

NC Department of Transportation Preliminary Site Assessment State Project: U-0209B WBS Element: 34749.1.1

> Kenneth D Sauder Property Parcel #78 August 19, 2010

AMEC Earth and Environmental, Inc. of North Carolina AMEC Project: 562110209

Troy L. Holzschuh Engineering Technician Helen P. Corley, L.G. Senior Project Manager





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#### 1.0 INTRODUCTION

In accordance with the North Carolina Department of Transportation (NCDOT) Request for Proposal, dated May 26, 2010, AMEC Earth and Environmental, Inc. of North Carolina (AMEC) has performed a Preliminary Site Assessment (PSA) for the Kenneth D Sauder Property (the Site) to be affected by a road improvement project along US Highway (Hwy) 74, Independence Blvd. The Site operates as the Tire Kingdom and is identified as Parcel #78 within the NCDOT U-0209B design project. The property, located on the east side of US Hwy 74 near the intersection with Charleston Drive, is in Charlotte of Mecklenburg County, North Carolina. The investigation was conducted in accordance with AMEC's Technical and Cost proposal dated June 16, 2010.

NCDOT contracted AMEC to perform a PSA on the Kenneth D Sauder Property due to the historical presence of an underground storage tank (UST) on the property. The property currently operates as an automobile repair shop and tire sales store. 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). This parcel will be a total take by the NCDOT for construction of the future Sharon Amity overpass. The investigation was specifically completed to determine the presence or absence of petroleum hydrocarbons within 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 ROW and estimates the extent of soil contamination.

#### 1.1 Site Location and History

The Kenneth D Sauder Property is located on the eastern side of US Hwy 74, at the intersection of Charleston Drive in Charlotte, Mecklenburg County, North Carolina. It is located within the Metamorphic sediments of the Charlotte and Milton Belt Physiographic Province of western North Carolina. Figure 1 shows the site location and vicinity.

AMEC studied the NCDENR UST Registered Tanks Database and identified that one 500 gallon oil (new/used/mixture) tank was installed at General Tire Service at 4701 E Independence Blvd in 1971 and was closed in 1988. AMEC also reviewed the NCDENR Incident Management Database and identified Incident #19185 for General Tire at 4701



East Independence Boulevard in Charlotte, NC. The incident was reported September 12, 1994, however the incident occurrence and clean up date are February 1, 1991. Petroleum soil contamination was reported as the result of a leak from a noncommercial tank. The incident was closed September 27, 1994.

#### 1.2 Site Description

The Site is a one-story building with multiple garage bays. The proposed road widening will traverse the entire property of Parcel #78. No UST are presently located at this facility. Two monitoring wells were observed at the property, which are assumed to be still in place from the assessment activities in the early 19902. Appendix A includes a photo log for Parcel #78.

The properties north, south and west of the Site are commercial businesses. Adjacent to the north of the Site is Mattress Firm. Adjacent to the South is Machu Picchu Restaurant. Across US Hwy 74 to the west are vacant buildings. Properties east of the Site are residential homes.

#### 2.0 GEOLOGY

#### 2.1 Regional Geology

The Kenneth D Sauder Property is located within the Metamorphic type rocks of the Charlotte and Milton Belt Physiographic Province of western North Carolina. The Metavolcanic rock is interbedded felsic to mafic tuffs and flowrock.

#### 2.2 Site Geology

Site geology was observed through the sampling of 7 shallow direct push probe soil borings (SB) onsite. Borings extended to a total depth of 10 feet below ground surface (bgs), however refusal was encountered at 4.5 feet bgs in SB-1. Soils generally consisted of orange, well sorted, clayey silt. Boring logs are presented in Appendix B.

Damp soil conditions were typically first encountered at a depth of 0.5 feet (ft) below ground surface (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 on June 29 to report the proposed drilling activities and subsequently notify all affected utilities for the parcel. A.E. Drilling Services, LLC (AE Drilling) of Greenville, 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 June. The geophysical results were reviewed and discussed at the completion of each survey. A private utility locating company, Priority Underground Locating of Huntersville, North Carolina was subcontracted on July 2, 2010 to clear the proposed drill locations that were marked in the field by AMEC personnel. Prism Laboratories, Inc. was contacted for acquisition of sample bottles. Soil boring locations were focused within the proposed expanded ROW, using a staggered soil boring placement pattern to optimize the likelihood of intercepting any potential soil contamination.

#### 3.2 Site Reconnaissance

AMEC and NCDOT Geotechnical Unit personnel completed site reconnaissance on June 3 and AMEC continued recon on June 29, 2010. During reconnaissance, the area was visually examined for the presence of any UST or areas/obstructions that could potentially affect the subsurface investigation and the number of boring locations was discussed. Boring locations were marked on July 2, 2010.

#### 3.3 Geophysical Survey

Schnabel performed the geophysical surveys from June 14 through June 24. Schnabel utilized a Geonics EM61-MK2 to perform the electromagnetic induction surveys and a Geophysical Survey Systems SIR-3000 to conduct the ground-penetrating radar (GPR) investigations. These instruments are specifically calibrated to detect metal anomalies that are buried deeply and are characteristically large. The data collected by Schnabel do not indicate the presence of underground storage tanks (USTs) within the proposed expanded ROW. The complete report can be found in Appendix C.



#### 3.4 Well Survey

No well survey was performed as part of this PSA; however two monitoring wells were noted near the south eastern edge of the Parcel as shown in Figure 2. A depth to water level of 10.91 ft bgs was measured in the monitoring well at the side of the building and nearby SB-2. The other monitoring well could not be accessed due to a parked car.

#### 3.5 Soil Sampling

Soil boring occurred on July 8, 2010 at Parcel #78. Seven direct push soil borings were conducted within the proposed expanded ROW on Parcel #78. 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 at the suspected location for a historic UST near the building. Soil borings SB-2 and SB-3 were located southwest along the building. Soil boring SB-4 was placed along the northern extent of the property boundary and adjacent to the proposed NCDOT cut/fill line. Soil borings SB-5 through SB-7 were positioned in areas of future catch basins within the expanded ROW.

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. At this Site, three soil samples were also analyzed for volatile organic compounds (VOC) by Method 8260B. These samples were from borings SB-1, -2 and -3 that are located closest to the building.

Once placed in the containers, all 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 SOIL SAMPLING RESULTS

AMEC conducted soil sampling at the Site on July 8, 2010. 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 7 completed soil borings from Parcel #78. Typically, when impacted soil is identified, additional soil samples are obtained. However, PID readings did not warrant any additional samples. Analyses of soil samples for DRO indicated one boring location with a concentration above the 10 mg/kg NCDENR Initial Action Level for TPH in soil. Sample P78-SB-3 from boring SB-3 at the 4-5 ft bgs interval was reported with 22 mg/kg. This boring was located just outside a garage bay in an asphalt driveway and near one of the formerly used monitor wells. GRO concentrations did not exceed the NCDENR Initial Action Level for TPH.

