Difluo	robenzene-PID		116	69 - 140
Semivolatile Organic Compou	unds by GC/MS								
1,2,4-Trichlorobenzene	BRL	μg/L	9.8	1.7	1	625	09/09/09	12:51 rs	elph Q44380
1,2-Dichlorobenzene	BRL	μg/L	9.8	1.9	1	625	09/09/09	12:51 rs	elph Q44380
1,3-Dichlorobenzene	BRL	μg/L	9.8	2.0	1	625	09/09/09	12:51 rs	elph Q44380
1,4-Dichlorobenzene	BRL	μg/L	9.8	1.8	1	625	09/09/09	12:51 rs	elph Q44380
2,4,5-Trichlorophenol	BRL	μg/L	9.8	2.6	1	625	09/09/09	12:51 rs	elph Q44380
2,4,6-Trichlorophenol	BRL	μg/L	9.8	3.1	1	625	09/09/09	12:51 rs	elph Q44380
2,4-Dichlorophenol	BRL	μg/L	9.8	1.5	1	625	09/09/09	12:51 rs	elph Q44380
2,4-Dimethylphenol	BRL	μg/L	9.8	2.4	1	625	09/09/09	12:51 rs	selph Q44380
2,4-Dinitrophenol	BRL	μg/L	49	1.1	1	625	09/09/09	12:51 rs	selph Q44380
2,4-Dinitrotoluene	BRL	μg/L	9.8	3.9	1	625	09/09/09	12:51 rs	selph Q44380
2,6-Dinitrotoluene	BRL	μg/L	9.8	2.8	1	625	09/09/09	12:51 rs	selph Q44380



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-2

Project No.:

Sample Matrix: Water

WBS #34599.1.1

Prism Sample ID: 256471

COC Group:

G0809749

Time Collected:

08/28/09

10:15

Time Submitted: 08/28/09

14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2-Chloronaphthalene	BRL	μg/L	9.8	2.9	1	625	09/09/09 12:51	rselph	Q44380
2-Chlorophenol	BRL	μg/L	9.8	1.7	1	625	09/09/09 12:51	rselph	Q44380
2-Methylphenol	BRL	μg/L	9.8	1.8	1	625	09/09/09 12:51	rselph	Q44380
2-Nitrophenol	BRL	μg/L	9.8	2.2	1	625	09/09/09 12:51	rselph	Q44380
3&4-Methylphenol	BRL	μg/L	9.8	1.9	1	625	09/09/09 12:51	rselph	Q44380
3,3'-Dichlorobenzidine	BRL	μg/L	49	2.5	1	625	09/09/09 12:51	rselph	Q44380
4,6-Dinitro-2-methylphenol	BRL	μg/L	49	1.8	1	625	09/09/09 12:51	rselph	Q44380
4-Bromophenylphenylether	BRL	μg/L	9.8	1.9	1	625	09/09/09 12:51	rselph	Q44380
4-Chloro-3-methylphenol	BRL	μg/L	9.8	2.2	1	625	09/09/09 12:51	rselph	Q44380
4-Chlorophenylphenylether	BRL	μg/L	9.8	2.8	1	625	09/09/09 12:51	rselph	Q44380
4-Nitrophenol	BRL	μg/L	49	0.74	1	625	09/09/09 12:51	rselph	Q44380
Acenaphthene	BRL	μg/L	9.8	4.1	1	625	09/09/09 12:51	rselph	Q44380
Acenaphthylene	BRL	μg/L	9.8	2.7	1	625	09/09/09 12:51	rselph	Q44380
Anthracene	BRL	μg/L	9.8	1.7	1	625	09/09/09 12:51	rselph	Q44380
Benzo(a)anthracene	BRL	μg/L	9.8	2.1	1	625	09/09/09 12:51	rselph	Q44380
Benzo(a)pyrene	BRL	μg/L	9.8	1.6	1	625	09/09/09 12:51	rselph	Q44380
Benzo(b)fluoranthene	BRL	μg/L	9.8	1.2	1	625	09/09/09 12:51	rselph	Q44380
Benzo(g,h,i)perylene	BRL	μg/L	9.8	2.1	1	625	09/09/09 12:51	rselph	Q44380
Benzo(k)fluoranthene	BRL	μg/L	9.8	2.6	1	625	09/09/09 12:51	rselph	Q44380
Bis(2-chloroethoxy)methane	BRL	μg/L	9.8	2.3	1	625	09/09/09 12:51	rselph	Q44380
Bis(2-chloroethyl)ether	BRL	μg/L	9.8	1.9	1	625	09/09/09 12:51	rselph	Q44380
Bis(2-chloroisopropyl)ether	BRL	μg/L	9.8	2.3	1	625	09/09/09 12:51	rselph	Q44380
Bis(2-ethylhexyl)phthalate	BRL	μg/L	9.8	2.7	1	625	09/09/09 12:51	rselph	Q44380
Butylbenzylphthalate	BRL	μg/L	9.8	1.9	1	625	09/09/09 12:5	1 rselph	Q44380
Chrysene	BRL	μg/L	9.8	3.0	1	625	09/09/09 12:5	1 rselph	Q44380
Di-n-butylphthalate	BRL	μg/L	9.8	1.5	1	625	09/09/09 12:5	1 rselph	Q44380
Di-n-octylphthalate	BRL	μg/L	9.8	2.5	1	625	09/09/09 12:5	1 rselph	Q44380



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-2

Project No.:

WBS #34599.1.1

Prism Sample ID: 256471

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 10:15

:02

Timo Concotoa: Conzervo	
Time Submitted: 08/28/09	14:

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibenzo(a,h)anthracene	BRL	μg/L	9.8	2.2	1	625	09/09/09 12:51	rselph	Q44380
Dibenzofuran	BRL	μg/L	9.8	3.5	1	625	09/09/09 12:51	rselph	Q44380
Diethylphthalate	BRL	μg/L	9.8	2.1	1	625	09/09/09 12:51	rselph	Q44380
Dimethylphthalate	BRL	μg/L	9.8	1.9	1	625	09/09/09 12:51	rselph	Q44380
Fluoranthene	BRL	μg/L	9.8	1.5	1	625	09/09/09 12:51	rselph	Q44380
Fluorene	BRL	μg/L	9.8	4.3	1	625	09/09/09 12:51	rselph	Q44380
Hexachlorobenzene	BRL	μg/L	9.8	2.0	1	625	09/09/09 12:51	rselph	Q44380
Hexachlorobutadiene	BRL	μg/L	9.8	1.7	1	625	09/09/09 12:51	rselph	Q44380
Hexachlorocyclopentadiene	BRL	μg/L	9.8	2.0	1	625	09/09/09 12:51	rselph	Q44380
Hexachloroethane	BRL	μg/L	9.8	2.2	1	625	09/09/09 12:51	rselph	Q44380
Indeno(1,2,3-cd)pyrene	BRL	μg/L	9.8	3.6	1	625	09/09/09 12:51	rselph	Q44380
Isophorone	BRL	μg/L	9.8	2.6	1	625	09/09/09 12:51	rselph	Q44380
N-Nitrosodi-n-propylamine	BRL	μg/L	9.8	2.2	1	625	09/09/09 12:51	rselph	Q44380
Naphthalene	11	μg/L	9.8	1.6	1	625	09/09/09 12:51	rselph	Q44380
Nitrobenzene	BRL	μg/L	9.8	2.1	1	625	09/09/09 12:51	rselph	Q44380
Pentachlorophenol	BRL	μg/L	9.8	2.0	1	625	09/09/09 12:51	rselph	Q44380
Phenanthrene	BRL	μg/L	9.8	1.2	1	625	09/09/09 12:51	rselph	Q44380
Phenol	BRL	μg/L	9.8	0.57	1	625	09/09/09 12:51	rselph	Q44380
Pyrene	BRL	μg/L	9.8	1.8	1	625	09/09/09 12:51	rselph	Q44380



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-2

Project No.:

WBS #34599.1.1

Prism Sample ID: 256471

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 10:15

Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Sample Preparatio	n:			020 mL		625	09/04/09 8:00	smanivanh	P25512
					Surrogate		% Recovery	Contr	ol Limits
					Terphenyl-	d14	116	1	0 - 154
					Phenol-d5		27	1	0 - 48
					Nitrobenze	ene-d5	95	2	2 - 103
					2-Fluoroph	nenol	38	1	0 - 59
					2-Fluorobij	phenyl	104	2	9 - 112
					2,4,6-Tribr	omophenol	91	2	7 - 125

TIC's By 625	Est.Conc	Units
Unknown aromatic	85	ug/L
Unknown aromatic	24	ug/L
Unknown aromatic	23	ug/L
Unknown aromatic	19	ug/L
Unknown	14	ug/L
Unknown	13	ug/L
Trimethylbenzene	17	ug/L
Indane	23	ug/L
Ethylbenzene	23	ug/L
Diethylbenzene	27	ug/L

Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S2-MW-2

Project No.:

WBS #34599.1.1

Prism Sample ID: 256471

Sample Matrix: Water

COC Group:

G0809749 10:15

Time Collected:

08/28/09

Time Submitted: 08/28/09 14:02

Parameter

Result

Units

MDL

Dilution

Factor

Method

Analysis Date/Time Analyst

Batch ID

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL.

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

Report

Limit

All results are reported on a wet-weight basis

Angela D. Overcash, V.P. Laboratory Services

Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: SW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256472

Sample Matrix: Water

COC Group: Time Collected: G0809749

08/28/09 10:45

Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analyst Date/Time	Batch ID
Purgeable Halocarbons and Arc			1.0	0.21	1	601/602	09/08/09 16:58 erussell	Q44354
1,1,1-Trichloroethane	BRL	μg/L 					09/08/09 16:58 erussell	Q44354
1,1,2,2-Tetrachloroethane	BRL	μg/L	1.0	0.21	1	601/602		
1,1,2-Trichloroethane	BRL	μg/L	1.0	0.13	1	601/602	09/08/09 16:58 erussell	Q44354
1,1-Dichloroethane	BRL	μg/L	1.0	0.14	1	601/602	09/08/09 16:58 erussell	Q44354
1,1-Dichloroethene	BRL	μg/L	1.0	0.19	1	601/602	09/08/09 16:58 erussell	Q44354
1,2-Dibromoethane (EDB)	BRL	μg/L	1.0	0.12	1	601/602	09/08/09 16:58 erussell	Q44354
1,2-Dichlorobenzene	BRL	μg/L	1.0	0.096	1	601/602	09/08/09 16:58 erussell	Q44354
1,2-Dichloroethane	BRL	μg/L	1.0	0.16	1	601/602	09/08/09 16:58 erussell	Q44354
1,2-Dichloropropane	BRL	μg/L	1.0	0.16	1	601/602	09/08/09 16:58 erussell	Q44354
1,3-Dichlorobenzene	BRL	μg/L	1.0	0.17	1	601/602	09/08/09 16:58 erussell	Q44354
1,4-Dichlorobenzene	BRL	μg/L	1.0	0.12	1	601/602	09/08/09 16:58 erussell	Q44354
Benzene	BRL	μg/L	0.50	0.19	1	601/602	09/08/09 16:58 erussell	Q44354
Bromodichloromethane	BRL	μg/L	1.0	0.11	1	601/602	09/08/09 16:58 erussell	Q44354
Bromoform	BRL	μg/L	1.0	0.094	. 1	601/602	09/08/09 16:58 erussell	Q44354
Bromomethane	BRL	μg/L	5.0	0.087	1	601/602	09/08/09 16:58 erussell	Q44354
Carbon tetrachloride	BRL	μg/L	1.0	0.23	1	601/602	09/08/09 16:58 erussell	Q44354
Chlorobenzene	BRL	μg/L	1.0	0.37	1	601/602	09/08/09 16:58 erussell	Q44354
Chloroethane	BRL	μg/L	5.0	0.25	1	601/602	09/08/09 16:58 erussell	Q44354
Chloroform	BRL	μg/L	1.0	0.18	1	601/602	09/08/09 16:58 erussell	Q44354
Chloromethane	BRL	μg/L	5.0	0.24	1.	601/602	09/08/09 16:58 erussell	Q44354
cis-1,2-Dichloroethene	BRL	μg/L	1.0	0.51	1	601/602	09/08/09 16:58 erussell	Q44354
cis-1,3-Dichloropropene	BRL	μg/L	1.0	0.16	1	601/602	09/08/09 16:58 erussell	Q44354
Dibromochloromethane	BRL	μg/L	1.0	0.12	1	601/602	09/08/09 16:58 erussell	Q44354
Dichlorodifluoromethane	BRL	μg/L	5.0	0.21	1	601/602	09/08/09 16:58 erussell	Q44354
Ethylbenzene	BRL	μg/L	1.0	0.28	1	601/602	09/08/09 16:58 erussell	Q44354
Isopropyl ether (IPE)	BRL	μg/L	5.0	0.18	1	601/602	09/08/09 16:58 erussell	Q44354
m,p-Xylenes	BRL	μg/L	2.0	0.51	1	601/602	09/08/09 16:58 erussell	Q44354
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Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: SW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256472

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09

10:45

Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methyl t-butyl ether (MTBE)	BRL	μg/L	5.0	0.17	1	601/602	09/08/09 16:58	erussell	Q44354
Methylene Chloride	BRL	μg/L	1.0	0.12	1	601/602	09/08/09 16:58	erussell	Q44354
Naphthalene	BRL	μg/L	1.0	0.63	1	601/602	09/08/09 16:58	erussell	Q44354
o-Xylene	BRL	μg/L	1.0	0.31	1	601/602	09/08/09 16:58	erussell	Q44354
Tetrachloroethene	BRL	μg/L	1.0	0.26	1	601/602	09/08/09 16:58	erussell	Q44354
Toluene	BRL	μg/L	1.0	0.23	1	601/602	09/08/09 16:58	erussell	Q44354
trans-1,2-Dichloroethene	BRL	μg/L	1.0	0.17	1	601/602	09/08/09 16:58	erussell	Q44354
trans-1,3-Dichloropropene	BRL	μg/L	1.0	0.19	1	601/602	09/08/09 16:58	erussell	Q44354
Trichloroethene	BRL	μg/L	1.0	0.21	1	601/602	09/08/09 16:58	erussell	Q44354
Trichlorofluoromethane	BRL	μg/L	5.0	0.24	1	601/602	09/08/09 16:58	erussell	Q44354
Vinyl chloride	BRL	μg/L	1.0	0.33	1	601/602	09/08/09 16:58	erussell	Q44354

