

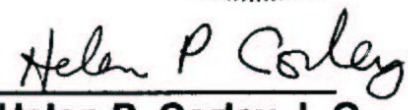
**NC Department of Transportation  
Preliminary Site Assessment  
State Project: R-4047  
WBS Element: 34599.1.1**

**Jerry Biller Property  
Site #3  
October 23, 2009**

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



  
**Troy L. Holzschuh  
Engineering Technician**

  
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Program Manager**

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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 Jerry Biller Property (the Site) to be impacted by a road widening project along Hwy 209 (Crabtree Road). Jerry Biller owns the property, which is identified as Site #3 within the NCDOT R-4047 design project. The property is located on Old Clyde Road in Waynesville, 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 Jerry Biller Property due to former usage of Underground Storage Tanks (UST) on the property. The property currently operates as Biller Automotive (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) corridor which overlaps the north and west property edges.

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 Jerry Biller Property is located on the east side of Hwy 209 (Crabtree Road) at the intersection of Old Clyde Rd in Waynesville, 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 discovered groundwater incident #6790 associated with this property. The incident was closed on 4/6/1992; therefore, no assessment activities are ongoing. Three monitoring wells are still in place from previous assessment activities.

## **1.2 Site Description**

Two single story buildings occupy the Site; the primary building operates as an automotive repair shop and the secondary building is a trailer used as a residence. Figure 2 presents the Site layout. Appendix 1 includes a photo log for the Site. The proposed road widening will impact the edges of Site #3 road frontage on Hwy 209 (Crabtree Road) and Old Clyde Road. Two former UST were closed by removal, based on recall of the current property owner, Jerry Biller. She informed AMEC that their location was slightly in front of the building, on the north side of the property, possibly out of the area of geophysical survey. Ms. Biller also mentioned that a former kerosene UST had been located on the western side of the building. Based on the report provided by Schnabel Engineering South of Greensboro, North Carolina, no UST were found to be still in place however; rather a large anomaly, suspected to be a utility junction, was discovered on the northwest corner of the property. Presently on site are four monitoring wells shown in green on Figure 2. During reconnaissance, a strong petroleum odor was noted by AMEC while monitoring depth to water and total depths in the four existing wells. Three wells had total depths ranging from 15 to 18 feet (ft) below ground surface (bgs) with depth to water ranging from 7.8 to 8.6 ft bgs. The fourth well had a total depth of 34.8 ft and a depth to water of 8.5 ft bgs. Screen intervals are unknown.

The land east of the Site is a commercial property occupied by the US Postal Service. The property to the west is a residential property. The property to the south is the right of way for the railroad. The property to the north, across Old Clyde Road, is a commercial property occupied by Clear View Glass & Mirror.

## **2.0 GEOLOGY**

### **2.1 Regional Geology**

The Jerry Biller 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 13 shallow direct push probe borings onsite. Borings extended to total depths ranging from 11 to 16 feet bgs. Soils generally consisted of yellow-brown to orange-brown clayey silt. Boring logs are presented in Appendix 2. Saturated soil conditions were first observed in 11 borings at depths ranging from 11 to 15 feet bgs.

## **3.0 FIELD ACTIVITIES**

### **3.1 Preliminary Activities**

Prior to commencing field activities at the site, several tasks were accomplished in preparation for the subsurface investigation. The Health and Safety Plan (HSP) was modified to include the site-specific health and safety information necessary for the field activities. North Carolina-1-Call was contacted to facilitate the location of underground utilities in the vicinity 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. 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 at the intersection of the two corridors with additional samples spread toward the end of each corridor.

### **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 27, 2009.

### **3.3 Well Survey**

No offsite 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 on August 27, 2009 and September 1, 2009 at Site #3. Five direct push soil borings were located at the intersection of two corridors (Hwy 209 and Old Clyde Road) on Site #3. Figure 2 presents the Site Map with sample locations. Three borings were spread toward the end of the eastern corridor and five borings were spread toward the end of the southern corridor. These sample locations were staggered to optimize the likelihood of intercepting any potential soil contamination.

The first five soil borings, SB-1 through SB-5, did not show any signs of staining, odor or significant Photo Ionization Detector (PID) reading thus one sample was collected per boring. Soil boring SB-6 was placed on the eastern corridor of Site #3, north of where the inactive tank beds are located. Soil boring SB-6 did produce a slight elevated PID reading, warranting a second sample. Soil boring SB-7 was placed east of SB-6, northeast of where the inactive tank beds are located. SB-7 produced higher PID readings of 1,112 parts per million (ppm), which required a second sample. PID screening results are incorporated in Table 1.

Borings SB-8 and SB-9 did not indicate significant readings on the PID, nor show signs of petroleum staining or have noticeable petroleum odors. Soil borings SB-10 and SB-11 produced higher PID readings, requiring second samples. Soil boring SB-10 was located approximately 70 feet southwest of the inactive tank beds and SB-11 was located approximately 100 feet south of the inactive tank beds. The final soil borings, SB-12 and SB-13, did not indicate soil contamination based on the PID, staining or odors.

Overall for the Site, evidence of potential soil contamination was identified by field observations (i.e. petroleum odors, petroleum staining, PID response) in four of the borings. No groundwater or surface water samples were collected.

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.

## **4.0 RESULTS**

### **4.1 Soil Sampling Results**

AMEC conducted soil sampling at the Site on August 27, 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 are tabulated in Table 1 and shown on Figure 3.

A minimum of one soil sample was collected from each of the 13 soil borings from Site #3. If impacted soil was suspected in a boring then a second sample was collected from that location. PID readings and other field observations warranted that four additional samples be acquired.