Samples SB-1 @3-4 ft, SB-2 @4-5 ft and SB-3 @4-5 were the 3 samples analyzed also for VOC. Those VOC analyses reported that no compounds were identified above the reporting limits in the 3 samples.

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

#### 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 July 8, 2010.

- The property currently operates as the Tire Kingdom, a repair shop and tire sales store.
- Hydraulic lifts are used within the building.



- UST Database for Incident Management and Registered Facilities identifies the parcel as Incident #19185, which was closed out in 1991.
- Seven soil samples were collected and analyzed for TPH GRO and DRO.
- Laboratory analyses of soil samples reported only one TPH detection; a DRO concentration in soil boring SB-3 at 22 mg/kg, which indicates minor localized contamination.
- Three soil samples collected closest to the building were also analyzed for VOCs and no compounds were reported as detected.

#### 6.0 RECOMMENDATIONS

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

 Segregation during soil excavation with proper disposal of potentially petroleum-impacted soil during roadway improvement construction operations.



# Table 1 Soil Sampling Analytical Results, DRO-GRO Parcel 78, Kenneth Sauder Property (Tire Kingdom) NC DOT Charlotte, North Carolina

	SAMPLE	SAMPLE DEPTH	PID	EPA Meth	od 8015B
SAMPLE ID	DATE	(ft bgs)	READINGS (ppm)	DRO (mg/kg)	GRO (mg/kg)
NC Action Levels				10	10
P78-SB-1	7/8/2010	3 - 4	0	<7.4	<4.7
P78-SB-2	7/8/2010	4 - 5	0	<10	<6.6
P78-SB-3	7/8/2010	4 - 5	0	22	<4.9
P78-SB-4	7/8/2010	4 - 5	0	<8.7	<5.1
P78-SB-5	7/8/2010	4 - 5	0	<8.5	<4.8
P78-SB-6	7/8/2010	4 - 5	0	<8.5	<4.5
P78-SB-7	7/8/2010	4 - 5	0	<8.8	<4.7

#### NOTES:

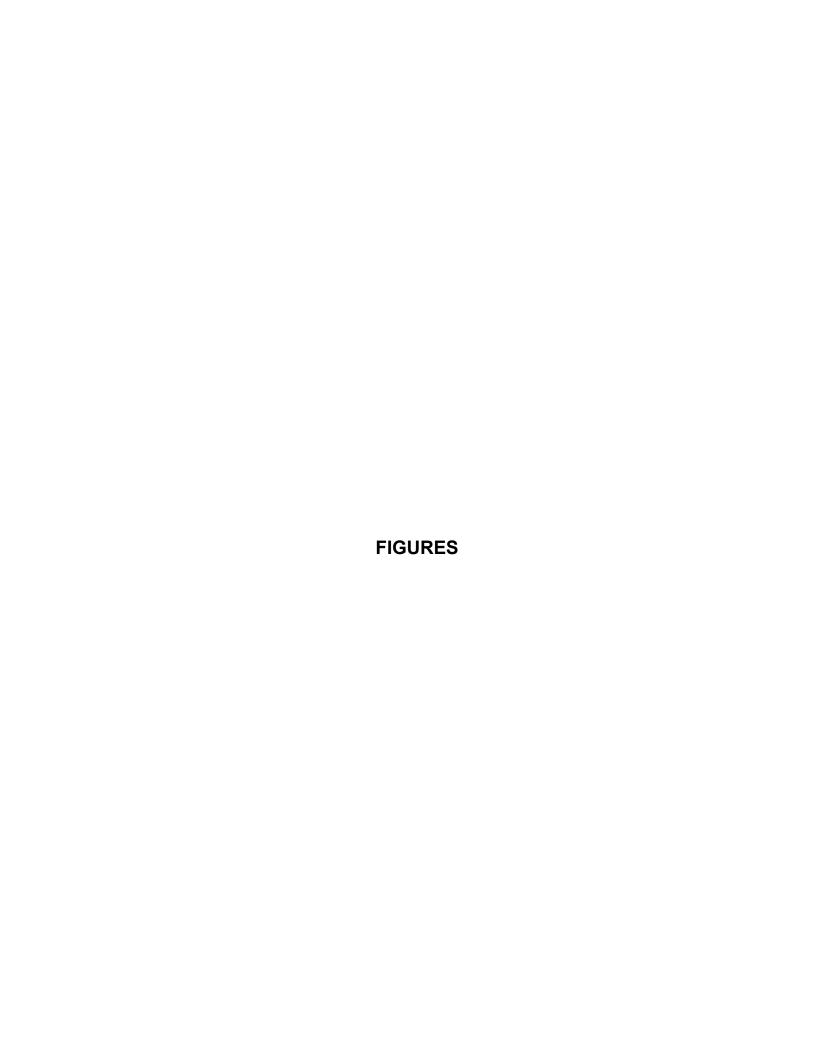
bgs = below ground surface; ppm = parts per million

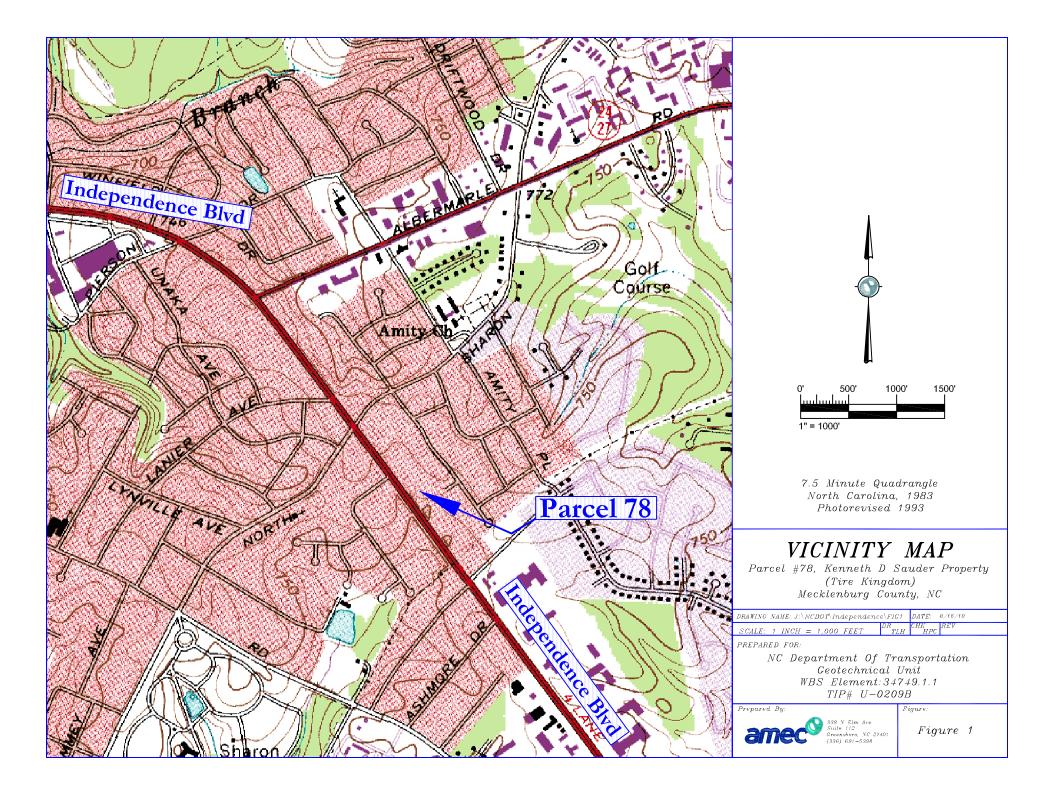
**Bold** Concentrations Exceed Action Levels