					Surrogate	9	% Re	covery	Control Limits	
					Bromochle	orobenzene-ELC	D 99		56 - 148	
					1,4-Difluo	robenzene-PID		98	69 - 140	
Semivolatile Organic Compou	nds by GC/MS									
1,2,4-Trichlorobenzene	BRL	μg/L	9.8	1.7	1	625	09/09/09	13:18 rselp	h Q4438	
1,2-Dichlorobenzene	BRL	μg/L	9.8	1.9	1	625	09/09/09	13:18 rselp	h Q4438	
1,3-Dichlorobenzene	BRL	μg/L	9.8	2.0	1	625	09/09/09	13:18 rselp	h Q4438	
1,4-Dichlorobenzene	BRL	μg/L	9.8	1.8	1 .	625	09/09/09	13:18 rselp	h Q4438	
2,4,5-Trichlorophenol	BRL	μg/L	9.8	2.6	1	625	09/09/09	13:18 rselp	h Q4438	
2,4,6-Trichlorophenol	BRL	μg/L	9.8	3.1	1	625	09/09/09	13:18 rselp	h Q4438	
2,4-Dichlorophenol	BRL	μg/L	9.8	1.5	1	625	09/09/09	13:18 rselp	h Q4438	
2,4-Dimethylphenol	BRL	μg/L	9.8	2.4	1	625	09/09/09	13:18 rselp	h Q4438	
2,4-Dinitrophenol	BRL	μg/L	49	1.1	1	625	09/09/09	13:18 rselp	h Q4438	
2,4-Dinitrotoluene	BRL	μg/L	9.8	3.9	, 1	625	09/09/09	13:18 rselp	oh Q4438	
2.6-Dinitrotoluene	BRL	μg/L	9.8	2.8	1	625	09/09/09	13:18 rselp	oh Q4438	



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: SW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256472

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09

10:45 14:02

Time Submitted: 08/28/09

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analy Date/Time	st Batch ID
2-Chloronaphthalene	BRL	μg/L	9.8	2.9	1	625	09/09/09 13:18 rselph	Q44380
2-Chlorophenol	BRL	μg/L	9.8	1.7	1	625	09/09/09 13:18 rselph	Q44380
2-Methylphenol	BRL	μg/L	9.8	1.8	1	625	09/09/09 13:18 rselph	Q44380
2-Nitrophenol	BRL	μg/L	9.8	2.2	1	625	09/09/09 13:18 rselph	Q44380
3&4-Methylphenol	BRL	μg/L	9.8	1.9	1	625	09/09/09 13:18 rselph	Q44380
3,3'-Dichlorobenzidine	BRL	μg/L	49	2.5	1	625	09/09/09 13:18 rselph	Q44380
4,6-Dinitro-2-methylphenol	BRL	μg/L	49	1.8	1	625	09/09/09 13:18 rselph	Q44380
4-Bromophenylphenylether	BRL	μg/L	9.8	1.9	1	625	09/09/09 13:18 rselph	Q44380
4-Chloro-3-methylphenol	BRL	μg/L	9.8	2.2	1	625	09/09/09 13:18 rselph	Q44380
4-Chlorophenylphenylether	BRL	μg/L	9.8	2.8	1	625	09/09/09 13:18 rselph	Q44380
4-Nitrophenol	BRL	μg/L	49	0.74	1	625	09/09/09 13:18 rselph	Q44380
Acenaphthene	BRL	μg/L	9.8	4.1	1	625	09/09/09 13:18 rselph	Q44380
Acenaphthylene	BRL	μg/L	9.8	2.7	1	625	09/09/09 13:18 rselph	Q44380
Anthracene	BRL	μg/L	9.8	1.7	1	625	09/09/09 13:18 rselph	Q44380
Benzo(a)anthracene	BRL	μg/L	9.8	2.1	1	625	09/09/09 13:18 rselph	Q44380
Benzo(a)pyrene	BRL	μg/L	9.8	1.6	1	625	09/09/09 13:18 rselph	Q44380
Benzo(b)fluoranthene	BRL	μg/L	9.8	1.2	1	625	09/09/09 13:18 rselph	Q44380
Benzo(g,h,i)perylene	BRL	μg/L	9.8	2.1	1	625	09/09/09 13:18 rselph	Q44380
Benzo(k)fluoranthene	BRL	μg/L	9.8	2.6	1	625	09/09/09 13:18 rselph	Q44380
Bis(2-chloroethoxy)methane	BRL	μg/L	9.8	2.3	1	625	09/09/09 13:18 rselph	Q44380
Bis(2-chloroethyl)ether	BRL	μg/L	9.8	1.9	1	625	09/09/09 13:18 rselph	Q44380
Bis(2-chloroisopropyl)ether	BRL	μg/L	9.8	2.3	1	625	09/09/09 13:18 rselph	Q44380
Bis(2-ethylhexyl)phthalate	BRL	μg/L	9.8	2.7	1	625	09/09/09 13:18 rselph	Q44380
Butylbenzylphthalate	BRL	μg/L	9.8	1.9	1	625	09/09/09 13:18 rselph	Q44380
Chrysene	BRL	μg/L	9.8	3.0	1	625	09/09/09 13:18 rselph	Q44380
Di-n-butylphthalate	BRL	μg/L	9.8	1.5	1	625	09/09/09 13:18 rselph	Q44380
Di-n-octylphthalate	BRL	μg/L	9.8	2.5	1	625	09/09/09 13:18 rselph	Q44380



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: SW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256472

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 10:45

Time Submitted: 08/28/09

14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibenzo(a,h)anthracene	BRL	μg/L	9.8	2.2	1	625	09/09/09 13:18	rselph	Q44380
Dibenzofuran	BRL	μg/L	9.8	3.5	1	625	09/09/09 13:18	rselph	Q44380
Diethylphthalate	BRL	μg/L	9.8	2.1	1	625	09/09/09 13:18	rselph	Q44380
Dimethylphthalate	BRL	μg/L	9.8	1.9	1	625	09/09/09 13:18	rselph	Q44380
Fluoranthene	BRL	μg/L	9.8	1.5	1	625	09/09/09 13:18	rselph	Q44380
Fluorene	BRL	μg/L	9.8	4.3	1	625	09/09/09 13:18	rselph	Q44380
Hexachlorobenzene	BRL	μg/L	9.8	2.0	1	625	09/09/09 13:18	rselph	Q44380
Hexachlorobutadiene	BRL	μg/L	9.8	1.7	1	625	09/09/09 13:18	rselph	Q44380
Hexachlorocyclopentadiene	BRL	μg/L	9.8	2.0	1	625	09/09/09 13:18	rselph	Q44380
Hexachloroethane	BRL	μg/L	9.8	2.2	1	625	09/09/09 13:18	rselph	Q44380
Indeno(1,2,3-cd)pyrene	BRL	μg/L	9.8	3.6	1	625	09/09/09 13:18	rselph	Q44380
Isophorone	BRL	μg/L	9.8	2.6	1	625	09/09/09 13:18	rselph	Q44380
N-Nitrosodi-n-propylamine	BRL	μg/L	9.8	2.2	1	625	09/09/09 13:18	rselph	Q44380
Naphthalene	BRL	μg/L	9.8	1.6	1	625	09/09/09 13:18	rselph	Q44380
Nitrobenzene	BRL	μg/L	9.8	2.1	1	625	09/09/09 13:18	rselph	Q44380
Pentachlorophenol	BRL	μg/L	9.8	2.0	1	625	09/09/09 13:18	rselph	Q44380
Phenanthrene	BRL	μg/L	9.8	1.2	1	625	09/09/09 13:18	rselph	Q44380
Phenol	BRL	μg/L	9.8	0.57	. 1	625	09/09/09 13:18	rselph	Q44380
Pyrene	BRL	μg/L	9.8	1.8	1	625	09/09/09 13:18	rselph	Q44380

Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



Laboratory Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: SW-1

Project No.:

WBS #34599.1.1

Prism Sample ID: 256472

Sample Matrix: Water

COC Group:

G0809749

Time Collected:

08/28/09 10:45

ameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Sample Preparation:			1	1020 mL	/ 1 mL	625	09/04/09 8:00	smanivanh	P25512
					Surrogate		% Recovery	Contr	ol Limits
					Terphenyl-	d14	120	10	0 - 154
			•		Phenol-d5		28	1	0 - 48
					Nitrobenze	ne-d5	92	2:	2 - 103
					2-Fluoroph	enol	43	1	0 - 59
					2-Fluorobir	henyl	102	2	9 - 112
					2,4,6-Tribro	omophenol	111	2	7 - 125
TIC's By 625				Est.Cond	: Units				

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL.

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a wet-weight basis

Angela D. Overcash, V.P. Laboratory Services



Level II QC Report

09/14/09

N. C. Department of Transportation

Project ID:

NCDOT: Haywood County

COC Group Number: G0809749

Attn: Helen Corley

Project No.:

WBS #34599.1.1

Date/Time Submitted:

08/28/09 14:02

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Purgeable Halocarbons and Aromatics by GC-PID/ELCD, method 601/602

thod Blank	Result	RL.	Control Limit	Units `	QC Batch ID
1,1,1-Trichloroethane	ND	1	<0.5	µg/L	Q44354
1,1,2,2-Tetrachloroethane	ND	1	<0.5	μg/L	Q44354
1,1,2-Trichloroethane	ND	1	<0.5	μg/L	Q44354
1,1-Dichloroethane	ND	1	<0.5	µg/L	Q44354
1,1-Dichloroethene	ND	1	<0.5	μg/L	Q44354
1,2-Dibromoethane (EDB)	ND	1	<0.5	μg/L	Q44354
1,2-Dichlorobenzene	ND	1	<0.5	μg/L	Q44354
1,2-Dichloroethane	ND	1	<0.5	μg/L	Q44354
1,2-Dichloropropane	ND	1	<0.5	μg/L	Q44354
1,3-Dichlorobenzene	ND	1	<0.5	μg/L	Q44354
1,4-Dichlorobenzene	ND	1	<0.5	μg/L	Q44354
Benzene	ND	0.5	<0.25	μg/L	Q44354
Bromodichloromethane	ND	1	<0.5	μg/L	Q44354
Bromoform	ND	1	<0.5	μg/L	Q44354
Bromomethane	ND	5	<2.5	μg/L	Q4435
Carbon tetrachloride	ND	1	<0.5	μg/L	Q4435
Chlorobenzene	ND	1	<0.5	μg/L	Q4435
Chloroethane	ND	5	<2.5	μg/L	Q4435
Chloroform	ND	1	<0.5	µg/L	Q4435
Chloromethane	ND	5	<2.5	μg/L	Q4435
cis-1,2-Dichloroethene	ND	1	<0.5	μg/L	Q4435
cis-1,3-Dichloropropene	ND	1	<0.5	μg/L	Q4435
Dibromochloromethane	ND	1	<0.5	μg/L	Q4435
Dichlorodifluoromethane	ND	5	<2.5	μg/L	Q4435
Ethylbenzene	ND	1	<0.5	μg/L	Q4435
Isopropyl ether (IPE)	ND	5	<2.5	μg/L	Q4435
m,p-Xylenes	ND	2	<1	μg/L	Q4435
Methyl t-butyl ether (MTBE)	ND	5	<2.5	μg/L	Q4435
Methylene Chloride	ND	1	<0.5	μg/L	Q4435
Naphthalene	ND	1	<0.5	μg/L	Q4435
o-Xylene	ND	1	<0.5	μg/L	Q4435
Tetrachloroethene	ND	1	<0.5	μg/L	Q4435
Toluene	ND	1	<0.5	μg/L	Q4435
trans-1,2-Dichloroethene	ND	1	<0.5	μg/L	Q4435



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

Project ID:

NCDOT: Haywood County

COC Group Number: G0809749

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Date/Time Submitted: 08/28/09 14:02 Project No.: WBS #34599.1.1

•							
Method Blank	Result	RL	Control Limit	Units			QC Batch ID
trans-1,3-Dichloropropene	ND	1	<0.5	μg/L			Q44354
Trichloroethene	ND	1	<0.5	μg/L			Q44354
Trichlorofluoromethane	ND	5	<2.5	μg/L			Q44354
Vinyl chloride	ND	1	<0.5	μg/L			Q44354
Laboratory Control Sample	Result	Spike Amou	unt	Units	Recovery %	Recovery Ranges %	QC Batch ID
1,1,1-Trichloroethane	20.065	20		μg/L	100	41-138	Q44354
1,1,2,2-Tetrachloroethane	22.838	20		μg/L	114	10-184	Q44354
1,1,2-Trichloroethane	21.427	20		μg/L	107	39-136	Q44354
1,1-Dichloroethane	21.151	20		μg/L	106	47-132	Q44354
1,1-Dichloroethene	18.946	20		μg/L	95	28-167	Q44354
1,2-Dibromoethane (EDB)	16.483	20		μg/L	82	78-131	Q44354
1,2-Dichlorobenzene	18.514	20		μg/L	93	37-154	Q44354
1,2-Dichloroethane	23.324	20		μg/L	117	51-147	Q44354
1,2-Dichloropropane	20.445	20		μg/L	102	44-156	Q44354
1,3-Dichlorobenzene	18.485	20		μg/L	92	50-141	Q44354
1,4-Dichlorobenzene	18.451	20		μg/L	92	42-143	Q44354
Benzene	21.2	20		μg/L	106	39-150	Q44354
Bromodichloromethane	19.278	20		μg/L	96	42-172	Q44354
Bromoform	15.421	20		μg/L	77	13-159	Q44354
Bromomethane	20.73	20		μg/L	104	10-144	Q44354
Carbon tetrachloride	20.107	20		μg/L	101	43-143	Q44354
Chlorobenzene	17.251	20		μg/L	86	38-150	Q44354
Chloroethane	18.477	20		μg/L	92	46-137	Q44354
Chloroform	23.57	20		μg/L	118	49-133	Q44354
Chloromethane	19.706	20		μg/L	99	10-193	Q44354
cis-1,2-Dichloroethene	18.65	20		μg/L	93	62-145	Q44354
cis-1,3-Dichloropropene	22.911	20		μg/L	115	22-178	Q44354
Dibromochloromethane	20.282	20		μg/L	101	24-191	Q44354
Dichlorodifluoromethane	20.186	20		μg/L	101	48-148	Q44354
Ethylbenzene	20.296	20		μg/L	101	32-160	Q44354
Isopropyl ether (IPE)	16.665	20		μg/L	83	61-134	Q44354
m,p-Xylenes	39.203	40		μg/L	98	69-130	Q44354
Methyl t-butyl ether (MTBE)	18.39	20		μg/L	92	74-130	Q44354
Methylene Chloride	19.456	20		μg/L	97	25-162	Q44354
Naphthalene	23.31	20		μg/L	117	60-136	Q44354