Analyses of soil samples for DRO indicated three boring locations (SB-7, SB-10 and SB-11) had samples with DRO concentrations slightly above the 10 mg/kg NCDENR Initial Action Level for TPH in soil. These samples' DRO values ranged from 21 to 37 mg/kg. The GRO concentrations, reported in the same borings, were greater in magnitude with GRO values ranging from 200 to 1,600 mg/kg. Consistently it was the deeper samples in each of these three borings that was measured to contain GRO or DRO above detection.

Copies of the original laboratory report and chain-of-custody documentation are included as Appendix 3.



## 4.2 Extent of Impacted Soils

This investigation and analytical program were implemented to determine the presence or absence of petroleum hydrocarbons and, if possible, to estimate the volume of impacted soil present within the proposed expanded ROW. For the purposes of this PSA it was assumed that soil excavation activities would not extend into groundwater. Most of the corridor that was investigated for Site #3 is a future area of cut versus fill, based on the current preliminary design. Therefore, interception of potentially impacted soil is of concern.

Two areas within the assessment portion of the Site are identified as having impacted soils based on the sampling results presented herein. These areas are outlined in Figure 4. The area of greatest magnitude of GRO/DRO concentrations is centered on borings SB-10 and SB-11 west of the building, possibly near the former kerosene UST. The shallower samples in both borings did not indicate petroleum impact. The soil impact was only identified within approximately a 4 foot vertical section of soil located near the water table. The area of this footprint is 859 square feet. Assuming a 4 foot thickness, this volume of potentially impacted soil equates to 3,436 cubic feet or 127 cubic yards. This area is beyond the cut line and the proposed ROW, thus may not affect any roadway construction.

The second area with impacted soils falls within the assessment corridor located along the northern property edge possibly near the former UST bed. This contamination, also shown in Figure 4, is estimated to cover an area of 927 square feet and a vertical section from 9 to 14 feet bgs based on PID and sample results. This estimated volume of potentially impacted soil equates to 4,635 cubic feet or 171 cubic yards. This area is located within the proposed ROW and in a cut section, so may affect roadway construction.

## 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 27, 2009.

- The property operates as Biller Automotive. Two gasoline UST and one kerosene UST were removed from the property, based on information from the property owner.
- High PID readings indicated the possibility of petroleum contaminants in four of sixteen soil samples.

- Laboratory analyses of soil samples confirmed DRO detection of >10 mg/kg NC Action Level in three borings (SB-7, SB-10, SB-11) and GRO detections of >10 mg/kg NC Action Level in four borings (SB-6, SB-7, SB-10, SB-11).
- The highest concentrations of GRO/DRO occur at SB-10 and SB-11, near the western property edge. The potentially impacted soil volume in this area is estimated as 127 cubic yards. This area and two soil borings are not within the proposed expanded ROW.
- Concentrations exceeding the NC Action level were also detected at SB-7 at an interval from 9 to 14 feet. This area, within the proposed ROW, is estimated to have a volume of 171 cubic yards. It is possible that road improvement construction will not intercept contaminated soil.

## 6.0 RECOMMENDATIONS

If NCDOT excavates soil in the contaminated area, AMEC recommends the following action:

- Segregation during soil excavation then proper disposal of petroleum-impacted soil from the proposed roadway improvement during construction operations.

## **TABLES**

**Table 1**  
**Soil Sampling Analytical Results, DRO-GRO**  
**Parcel # 3, Jerry Biller Property**  
**Haywood County**  
**Waynesville, North Carolina**

SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH (ft bgs)	PID READINGS (ppm)	EPA Method 8015B	
				DRO (mg/kg)	GRO (mg/kg)
<b>NC Action Levels</b>				<b>10</b>	<b>10</b>
S3-SB1-1	8/27/2009	9 - 10	1.2	<8.5	<6.1
S3-SB2-1	8/27/2009	10 - 14	1.0	<9.3	<6.6
S3-SB3-1	8/27/2009	5 - 7	2.0	<9.5	<6.7
S3-SB4-1	8/27/2009	5 - 7	0	<9.6	<6.9
S3-SB5-1	8/27/2009	7 - 9	0	<9.3	<6.6
S3-SB6-1	8/27/2009	7 - 9	19.6	<8.7	<6.2
S3-SB6-2	8/27/2009	3 - 4	14.6	6.6 J	<b>11</b>
S3-SB7-1	8/27/2009	11 - 14	1117	<b>21</b>	<b>200</b>
S3-SB7-2	8/27/2009	3 - 5	15.9	<9.7	<6.9
S3-SB8-1	8/27/2009	7 - 10	0	5.9 J	<6.2
S3-SB9-1	8/27/2009	5 - 8	0	<9.2	<6.5
S3-SB10-1	8/27/2009	11 - 14	355	<b>37</b>	<b>1,600</b>
S3-SB10-2	8/27/2009	5 - 7	1.6	<9.7	<6.9
S3-SB11-1	8/27/2009	10 - 12	946	<b>36</b>	<b>1,400</b>
S3-SB11-2	8/27/2009	3 - 5	78.9	<8.5	<6.1
S3-SB12-1	8/27/2009	5 - 9	0	<9.4	<6.7
S3-SB13-1	9/1/2009	4.5-6	0	<8.7	<6.2