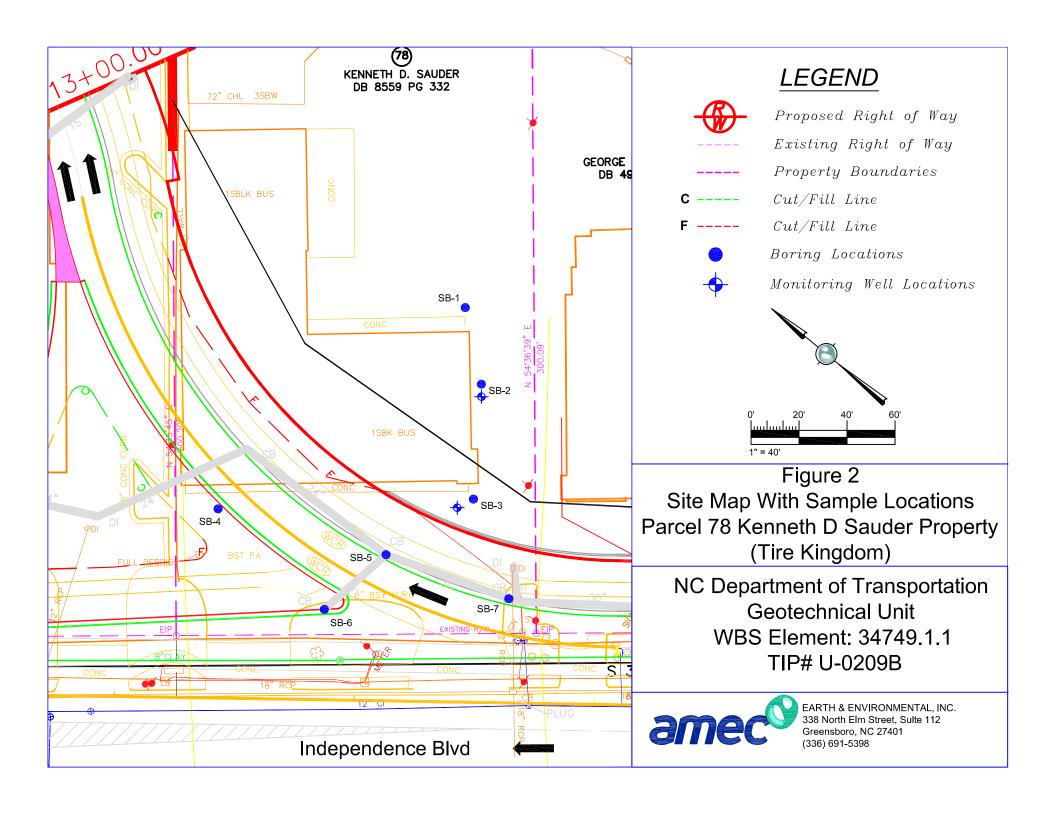
DRO = Diesel Range Organics

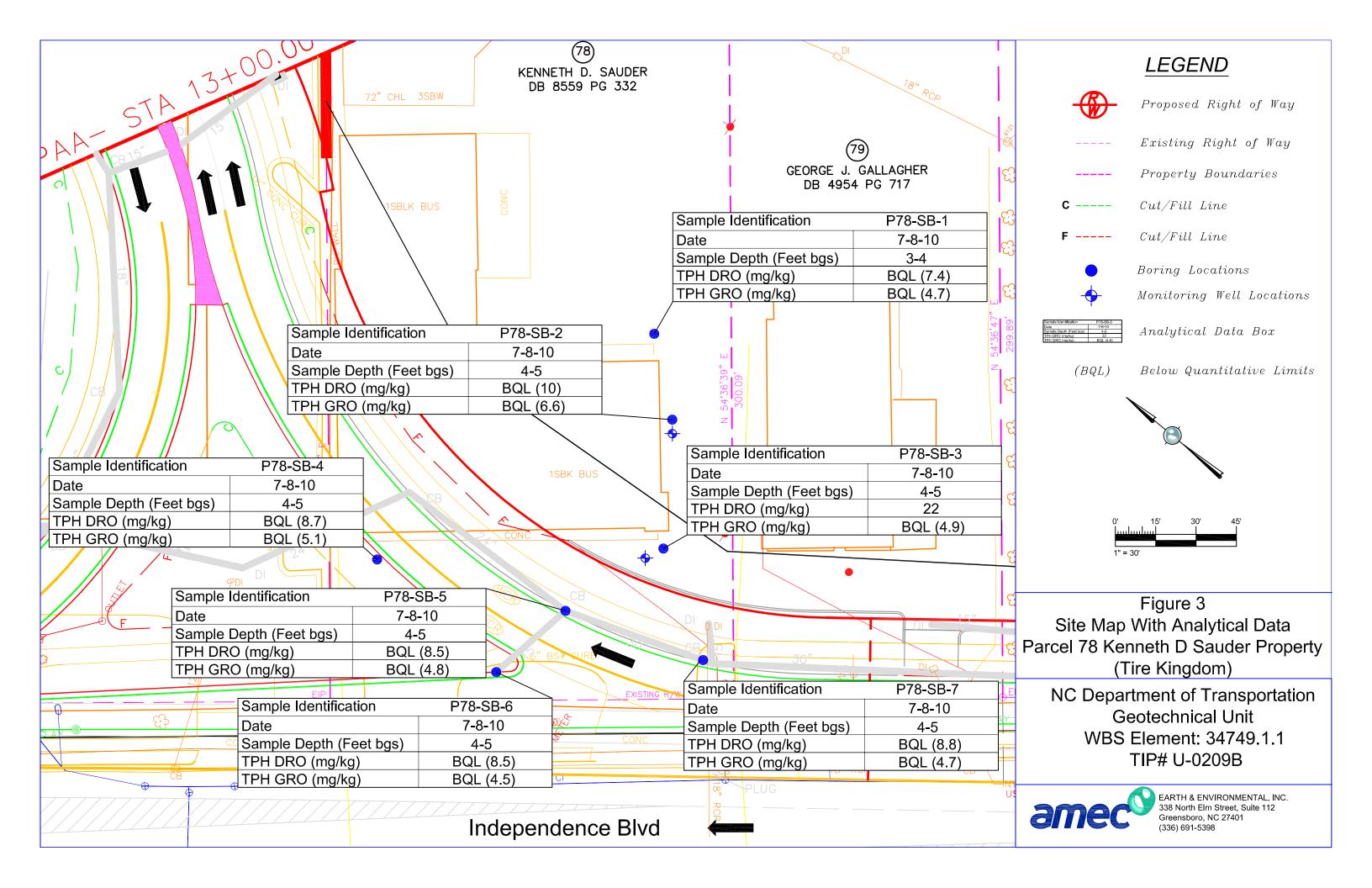
GRO = Gasoline Range Organics

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









**APPENDIX A** 

**PHOTO LOG** 



#### Photo 1

Viewing west from the eastcentral portion of the site. Suspected ust area. Geoprobe hit concrete and had refusal at 4.5 feet.



#### Photo 2

Viewing east from the south western corner of the site. Boring locations were strategically placed over proposed catch basins.



338 North Elm Street, Suite 112 Greensboro, North Carolina 27401 W.O. 562110209
PROCESSED TLH
DATE July 2010
PAGE 1

PHOTOGRAPHIC LOG

Preliminary Site Assessment Parcel 78 Kenneth D Sauder Property (Tire Kingdom) Independence Blvd., Charlotte, NC APPENDIX B

**BORING LOGS** 



Sand Interval:

Grout Interval:

# AMEC Earth & Environmental, Inc. BORING LOG

Boring/Well No.: P78-SB1	Site Name: Parcel 78
Date: 7-8-10	Location: Charlotte, Mecklenburg Co., NC
Job No.: 562110209	Sample Method: Direct Push
AMEC Rep: Troy Holzschuh	Drilling Method: Direct Push
Drilling Company: A.E. Drilling	Driller Name/Cert #: John Gorman - 3485
Remarks:	

Depth	PID/OVA	Blow Counts	Sail/Lithalagia Description
(ft BLS)	Reading (ppm)	Blow Counts	
0-0.5			Asphalt/Aggregate
0.5-4.5	0		Asphalt/Aggregate Tan, Poorly Sorted, Coarse Sand with Rock, Damp
			Refusal @ 4.5'
		-	
		1	
		WELL CONS	TRUCTION DETAILS (If Applicable)
Nell Type/Dian	neter:		Outer Casing Interval:
Γotal Depth:			Outer Casing Diameter:
Screen Interval			Bentonite Interval:

Slot Size:



# AMEC Earth & Environmental, Inc. BORING LOG

Boring/Well No.: P78-SB2

Date: 7-8-10

Location: Charlotte, Mecklenburg Co., NC

Job No.: 562110209

Sample Method: Direct Push

AMEC Rep: Troy Holzschuh

Drilling Company: A.E. Drilling

Driller Name/Cert #: John Gorman - 3485

Remarks:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	