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

Project ID: Project No.: NCDOT: Haywood County

COC Group Number: G0809749

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

WBS #34599.1.1

Date/Time Submitted: 08/28/09 14:02

Laboratory Control Sample	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	QC Batch ID
o-Xylene	23.355	20	μg/L	117	66-129	Q44354
Tetrachloroethene	18.917	20	μg/L	95	26-162	Q44354
Toluene	19.909	20	μg/L	100	46-148	Q44354
trans-1,2-Dichloroethene	17.382	20	μg/L	87	38-155	Q44354
trans-1,3-Dichloropropene	21.287	20	μg/L	106	22-178	Q44354
Trichloroethene	18.303	20	μg/L	92	35-146	Q44354
Trichlorofluoromethane	24.118	20	μg/L	121	21-156	Q44354
Vinyl chloride	20.386	20	.µg/L	102	28-163	Q44354
Matrix Spike Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	QC Batch ID
256705 1,1,1-Trichloroethane	77.256	80	μg/L	97	41-138	Q44354
1,1,2,2-Tetrachloroethane	91.42	80	μg/L	114	10-184	Q44354
1,1,2-Trichloroethane	83.36	80	μg/L	104	39-136	Q44354
1,1-Dichloroethane	70.668	80	μg/L	88	47-132	Q44354
1,1-Dichloroethene	71.548	80	μg/L	89	28-167	Q44354
1,2-Dibromoethane (EDB)	63.792	80	μg/L	80	78-131	Q44354
1,2-Dichlorobenzene	71.496	80	μg/L	89	37-154	Q44354
1,2-Dichloroethane	89.784	80	μg/L	112	51-147	Q44354
1,2-Dichloropropane	77.26	80	μg/L	97	44-156	Q44354
1,3-Dichlorobenzene	69.532	80	μg/L	87	50-141	Q44354
1,4-Dichlorobenzene	70.632	80	μg/L	88	42-143	Q44354
Benzene	72.592	80	μg/L	91	39-150	Q44354
Bromodichloromethane	73.8	80	μg/L	92	42-172	Q44354
Bromoform	64.348	80	μg/L	80	13-159	Q44354
Bromomethane	85.516	80	μg/L	107	10-144	Q44354
Carbon tetrachloride	77.684	80	μg/L	97	43-143	Q44354
Chlorobenzene	65.536	80	μg/L	82	38-150	Q44354
Chloroethane	75.504	80	μg/L	94	46-137	Q44354
Chloroform	87.896	80	μg/L	110	49-133	Q44354
Chloromethane	95.452	80	μg/L	119	10-193	Q44354
cis-1,2-Dichloroethene	70.16	80	μg/L	88	57-137	Q44354
cis-1,3-Dichloropropene	84.384	80	μg/L	105	22-178	Q44354
Dibromochloromethane	78.148	80	μg/L	98	24-191	Q44354
Dichlorodifluoromethane	112.184	80	μg/L	140	47-143	Q44354
Ethylbenzene	77.16	80	μg/L	96	32-160	Q44354
Isopropyl ether (IPE)	63.328	80	μg/L	79	60-132	Q44354



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

Project ID:

NCDOT: Haywood County

COC Group Number: G0809749

Project No.:

WBS #34599.1.1

Date/Time Submitted:

08/28/09 14:02

c/o AMEC Earth & Environmental, Inc. 101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Matrix Spike Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %			QC Batch ID
256705 m,p-Xylenes	150.068	160	μg/L	94	59-126			Q44354
Methyl t-butyl ether (MTBE)	75.128	80	μg/L	94	73-130			Q44354
Methylene Chloride	75.608	80	μg/L	95	25-162			Q44354
Naphthalene	91.124	80	μg/L	114	58-132			Q44354
o-Xylene	79.728	80	μg/L	100	62-125			Q44354
Tetrachloroethene	70.54	80	μg/L	88	26-162			Q44354
Toluene	73.484	80	μg/L	92	46-148			Q44354
trans-1,2-Dichloroethene	66.38	80	μg/L	83	38-155			Q44354
trans-1,3-Dichloropropene	80.784	80	μg/L	101	22-178			Q44354
Trichloroethene	65.416	80	μg/L	82	35-146			Q44354
Trichlorofluoromethane	70.968	80	μg/L	89	21-156			Q44354
Vinyl chloride	80.192	80	μg/L	100	28-163			Q44354
Matrix Spike Duplicate Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
256705 1,1,1-Trichloroethane	78.4	80	μg/L	98	41-138	1	0 - 16	Q44354
1,1,2,2-Tetrachloroethane	94.852	80	μg/L	119	10-184	4	0 - 14	Q44354
1,1,2-Trichloroethane	87.308	80	μg/L	109	39-136	5	0 - 13	Q44354
1,1-Dichloroethane	80.496	80	μg/L	101	47-132	13	0 - 14	Q44354
1,1-Dichloroethene	71.128	80	μg/L	89	28-167	1	0 - 17	Q44354
1,2-Dibromoethane (EDB)	67.156	80	μg/L	84	78-131	5	0 - 13	Q44354
1,2-Dichlorobenzene	71.456	80	μg/L	89	37-154	0	0 - 15	Q44354
1,2-Dichloroethane	93.36	80	μg/L	117	51-147	4	0 - 15	Q44354
1,2-Dichloropropane	80.796	80	μg/L	101	44-156	4	0 - 12	Q44354
1,3-Dichlorobenzene	69.152	80	μg/L	86	50-141	1	0 - 13	Q44354
1,4-Dichlorobenzene	71.072	80	μg/L	89	42-143	1	0 - 14	Q44354
Benzene	73.904	80	μg/L	92	39-150	2	0 - 12	Q44354
Bromodichloromethane	76.516	80	μg/L	96	42-172	4	0 - 11	Q44354
Bromoform	63.976	80	μg/L	80	13-159	1	0 - 10	Q44354
Bromomethane	86.812	80	μg/L	109	10-144	2	0 - 21	Q44354
Carbon tetrachloride	79.612	80	μg/L	100	43-143	2	0 - 14	Q44354
Chlorobenzene	66.712	80	μg/L	83	38-150	2	0 - 12	Q44354
Chloroethane	75.748	80	μg/L	95	46-137	0	0 - 18	Q44354
Chloroform	91.488	80	μg/L	114	49-133	4	0 - 13	Q44354
Chloromethane	95.164	80	μg/L	119	10-193	0	0 - 21	Q44354
cis-1,2-Dichloroethene	72.068	80	μg/L	90	57-137	3	0 - 15	Q44354
cis-1,3-Dichloropropene	87.16	80	μg/L	109	22-178	3	0 - 13	Q44354



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

Project ID:

NCDOT: Haywood County

COC Group Number: G0809749

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Project No.: WBS #34599.1.1 Date/Time Submitted:

08/28/09 14:02

Greensboro,	NC.	27401
Greenspord,	140	21401

Matrix Spike Duplicate	Result	Spike Amount	Units	Recovery %	Recovery Ranges	RPD %	RPD Range %	QC Batch ID
Sample ID:					<u>%</u>			0.4405.4
256705 Dibromochloromethane	82.088	80	μg/L	103	24-191	5	0 - 10	Q44354
Dichlorodifluoromethane	111.644	80	μg/L	140	47-143	0	0 - 21	Q44354
Ethylbenzene	76.552	80	μg/L	96	32-160	1	0 - 10	Q44354
Isopropyl ether (IPE)	65.04	80	μg/L	81	60-132	3	0 - 15	Q44354
m,p-Xylenes	149.04	160	μg/L	93	59-126	1	0 - 11	Q44354
Methyl t-butyl ether (MTBE)	78.512	80	μg/L	98	73-130	4	0 - 16	Q44354
Methylene Chloride	79.528	80	μg/L	99	25-162	5	0 - 16	Q44354
Naphthalene	92.064	80	μg/L	115	58-132	1	0 - 17	Q44354
o-Xylene	75.42	80	μg/L	94	62-125	6	0 - 13	Q44354
Tetrachloroethene	71.528	80	μg/L	89	26-162	1	0 - 14	Q44354
Toluene	74.484	80	μg/L	93	46-148	1	0 - 11	Q44354
trans-1,2-Dichloroethene	67.024	80	μg/L	84	38-155	1	0 - 17	Q44354
trans-1,3-Dichloropropene	83.844	80	μg/L	105	22-178	4	0 - 10	Q44354
Trichloroethene	66.368	80	μg/L	83	35-146	1	0 - 14	Q44354
Trichlorofluoromethane	72.62	80	μg/L	91	21-156	2	0 - 19	Q44354
Vinyl chloride	73.56	80	μg/L	92	28-163	9	0 - 20	Q44354

Page 5 of 12 Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

Project ID:

NCDOT: Haywood County

COC Group Number: G0809749

Project No.:

WBS #34599.1.1

Date/Time Submitted:

08/28/09 14:02

c/o AMEC Earth & Environmental, Inc. 101 W. Friendly Ave. Suite 603 Greensboro, NC 27401

Semivolatile Organic Compounds by GC/MS, method 625

ethod Blank	Result	RL	Control Limit	Units	QC Batch ID
1,2,4-Trichlorobenzene	ND	10	<5	μg/L	Q44380
1,2-Dichlorobenzene	ND	10	<5	µg/L	Q44380
1,3-Dichlorobenzene	ND	10	<5	µg/L	Q44380
1,4-Dichlorobenzene	ND	10	<5	µg/L	Q44380
2,4,5-Trichlorophenol	ND	10	<5	µg/L	Q44380
2,4,6-Trichlorophenol	ND	10	<5	µg/L	Q44380
2,4-Dichlorophenol	ND	10	<5	µg/L	Q44380
2,4-Dimethylphenol	ND	10	<5	μg/L	Q44380
2,4-Dinitrophenol	ND	50	<25	μg/L	Q44380
2,4-Dinitrotoluene	ND	10	<5	µg/L	Q44380
2,6-Dinitrotoluene	ND	10	<5	μg/L	Q44380
2-Chloronaphthalene	ND	10	<5	μg/L	Q44380
2-Chlorophenol	ND	10	<5	µg/L	Q44380
2-Methylphenol	ND	10	<5	μg/L	Q44380
2-Nitrophenol	ND	10	<5	μg/L	Q44380
3&4-Methylphenol	ND	10	<5	μg/L	Q44380
3,3'-Dichlorobenzidine	ND	50	<25	μg/L	Q44380
4,6-Dinitro-2-methylphenol	ND	50	<25	μg/L	Q44380
4-Bromophenylphenylether	ND	10	<5	µg/L	Q44380
4-Chloro-3-methylphenol	ND	10	<5	µg/L	Q44380
4-Chlorophenylphenylether	ND	10	<5	µg/L	Q44380
4-Nitrophenol	ND	50	<25	µg/L	Q44380
Acenaphthene	ND	10	<5	μg/L	Q44380
Acenaphthylene	ND	10	<5	μg/L	Q44380
Anthracene	ND	10	<5	µg/L	Q44380
Benzo(a)anthracene	ND	10	<5	μg/L	Q44380
Benzo(a)pyrene	ND	10	<5	µg/L	Q44380
Benzo(b)fluoranthene	ND	10	<5	µg/L	Q4438
Benzo(g,h,i)perylene	ND	10	<5	μg/L	Q4438
Benzo(k)fluoranthene	ND	10	<5	µg/L	Q4438
Bis(2-chloroethoxy)methane	ND	10	<5	μg/L	Q4438
Bis(2-chloroethyl)ether	ND	10	<5	μg/L	Q4438
Bis(2-chloroisopropyl)ether	ND	10	<5	µg/L	Q4438
Bis(2-ethylhexyl)phthalate	ND	10	<5	μg/L	Q4438

Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

Project ID: Project No.: **NCDOT: Haywood County**

WBS #34599.1.1

COC Group Number: G0809749 Date/Time Submitted:

08/28/09 14:02

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401 **Method Blank** QC Batch ID Result RL Control Limit Units

	rtoodit			Office		,	
Butylbenzylphthalate	ND	10	<5	μg/L			Q44380
Chrysene	ND	10	<5	μg/L			Q44380
Di-n-butylphthalate	ND	10	<5	μg/L			Q44380
Di-n-octylphthalate	ND	10	<5	μg/L			Q44380
Dibenzo(a,h)anthracene	ND	10	<5	μg/L			Q44380
Dibenzofuran	ND	10	<5	μg/L			Q44380
Diethylphthalate	ND	10	<5	μg/L			Q44380
Dimethylphthalate	ND	10	<5	μg/L			Q44380
Fluoranthene	ND	10	<5	μg/L			Q44380
Fluorene	ND -	10	<5	μg/L			Q44380
Hexachlorobenzene	ND	10	<5	μg/L			Q44380
Hexachlorobutadiene	ND	10	<5	μg/L			Q44380
Hexachlorocyclopentadiene	ND	10	<5	μg/L			Q44380
Hexachloroethane	ND	10	<5	μg/L			Q44380
Indeno(1,2,3-cd)pyrene	ND	10	<5	μg/L			Q44380
Isophorone	ND	10	<5	μg/L			Q44380
N-Nitrosodi-n-propylamine	ND	10	<5	μg/L			Q44380
Naphthalene	ND	10	<5	μg/L			Q44380
Nitrobenzene	ND	10	<5	μg/L			Q44380
Pentachlorophenol	ND	10	<5	μg/L			Q44380
Phenanthrene	ND	10	<5	μg/L			Q44380
Phenol	ND	10	<5	μg/L			Q44380
Pyrene	ND	10	<5	μg/L			Q44380
ooratory Control Sample					Recovery	Recovery Ranges	QC Batch
	Result	Spike Amo	unt	Units	%	%	ID
1,2,4-Trichlorobenzene	79.63	100		μg/L	80	44-142	Q44380
1,2-Dichlorobenzene	79.27	100		μg/L	79	32-129	Q44380
1,3-Dichlorobenzene	77.87	100		μg/L	78	20-124	Q44380
1,4-Dichlorobenzene	78.68	100		μg/L	79	20-124	Q44380
2,4,6-Trichlorophenol	99.95	100		μg/L	100	37-144	Q44380
2,4-Dichlorophenol	82.74	100		μg/L	83	39-135	Q44380
2,4-Dimethylphenol	81.39	100		μg/L	81	32-119	Q44380
2,4-Dinitrophenol	86.63	100		μg/L	87	10-191	Q44380
2,4-Dinitrotoluene	125.72	100		μg/L	126	39-139	Q44380
2,6-Dinitrotoluene	118.1	100		μg/L	118	50-158	Q44380
2-Chloronaphthalene	90.14	100		μg/L	90	60-118	Q44380



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

Project ID: Project No.: NCDOT: Haywood County

WBS #34599.1.1

COC Group Number: Date/Time Submitted:

08/28/09 14:02

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401 Recovery **Laboratory Control Sample** Recovery QC Batch ID Ranges Spike Amount Units % Q44380 23-134 69.93 100 μg/L 70 2-Chlorophenol Q44380 29-182 84.14 100 µg/L 84 2-Nitrophenol 10-98 Q44380 3&4-Methylphenol 56.94 100 μg/L 57 Q44380 3,3'-Dichlorobenzidine 115.17 100 μg/L 115 10-262 μg/L 108 10-181 Q44380 4,6-Dinitro-2-methylphenol 107.9 100 103 53-127 Q44380 4-Bromophenylphenylether 102.95 100 μg/L Q44380 22-147 4-Chloro-3-methylphenol 90.25 100 μg/L 90 25-158 Q44380 μg/L 109 4-Chlorophenylphenylether 108.58 100 Q44380 10-132 4-Nitrophenol 35.33 100 μg/L 35 Q44380 101 47-145 Acenaphthene 101.09 100 µg/L Q44380 μg/L 99 33-145 Acenaphthylene 99.3 100 μg/L 107 27-133 Q44380 100 Anthracene 107.23 Q44380 μg/L 33-143 Benzo(a)anthracene 116.48 100 116 17-163 Q44380 μg/L 127 100 Benzo(a)pyrene 126.5 Q44380 μg/L 127 24-159 126.91 100 Benzo(b)fluoranthene Q44380 10-219 Benzo(g,h,i)perylene 110.13 100 µg/L 110 Q44380 100 μg/L 122 11-162 Benzo(k)fluoranthene 121.7 Q44380 100 μg/L 82 33-184 Bis(2-chloroethoxy)methane 81.63 Q44380 12-158 100 μg/L 78 Bis(2-chloroethyl)ether 77.7 36-166 Q44380 100 µg/L 86 85.89 Bis(2-chloroisopropyl)ether Q44380 10-158 100 µg/L 125 Bis(2-ethylhexyl)phthalate 125.47 10-152 Q44380 μg/L 127 100 Butylbenzylphthalate 127.14 Q44380 μg/L 110 17-168 109.56 100 Chrysene Q44380 10-118 Di-n-butylphthalate 100 µg/L 101 101.37 μg/L 152 # 10-146 Q44380 100 Di-n-octylphthalate 151.98 Q44380 100 μg/L 117 10-227 116.96 Dibenzo(a,h)anthracene Q44380 10-114 100 µg/L 113 Diethylphthalate 112.99 μg/L 106 10-112 Q44380 100 Dimethylphthalate 105.66 μg/L 102 26-137 Q44380 100 101.65 Fluoranthene Q44380 108 59-121 Fluorene 108.21 100 µg/L μg/L 100 10-152 Q44380 100 Hexachlorobenzene 99.54 μg/L 79 24-116 Q44380 100 79.01 Hexachlorobutadiene 73 Q44380 73.06 100 μg/L 32-103 Hexachlorocyclopentadiene 74 40-113 Q44380 μg/L Hexachloroethane 74.11 100 10-171 Q44380 100 μg/L 110 109.98 Indeno(1,2,3-cd)pyrene 21-196 Q44380 100 μg/L 105 105.09 Isophorone



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

Project ID: Project No.: NCDOT: Haywood County

WBS #34599.1.1

COC Group Number: G0809749 Date/Time Submitted:

08/28/09 14:02

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Benzo(g,h,i)perylene

209.137

196.07

Laboratory Control Sample	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	QC Batch ID
N-Nitrosodi-n-propylamine	76.23	100	μg/L	76	10-230	Q44380
Naphthalene	82.86	100	μg/L	83	21-133	Q44380
Nitrobenzene	86.88	100	μg/L	87	35-180	Q44380
Pentachlorophenol	102.33	100	μg/L	102	14-176	Q44380
Phenanthrene	101.06	100	μg/L	101	54-120	Q44380
Phenol	32.98	100	μg/L	33	10-112	Q44380
Pyrene	118.04	100	μg/L	118 #	£ 52-115	Q44380
Matrix Spike	Result	Spike Amount	Units	Recovery	Recovery Ranges	QC Batch ID
Sample ID:					%	0.14000
256469 1,2,4-Trichlorobenzene	153.882	196.07	μg/L	78	44-142	Q44380
1,2-Dichlorobenzene	145.019	196.07	μg/L 	74	32-129	Q44380
1,3-Dichlorobenzene	140.843	196.07	µg/L	72	20-124	Q44380
1,4-Dichlorobenzene	143.392	196.07	μg/L	73	20-124	Q44380
2,4,6-Trichlorophenol	149.882	196.07	μg/L	76	37-144	Q44380
2,4-Dichlorophenol	159.627	196.07	μg/L	81	39-135	Q44380
2,4-Dimethylphenol	144.431	196.07	μg/L	74	32-119	Q44380
2,4-Dinitrophenol	44.4705	196.07	μg/L	23	10-191	Q44380
2,4-Dinitrotoluene	239.372	196.07	µg/L	122	39-139	Q44380
2,6-Dinitrotoluene	223.137	196.07	μg/L	114	50-158	Q44380
2-Chloronaphthalene	175.725	196.07	μg/L	90	60-118	Q44380
2-Chlorophenol	134.176	196.07	μg/L	68	23-134	Q44380
2-Nitrophenol	154.019	196.07	μg/L	79	29-182	Q44380
3&4-Methylphenol	129.509	196.07	μg/L	66	15-107	Q44380
3,3´-Dichlorobenzidine	206.941	196.07	μg/L	106	10-262	Q44380
4,6-Dinitro-2-methylphenol	95.1960	196.07	μg/L	49	10-181	Q44380
4-Bromophenylphenylether	200.921	196.07	μg/L	102	53-127	Q44380
4-Chloro-3-methylphenol	185.372	196.07	μg/L	95	22-147	Q44380
4-Chlorophenylphenylether	204.098	196.07	μg/L	104	25-158	Q44380
4-Nitrophenol	46.3725	196.07	μg/L	24	10-132	Q44380
Acenaphthene	194.274	196.07	μg/L	99	47-145	Q44380
Acenaphthylene	190.431	196.07	μg/L	97	33-145	Q44380
Anthracene	208.372	196.07	μg/L	106	27-133	Q44380
Benzo(a)anthracene	226.529	196.07	μg/L	116	33-143	Q44386
Benzo(a)pyrene	239.196	196.07	μg/L	122	17-163	Q4438
Benzo(b)fluoranthene	237.490	196.07	μg/L	121	24-159	Q4438
: :						

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μg/L

107

10-219

Q44380



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

COC Group Number: G0809749 Project ID: NCDOT: Haywood County

Date/Time Submitted: 08/28/09 14:02 Project No.: WBS #34599.1.1

Matrix S _I Sample ID:	•	Result	Spike Amount	Units	Recovery %	Recovery Ranges %			QC Batch ID
256469 F	Benzo(k)fluoranthene	228.529	196.07	μg/L	117	11-162			Q44380
E	Bis(2-chloroethoxy)methane	158.960	196.07	μg/L	81	33-184			Q44380
E	Bis(2-chloroethyl)ether	142.529	196.07	μg/L	73	12-158			Q44380
E	Bis(2-chloroisopropyl)ether	160.019	196.07	μg/L	82	36-166			Q44380
E	Bis(2-ethylhexyl)phthalate	239.196	196.07	μg/L	122	10-158			Q44380
E	Butylbenzylphthalate	245.313	196.07	μg/L	125	10-152			Q44380
(Chrysene	213.627	196.07	μg/L	109	17-168			Q44380
Γ	Di-n-butylphthalate	196.862	196.07	μg/L	100	10-118			Q44380
Г	Di-n-octylphthalate	273.098	196.07	μg/L	139	10-146			Q44380
Γ	Dibenzo(a,h)anthracene	217.372	196.07	μg/L	111	10-227			Q44380
Γ	Diethylphthalate	215.313	196.07	μg/L	110	10-114			Q44380
Γ	Dimethylphthalate	213.470	196.07	μg/L	109	10-112			Q44380
F	Fluoranthene	195.627	196.07	μg/L	100	26-137			Q44380
·	Fluorene	202.392	196.07	μg/L	103	59-121			Q44380
ł	Hexachlorobenzene	193.078	196.07	μg/L	98	10-152			Q44380
ł	Hexachlorobutadiene	148.392	196.07	μg/L	76	24-116			Q44380
	Hexachlorocyclopentadiene	141.705	196.07	μg/L	72	48-94			Q44380
I	Hexachloroethane	134.078	196.07	μg/L	68	40-113			Q44380
	Indeno(1,2,3-cd)pyrene	213.980	196.07	μg/L	109	10-171			Q44380
i	Isophorone	206.745	196.07	μg/L	105	21-196			Q44380
. 1	N-Nitrosodi-n-propylamine	150.803	196.07	μg/L	77	10-230			Q44380
- [Naphthalene	159.803	196.07	μg/L	82	21-133			Q44380
	Nitrobenzene	164.333	196.07	μg/L	84	35-180			Q44380
-1	Pentachlorophenol	76.8039	196.07	μg/L	39	14-176			Q44380
	Phenanthrene	194.980	196.07	μg/L	99	54-120			Q44380
f	Phenol	81.4313	196.07	μg/L	42	10-112			Q44380
!	Pyrene	225.352	196.07	μg/L	115	52-115			Q44380
Matrix S Sample ID:	Spike Duplicate	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
256469	1,2,4-Trichlorobenzene	182.392	196.07	μg/L	93	44-142	17	0 - 36	Q44380
	1,2-Dichlorobenzene	178.196	196.07	μg/L	91	32-129	21	0 - 38	Q44380
	1,3-Dichlorobenzene	173.196	196.07	μg/L	88	20-124	21	0 - 41	Q44380
	1,4-Dichlorobenzene	175.862	196.07	μg/L	90	20-124	20	0 - 36	Q44380
	2,4,6-Trichlorophenol	162.313	196.07	μg/L	83	37-144	8	0 - 30	Q44380
	2,4-Dichlorophenol	180.882	196.07	μg/L	92	39-135	12	0 - 31	Q44380
	_,,			1.0.					



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

Project ID: Project No.: NCDOT: Haywood County

WBS #34599.1.1

COC Group Number: G0809749 Date/Time Submitted:

08/28/09 14:02

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Matrix Spike Duplicate Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
256469 2,4-Dinitrophenol	48.3921	196.07	μg/L	25	10-191	8	0 - 30	Q44380
2,4-Dinitrotoluene	241.823	196.07	μg/L	123	39-139	1	0 - 29	Q44380
2,6-Dinitrotoluene	230.960	196.07	μg/L	118	50-158	3	0 - 15	Q44380
2-Chloronaphthalene	197.372	196.07	μg/L	101	60-118	12	0 - 21	Q44380
2-Chlorophenol	160.803	196.07	μg/L	82	23-134	18	0 - 35	Q44380
2-Nitrophenol	184	196.07	μg/L	94	29-182	18	0 - 34	Q44380
3&4-Methylphenol	141.627	196.07	µg/L	72	15-107	9	0 - 27	Q44380
3,3'-Dichlorobenzidine	212.019	196.07	μg/L	108	10-262	2	0 - 50	Q44380
4,6-Dinitro-2-methylphenol	96.3725	196.07	μg/L	49	10-181	1	0 - 19	Q44380
4-Bromophenylphenylether	210.901	196.07	μg/L	108	53-127	5	0 - 18	Q44380
4-Chloro-3-methylphenol	195.235	196.07	μg/L	100	22-147	5	0 - 33	Q44380
4-Chlorophenylphenylether	215.235	196.07	μg/L	110	25-158	5	0 - 19	Q44380
4-Nitrophenol	39.7450	196.07	μg/L	20	10-132	15	0 - 50	Q44380
Acenaphthene	211.019	196.07	μg/L	108	47-145	8	0 - 20	Q44380
Acenaphthylene	207.549	196.07	μg/L	106	33-145	9	0 - 24	Q44380
Anthracene	212.313	196.07	μg/L	108	27-133	2	0 - 30	Q44380
Benzo(a)anthracene	222.901	196.07	μg/L	114	33-143	2	0 - 26	Q44380
Benzo(a)pyrene	232.568	196.07	μg/L	119	17-163	3	0 - 25	Q44380
Benzo(b)fluoranthene	227.666	196.07	μg/L	116	24-159	4	0 - 29	Q44380
Benzo(g,h,i)perylene	212.058	196.07	μg/L	108	10-219	1	0 - 27	Q44380
Benzo(k)fluoranthene	221.666	196.07	μg/L	113	11-162	3	0 - 11	Q44380
Bis(2-chloroethoxy)methan	e 187	196.07	μg/L	95	33-184	16	0 - 31	Q44380
Bis(2-chloroethyl)ether	174.941	196.07	μg/L	89	12-158	20	0 - 36	Q44380
Bis(2-chloroisopropyl)ether	194.098	196.07	μg/L	99	36-166	19	0 - 40	Q44380
Bis(2-ethylhexyl)phthalate	225.529	196.07	μg/L	115	10-158	6	0 - 17	Q44380
Butylbenzylphthalate	235.215	196.07	μg/L	120	10-152	4	0 - 15	Q44380
Chrysene	213.156	196.07	μg/L	109	17-168	0	0 - 25	Q44380
Di-n-butylphthalate	196	196.07	μg/L	100	10-118	0	0 - 27	Q44380
Di-n-octylphthalate	251.921	196.07	μg/L	128	10-146	8	0 - 17	Q44380
Dibenzo(a,h)anthracene	222.313	196.07	μg/L	113	10-227	2	0 - 28	Q44380
Diethylphthalate	218.862	196.07	μg/L	112	10-114	2	0 - 16	Q44380
Dimethylphthalate	222.980	196.07	μg/L	114	# 10-112	4	0 - 15	Q44380
Fluoranthene	192	196.07	μg/L	98	26-137	2	0 - 24	Q44380
Fluorene	211.470	196.07	μg/L	108	59-121	4	0 - 15	Q44380
Hexachlorobenzene	195.588	196.07	μg/L	100	10-152	1	0 - 18	Q44380
Hexachlorobutadiene	180.372	196.07	μg/L	92	24-116	19	0 - 34	Q44380



Level II QC Report

09/14/09

N. C. Department of Transportation

Attn: Helen Corley

Project ID:

NCDOT: Haywood County

COC Group Number: G0809749

Project No.:

WBS #34599.1.1

Date/Time Submitted:

08/28/09 14:02

c/o AMEC Earth & Environmental, Inc. 101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Matrix Spike Duplicate	Result	Spike Amount	Units	Recovery %	Recovery Ranges	RPD	RPD Range	QC Batch ID
Sample ID:	resuit	Opike Amount	Units		%	%	%	
256469 Hexachlorocyclopentadiene	163.921	196.07	μg/L	84	48-94	15	0 - 30	Q44380
Hexachloroethane	168.823	196.07	μg/L	86	40-113	23	0 - 38	Q44380
Indeno(1,2,3-cd)pyrene	215.627	196.07	μg/L	110	10-171	1	0 - 29	Q44380
Isophorone	233.686	196.07	μg/L	119	21-196	12	0 - 32	Q44380
N-Nitrosodi-n-propylamine	175.176	196.07	μg/L	89	10-230	15	0 - 36	Q44380
Naphthalene	186.647	196.07	μg/L	95	21-133	15	0 - 42	Q44380
Nitrobenzene	198.039	196.07	μg/L	101	35-180	19	0 - 25	Q44380
Pentachlorophenol	70.7647	196.07	μg/L	36	14-176	8	0 - 21	Q44380
Phenanthrene	198.862	196.07	μg/L	101	54-120	2	0 - 29	Q44380
Phenol	87.8431	196.07	μg/L	45	10-112	8	0 - 39	Q44380
Pyrene	216.901	196.07	μg/L	111	52-115	4	0 - 15	Q44380

#-See Case Narrative

Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Page 12 of 12

FAGE OF COULECTED OF COUNTERS. INC. Project Name: Coulect No. 28224-0543 Short Hold Analysis: (Yes) (No): Coulect No. Coulect	W NO. SIZE TIVES (OT O)
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MATRIX	ж _{(:}	Mater A	7									Sampled By (Print Name)	Upon relinquishing, this Chain of Cushedy is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.	Received	Received	Received F	Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR T SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE	Other	DRINKING WATER:		*CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)
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Case Narrative



Date: 09/10/09

Company: N. C. Department of Transportation

Contact: Helen Corley

Address: c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Client Project ID: NCDOT: Haywood County

Prism COC Group No: G0809752 Collection Date(s): 08/26/09 08/28/09 Lab Submittal Date(s):

Client Project Name Or No: WBS #34599.1.1

This data package contains the analytical results for the project identified above and includes a Case Narrative, Laboratory Report and Quality Control Data totaling 7 pages. A chain-of-custody is also attached for the samples submitted to Prism for this project.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative. Quality control statements and/or sample specific remarks are included in the sample comments section of the laboratory report for each sample affected.