**NOTES:**

bgs = below ground surface

**Bold** Concentrations Exceed Action Levels

DRO = Diesel Range Organics

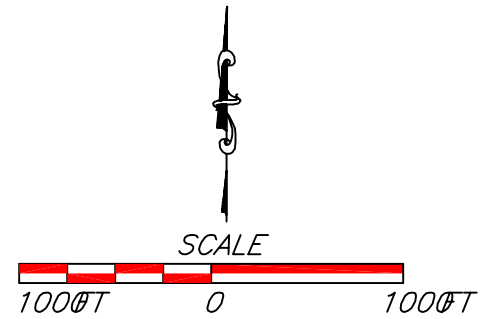
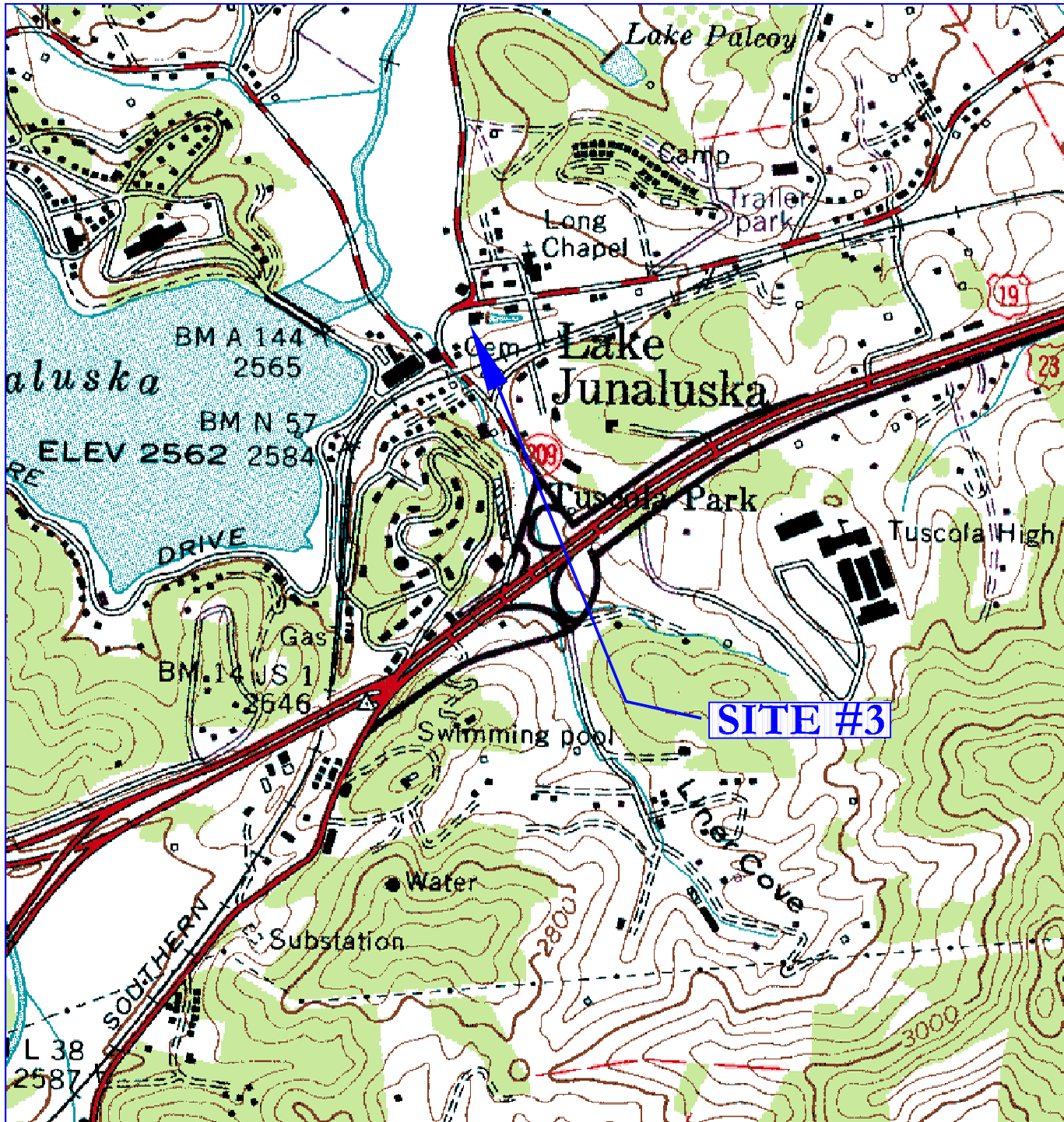
GRO = Gasoline Range Organics

ppm = parts per million

J = Estimated value between the reporting limit and the method detection limit.