0-0.5	, ,		Asphalt/Aggregate
0.5-6.5	0		Orange, Well Sorted, Clayey Silt, Damp
6.5-10	0		Orange/Yellow, Well Sorted, Marbled Clayey Silt, Damp
. II T		WELL CONS	TRUCTION DETAILS (If Applicable)
Vell Type/Diar	meter:		Outer Casing Interval:
otal Depth:	_		Outer Casing Diameter:
creen Interva	l:		Bentonite Interval:

Slot Size:



# AMEC Earth & Environmental, Inc. BORING LOG

Boring/Well No.: P78-SB3

Date: 7-8-10

Location: Charlotte, Mecklenburg Co., NC

Job No.: 562110209

Sample Method: Direct Push

AMEC Rep: Troy Holzschuh

Drilling Company: A.E. Drilling

Driller Name/Cert #: John Gorman - 3485

Remarks:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	
0-0.5			Asphalt/Aggregate
0.5-7	0		Orange, Well Sorted, Clayey Silt, Damp
7-10	0		Orange, Well Sorted, Clayey Silt, Damp Orange/Yellow, Well Sorted, Marbled Clayey Silt, Damp
		1	
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		†	
		†	
		WELL CONS	STRUCTION DETAILS (If Applicable)
Well Type/Dia	meter	WELL CONG	Outer Casing Interval:
Total Depth:	motor.		Outer Casing linerval.  Outer Casing Diameter:
Screen Interva	al·		Bentonite Interval:
JOI EETI IIILEI Võ	u.		Denionile interval.

Slot Size:



# **AMEC Earth & Environmental, Inc. BORING LOG**

Boring/Well No.: P78-SB4

Date: 7-8-10

Location: Charlotte, Mecklenburg Co., NC

Job No.: 562110209

Sample Method: Direct Push

AMEC Rep: Troy Holzschuh

Drilling Company: A.E. Drilling

Driller Name/Cert #: John Gorman - 3485

Remarks:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	
0-0.5			Asphalt/Aggregate Red, Well Sorted, Clayey Silt, Damp Yellow/White, Well Sorted, Marbled Clayey Silt, Damp
0.5-1	0		Red, Well Sorted, Clayey Silt, Damp
1-10	0		Yellow/White, Well Sorted, Marbled Clayey Silt, Damp
		1	
		WELL CONS	TRUCTION DETAILS (If Applicable)
/ell Type/Diar	neter:		Outer Casing Interval:
otal Depth:			Outer Casing Diameter:
Screen Interva	l:		Bentonite Interval:

Slot Size:



# AMEC Earth & Environmental, Inc. BORING LOG

Boring/Well No.: P78-SB5

Date: 7-8-10

Location: Charlotte, Mecklenburg Co., NC

Job No.: 562110209

Sample Method: Direct Push

AMEC Rep: Troy Holzschuh

Drilling Company: A.E. Drilling

Driller Name/Cert #: John Gorman - 3485

Remarks:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	
0-0.5			Asphalt/Aggregate
0.5-1	0		Yellow, Fine Sand, Damp
1-4	0		Orange, Well Sorted, Clayey Silt, Damp
4-10	0		Orange, Well Sorted, Clayey Silt, Damp Orange/Yellow, Well Sorted, Marbled Clayey Silt, Damp
Vell Type/Dia	meter:	WELL CONS	TRUCTION DETAILS (If Applicable) Outer Casing Interval:
otal Depth:			Outer Casing Interval.  Outer Casing Diameter:
creen Interva	l:		Bentonite Interval:
and Interval:			Slot Size:



### **AMEC Earth & Environmental, Inc. BORING LOG**

Boring/Well No.: P78-SB6 Site Name: Parcel 78 Location: Charlotte, Mecklenburg Co., NC Date: 7-8-10 Job No.: 562110209 Sample Method: Direct Push AMEC Rep: Troy Holzschuh **Drilling Method: Direct Push** Drilling Company: A.E. Drilling Driller Name/Cert #: John Gorman - 3485

Remarks:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	Soil/Lithologic Description					
0-0.5	(66)		Grass/Organic Soil					
0.5-2	0		Brown, Well Sorted, Clayey Silt, Damp					
2-7	0		Orange/Yellow, Well Sorted, Clayey Silt, Damp					
7-10	0		Yellow, Well Sorted, Clayey Silt, Damp					
-			, , , , , , , , , , , , , , , , , , , ,					
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		1						
		14/21/1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2						
Mall Tura /D:=:-	notori	WELL CONS	TRUCTION DETAILS (If Applicable)					
Vell Type/Diar Total Depth:	neter:		Outer Casing Interval:					
			Outer Casing Diameter: Bentonite Interval:					
Screen Interval:			Dentente merval.					



# AMEC Earth & Environmental, Inc. BORING LOG

Boring/Well No.: P78-SB7

Date: 7-8-10

Job No.: 562110209

AMEC Rep: Troy Holzschuh

Drilling Company: A.E. Drilling

Site Name: Parcel 78

Location: Charlotte, Mecklenburg Co., NC

Sample Method: Direct Push

Driller Name/Cert #: John Gorman - 3485

Remarks:

Sand Interval:

Grout Interval:

Depth (ft BLS)	PID/OVA Reading (ppm)	Blow Counts	
0-0.5			Grass/Organic Soil
0.5-6.5	0		Orange, Well Sorted, Clayey Silt, Damp
6.5-10	0		Orange/Yellow, Well Sorted, Marbled Clayey Silt, Damp
		WELL CONS	TRUCTION DETAILS (If Applicable)
Vell Type/Dian	neter:		Outer Casing Interval:
otal Depth:			Outer Casing Diameter:
creen Interval			Bentonite Interval:

Slot Size:

# APPENDIX C GEOPHYSICAL SURVEY REPORT



July 12, 2010

Ms. Helen Corley, LG AMEC Earth & Environmental of North Carolina, Inc. 338 North Elm Street, Suite 112 Greensboro, North Carolina 27401

RE: State Project: U-0209B

WBS Element: 34749.1.1 County: Mecklenburg

Description: Charlotte – US 74 (Independence Boulevard) from NC 24-27 (Albemarle

Road) to Idlewild Road

Subject: Project 09210013.25, Report on Geophysical Surveys

Parcel 78, Mecklenburg County, North Carolina

Dear Ms. Corley:

**SCHNABEL ENGINEERING SOUTH, PC** (Schnabel) is pleased to present this report on the geophysical surveys we conducted on the subject site. The report includes one 11x17 color figure.

#### INTRODUCTION

The work described in this report was conducted on June 14, 15, 16, 22, 23, 24, and 29, 2010, by Schnabel under our 2009 contract with the NCDOT. The work was conducted within the accessible portions of the entire parcel as indicated by the NCDOT to support their environmental assessment of Parcel 78 (Kenneth D. Sauder Property). The purpose of the geophysical surveys was to locate possible metal underground storage tanks (UST's) and associated metal product lines in the accessible areas of the parcel.

The geophysical investigation consisted of electromagnetic (EM) induction surveys using a Geonics EM61-MK2 instrument. The EM61 metal detector is used to locate metal objects buried up to about eight feet below ground surface. Ground-penetrating radar (GPR) investigations of selected EM61 anomalies, including areas of reinforced concrete, were conducted using a Geophysical Survey Systems SIR-3000 system equipped with a 400 MHz antenna.

#### FIELD METHODOLOGY

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

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

Preliminary results for Parcel 78 were sent to Helen Corley and Troy Holzschuh of AMEC and Ethan Caldwell of the NCDOT on July 2, 2010.

#### **DISCUSSION OF RESULTS**

We used a rental EM61 for the data collection on this project. We discovered that this rental unit had an intermittent short in the top coil, which made the differential data unreliable. The data collected from just the bottom coil was not affected by this problem. Only the early time gate data collected from the bottom coil were used to determine anomalous locations to survey with GPR.

The contoured early time gate EM61 data for Parcel 78 are shown on Figure 1. The early time gate data provide the more sensitive detection of metal objects. The early time gate results show anomalies apparently caused by reinforced concrete, buried utilities, or known site features (Figure 1). The GPR data collected at the site do not indicate the presence of metallic UST's in the areas surveyed.

#### **CONCLUSIONS**

Our evaluation of the geophysical data collected on Parcel 78 on Project U-0209B in Charlotte, NC indicates the following:

The geophysical data do not indicate the presence of metallic UST's in the areas surveyed on Parcel 78.