Signature:

Semi Volatile Analysis

No Anomalies Reported

Volatile Analysis

No Anomalies Reported

Metals Analysis

N/A

Wet Lab and Micro Analysis

N/A

Please call if you have any questions relating to this analytical report.

Data Reviewed by:

Project Manager:

Signature:

Review Date: 09/10/09 **Approval Date:**

Data Qualifiers Key Reference:

B: Compound also detected in the method blank.

#: Result outside of the QC limits.

DO: Compound diluted out.

E: Estimated concentration, calibration range exceeded.

J: The analyte was positively identified but the value is estimated below the reporting limit.

H: Estimated concentration with a high bias.

L: Estimated concentration with a low bias.

M: A matrix effect is present.

Notes: This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc. The results in this report relate only to the samples submitted for analysis.



Laboratory Report

09/10/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S1-1 (13-15)

Project No.:

Sample Matrix: Soil

WBS #34599.1.1

Prism Sample ID: 256492

COC Group:

G0809752 9:30

11:05

Time Collected:

08/26/09

Time Submitted:

08/28/09

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Tim		Analyst	Batch ID
Percent Solids Determination	-									
Percent Solids	70.5	%			1	SM2540 G	09/01/09	16:30	mbarber	
Diesel Range Organics (DRO) by G	C-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	9.9	1.6	1	8015B	09/03/09 2	22:18	pbarr	Q4430 ²
Sample Preparation:			24	.92 g /	1 mL	3545	09/02/09	16:00	pbarr	P25490
					Surrogate	1	% Rec	overy	Cont	rol Limits
					o-Terphen	yl		83	2	19 - 124
Sample Weight Determination										
Weight 1	6.13	g			1	GRO	09/01/09	0:00	lbrown	
Weight 2	5.95	g			1	GRO	09/01/09	0:00	lbrown	
Gasoline Range Organics (GRO) by	y GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	7.1	0.87	50	8015B	09/08/09	5:46	grappaccioli	Q4433
					Surrogate)	% Rec	overy	Cont	rol Limits
					aaa-TFT		1	117		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



Laboratory Report

09/10/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S1-2 (3-5)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256493

Sample Matrix: Soil

COC Group: Time Collected: G0809752 9:40

11:05

08/26/09

Time Submitted: 08/28/09

% Recovery

112

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	74.7	%			1	SM2540 G	09/01/09 16:30	mbarber	
Diesel Range Organics (DRO) by GO	C-FID								
Diesel Range Organics (DRO)	BRL	mg/kg	9.4	1.5	1	8015B	09/04/09 0:04	pbarr	Q44301
Sample Preparation:			24.	88 g /	1 mL	3545	09/02/09 16:00	pbarr	P25490
					Surrogate)	% Recovery	Cor	ntrol Limits
					o-Terphen	yl	59		49 - 124
Sample Weight Determination									
Weight 1	6.30	g			1	GRO	09/01/09 0:00	Ibrown	
Weight 2	7.07	g			1	GRO	09/01/09 0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.7	0.82	50	8015B	09/08/09 12:45	grappaccioli	Q44337

Surrogate

aaa-TFT

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Control Limits

55 - 129



Laboratory Report

09/10/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S2-1 (13-15)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256494

Sample Matrix: Soil

COC Group:

G0809752

Time Collected:

08/26/09

Time Submitted: 08/28/09

10:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	74.0	%			1	SM2540 G	09/01/09 16:30	mbarber	
Diesel Range Organics (DRO) by GO		_	0.5	4.5		00450	00/02/00 02:00		0.44204
Diesel Range Organics (DRO)	BRL	mg/kg	9.5	1.5	1	8015B	09/03/09 23:29	pbarr	Q44301
Sample Preparation:			24	.85 g	/ 1 mL	3545	09/02/09 16:00) pbarr	P25490
					Surrogate)	% Recover	у Соі	ntrol Limits
					o-Terphen	yl	60		49 - 124
Sample Weight Determination									
Weight 1	6.48	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.69	g			1	GRO	09/01/09 0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.8	0.82	50	8015B	09/08/09 13:18	grappacciol	i Q44337
					Surrogate	•	% Recover	y Co	ntrol Limits
					aaa-TFT		121		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis



Laboratory Report

09/10/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S2-2 (3-5)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256495

G0809752

Sample Matrix: Soil

COC Group: Time Collected:

08/26/09 10:25

Time Submitted: 08/28/09 11:05

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Tir		Analyst	Batch ID
Percent Solids Determination Percent Solids	76.8	%			1	SM2540 G	09/01/09	16:30	mbarber	
Diesel Range Organics (DRO) by GO	-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	9.1	1.5	1	8015B	09/03/09	19:56	pbarr	Q44301
Sample Preparation:			25	.03 g	/ 1 mL	3545	09/02/09	16:00	pbarr	P25490
					Surrogate		% Re	covery	Con	trol Limits
					o-Terphen	yl		59		49 - 124
Sample Weight Determination					_	000	00/04/00	0.00	lla annua	
Weight 1	6.13	g			1	GRO	09/01/09		Ibrown	
Weight 2	5.77	g			1	GRO	09/01/09	0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.5	0.79	50	8015B	09/08/09	13:50	grappaccioli	Q44337
					Surrogate)	% Re	covery	, Cor	ntrol Limits
					aaa-TFT			127		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis



Laboratory Report

09/10/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S4-1 (5-6)

Project No.:

Sample Matrix: Soil

WBS #34599.1.1

Prism Sample ID: 256496

COC Group:

G0809752

Time Collected:

08/26/09 12:10

Ti

ime Submitted	: 08/28/09	11:05

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Tir		Analyst	Batch ID
Percent Solids Determination Percent Solids	70.7	%			1	SM2540 G	09/01/09	16:30	mbarber	
Diesel Range Organics (DRO) by G	C-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	9.9	1.6	1	8015B	09/03/09	20:31	pbarr	Q44301
Sample Preparation:			25	.09 g /	1 mL	3545	09/02/09	16:00	pbarr	P25490
					Surrogate	•	% Re	covery	Cor	ntrol Limits
					o-Terphen	yl		56		49 - 124
Sample Weight Determination Weight 1	6.80	g			1	GRO	09/01/09	0:00	Ibrown	
Weight 2	6.74	g			1	GRO	09/01/09	0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	7.1	0.86	50	8015B	09/08/09	14:23	grappacciol	i Q4433
					Surrogate	•	% Re	covery	, Coi	ntrol Limits
					aaa-TFT			128		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

J- Estimated value between the Reporting Limit and the MDL



Level II QC Report

9/10/09

N. C. Department of Transportation

Project ID:

NCDOT: Haywood County

COC Group Number: G0809752

Attn: Helen Corley

Project No.:

WBS #34599.1.1

Date/Time Submitted:

8/28/09 11:05

c/o AMEC Earth & Environmental, Inc. 101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Diesel Range Organics (DRO) by GC-FID, method 8015B

Method Blank									QC Batch
	Result	RL	Control Limit	Units					ID
Diesel Range Organics (DRO)	ND	7	<3.5	mg/kg					Q44301
_aboratory Control Sample	Result	Spike Amou	ınt	Units	Recovery %	Recovery Ranges %			QC Batcl ID
Diesel Range Organics (DRO)	81.9	80		mg/kg	102	55-109			Q44301
Matrix Spike Sample ID:	Result	Spike Amou	ınt	Units	Recovery	Recovery Ranges %			QC Batc
256492 Diesel Range Organics (DRO)	64.6	80		mg/kg	81	50-117			Q44301
Matrix Spike Duplicate Sample ID:	Result	Spike Amou	ınt	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batcl
256492 Diesel Range Organics (DRO)	62.2	80		mg/kg	78	50-117	4	0 - 24	Q44301
Method Blank	Result	RL	Control Limit	Units					QC Bato
Method Blank	Result	RL	Control Limit	Units					
Gasoline Range Organics	ND		<2.5						044007
(GRO)		5	~2.5	mg/kg					Q44337
				mg/kg	Recovery	Recovery Ranges			QC Batc
	Result	Spike Amou		mg/kg Units	Recovery %	Recovery Ranges %			
					•	Ranges			QC Bato
Laboratory Control Sample Gasoline Range Organics (GRO)	Result	Spike Amou		Units	%	Ranges % 67-116 Recovery			QC Batco
Gasoline Range Organics (GRO) Matrix Spike	Result	Spike Amou	unt	Units	98	Ranges % 67-116			QC Batco
Gasoline Range Organics (GRO) Matrix Spike Sample ID:	Result 49.05	Spike Amou	unt	Units mg/kg	% 98 Recovery	Ranges % 67-116 Recovery Ranges			QC Bate ID
Gasoline Range Organics (GRO) Matrix Spike Sample ID: 256492 Gasoline Range Organics (GRO)	Result 49.05	Spike Amou	unt	Units mg/kg Units	% 98 Recovery	Ranges % 67-116 Recovery Ranges % 57-113	RPD	RPD	QC Bate ID Q44337 QC Bate ID Q44337
Gasoline Range Organics (GRO) Matrix Spike Sample ID: 256492 Gasoline Range Organics	Result 49.05	Spike Amou	unt	Units mg/kg Units	% 98 Recovery % 106	Ranges % 67-116 Recovery Ranges % 57-113	RPD %	RPD Range %	QC Batc ID Q44337

(GRO)
#-See Case Narrative

Full-Service Analytical & Environmental Solutions	
PRISM LABORATORIES, INC.	

449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543 Phone: 704/529-6364 • Fax: 704/525-0409

Email (Yes) (No) Email Address he were let a free confequented Due Date 1 Day 2 Days 3 Days 4 Days 5 Days Phone: 336-691-5348 Fax (Yes) (No): Other HYWOR Site Location Physical Address: Client Company Name: AMEReport To/Contact Name: _ Excel **Cheens bord** Site Location Name: _ Reporting Address: _ EDD Type: PDF /

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LAB USE ONLY

<u>8</u> QUOTE # TO ENSURE PROPER BILLING: 54577111 Center *Please ATTACH any project specific reporting (QC LEVEL I II III IV) (Yes) UST Project: SPIVICE Count provisions and/or QC Requirements (Yes) (No) Project Name: TAY WCCD Short Hold Analysis: Roberch Address: 4/2 Invoice To:_ 6 PAGE

VOLATILES rec'd W/OUT HEADSPACE?

CUSTODY SEALS INTACT?

PROPER CONTAINERS used?

PROPER PRESERVATIVES indicated? Received WITHIN HOLDING TIMES?

Received ON WET ICE? Temp

Samples INTACT upon arrival?

Turnaround time is based on business days, excluding weekends and holiday (SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT) ☐ 6-9 Days A Standard 10 days ☐ Pre-Approved Purchase Order No./Billing Reference 34547.1 Samples received after 15:00 will be processed next business day SAMPLE CONTAINER "Working Days"

	TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL	IN BY CLI	ENT/SAMPLI	ING PERS	ONNEL	
	Certification: NELAC	NELAC	USACE	냅	NC	
Be		SC	ОТНЕВ	N/A		
·s/	Water Chlorinated: YES	ated: YES_	/ _ ON _			
	Sample Iced Upon Collection: YES	pon Collec		NO		
ANAL	ANALYSES REQUESTED				PRISM	

256495

256496

356494

बेर्सिक 256493

LAB ID NO.

REMARKS

PRESERVA-

SIZE

ġ

SEE BELOW

WATER OR SLUDGE)

COLLECTED MILITARY

DATE COLLECTED

CLIENT SAMPLE DESCRIPTION

HOURS

MATRIX (SOIL, Ę

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930

B-92-8

946

1210

1-15-15

1201

1015

PRESS DOWN FIRMLY - 3 COPIES PRISM USE ONLY Site Arrival Time: Additional Comments: Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized. 127/09 Affiliation 110125chuh 100 Sampled By (Print Name) ___ Sampler's Signature

(223 OTHER: G08x4159 00-3709 Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH DUSTODY SEALS FOR THE LABORATORY.
SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

DEAD OF THE LABORATORY.

Note: A Company of the Control sm Laboratories By gnature) ব Other Prism Field Service ☐ Hand-delivered □ Fed Ex □ UPS

*CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

Site Departure Time:

Field Tech Fee.

Mileage:

ORIGINAL

□ NC □ SC

□NC □SC

ONC OSC

ONC OSC

CERCLA

RCRA:

SOLID WASTE: □NC □SC

DRINKING WATER:

GROUNDWATER:

DNC DSC DNC DSC DNC DSC

UST:

NPDES:

□NC □SC

LANDFILL

Case Narrative



Date:

09/18/09

Company: N. C. Department of Transportation

Contact:

Helen Corley

Address: c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Client Project ID:

NCDOT: Haywood County

Prism COC Group No:

G0909092

Collection Date(s):

9/1/09 thru 9/2/09

Lab Submittal Date(s):

09/03/09

Client Project Name Or No:

WBS #34599.1.1

This data package contains the analytical results for the project identified above and includes a Case Narrative, Laboratory Report and Quality Control Data totaling 28 pages. A chain-of-custody is also attached for the samples submitted to Prism for this project.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative. Quality control statements and/or sample specific remarks are included in the sample comments section of the laboratory report for each sample affected.

Semi Volatile Analysis

No Anomalies Reported

Volatile Analysis

No Anomalies Reported

Metals Analysis

N/A

Wet Lab and Micro Analysis

N/A

Please call if you have any questions relating to this analytical report.

Data Reviewed by:

Robbi A. Jones

Project Manager:

Robbi A. Jones

Signature:

Review Date:

Signature:

Approval Date:

Data Qualifiers Key Reference:

- B: Compound also detected in the method blank.
- #: Result outside of the QC limits.
- DO: Compound diluted out.
- E: Estimated concentration, calibration range exceeded.
- J: The analyte was positively identified but the value is estimated below the reporting limit.
- H: Estimated concentration with a high bias.
- L: Estimated concentration with a low bias.
- M: A matrix effect is present.

Notes: This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc. The results in this report relate only to the samples submitted for analysis.