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

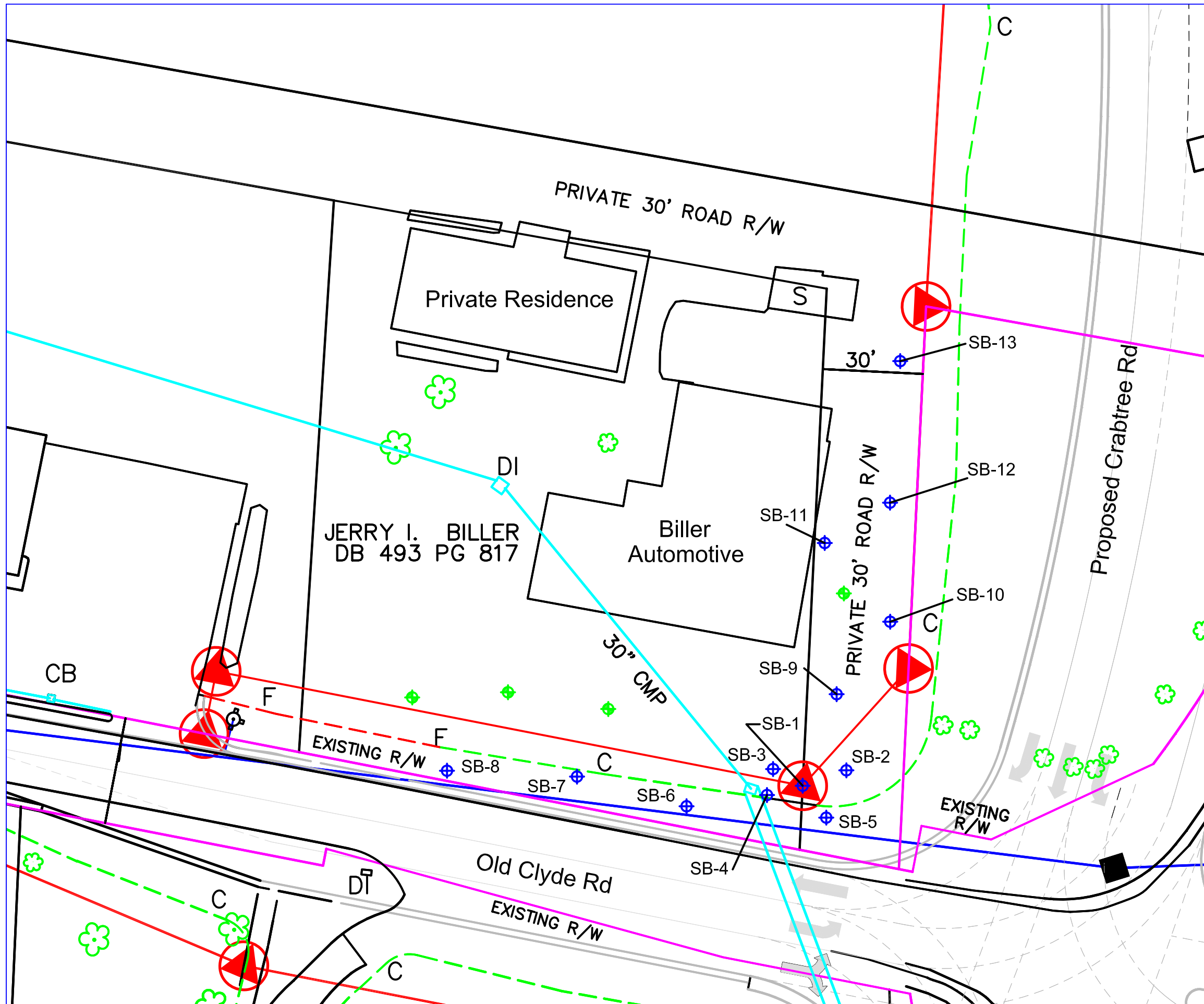
## FIGURES



7.5 Minute Quadrangle  
 North Carolina, 1983  
 Photorevised 1993

**VICINITY MAP**  
 Site #3, Jerry Biller Property  
 28 Old Clyde Road  
 Haywood County, NC

DRAWING NAME: J:\NCDOT\Haywood\FIG1		DATE: 9/29/09	
SCALE: 1 INCH = 1,000 FEET	DR: TLH	CHK: HPC	REV:
PREPARED FOR: NC Department Of Transportation Geotechnical Unit WBS Element: 34599.1.1 TIP# R-4047			
Prepared By:  <small>101 West Friendly Ave      Suite 605      Greensboro, NC 27401      (336) 691-5398</small>	Figure: Figure 1		



**LEGEND**

- Proposed Right of Way
- Existing Right of Way
- Cut Line
- Fill Line
- Storm Drain
- City Water Line
- Soil Boring Location August 2009
- Existing Monitoring Well