### NCDOT, Geotechnical Engineering Unit U-0209B, Mecklenburg County

#### **LIMITATIONS**

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

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

Sincerely,

SCHNABEL ENGINEERING SOUTH, PC

Jeremy S Strohmeyer, LG

Project Manager

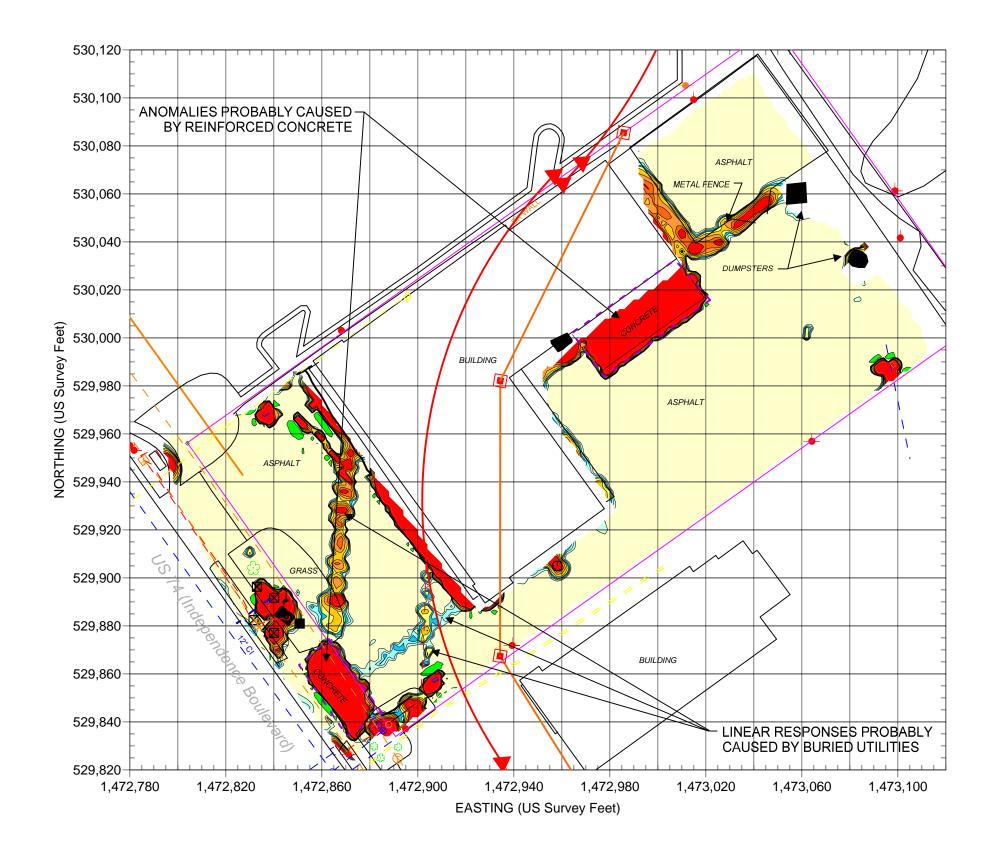
Edward D Billington, LG Senior Vice President

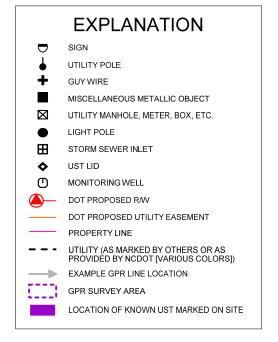
JS:JW:NB

Attachments: Figure 1

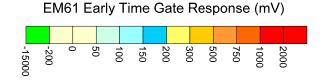
FILE: G:\2009 PROJECTS\09210013 (NCDOT 2009 GEOTECH UNIT SERVICES)\09210013.25 (U-0209B, MECKLENBURG CO.)\REPORT\PARCEL 78\SCHNABEL GEOPHYSICAL REPORT ON PARCEL 78.DOCX

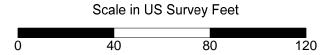






REF.: NCDOT FILE: u-0209b\_rdy\_psh\_07\_rwa.dgn (FOR SOME SITE FEATURES)





Note: The contour plot shows the earliest and most sensitive time gate of the EM61 bottom coil/channel in millivolts (mV). The EM data were collected on June 14 through June 16, 2010, using a Geonics EM61-MK2 instrument. Positioning for the EM61 survey was provided using a submeter Trimble ProXRS DGPS system. Coordinates are in the US State Plane 1983 System, North Carolina Zone 3200, using the NAD 1983 datum. GPR data were acquired on June 22 through June 24, 2010, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.



STATE PROJECT U-0209B NC DEPARTMENT OF TRANSPORTATION MECKLENBURG COUNTY, NC PROJECT NO. 09210013.25 PARCEL 78 EM61 EARLY TIME GATE RESPONSE

FIGURE

### **APPENDIX D**

LABORATORY ANALYTICAL RESULTS



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

#### **Case Narrative**

07/20/2010

AMEC Earth & Env. Inc.(DOT Gree) Helen Corley 338 North Elm St. Suite 112 Greensboro, NC 27401 Project: NCDOT: Independence Blvd. Parcel 78

Project No.: WBS #34749.1.1 Lab Submittal Date: 07/09/2010 Prism Work Order: 0070232

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

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

Respectfully,

PRISM LABORATORIES, INC.

President/Project Manager

Reviewed By

Korki a. 9

#### Data Qualifiers Key Reference:

A Surrogate recovery above control limits.

BRL Below Reporting Limit
MDL Method Detection Limit
RPD Relative Percent Difference

\* Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and

reporting limit indicated with a J.



### **Sample Receipt Summary**

07/20/2010

Prism Work Order: 0070232

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
P78-SB-1 (3-4)	0070232-01	Solid	07/08/10	07/09/10
P78-SB-2 (4-5)	0070232-02	Solid	07/08/10	07/09/10
P78-SB-3 (4-5)	0070232-03	Solid	07/08/10	07/09/10
P78-SB-4 (4-5)	0070232-04	Solid	07/08/10	07/09/10
P78-SB-5 (4-5)	0070232-05	Solid	07/08/10	07/09/10
P78-SB-6 (4-5)	0070232-06	Solid	07/08/10	07/09/10
P78-SB-7 (4-5)	0070232-07	Solid	07/08/10	07/09/10

Samples received in good condition at 4.0 degrees C unless otherwise noted.



07/20/2010



AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley

338 North Elm St. Suite 112 Greensboro, NC 27401 Project: NCDOT: Independence Blvd.

Parcel 78

Project No.: WBS #34749.1.1

Sample Matrix: Solid

Client Sample ID: P78-SB-1 (3-4)
Prism Sample ID: 0070232-01
Prism Work Order: 0070232
Time Collected: 07/08/10 14:15
Time Submitted: 07/09/10 11:13