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S1-1 (3-5)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256894

Sample Matrix: Soil

COC Group:

G0909092

Time Collected:

09/01/09 12:45

Time Submitted: 09/03/09 10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Ti		Analyst	Batch ID
Percent Solids Determination Percent Solids	76.1	%			1	SM2540 G	09/04/09	14:15	mbarber	
Diesel Range Organics (DRO) by GO										
Diesel Range Organics (DRO)	BRL	mg/kg	9.2	1.5	1	8015B	09/10/09	23:16	jvogel	Q44455
Sample Preparation:			24	.93 g	′ 1 mL	3545	09/09/09	16:00	aguptill	P25530
					Surrogate	•	% Re	covery	Con	trol Limits
					o-Terphen	yl		59	,	49 - 124
Sample Weight Determination										
Weight 1	7.18	g			1	GRO	09/03/09	0:00	Ibrown	
Weight 2	7.17	g			1	GRO	09/03/09	0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.6	0.80	50	8015B	09/11/09	13:26	grappaccioli	Q44442
					Surrogate)	% Re	covery	Con	trol Limits
					aaa-TFT			103		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

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Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S2-1 (3-6)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256895

Sample Matrix: Soil

COC Group:

G0909092 13:00

Time Collected:

09/01/09

Time Submitted: 09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	78.4	%			1	SM2540 G	09/04/09 14:1	5 mbarber	
Diesel Range Organics (DRO) by GO									
Diesel Range Organics (DRO)	BRL	mg/kg	9.0	1.5	1	8015B	09/10/09 23:5	2 jvogel	Q44455
Sample Preparation:			24	.77 g /	1 mL	3545	09/09/09 16:0	00 aguptill	P25530
					Surrogate		% Recove	ry Cor	itrol Limits
					o-Terphen	yl	61		49 - 124
Sample Weight Determination									
Weight 1	7.10	g			1	GRO	09/03/09 0:00	Ibrown	
Weight 2	6.77	g			1	GRO	09/03/09 0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.4	0.78	50	8015B	09/11/09 13:5	8 grappaccioli	Q44442
					Surrogate		% Recove	rv Cor	ntrol Limits
					aaa-TFT		102	.,	55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

J- Estimated value between the Reporting Limit and the MDL



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S3-1 (3-4)

Project No.:

Sample Matrix: Soil

WBS #34599.1.1

Prism Sample ID: 256896

COC Group:

G0909092

Time Collected:

09/01/09

13:15

10:14

Time Submitted: 09/03/09

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time		lyst Batch ID
Percent Solids Determination									THE STATE OF THE S
Percent Solids	80.2	%			1	SM2540 G	09/04/09 14	1:15 mbarbe	r
Diesel Range Organics (DRO) by G	C-FID								
Diesel Range Organics (DRO)	BRL	mg/kg	8.8	1.4	1	8015B	09/11/09 0:	27 jvogel	Q44455
Sample Preparation:			24	.88 g <i>i</i>	1 mL	3545	09/09/09 10	6:00 agur	otill P25530
					Surrogate	e	% Reco	very	Control Limits
					o-Terphen	ıyl	6	9	49 - 124
Sample Weight Determination									
Weight 1	6.50	g			1	GRO	09/03/09 0:	00 Ibrown	
Weight 2	6.83	g			1	GRO	09/03/09 0:	00 Ibrown	
Gasoline Range Organics (GRO) b	y GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.2	0.76	50	8015B	09/11/09 14	4:30 grappa	ccioli Q44442
					Surrogate	e	% Reco	very	Control Limits
					aaa-TFT			5 15	55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S4-1 (5-8)

Project No.:

Sample Matrix: Soil

WBS #34599.1.1

Prism Sample ID: 256897

COC Group:

G0909092

Time Collected:

09/01/09 13:30

Т

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysi: Date/Tim		Analyst	Batch ID
Percent Solids Determination Percent Solids	70.7	%			1	SM2540 G	09/04/09	14:15	mbarber	
Diesel Range Organics (DRO) by G										
Diesel Range Organics (DRO)	BRL	mg/kg	10	1.6	1	8015B	09/11/09	1:02	jvogel	Q44455
Sample Preparation:			24.	.78 g	1 mL	3545	09/09/09	16:00	aguptill	P25530
					Surrogate		% Rec	overy	Con	trol Limits
					o-Terphen	yl		59		49 - 124
Sample Weight Determination Weight 1	5.68	g			1	GRO	09/03/09	0:00	lbrown	
Weight 2	6.83	g			1	GRO	09/03/09	0:00	Ibrown	
Gasoline Range Organics (GRO) by Gasoline Range Organics (GRO)	y <u>GC-FID</u> BRL	mg/kg	7.1	0.86	50	8015B	09/11/09	15:03	grappaccioli	Q44442
					Surrogate		% Rec	overy	Con	trol Limits
					aaa-TFT		1	104		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

J- Estimated value between the Reporting Limit and the MDL



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S5-1 (3-4.5)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256898

Sample Matrix: Soil

COC Group:

G0909092 14:00

Time Collected:

09/01/09

Time Submitted: 09/03/09 10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysi Date/Tin		Analyst	Batch ID
Percent Solids Determination Percent Solids	82.8	%			1	SM2540 G	09/04/09	14:15	mbarber	
D: 10	3 FID									
Diesel Range Organics (DRO) by GO Diesel Range Organics (DRO)	BRL	mg/kg	8.4	1.4	1	8015B	09/11/09	1:38	jvogel	Q44455
Sample Preparation:			25.	.04 g /	1 mL	3545	09/09/09	16:00	aguptill	P25530
					Surrogate	•	% Rec	overy	Con	trol Limits
					o-Terphen	yl		70	PTT.1.17 B.V. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	49 - 124
Sample Weight Determination										
Weight 1	6.90	g			1	GRO	09/03/09	0:00	lbrown	
Weight 2	6.83	g			1	GRO	09/03/09	0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.0	0.74	50	8015B	09/11/09	15:36	grappaccioli	Q44442
					Surrogate	•	% Rec	overy	, Con	trol Limits
					aaa-TFT			110		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

J- Estimated value between the Reporting Limit and the MDL



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S6-1 (10-12)

Prism Sample ID: 256899

Project No.:

Sample Matrix: Soil

WBS #34599.1.1

COC Group:

G0909092

Time Collected:

09/01/09

Time Submitted:

09/03/09

14:10 10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	63.3	%			1	SM2540 G	09/04/09 14:1	5 mharher	
Percent Solids	63.3	70			'	31VI2540 G	09/04/09 14.1	J modroci	
Diesel Range Organics (DRO) by GO	C-FID								
Diesel Range Organics (DRO)	330	mg/kg	55	8.9	5	8015B	09/11/09 10:0	7 jvogel	Q44455
Sample Preparation	on:			25 g	/ 1 mL	3545	09/09/09 16:0	00 aguptill	P25530
					Surrogate)	% Recove	ry Con	trol Limits
					o-Terphen	ıyl	72		49 - 124
Sample Weight Determination									
Weight 1	5.90	g			1	GRO	09/03/09 0:00	Ibrown	
Weight 2	6.07	g			1	GRO	09/03/09 0:00) Ibrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	540	mg/kg	160	99	1000	8015B	09/12/09 0:54	grappaccioli	Q44442
					Surrogate	<u>.</u>	% Recove	rv Con	itrol Limits
					aaa-TFT		DO		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S6-2 (6-7)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256900

Sample Matrix: Soil

COC Group:

G0909092 14:15

Time Collected:

09/01/09

Time Submitted: 09/03/09 10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time		Analyst	Batch ID
Percent Solids Determination Percent Solids	70.5	%			1	SM2540 G	09/04/09 14	4:15	mbarber	
<u>Diesel Range Organics (DRO) by GO</u> Diesel Range Organics (DRO)	C <u>-FID</u> BRL	mg/kg	9.9	1.6	1	8015B	09/11/09 1:	3:39	jvogel	Q44465
Sample Preparation:			24	.96 g /	′ 1 mL	3545	09/10/09 1	6:00	aguptill	P25546
					Surrogate)	% Reco	very	Cont	rol Limits
•					o-Terphen	yl	6	88	4	19 - 124
Sample Weight Determination Weight 1	6.25	g			1	GRO	09/03/09 0	.00	lbrown	
Weight 2	6.35	g			1	GRO	09/03/09 0		lbrown	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	7.1	0.87	50	8015B	09/11/09 1	6:08	grappaccioli	Q44442
					Surrogate	•	% Reco	overy	Cont	trol Limits
					aaa-TFT	***************************************	1(71		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S7-1 (5-7)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256901

Sample Matrix: Soil

COC Group:

G0909092 14:30

Time Collected:

09/01/09

Time Submitted: 09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time)	Analyst	Batch ID
Percent Solids Determination					***************************************					
Percent Solids	68.0	%			1	SM2540 G	09/04/09 14	1:15	mbarber	
Diesel Range Organics (DRO) by G	C-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	10	1.7	1	8015B	09/11/09 14	4:14 j	jvogel	Q44465
Sample Preparation:	;		25	.06 g	/ 1 mL	3545	09/10/09 1	6:00	aguptill	P25546
					Surrogate)	% Reco	very	Con	trol Limits
					o-Terphen	yl	7	'1		49 - 124
Sample Weight Determination										
Weight 1	6.37	g			1	GRO	09/03/09 0:	:00	Ibrown	
Weight 2	5.96	g			1	GRO	09/03/09 0:	:00	lbrown	
Gasoline Range Organics (GRO) b	y GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	7.4	0.90	50	8015B	09/11/09 1	6:40	grappaccioli	Q44442
					Surrogate		% Poo		Con	itrol Limits
						,			COI	
					Surrogate aaa-TFT)	% Reco		Con	trol Li 55 - 12

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S7-2 (13-14)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256902

Sample Matrix: Soil

COC Group:

G0909092 14:40

10:14

Page 9 of 25

Time Collected:

09/01/09

Time Submitted: 09/03/09

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Ti		Analyst	Batch ID
Percent Solids Determination Percent Solids	74.1	%			1	SM2540 G	09/04/09	14:15	mbarber	
Diesel Range Organics (DRO) by G	C-FID									
Diesel Range Organics (DRO)	48	mg/kg	9.4	1.5	1	8015B	09/11/09	14:50	jvogel	Q44465
Sample Preparation:			25	.05 g	′ 1 mL	3545	09/10/09	16:00	aguptill	P25546
					Surrogate	•	% Re	covery	, Con	trol Limits
					o-Terphen	iyl		74		49 - 124
Sample Weight Determination										
Weight 1	6.37	g			1	GRO	09/03/09	0:00	Ibrown	
Weight 2	5.91	g			1	GRO	09/03/09	0:00	Ibrown	
Gasoline Range Organics (GRO) by	y GC-FID									
Gasoline Range Organics (GRO)	130	mg/kg	6.7	0.82	50	8015B	09/11/09	17:24	grappaccioli	Q44442
					Surrogate	•	% Re	covery	, Con	trol Limits
					aaa-TFT			96		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

Sample Preparation:

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S8-1 (5-7)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256903

Sample Matrix: Soil

COC Group:

G0909092

aguptill

P25546

Q44442

14:50

10:14

Time Collected:

09/01/09

Time Submitted:

09/03/09

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	79.0	%	,		1	SM2540 G	09/04/09 14:15	mbarber	
Diesel Range Organics (DRO) by O Diesel Range Organics (DRO)	GC-FID BRL	mg/kg	8.8	1.4	1	8015B	09/11/09 15:25	jvogel	Q44465

			Surrogate	Surrogate		covery	У	Control Limits
			o-Terpheny	l		69		49 - 124
Sample Weight Determination	5.53	a	1	GRO	09/03/09	0:00	lbrown	
Weight 1 Weight 2	5.86	g g	1	GRO	09/03/09		Ibrown	

0.77

6.3

50

24.95 g

1 mL

3545

8015B

Surrogate	% Recovery	Control Limits
aaa-TFT	95	55 - 129

09/11/09 17:56 grappaccioli

09/10/09 16:00

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

mg/kg

BRL

All results are reported on a dry-weight basis

Gasoline Range Organics (GRO) by GC-FID

Gasoline Range Organics (GRO)



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S9-1 (4-6)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256904

Sample Matrix: Soil

COC Group:

G0909092

Time Collected:

09/01/09 15:05

Time Submitted:	09/03/09	10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time		alyst	Batch ID
Percent Solids Determination										
Percent Solids	68.3	%			1	SM2540 G	09/04/09 14	:15 mbarb	er	
Diesel Range Organics (DRO) by GO	-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	10	1.7	1	8015B	09/11/09 16	:00 jvogel		Q44465
Sample Preparation:			25	.06 g /	1 mL	3545	09/10/09 16	6:00 agu	uptill	P25546
					Surrogate	•	% Reco	very	Contro	ol Limits
					o-Terphen	yl	7	6	49	9 - 124
Sample Weight Determination										
Weight 1	5.09	g			1	GRO	09/03/09 0:	00 Ibrowi	ו	
Weight 2	5.37	g			1	GRO	09/03/09 0:	00 Ibrowi	n	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	7.3	0.89	50	8015B	09/11/09 19	9:33 grapp	accioli	Q44442
					Surrogate)	% Reco	very	Contr	ol Limits
					aaa-TFT		10	<u> </u>	EI	5 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S10-1 (5-7)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256905

Sample Matrix: Soil

COC Group:

G0909092 15:20

10:14

Time Collected:

09/01/09

Time Submitted:

09/03/09

97

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination		TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT					THE PARTY AND ADDRESS OF THE PARTY ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY ADDRESS OF THE		
Percent Solids	76.9	%			1	SM2540 G	09/04/09 14:15	mbarber	
Diesel Range Organics (DRO) by GC-	<u>FID</u>								
Diesel Range Organics (DRO)	BRL	mg/kg	9.0	1.5	1	8015B	09/11/09 16:36	jvogel	Q44465
Sample Preparation:			2	4.8 g /	1 mL	3545	09/10/09 16:00) aguptill	P25546
					Surrogate	•	% Recovery	y Con	trol Limits
					o-Terphen	yl	66		49 - 124
Sample Weight Determination									
Weight 1	5.62	g			1	GRO	09/03/09 0:00	Ibrown	
Weight 2	6.23	g			1	GRO	09/03/09 0:00	Ibrown	
Gasoline Range Organics (GRO) by O	SC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.5	0.79	50	8015B	09/11/09 20:06	grappaccioli	Q44442

aaa-TFT

Sample Comment(s):

BRL = Below Reporting Limit

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

55 - 129

J- Estimated value between the Reporting Limit and the MDL



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S11-1 (5-7)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256906

Sample Matrix: Soil

COC Group: Time Collected: G0909092 15:40

09/01/09

Time Submitted:

09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Tim		Analyst	Batch ID
Percent Solids Determination Percent Solids	68.8	%			1	SM2540 G	09/04/09	14:15	mbarber	
Diesel Range Organics (DRO) by Go	C-FID BRL	mg/kg	10	1.6	1	8015B	09/11/09	17:11	jvogel	Q44465
Sample Preparation:			24	.89 g /	1 mL	3545	09/10/09	16:00	aguptill	P25546
					Surrogate	:	% Rec	overy	Cont	rol Limits
					o-Terphen	yl		73	4	49 - 124
Sample Weight Determination Weight 1	6.02	g			1	GRO	09/03/09	0:00	Ibrown	
Weight 2	6.47	9			1	GRO	09/03/09		Ibrown	
Gasoline Range Organics (GRO) by Gasoline Range Organics (GRO)	<u>/ GC-FID</u> BRL	mg/kg	7.3	0.89	50	8015B	09/11/09	20:38	grappaccioli	Q44442
					Surrogate	•	% Rec	overy	Con	trol Limits
					aaa-TFT			119		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S4-S12-1 (5-7)

Project No.:

Sample Matrix: Soil

WBS #34599.1.1

Prism Sample ID: 256907

COC Group:

G0909092

Time Collected:

09/01/09 16:00

Time Submitted: 09/03/09

09/03/09 10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Tir		Analyst	Batch ID
Percent Solids Determination Percent Solids	79.5	%			1	SM2540 G	09/04/09	14:15	mbarber	
Diesel Range Organics (DRO) by GC Diesel Range Organics (DRO)	<u>-FID</u> BRL	mg/kg	8.9	1.4	1	8015B	09/11/09	17:46	jvogel	Q44465
Sample Preparation:			25	.17 g /	1 mL	3545	09/10/09	16:00	aguptill	P25546
					Surrogate	.	% Re	covery	Con	trol Limits
					o-Terphen	yl		73		49 - 124
Sample Weight Determination										
Weight 1	6.10	g			1	GRO	09/03/09	0:00	Ibrown	
Weight 2	6.26	g			1	GRO	09/03/09	0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.3	0.77	50	8015B	09/11/09	21:10	grappaccioli	Q44442
					Surrogate)	% Re	covery	Con	trol Limits
					aaa-TFT			102		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S3-S13-(4.5-6)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256908

Sample Matrix: Soil

COC Group: Time Collected: G0909092 16:45

09/01/09

Time Submitted: 09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	80.9	%			1	SM2540 G	09/04/09 14:15	mbarber	
Diesel Range Organics (DRO) by GO Diesel Range Organics (DRO)	C-FID BRL	mg/kg	8.7	1.4	1	8015B	09/11/09 18:22	jvogel	Q44465
Sample Preparation:			25	.15 g /	/ 1 mL	3545	09/10/09 16:00	aguptill	P25546
					Surrogate	•	% Recovery	Cont	trol Limits
					o-Terphen	yl	67		49 - 124
Sample Weight Determination Weight 1	6.91	g			1	GRO	09/03/09 0:00	lbrown	
Weight 2	6.81	g			1	GRO	09/03/09 0:00	Ibrown	
Gasoline Range Organics (GRO) by Gasoline Range Organics (GRO)	<u>/ GC-FID</u> BRL	mg/kg	6.2	0.75	50	8015B	09/11/09 21:42	grappaccioli	Q44442
					Surrogate	e	% Recovery	, Con	trol Limits
					aaa-TFT		121		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S5-1 (10-13)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256909

Sample Matrix: Soil

COC Group:

G0909092 8:30

Time Collected:

09/02/09

Time Submitted:

09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	72.3	%			1	SM2540 G	09/09/09 16:10	mbarber	
T Groom Condo	72.0	,,							
Diesel Range Organics (DRO) by GO	-FID								
Diesel Range Organics (DRO)	BRL	mg/kg	9.7	1.6	1	8015B	09/11/09 18:57	jvogel	Q44465
Sample Preparatio	n:			25 g	/ 1 mL	3545	09/10/09 16:00) aguptill	P25546
					Surrogate	•	% Recovery	y Con	trol Limits
					o-Terphen	yl	75		49 - 124
Sample Weight Determination									
Weight 1	6.43	g			1	GRO	09/03/09 0:00	Ibrown	
Weight 2	6.74	g			1	GRO	09/03/09 0:00	lbrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.9	0.84	50	8015B	09/11/09 22:14	grappaccioli	Q44442
					Surrogate	.	% Recover	v Con	trol Limits
								,	

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S5-2 (5-7)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256910

G0909092

Sample Matrix: Soil

COC Group:

Time Collected:

09/02/09 8:40

Time Submitted: 09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination					_				
Percent Solids	82.9	%			1	SM2540 G	09/09/09 16:1	0 mbarber	
Diesel Range Organics (DRO) by GO	:-FID								
Diesel Range Organics (DRO)	BRL	mg/kg	8.5	1.4	1	8015B	09/11/09 20:0	7 jvogel	Q4446
Sample Preparation:			25.	.13 g	1 mL	3545	09/10/09 16:0	0 aguptill	P25546
					Surrogate	1	% Recover	ry Con	trol Limits
					o-Terphen	yl	69		49 - 124
Sample Weight Determination									
Weight 1	6.47	g			1	GRO	09/03/09 0:00	Ibrown	
Weight 2	5.98	g			1	GRO	09/03/09 0:00	lbrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.0	0.74	50	8015B	09/11/09 22:4	6 grappaccioli	Q4444
					Surrogate		% Recover	rv Con	trol Limits
					aaa-TFT		119		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

J- Estimated value between the Reporting Limit and the MDL



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S6-1 (6-8)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256911

Sample Matrix: Soil

COC Group: Time Collected: G0909092 9:55

09/02/09

Time Submitted: 09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	80.7	%			1	SM2540 G	09/09/09 16:10	mbarber	
<u>Diesel Range Organics (DRO) by GO</u> Diesel Range Organics (DRO)	C <u>-FID</u> BRL	mg/kg	8.7	1.4	1	8015B	09/11/09 20:42	jvogel	Q44465
Sample Preparation:			25.	.04 g /	1 mL	3545	09/10/09 16:00	aguptill	P25546
					Surrogate	!	% Recovery	Cor	ntrol Limits
					o-Terphen	yl	70		49 - 124
					•				
Sample Weight Determination Weight 1	6.47	g			1	GRO	09/03/09 0:00	lbrown	
	6.47 6.83	g g			1		09/03/09 0:00 09/03/09 0:00	Ibrown	

Surrogate recovery was above the control limits. GRO was not detected in the sample. No further action was taken.

Surrogate	% Recove	ry	Control Limits
aaa-TFT	130	#	55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

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Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S6-2 (10-12)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256912

Sample Matrix: Soil

COC Group:

G0909092 10:00

Time Collected:

09/02/09

Time Submitted: 09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination					_	0110510	00/00/00 40 40		
Percent Solids	75.1	%			1	SM2540 G	09/09/09 16:10	mbarber	
Diesel Range Organics (DRO) by GO	C-FID								
Diesel Range Organics (DRO)	BRL	mg/kg	9.4	1.5	1	8015B	09/11/09 21:18	jvogel	Q44465
Sample Preparation:			25	.27 g /	1 mL	3545	09/10/09 16:00	aguptill	P25546
					Surrogate)	% Recovery	Cont	rol Limits
					o-Terphen	ıyl	71	4	19 - 124
Sample Weight Determination									
Weight 1	6.75	g			1	GRO	09/03/09 0:00	Ibrown	
Weight 2	7.04	g			1	GRO	09/03/09 0:00	lbrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.7	0.81	50	8015B	09/11/09 23:50	grappaccioli	Q44442
					Surrogate	j	% Recovery	Cont	trol Limits
					aaa-TFT		125		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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All results are reported on a dry-weight basis



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S7-1 (8-10)

Project No.:

Sample Matrix: Soil

WBS #34599.1.1

Prism Sample ID: 256913

COC Group:

G0909092

Time Collected:

09/02/09

Time Submitted: 09/03/09

9/03/09 10:14

11:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time		Analyst	Batch ID
Percent Solids Determination	100000									
Percent Solids	81.3	%			1	SM2540 G	09/09/09 10	6:10	mbarber	
Diesel Range Organics (DRO) by GO	-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	8.6	1.4	1	8015B	09/11/09 2	1:53	jvogel	Q44465
Sample Preparation:			25	.08 g /	1 mL	3545	09/10/09 1	6:00	aguptill	P25546
					Surrogate	.	% Reco	overy	Cont	rol Limits
					o-Terphen	yl	-	71	•	49 - 124
Sample Weight Determination						000	00/02/00 0	··00	Ibrown	
Weight 1	6.67	g			1	GRO	09/03/09 0			
Weight 2	6.34	g			1	GRO	09/03/09 0	0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.2	0.75	50	8015B	09/12/09 0	0:22	grappaccioli	Q44442
					Surrogate	e	% Reco	overy	Con	trol Limits
					aaa-TFT			03		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S8-1 (5-7)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256914

Sample Matrix: Soil

COC Group:

G0909092

Time Collected:

09/02/09

Time Submitted: 09/03/09

11:15 10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	st Batch ID
Percent Solids Determination Percent Solids	80.5	%			1	SM2540 G	09/09/09 16:	10 mbarber	
Diesel Range Organics (DRO) by G									
Diesel Range Organics (DRO)	BRL	mg/kg	8.6	1.4	1	8015B	09/11/09 22:	28 jvogel	Q44465
Sample Preparation	1:		2	4.8 g	/ 1 mL	3545	09/10/09 16	:00 aguptill	P25546
					Surrogate)	% Recov	ery C	ontrol Limits
					o-Terphen	yl	76	i	49 - 124
Sample Weight Determination					4	GRO	09/03/09 0:0	ιο Ibrown	
Weight 1	12.19	g			1				
Weight 2	6.77	g			1	GRO	09/03/09 0:0	0 lbrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.2	0.76	50	8015B	09/12/09 4:3	39 grappacci	ioli Q44463
					Surrogate	e	% Recov	ery C	ontrol Limits
							95		

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S9-1 (7-9)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256915

Sample Matrix: Soil

COC Group:

G0909092 13:15

Time Collected:

09/02/09

Time Submitted: 09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	74.3	%			1	SM2540 G	09/09/09 16:10	mbarber	
Diesel Range Organics (DRO) by G Diesel Range Organics (DRO)	<u>C-FID</u> BRL	mg/kg	9.5	1.5	1	8015B	09/11/09 23:03	jvogel	Q44465
Sample Preparation:			25	.22 g /	1 mL	3545	09/10/09 16:00) aguptill	P25546
					Surrogate	•	% Recover	y Con	trol Limits
					o-Terphen	ıyl	61		49 - 124
Sample Weight Determination Weight 1	6.37	g			1	GRO	09/03/09 0:00	lbrown	
Weight 2	6.16	g			1	GRO	09/03/09 0:00	Ibrown	
Gasoline Range Organics (GRO) be Gasoline Range Organics (GRO)	y GC-FID BRL	mg/kg	6.7	0.82	50	8015B	09/12/09 5:11	grappaccioli	Q44463
					Surrogate	е	% Recover	y Con	trol Limits
					aaa-TFT	3333333777	113		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S10-1 (8-10)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256916

Sample Matrix: Soil

COC Group: Time Collected:

G0909092 09/02/09 14:10

Time Submitted:

09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	81.8	%			1	SM2540 G	09/09/09 16:10	mbarber	
<u>Diesel Range Organics (DRO) by GC</u> Diesel Range Organics (DRO)	<u>-FID</u> BRL	mg/kg	8.7	1.4	1	8015B	09/11/09 23:39	jvogel	Q44465
Sample Preparation:			2	5.3 g /	1 mL	3545	09/10/09 16:00	aguptill	P25546
					Surrogate	.	% Recovery	Cont	rol Limits
					o-Terphen	yl	78	2	19 - 124
Sample Weight Determination					4	CDO	09/03/09 0:00	Ibrown	
Weight 1 Weight 2	3.28 6.42	g g			1	GRO GRO	09/03/09 0:00	lbrown	
•		, and the second							
Gasoline Range Organics (GRO) by Gasoline Range Organics (GRO)	<u>GC-FID</u> BRL	mg/kg	6.1	0.75	50	8015B	09/12/09 5:43	grappaccioli	Q44463
					Surrogate)	% Recovery	, Cont	rol Limits
					aaa-TFT		102	1	55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S11-1 (6-8)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256917

Sample Matrix: Soil

COC Group:

G0909092 14:45

Time Collected:

09/02/09

Time Submitted: 09/03/09

10:14

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time		Analyst	Batch ID
Percent Solids Determination				14 14 14 14 14 14 14 14 14 14 14 14 14 1	_		00/00/00			
Percent Solids	78.8	%			1	SM2540 G	09/09/09 1	6:10	mbarber	
Diesel Range Organics (DRO) by GO	C-FID	•								
Diesel Range Organics (DRO)	BRL	mg/kg	8.9	1.4	1	8015B	09/12/09 0	:14	jvogel	Q44465
Sample Preparation:			25	.01 g /	1 mL	3545	09/10/09 1	6:00	aguptill	P25546
					Surrogate	•	% Reco	very	Cont	trol Limits
					o-Terphen	yl	-	71		49 - 124
Sample Weight Determination					4	CDO	00/03/00 0		Ibrown	
Weight 1	4.91	g			1	GRO	09/03/09 0	:00	Ibrown	
Weight 2	4.49	g			1	GRO	09/03/09 0	:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.3	0.77	50	8015B	09/12/09 6	5:15	grappaccioli	Q44463
					Surrogate	9	% Reco	overv	, Con	trol Limits
					aaa-TFT			01		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Laboratory Report

09/18/09

N. C. Department of Transportation

Attn: Helen Corley

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Project ID:

NCDOT: Haywood County Client Sample ID: S1-S12-1 (5-8)

Project No.:

WBS #34599.1.1

Prism Sample ID: 256918

COC Group:

G0909092

Sample Matrix: Soil

Time Collected:

09/02/09 15:15

10:14

Time Submitted: 09/03/09

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Tir		Analyst	Batch ID
Percent Solids Determination Percent Solids	68.4	%			1	SM2540 G	09/09/09	16:10	mbarber	
Diesel Range Organics (DRO) by Go	C <u>-FID</u> BRL	mg/kg	10	1.7	1	8015B	09/12/09	0:49	jvogel	Q44465
Sample Preparation:	BILL	mg/kg		.84 g		3545	09/10/09		aguptill	P25546
					Surrogate	•	% Re	covery	Con	trol Limits
					o-Terphen	yl		72		49 - 124
Sample Weight Determination	5.78				1	GRO	09/03/09	0.00	Ibrown	
Weight 1 Weight 2	5.78	g g			1	GRO	09/03/09		lbrown	
Gasoline Range Organics (GRO) by	GC-FID						•			
Gasoline Range Organics (GRO)	BRL	mg/kg	7.3	0.89	50	8015B	09/12/09	6:47	grappaccioli	Q44463
					Surrogate)	% Re	covery	, Con	trol Limits
					aaa-TFT			109		55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



Level II QC Report

9/18/09

N. C. Department of Transportation

Project ID:

NCDOT: Haywood County

COC Group Number: G0909092

Attn: Helen Corley

Project No.:

WBS #34599.1.1

Date/Time Submitted:

9/3/09 10:14

c/o AMEC Earth & Environmental, Inc. 101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Gasoline Range Organics (GRO) by GC-FID, method 8015B

Method Blank	(QC Batch
		Result	RL	Control Limit	Units					ID
Gasoli (GRO)	ine Range Organics)	ND	5	<2.5	mg/kg					Q44442
Laboratory Co	ontrol Sample	Result	Spike Amoun	t	Units	Recovery %	Recovery Ranges %			QC Batch ID
Gasoli (GRO)	ine Range Organics)	45.5	50		mg/kg	91	67-116			Q44442
Matrix Spike Sample ID:		Result	Spike Amoun	ıt	Units	Recovery %	Recovery Ranges %			QC Batch ID
256894 Gasol (GRO	ine Range Organics)	47.55	50		mg/kg	95	57-113			Q44442
Matrix Spike I	Duplicate	Result	Spike Amour	nt	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
256894 Gasol (GRO	ine Range Organics)	48.5	50		mg/kg	97	57-113	2	0 - 23	Q44442

Diesel Range Organics (DRO) by GC-FID, method 8015B

Method Blank	Result	RL	Control Limit	Units					QC Batch ID
Diesel Range Organics (DRO)	ND	7	<3.5	mg/kg					Q44455
Laboratory Control Sample	Result	Spike Amou	nt	Units	Recovery %	Recovery Ranges %			QC Batch ID
Diesel Range Organics (DRO)	75.5	80		mg/kg	94	55-109			Q44455
Matrix Spike Sample ID:	Result	Spike Amou	nt	Units	Recovery %	Recovery Ranges %			QC Batch ID
256462 Diesel Range Organics (DRO)	72.9	80		mg/kg	91	50-117			Q44455
Matrix Spike Duplicate Sample ID:	Result	Spike Amou	ınt	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
256462 Diesel Range Organics (DRO)	74.3	80		mg/kg	93	50-117	2	0 - 24	Q44455

Page 1 of 2



Level II QC Report

9/18/09

N. C. Department of Transportation

Project ID:

NCDOT: Haywood County

COC Group Number: G0909092

Attn: Helen Corley

Project No.:

WBS #34599.1.1

Date/Time Submitted:

9/3/09 10:14

c/o AMEC Earth & Environmental, Inc.