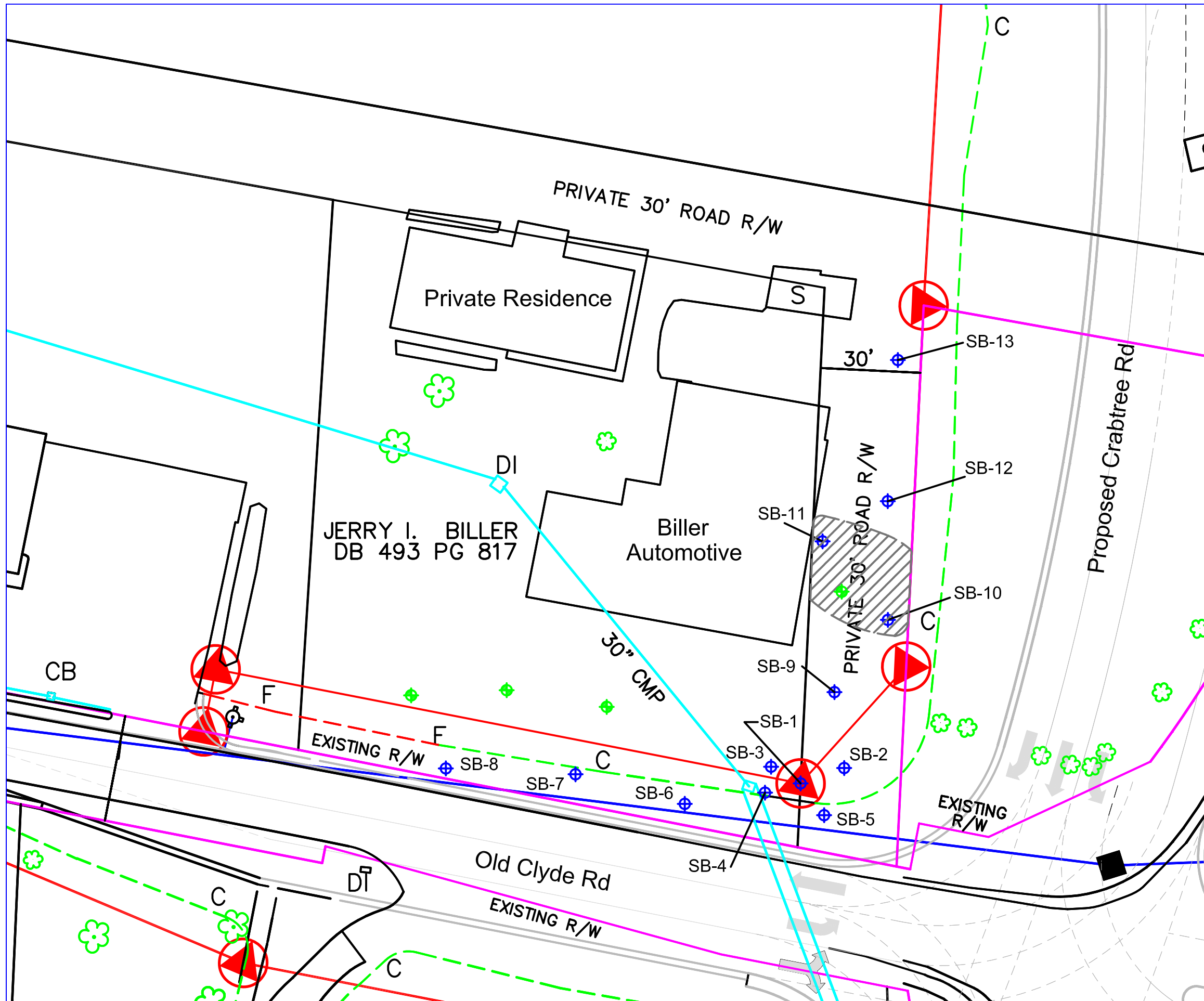
0' 20' 40' 60'  
 1" = 40'

Figure 2  
Site #3 Jerry Biller Property, Site Map

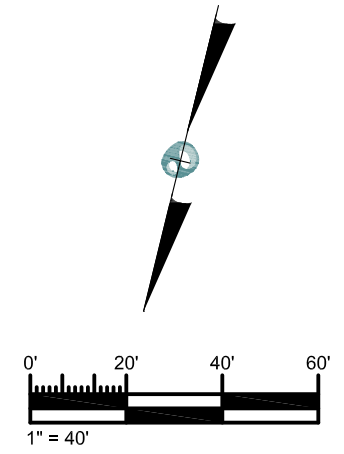
NC Department of Transportation  
Geotechnical Unit  
WBS Element: 34599.1.1  
TIP# R-4047







- LEGEND**
- Proposed Right of Way
  - Existing Right of Way
  - Cut Line
  - Fill Line
  - Potential Area of Soil Contamination
  - Storm Drain
  - City Water Line
  - Soil Boring Location August 2009
  - Existing Monitoring Well



**Figure 4**  
 Site #3 Jerry Biller Property  
 Site Map With Potential Area  
 Of Soil Contamination

NC Department of Transportation  
 Geotechnical Unit  
 WBS Element: 34599.1.1  
 TIP# R-4047


**APPENDIX 1**


**PHOTO LOG**

# Photo Log

PAGE 1 of 1



<b>Photo No.</b> 1	<b>Date:</b> 08/5/09	
<b>Direction Photo Taken:</b> West		
<b>Description:</b> View of building front on the north side		

<b>Photo No.</b> 2	<b>Date:</b> 08/5/09	
<b>Direction Photo Taken:</b> North		
<b>Description:</b> View of parking lot on western side of building in foreground		

**APPENDIX 2**  
**BORING LOGS**































**APPENDIX 3**  
**LABORATORY ANALYTICAL RESULTS**



## Case Narrative

**Date:** 09/12/09  
**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:** G0809747  
**Collection Date(s):** 08/27/09  
**Lab Submittal Date(s):** 08/28/09  
  
**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 19 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:** Steven H. Guptill

**Project Manager:** Robbi A. Jones

**Signature:** *Steven H. Guptill*

**Signature:** *Steven H. Guptill for Robbi A. Jones*

**Review Date:** 09/12/09

**Approval Date:** 09/12/09

### **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.



NC Certification No. 402  
 SC Certification No. 99012  
 NC Drinking Water Cert. No. 37735

# Laboratory Report

09/12/09

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-S1-1 (9-10)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256448  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 8:45  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	82.0	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	8.5	1.4	1	8015B	09/05/09 4:06	jvogel	Q44343
Sample Preparation:			25.14 g	/	1 mL	3545	09/03/09 17:00	pbarr	P25500
						<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>	
						o-Terphenyl	78	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	5.25	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	7.37	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.1	3.8	50	8015B	09/07/09 16:49	grappaccioli	Q44324
						<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>	
						aaa-TFT	93	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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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543

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



NC Certification No. 402  
 SC Certification No. 99012  
 NC Drinking Water Cert. No. 37735

# Laboratory Report

09/12/09

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-S2-1 (10-14)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256449  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 9:00  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	75.6	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	9.3	1.5	1	8015B	09/05/09 2:56	lvogel	Q44343
Sample Preparation:				25 g /	1 mL	3545	09/03/09 17:00	pbarr	P25500
						<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>	
						o-Terphenyl	74	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	6.30	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.55	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.6	4.1	50	8015B	09/07/09 17:21	grappaccioli	Q44324
						<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>	
						aaa-TFT	83	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