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Ti		Analyst	Batch ID
Diesel Range Organics by GC/FI	D									
Diesel Range Organics	BRL	mg/kg dry	7.4	1.2	1	*8015C	7/19/10	12:59	JMV	P0G0333
			Surrogate			Recov	ery		Control	Limits
			o-Terpheny	l		87	%		49-124	
Gasoline Range Organics by GO	:/FID									
Gasoline Range Organics	BRL	mg/kg dry	4.7	0.62	50	*8015C	7/20/10	1:08	HPE	P0G0340
			Surrogate			Recov	ery		Control	Limits
			a,a,a-Trifluo	rotoluene		95	%		55-129	
<b>General Chemistry Parameters</b>										
% Solids	94.0	% by Weight	0.100	0.100	1	*SM2540 G	7/14/10	13:45	JAB	P0G0257
Volatile Organic Compounds by	GC/MS	• •								
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0046	0.0010	1	8260B	7/14/10	17:15	KLA	P0G0241
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0046	0.0013	1	8260B	7/14/10	17:15	KLA	P0G024
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0046	0.0013	1	8260B	7/14/10	17:15	KLA	P0G024
1,1-Dichloroethane	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10	17:15	KLA	P0G024
1,1-Dichloroethylene	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10	17:15	KLA	P0G024
1,1-Dichloropropylene	BRL	mg/kg dry	0.0046	0.00095	1	8260B	7/14/10	17:15	KLA	P0G024
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0046	0.0015	1	8260B	7/14/10	17:15	KLA	P0G024
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0046	0.0019	1	8260B	7/14/10	17:15	KLA	P0G024
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10	17:15	KLA	P0G024
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10	17:15	KLA	P0G024
1,2-Dibromoethane	BRL	mg/kg dry	0.0046	0.0013	1	8260B	7/14/10	17:15	KLA	P0G024
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10	17:15	KLA	P0G024
1,2-Dichloroethane	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10	17:15	KLA	P0G024
1,2-Dichloropropane	BRL	mg/kg dry	0.0046	0.0014	1	8260B	7/14/10	17:15	KLA	P0G0241
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10	17:15	KLA	P0G024
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10	17:15	KLA	P0G024
1,3-Dichloropropane	BRL	mg/kg dry	0.0046	0.00094	1	8260B	7/14/10	17:15	KLA	P0G024
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10	17:15	KLA	P0G024
2,2-Dichloropropane	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10	17:15	KLA	P0G024
2-Chlorotoluene	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10	17:15	KLA	P0G024
4-Chlorotoluene	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10	17:15	KLA	P0G024
4-Isopropyltoluene	BRL	mg/kg dry	0.0046	0.0013	1	8260B	7/14/10	17:15	KLA	P0G024
Acetone	BRL	mg/kg dry	0.046	0.0020	1	8260B	7/14/10	17:15	KLA	P0G024
Benzene	BRL	mg/kg dry	0.0027	0.0012	1	8260B	7/14/10	17:15	KLA	P0G024
Bromobenzene	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10	17:15	KLA	P0G024
Bromochloromethane	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10	17:15	KLA	P0G024
Bromodichloromethane	BRL	mg/kg dry	0.0046	0.0010	1	8260B	7/14/10	17:15	KLA	P0G024
Bromoform	BRL	mg/kg dry	0.0046	0.00099	1	8260B	7/14/10	17:15	KLA	P0G0241
Bromomethane	BRL	mg/kg dry	0.0091	0.0012	1	8260B	7/14/10	17:15	KLA	P0G0241
Carbon Tetrachloride	BRL	mg/kg dry	0.0046	0.0013	1	8260B	7/14/10	17:15	KLA	P0G0241

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AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley

338 North Elm St. Suite 112 Greensboro, NC 27401 Project: NCDOT: Independence Blvd.

Parcel 78

Project No.: WBS #34749.1.1

Sample Matrix: Solid

Client Sample ID: P78-SB-1 (3-4) Prism Sample ID: 0070232-01 Prism Work Order: 0070232 Time Collected: 07/08/10 14:15 Time Submitted: 07/09/10 11:13

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Ar Date/Time	nalyst	Batch ID
Chlorobenzene	BRL	mg/kg dry	0.0046	0.0010	1	8260B	7/14/10 17:15	KLA	P0G0241
Chloroethane	BRL	mg/kg dry	0.0091	0.0024	1	8260B	7/14/10 17:15	KLA	P0G0241
Chloroform	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10 17:15	KLA	P0G0241
Chloromethane	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10 17:15	KLA	P0G0241
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10 17:15	KLA	P0G0241
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10 17:15	KLA	P0G0241
Dibromochloromethane	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10 17:15	KLA	P0G0241
Dichlorodifluoromethane	BRL	mg/kg dry	0.0046	0.00094	1	8260B	7/14/10 17:15	KLA	P0G0241
Ethylbenzene	BRL	mg/kg dry	0.0046	0.00095	1	8260B	7/14/10 17:15	KLA	P0G0241
Isopropyl Ether	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10 17:15	KLA	P0G0241
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0046	0.0010	1	8260B	7/14/10 17:15	KLA	P0G0241
m,p-Xylenes	BRL	mg/kg dry	0.0091	0.0024	1	8260B	7/14/10 17:15	KLA	P0G0241
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.046	0.0014	1	8260B	7/14/10 17:15	KLA	P0G0241
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.091	0.0012	1	8260B	7/14/10 17:15	KLA	P0G0241
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.046	0.00099	1	8260B	7/14/10 17:15	KLA	P0G0241
Methylene Chloride	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10 17:15	KLA	P0G0241
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.0091	0.00095	1	8260B	7/14/10 17:15	KLA	P0G0241
Naphthalene	BRL	mg/kg dry	0.0091	0.0025	1	8260B	7/14/10 17:15	KLA	P0G0241
n-Butylbenzene	BRL	mg/kg dry	0.0046	0.0017	1	8260B	7/14/10 17:15	KLA	P0G0241
n-Propylbenzene	BRL	mg/kg dry	0.0046	0.0013	1	8260B	7/14/10 17:15	KLA	P0G0241
o-Xylene	BRL	mg/kg dry	0.0046	0.0010	1	8260B	7/14/10 17:15	KLA	P0G0241
sec-Butylbenzene	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10 17:15	KLA	P0G0241
Styrene	BRL	mg/kg dry	0.0046	0.00089	1	8260B	7/14/10 17:15	KLA	P0G0241
tert-Butylbenzene	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10 17:15	KLA	P0G0241
Tetrachloroethylene	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10 17:15	KLA	P0G0241
Toluene	BRL	mg/kg dry	0.0046	0.0011	1	8260B	7/14/10 17:15	KLA	P0G0241
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0046	0.00090	1	8260B	7/14/10 17:15	KLA	P0G0241
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0046	0.00091	1	8260B	7/14/10 17:15	KLA	P0G0241
Trichloroethylene	BRL	mg/kg dry	0.0046	0.0013	1	8260B	7/14/10 17:15	KLA	P0G0241
Trichlorofluoromethane	BRL	mg/kg dry	0.0046	0.0013	1	8260B	7/14/10 17:15	KLA	P0G0241
Vinyl acetate	BRL	mg/kg dry	0.023	0.0031	1	8260B	7/14/10 17:15	KLA	P0G0241
Vinyl chloride	BRL	mg/kg dry	0.0046	0.0012	1	8260B	7/14/10 17:15	KLA	P0G0241
Xylenes, total	BRL	mg/kg dry	0.014	0.0034	1	8260B	7/14/10 17:15	KLA	P0G0241
		<u> </u>	Surrogate			Recov	very (	Control I	Limits