101 W. Friendly Ave. Suite 603

Greensboro, NC 27401

Gasoline Range Organics (GRO) by GC-FID, method 8015B

Method Blank									QC Batch
	Result	RL	Control Limit	Units					ID
Gasoline Range Organics (GRO)	ND	5	<2.5	mg/kg					Q44463
Laboratory Control Sample	Result	Spike Amou	ınt	Units	Recovery %	Recovery Ranges %			QC Batch ID
Gasoline Range Organics (GRO)	47.5	50		mg/kg	95	67-116			Q44463
Matrix Spike					Recovery	Recovery Ranges			QC Batch
Sample ID:	Result	Spike Amou	ınt	Units	%	%			ID
256915 Gasoline Range Organics (GRO)	47.7	50		mg/kg	95	57-113			Q44463
Matrix Spike Duplicate				***************************************	Recovery	Recovery Ranges	RPD	RPD Range	QC Batch
Sample ID:	Result	Spike Amou	ınt	Units	%	%	%	%	ID
256915 Gasoline Range Organics (GRO)	47.65	50		mg/kg	95	57-113	0	0 - 23	Q44463

Diesel Range Organics (DRO) by GC-FID, method 8015B

Method Blank	Result	RL	Control Limit	Units					QC Batch ID
		1/4	CONTROL EITHE	Office					
Diesel Range Organics (DRO)	ND	7	<3.5	mg/kg					Q44465
Laboratory Control Sample	Result	Spike Amoun	t	Units	Recovery %	Recovery Ranges			QC Batch ID
		opino / miodil	•	01110		%			
Diesel Range Organics (DRO)	70.9	80		mg/kg	89	55-109			Q44465
Matrix Spike					Recovery	Recovery Ranges			QC Batch
Sample ID:	Result	Spike Amoun	t	Units	%	%			ID
256900 Diesel Range Organics (DRO)	66.9	80		mg/kg	84	50-117			Q44465
Matrix Spike Duplicate					Recovery	Recovery	RPD	RPD	QC Batch
Sample ID:	Result	Spike Amoun	nt	Units	%	Ranges %	%	Range %	ID
256900 Diesel Range Organics (DRO)	62.7	80		mg/kg	78	50-117	6	0 - 24	Q44465

#-See Case Narrative

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Full-Service Analytical & Environmental Solutions	LABORATORIES, INC.	49 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543	Holle: 104/323-0304 - 1 ax. 04/325-0309	ent company Manne.

Turnaround time is based on business days, excluding weekends and holidays. (SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT) Please ATTACH any project specific reporting (QC LEVEL I II III CHAIN OF CUSTODY RECO Requested Due Date □1 Day □2 Days □3 Days □4 Days □5 Days Samples received after 15:00 will be processed next business day Purchase Order Not/Billing Reference rovisions and/or QC Requirements roject Name: Hay Wood hort Hold Analysis: "Working Days" AGE OF nvoice To: €€Address:_ Site Location Name: he parter legan and Com 力井が 65192 1/3/1012 N/ L7401 Phone: 32 691: 5392 Fax (Yes) (No): Report To/Contact Name: ガンレー DHCY Other Site Location Physical Address: 🌙 Email (No) Email Address EDD Type: PDF / Excel / Reporting Address: 🔼

1837

Samples INTACT upon arrival?	
Received ON WET ICE? Temp 1.6	
PROPER PRESERVATIVES indicated?	
Received WITHIN HOLDING TIMES?	ا ک
CUSTODY SEALS INTACT?	
VOLATILES rec'd W/OUT HEADSPACE?	
PROPER CONTAINERS used?	 }

UST Project: (Yes)

(Yes) (No)

Switz

QUOTE # TO ENSURE PROPER BILLING:

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

ᆫ

USACE

Certification: NELAC_

□ 6-9 Days Standard 10 days □ Pre-Approved

OTHER

Sample Iced Upon Collection: YES 🖊

Water Chlorinated: YES NO

PRISM LAB ID NO.		256894	256895	276896	256847	25836 2	अर्रक्ष भ	9569co	विरुष्ठा	A56902	256903	Y - 3 COPIES	PRISM USE ONLY	Time:	ture Time:	. Fee:		
Q:	REMARKS											PRESS DOWN FIRMLY - 3 COPIES	PRISM	Additional Comments: Site Arrival Time:	Site Departure Time:	Field Tech Fee	Mileage:	
A ANALYSES REQUESTE	00000000	×									γ	1625child Affiliation AMEC	nove. Any changes must be ialized.	Date/3/09 Military/Hours	Date	+		
	PRESERVA- TIVES					·						5/25click	s as requested ab					О ТНЕ LABORATORY.
SAMPLE CONTAINER	*TYPE NO. SIZE	6/1/2 H 29/1/2									→	Sampled By (Print Name)	eed with the and	Received By: (Signature)	Received By: (Signature)	yed For Brisger aboratories By:	KB	CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. NTIL RECEIVED AT THE LABORATORY.
MATRIX	<u> </u>	11	3					and the state of t			>	Sampled Bv	horization for I	Receiv	Receiv	Kiegeix		APED SHUT WITH C D AGAINST COC UN
TIME	<u>0</u> ≥ +	4-1-M 1245		1315	1330	0011	77.7	2171		OHHI	1450 1450	1 Hohal	of Custody is your auth	III r I Ujevi Maliayeli I				NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOF SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE COMPANY OF THE SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE COMPANY OF THE SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE COMPANY OF THE SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE COC UNTIL RECEIVED AND VERIFIED
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ORIGINAL

ONC OSC OTHER:

ONC OSC LANDFILL

ONC OSC

ONC OSC

CERCLA

RCRA:

SOLID WASTE: ONC OSC

DRINKING WATER: ONC OSC

Other -

Prism Field Service GROUNDWATER:

Hand-delivered

☐ Fed Ex ☐ UPS NPDES:

	CHAIN OF CUSTODY RECORD	LAB USE ONLY
PBSW Full-Service Analytical & Environmental Solutions	PAGE OF QUOTE # TO ENSURE PROPER BILLING:	Samples INTACT upon arrival? 14 C
LABORATORIES, INC.	Project Name: They word County	1
449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0545 Phone: 704/529-6364 • Fax: 704/525-0409	Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)	<u> </u>
Client Company Name:		CUSTODY SEALS INTACT?
in the least of the state of th		PROPER CONTAINERS used?
Address: L3 W Leval Arc JR	Sec.	
P Fax (Yes) (No):	Dumbara Order No (Billing Reference	TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
(No) Email Address Rengitor	A CONTROL OF THE CONT	Certification: NELACUSACEFLNC_A_
EDD Type: PDF Excel Other	"Working Days" ☐ 6-9 Days Standard 10 days ☐ Pre-Approved	SC OTHER N/A
Site Location Name: Site Location Physical Address:	Samples received after 15:00 will be processed next business day. Turnaround time is based on business days, excluding weekends and holidays. REREPRESE POR TERMS & CONDITIONS REGARDING SERVICES CELLINGTON BY DELIVER A REPORTING TO CITEM.	Water Chlorinated: YES NO Sample Iced Upon Collection: YES NO
	SAMPLE CONTAINER BRESERVA.	\
SAMPLE DESCRIPTION COLLECTED MILITARY WATER OR HOURS SLUDGE)	*TYPE NO. SIZE TIVES	DON ON ID NO
(1, c) (2, 1, kg 1, c)	16/1/2 4 By 12 X	35%
10-1-6 (9-4)	201	35646
(0-5)		3564
54-311-1(5-73		A5698
34-512-1 (5-7)		SPK978
53-513-1 (4.5-6) . 1645		
hy Wall hal	Tan I the 25th (Attilation A)	AMEL PRESS DOWN FIRMLY - 3 COP
7 6	to by (Fillit Natile) 11.25 (and proceed with the analyses as requested above. Any changes	must be PRISM USE ON
Submitted in writing to the Prism Project Manager. There will b	changes after analyses have been initialized.	WHours Additional Comments:
Relinguished By: (Signature)	Received by: (Signature)	10.17
Refinquisty d By: (Signature	Received By: (Signature)	Field Tach Fee
Relinquished By: (Signature)	Received For Prism Laboratories By:	1.01
Method of Shipment, NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTONY SEALS FOR TRANSPORTATION TO THE LABORATORY. Method of Shipment, NOTE: ALL SAMPLE SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTONY SEALS FOR TRANSPORTATION TO THE LABORATORY.	MITH CURDON SEALS FOR TRANSPORTATION TO THE LABORATORY. COC Group No coc until RECEIVED AT THE LABORATORY.	VO.

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PRISM LAB ID NO.

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RMLY - 3 COPIES

RISM USE ONLY

ORIGINAL

Other

5	PAGE	Project
	Full-Service Analytical & Environmental Solutions	
		LABORATORIES, INC.

P.

Friendly Client Company Name: AME Report To/Contact Name: He Reporting Address:

Fax (Yes) (No): Phone: 336-641-5392

449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543 Phone: 704/529-6364 • Fax: 704/525-0409 Site Location Physical Address: 14yW204 Site Location Name: Site # # | Coleenshore

Address:

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LAB USE ONLY

VOLATILES rec'd W/OUT HEADSPACE? Samples INTACT upon arrival? H.6 PROPER PRESERVATIVES indicated? Received WITHIN HOLDING TIMES? Received ON WET ICE? Temp PROPER CONTAINERS used? CUSTODY SEALS INTACT? Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No) *Please ATTACH any project specific reporting (QC LEVEL I II III IV) QUOTE # TO ENSURE PROPER BILLING: provisions and/or QC Requirements roject Name: Ilay wood Invoice To: 🗸

Turnaround time is based on business days, excluding weekends and holiday (SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT) Email (Yes) (No) Email Address Lett. 20 (12 4 2 4 MPC CO Requested Due Date 1 Day 2 Days 3 Days 4 Days 5 Days ☐ 6-9 Days # Standard 10 days ☐ Pre-Approved Samples received after 15:00 will be processed next business day Purchase Order No./Biffing Reference "Working Days"

	TO BE FILLED	TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
	Certification: NELAC	NELACUSACEFLNC
Be		SCOTHERN/A
ys.	Water Chlorinated: YES	ted: YESNO
	Sample Iced Up	Sample Iced Upon Collection: YES NO

PRISM LAB ID NO.		256909	256910	9Fe911	256912	256913	276914	356915	256916	अफ़्श न	FR-1B	/ - 3 COPIE	PRISM USE ONLY	Time:	, , ,	
	SYGAMAC	HEIMARKS											PRESS DOWN FIRMLY - 3 COPIES	PRISM	Additional Comments:	2
Catabolica Say (see /	ANALYSES REGUESTED	A 100	×									>	Affiliation AMEC	ove. Any changes must be	Upon relinquishing, this Chain of Cushouy is your against a full party of the will be charges for any changes after analyses have been initialized. Military/Hours Additional Project Manager. There will be charges for any changes after analyses have been initialized.	11:11
PRISM LABORATONIES, INC. 10 CELETT.)		TIVES											Holzebut	s as requested ab	ses have been init	
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RENDERED BY PRIST	LE CONTAINER	Ő.	Z	-					100			\Rightarrow	1,	ceed with	y change	3
	SAMPLE	*TYPE SEE BELOW	6/1/2	\$ \$ \$				And a second sec				-		Sampled By (Print Name) / 2 / Sampled By (Print Name)	becomed By (Signature)	2100 00 . (0.51.00
	MATRIX	WATER OR SLUDGE)	5 >	101									>	Sampled E	here will be o	- 200
	TIME	TIME DATE COLLECTED COLLECTED MILITARY HOURS		3.50	24S	455		7001	1115	131)	21L/ 21L/l/	717		Server.	ct Manager. T	
	L.			25 5-7.1 5-7.1		ALC: I			At Hammer				7	2779	he Prism Proje	10
		CLIENT SAMPLE DESCRIPTION		\forall	51-55-7(5-2)	51-56-1(6-8)	51-56-7 (10-12)	(8-10)	\rightarrow	Ψ,	51-510-1(8-10)	1-31-118-18	(x-c) - YIC - IS	Sampler's Signature	Upon relinquishing, this Crain of Cushouy is your authorization. Upon relinquishing to the Prism Project Manager. There will be calculated in writing to the Prism Project Manager. There will be calculated by Samatirial	(1)

Site Departure Time: Site Arrival Time: Field Tech Fee Mileage: SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

ONC OSC

ONC OSC

ONC OSC

OTHER:

LANDFILL

CERCLA

RCRA:

SOLID WASTE:

DRINKING WATER:

GROUNDWATER:

☐ Hand-delivered

☐ Fed Ex ☐ UPS NPDES:

Relinquished By: (Signature)

Relinquished By: (Signa

Other |

10.14

□ NC □ SC □ NC

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY.

SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST GC UNTIL RECEIVED AT THE LABORATORY.

aboratories By

Received By: (Signature)