09/12/09

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-S3-1 (5-7)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256450  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 9:20  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	74.1	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	9.5	1.5	1	8015B	09/10/09 14:28	jvogel	Q44455
Sample Preparation:			24.85 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
					<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	
					o-Terphenyl		67	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	6.26	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.56	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.7	4.2	50	8015B	09/07/09 17:54	grappaccioli	Q44324
					<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	
					aaa-TFT		82	55 - 129	

**Sample Comment(s):**

BRL = Below Reporting Limit

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

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Angela D. Overcash, V.P. Laboratory Services

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NC Certification No. 402  
 SC Certification No. 99012  
 NC Drinking Water Cert. No. 37735

# Laboratory Report

09/12/09

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-S4-1 (5-7)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256451  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 9:35  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	72.8	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	9.6	1.5	1	8015B	09/10/09 15:03	lvogel	Q44455
Sample Preparation:			25.06 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
					<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	
					o-Terphenyl		71	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	6.82	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	7.15	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.9	4.3	50	8015B	09/07/09 18:26	grappaccioli	Q44324
					<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	
					aaa-TFT		82	55 - 129	

**Sample Comment(s):**

BRL = Below Reporting Limit

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09/12/09

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 101 W. Friendly Ave. Suite 603  
 Greensboro, NC 27401

Project ID: NCDOT: Haywood County Client Sample ID: S3-S5-1 (7-9)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256452  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 9:55  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	75.8	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	9.3	1.5	1	8015B	09/10/09 15:38	jvogel	Q44455
Sample Preparation:			24.9 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
						<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>	
						o-Terphenyl	69	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	6.42	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.79	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.6	4.1	50	8015B	09/07/09 18:59	grappaccioli	Q44324
						<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>	
						aaa-TFT	81	55 - 129	

**Sample Comment(s):**

BRL = Below Reporting Limit

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

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 Attn: Helen Corley  
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Project ID: NCDOT: Haywood County Client Sample ID: S3-S6-1 (7-9)

Project No.: WBS #34599.1.1

Prism Sample ID: 256453

Sample Matrix: Soil

COC Group: G0809747

Time Collected: 08/27/09 10:10

Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	80.5	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	8.7	1.4	1	8015B	09/10/09 16:31	lvogel	Q44455
Sample Preparation:			24.91 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
					<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	
					o-Terphenyl		71	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	7.09	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	7.21	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.2	3.9	50	8015B	09/07/09 19:31	grappaccioli	Q44324
					<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	
					aaa-TFT		95	55 - 129	

Sample Comment(s):

BRL = Below Reporting Limit

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

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Project ID: NCDOT: Haywood County Client Sample ID: S3-S6-2 (3-4)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256454  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 10:15  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	73.8	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	6.6 J	mg/kg	9.3	1.5	1	8015B	09/10/09 16:48	jvogel	Q44455
Sample Preparation:				25.4 g /	1 mL	3545	09/09/09 16:00	aguptill	P25530
						<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>	
						o-Terphenyl	82	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	7.17	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	7.16	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	11	mg/kg	6.8	4.2	50	8015B	09/08/09 16:33	grappaccioli	Q44324
						<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>	
						aaa-TFT	92	55 - 129	

**Sample Comment(s):**

BRL = Below Reporting Limit

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

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Project ID: NCDOT: Haywood County Client Sample ID: S3-S7-1 (11-14)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256455  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 10:30  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	76.3	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	21	mg/kg	9.1	1.5	1	8015B	09/10/09 17:24	jvogel	Q44455
Sample Preparation:			25.26 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
					<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>		
					o-Terphenyl	61	49 - 124		
<b>Sample Weight Determination</b>									
Weight 1	6.66	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.44	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	200	mg/kg	6.6	4.1	50	8015B	09/07/09 21:41	grappaccioli	Q44324
					<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>		
					aaa-TFT	103	55 - 129		

**Sample Comment(s):**

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

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Project ID: NCDOT: Haywood County Client Sample ID: S3-S7-2 (3-5)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256456  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 10:40  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	72.5	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	9.7	1.6	1	8015B	09/10/09 17:59	jvogel	Q44455
Sample Preparation:			24.82 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
					<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>		
					o-Terphenyl	71	49 - 124		
<b>Sample Weight Determination</b>									
Weight 1	6.51	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.41	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.9	4.3	50	8015B	09/07/09 22:13	grappaccioli	Q44324
					<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>		
					aaa-TFT	80	55 - 129		

**Sample Comment(s):**

BRL = Below Reporting Limit

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

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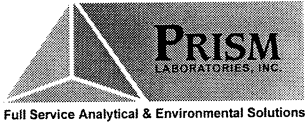
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Project ID: NCDOT: Haywood County Client Sample ID: S3-S8-1 (7-10)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256457  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 11:00  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	80.4	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	5.9 J	mg/kg	8.6	1.4	1	8015B	09/10/09 18:34	lvogel	Q44455
Sample Preparation:			25.17 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
					<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>		
					o-Terphenyl	73	49 - 124		
<b>Sample Weight Determination</b>									
Weight 1	6.76	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	7.57	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.2	3.9	50	8015B	09/07/09 22:45	grappaccioli	Q44324
					<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>		
					aaa-TFT	79	55 - 129		

**Sample Comment(s):**

BRL = Below Reporting Limit

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Project ID: NCDOT: Haywood County Client Sample ID: S3-S9-1 (5-8)

Project No.: WBS #34599.1.1

Prism Sample ID: 256458

Sample Matrix: Soil

COC Group: G0809747

Time Collected: 08/27/09 12:30

Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	77.0	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	9.2	1.5	1	8015B	09/10/09 19:09	jvogel	Q44455
Sample Preparation:			24.7 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
						<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>	
						o-Terphenyl	65	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	5.75	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.04	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.5	4.1	50	8015B	09/07/09 23:18	grappaccioli	Q44324
						<b>Surrogate</b>	<b>% Recovery</b>	<b>Control Limits</b>	
						aaa-TFT	87	55 - 129	

**Sample Comment(s):**

BRL = Below Reporting Limit

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

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Project ID: NCDOT: Haywood County Client Sample ID: S3-S10-1 (11-14)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256459  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 13:00  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
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**Percent Solids Determination**

Percent Solids	90.5	%			1	SM2540 G	09/02/09 14:00	mbarber	
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**Diesel Range Organics (DRO) by GC-FID**

Diesel Range Organics (DRO)	37	mg/kg	7.7	1.2	1	8015B	09/10/09 20:20	lvogel	Q44455
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Sample Preparation: 25.05 g / 1 mL 3545 09/09/09 16:00 aguptill P25530

Surrogate	% Recovery	Control Limits
o-Terphenyl	66	49 - 124

**Sample Weight Determination**

Weight 1	6.56	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.36	g			1	GRO	09/01/09 0:00	lbrown	

**Gasoline Range Organics (GRO) by GC-FID**

Gasoline Range Organics (GRO)	1600	mg/kg	110	69	1000	8015B	09/08/09 18:21	grappaccioli	Q44324
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Surrogate	% Recovery	Control Limits
aaa-TFT	DO #	55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

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

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Project ID: NCDOT: Haywood County Client Sample ID: S3-S10-2 (5-7)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256460  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 13:10  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	72.1	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	9.7	1.6	1	8015B	09/10/09 20:55	jvogel	Q44455
Sample Preparation:			25.15 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
					<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	
					o-Terphenyl		69	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	7.00	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.68	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.9	4.3	50	8015B	09/08/09 17:49	grappaccioli	Q44324
					<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	
					aaa-TFT		79	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

Angela D. Overcash, V.P. Laboratory Services

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NC Certification No. 402  
 SC Certification No. 99012  
 NC Drinking Water Cert. No. 37735

# Laboratory Report

09/12/09

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-S11-1 (10-12)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256461  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 13:30  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	85.8	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	36	mg/kg	8.2	1.3	1	8015B	09/10/09 21:30	jvogel	Q44455
Sample Preparation:			24.86 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
			<b>Surrogate</b>				<b>% Recovery</b>	<b>Control Limits</b>	
			o-Terphenyl				79	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	6.61	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.19	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	1400	mg/kg	58	36	500	8015B	09/08/09 18:54	grappaccioli	Q44324
			<b>Surrogate</b>				<b>% Recovery</b>	<b>Control Limits</b>	
			aaa-TFT				DO #	55 - 129	

Sample Comment(s):

BRL = Below Reporting Limit

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

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# Laboratory Report

09/12/09

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-S11-2 (3-5)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256462  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 13:40  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	82.3	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	8.5	1.4	1	8015B	09/10/09 22:06	jvogel	Q44455
Sample Preparation:				25 g	/	1 mL	3545	09/09/09 16:00	aguptill P25530
				<b>Surrogate</b>			<b>% Recovery</b>	<b>Control Limits</b>	
				o-Terphenyl			74	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	6.55	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.69	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.1	3.8	50	8015B	09/08/09 1:27	grappaccioli	Q44324
						<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>
						aaa-TFT		79	55 - 129

**Sample Comment(s):**

BRL = Below Reporting Limit

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

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# Laboratory Report

09/12/09

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-S12-1 (5-9)  
 Project No.: WBS #34599.1.1 Prism Sample ID: 256463  
 Sample Matrix: Soil COC Group: G0809747  
 Time Collected: 08/27/09 14:00  
 Time Submitted: 08/28/09 14:02

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
<b>Percent Solids Determination</b>									
Percent Solids	74.4	%			1	SM2540 G	09/02/09 14:00	mbarber	
<b>Diesel Range Organics (DRO) by GC-FID</b>									
Diesel Range Organics (DRO)	BRL	mg/kg	9.4	1.5	1	8015B	09/10/09 22:41	jvogel	Q44455
Sample Preparation:			24.98 g	/	1 mL	3545	09/09/09 16:00	aguptill	P25530
					<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	
					o-Terphenyl		83	49 - 124	
<b>Sample Weight Determination</b>									
Weight 1	6.63	g			1	GRO	09/01/09 0:00	lbrown	
Weight 2	6.29	g			1	GRO	09/01/09 0:00	lbrown	
<b>Gasoline Range Organics (GRO) by GC-FID</b>									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.7	4.2	50	8015B	09/08/09 1:59	grappaccioli	Q44324
					<b>Surrogate</b>		<b>% Recovery</b>	<b>Control Limits</b>	
					aaa-TFT		75	55 - 129	

Sample Comment(s):

BRL = Below Reporting Limit

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

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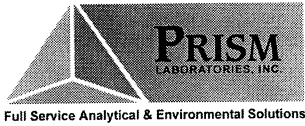
All results are reported on a dry-weight basis

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NC Certification No. 402  
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 NC Drinking Water Cert. No. 37735

# Level II QC Report

09/12/09

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  
 Project No.: WBS #34599.1.1

COC Group Number: G0809747  
 Date/Time Submitted: 08/28/09 14:02

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

Method Blank							QC Batch ID	
	Result	RL	Control Limit	Units				
Gasoline Range Organics (GRO)	ND	5	<2.5	mg/kg			Q44324	
Laboratory Control Sample							QC Batch ID	
	Result	Spike Amount	Units	Recovery %	Recovery Ranges %			
Gasoline Range Organics (GRO)	51.75	50	mg/kg	104	67-116		Q44324	
Matrix Spike							QC Batch ID	
Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %			
256237 Gasoline Range Organics (GRO)	38.2	50	mg/kg	76	57-113		Q44324	
Matrix Spike Duplicate							QC Batch ID	
Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
256237 Gasoline Range Organics (GRO)	37.6	50	mg/kg	75	57-113	2	0 - 23	Q44324

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

Method Blank							QC Batch ID	
	Result	RL	Control Limit	Units				
Diesel Range Organics (DRO)	ND	7	<3.5	mg/kg			Q44343	
Laboratory Control Sample							QC Batch ID	
	Result	Spike Amount	Units	Recovery %	Recovery Ranges %			
Diesel Range Organics (DRO)	72.4	80	mg/kg	91	55-109		Q44343	
Matrix Spike							QC Batch ID	
Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %			
256235 Diesel Range Organics (DRO)	70.3	80	mg/kg	88	50-117		Q44343	
Matrix Spike Duplicate							QC Batch ID	
Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
256235 Diesel Range Organics (DRO)	75.3	80	mg/kg	94	50-117	7	0 - 24	Q44343

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# Level II QC Report

09/12/09

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  
 Project No.: WBS #34599.1.1

COC Group Number: G0809747  
 Date/Time Submitted: 08/28/09 14:02

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

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

#-See Case Narrative



Full-Service Analytical & Environmental Solutions  
 449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543  
 Phone: 704/529-6384 • Fax: 704/525-0409

Client Company Name: AMEC  
 Report To/Contact Name: Helen Corley  
 Reporting Address: 101 W. Friendly Ave Ste 603  
Greensboro, NC 27401  
 Phone: 336-691-5398 Fax (Yes) (No):  
 Email (Yes) (No) Email Address: helen.corley@amec.com  
 EDD Type: PDF  Excel  Other   
 Site Location Name: Haywood Co.  
 Site Location Physical Address: Site #3

# CHAIN OF CUSTODY RECORD

PAGE 1 OF 2 QUOTE # TO ENSURE PROPER BILLING: WBS 34599-1.1

Project Name: Haywood county UST Project: (Yes) (No)  
 Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No) (No) (No)  
 \*Please ATTACH any project specific reporting (QC LEVEL I III IV) provisions and/or QC Requirements

Invoice To: Chris Peoples  
 Address: NCDOT 192 Mail Service Center  
Raleigh NC

Purchase Order No./Billing Reference: 34599-1.1  
 Requested Due Date  1 Day  2 Days  3 Days  4 Days  5 Days  
 6-9 Days  Standard 10 days  Rush Work Must Be Pre-Approved  
 "Working Days"  6-9 Days  
 Samples received after 15:00 will be processed next business day.  
 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)

## LAB USE ONLY

Samples INTACT upon arrival? YES  NO  N/A   
 Received ON WET ICE? Temp 2-1  
 PROPER PRESERVATIVES indicated?  
 Received WITHIN HOLDING TIMES?  
 CUSTODY SEALS INTACT?  
 VOLATILES rec'd W/OUT HEADSPACE?  
 PROPER CONTAINERS used?

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL  
 Certification: NELAC  USACE  FL  NC   
 SC  OTHER  N/A  
 Water Chlorinated: YES  NO   
 Sample Iced Upon Collection: YES  NO

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER		PRESERVATIVES	ANALYSES REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO. SIZE				
S3-51-1(9-10)	8-27-09	845	Soil	6/10ea	4	20/10ea	X		256448
S3-52-1(10-14)		900					X		256449
S3-53-1(5-2)		920					X		256450
S3-54-1(5-2)		935					X		256451
S3-55-1(7-9)		955					X		256452
S3-56-1(7-9)		1010					X		256453
S3-56-2(34)		1015					X		256454
S3-57-1(11-14)		1030					X		256455
S3-57-2(3-5)		1040					X		256456
S3-58-1(7-10)		1100					X		256457

PRESS DOWN FIRMLY - 3 COPIES

Sampler's Signature: Troy L. Holzschuh Affiliation: AMEC  
 Sampled By (Print Name): Troy L. Holzschuh  
 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.

Relinquished By: (Signature) Troy L. Holzschuh Date: 8/28/09 Military/Hours: 1402  
 Relinquished By: (Signature) [Signature] Date: 8/28/09  
 Relinquished By: (Signature) [Signature] Date: 8/28/09  
 Received For Prism Laboratories By: [Signature] Date: 8/28/09  
 Received By: (Signature) [Signature] Date: 8/28/09  
 Received By: (Signature) [Signature] Date: 8/28/09  
 Received For Prism Laboratories By: [Signature] Date: 8/28/09

Additional Comments:  
 Date: 8/28/09 Military/Hours: 1402  
 Site Arrival Time:  
 Site Departure Time:  
 Field Tech Fee:  
 Mileage:

Method of Shipment:  Hand-delivered  Prism Field Service  Other  
 NPDES:  NC  SC  NC  SC  NC  SC  NC  SC  NC  SC  
 UST:  NC  SC  NC  SC  NC  SC  NC  SC  
 \*CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

COC Group No. G0809747

SEE REVERSE FOR TERMS & CONDITIONS  
 ORIGINAL