 Surrogate
 Recovery
 Control Limits

 4-Bromofluorobenzene
 111 %
 70-130

 Dibromofluoromethane
 106 %
 84-123

 Toluene-d8
 101 %
 76-129







AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley

338 North Elm St. Suite 112 Greensboro, NC 27401 Project: NCDOT: Independence Blvd.

Parcel 78

Project No.: WBS #34749.1.1

Sample Matrix: Solid

Client Sample ID: P78-SB-2 (4-5) Prism Sample ID: 0070232-02 Prism Work Order: 0070232 Time Collected: 07/08/10 14:30 Time Submitted: 07/09/10 11:13

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Ti		Analyst	Batch ID
Diesel Range Organics by GC/F	FID .									
Diesel Range Organics	BRL	mg/kg dry	10	1.9	1	*8015C	7/19/10	13:35	JMV	P0G0333
			Surrogate		Recovery			Control Limits		
			o-Terphenyl		78 %			49-124		
Gasoline Range Organics by G	C/FID									
Gasoline Range Organics	BRL	mg/kg dry	6.6	0.86	50	*8015C	7/20/10	1:39	HPE	P0G0340
			Surrogate		Recov	ery		Control I	Limits	
			a,a,a-Trifluorotoluene			100 %			55-129	
General Chemistry Parameters										
% Solids	59.7	% by Weight	0.100	0.100	1	*SM2540 G	7/14/10	13:45	JAB	P0G0257
Volatile Organic Compounds by	y GC/MS	_								
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0057	0.0013	1	8260B	7/14/10	17:45	KLA	P0G0241
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0057	0.0016	1	8260B	7/14/10	17:45	KLA	P0G0241
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0057	0.0016	1	8260B	7/14/10	17:45	KLA	P0G0241
1,1-Dichloroethane	BRL	mg/kg dry	0.0057	0.0015	1	8260B	7/14/10	17:45	KLA	P0G0241
1,1-Dichloroethylene	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10	17:45	KLA	P0G0241
1,1-Dichloropropylene	BRL	mg/kg dry	0.0057	0.0012	1	8260B	7/14/10	17:45	KLA	P0G0241
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0057	0.0019	1	8260B	7/14/10	17:45	KLA	P0G0241
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0057	0.0024	1	8260B	7/14/10	17:45	KLA	P0G0241
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0057	0.0016	1	8260B	7/14/10	17:45	KLA	P0G0241
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10	17:45	KLA	P0G024
1,2-Dibromoethane	BRL	mg/kg dry	0.0057	0.0016	1	8260B	7/14/10	17:45	KLA	P0G0241
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0057	0.0015	1	8260B	7/14/10	17:45	KLA	P0G0241
1,2-Dichloroethane	BRL	mg/kg dry	0.0057	0.0015	1	8260B	7/14/10	17:45	KLA	P0G0241
1,2-Dichloropropane	BRL	mg/kg dry	0.0057	0.0017	1	8260B	7/14/10	17:45	KLA	P0G0241
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0057	0.0015	1	8260B	7/14/10	17:45	KLA	P0G0241
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10	17:45	KLA	P0G0241
1,3-Dichloropropane	BRL	mg/kg dry	0.0057	0.0012	1	8260B	7/14/10	17:45	KLA	P0G024
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10	17:45	KLA	P0G0241
2,2-Dichloropropane	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10	17:45	KLA	P0G0241
2-Chlorotoluene	BRL	mg/kg dry	0.0057	0.0015	1	8260B	7/14/10	17:45	KLA	P0G024
4-Chlorotoluene	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10	17:45	KLA	P0G0241
4-Isopropyltoluene	BRL	mg/kg dry	0.0057	0.0017	1	8260B	7/14/10	17:45	KLA	P0G0241
Acetone	BRL	mg/kg dry	0.057	0.0025	1	8260B	7/14/10	17:45	KLA	P0G024
Benzene	BRL	mg/kg dry	0.0034	0.0015	1	8260B	7/14/10	17:45	KLA	P0G024
Bromobenzene	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10	17:45	KLA	P0G0241
Bromochloromethane	BRL	mg/kg dry	0.0057	0.0016	1	8260B	7/14/10	17:45	KLA	P0G024
Bromodichloromethane	BRL	mg/kg dry	0.0057	0.0013	1	8260B	7/14/10	17:45	KLA	P0G024
Bromoform	BRL	mg/kg dry	0.0057	0.0013	1	8260B	7/14/10	17:45	KLA	P0G024
Bromomethane	BRL	mg/kg dry	0.011	0.0014	1	8260B	7/14/10	17:45	KLA	P0G0241
Carbon Tetrachloride	BRL	mg/kg dry	0.0057	0.0017	1	8260B	7/14/10	17:45	KLA	P0G0241

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AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley

338 North Elm St. Suite 112 Greensboro, NC 27401 Project: NCDOT: Independence Blvd.

Parcel 78

Project No.: WBS #34749.1.1

Sample Matrix: Solid

Client Sample ID: P78-SB-2 (4-5) Prism Sample ID: 0070232-02 Prism Work Order: 0070232 Time Collected: 07/08/10 14:30 Time Submitted: 07/09/10 11:13

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis A Date/Time	nalyst	Batch ID
Chlorobenzene	BRL	mg/kg dry	0.0057	0.0013	1	8260B	7/14/10 17:45	KLA	P0G0241
Chloroethane	BRL	mg/kg dry	0.011	0.0030	1	8260B	7/14/10 17:45	KLA	P0G0241
Chloroform	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10 17:45	KLA	P0G0241
Chloromethane	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10 17:45	KLA	P0G0241
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0057	0.0013	1	8260B	7/14/10 17:45	KLA	P0G0241
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10 17:45	KLA	P0G0241
Dibromochloromethane	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10 17:45	KLA	P0G0241
Dichlorodifluoromethane	BRL	mg/kg dry	0.0057	0.0012	1	8260B	7/14/10 17:45	KLA	P0G0241
Ethylbenzene	BRL	mg/kg dry	0.0057	0.0012	1	8260B	7/14/10 17:45	KLA	P0G0241
Isopropyl Ether	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10 17:45	KLA	P0G0241
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0057	0.0013	1	8260B	7/14/10 17:45	KLA	P0G0241
m,p-Xylenes	BRL	mg/kg dry	0.011	0.0031	1	8260B	7/14/10 17:45	KLA	P0G0241
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.057	0.0017	1	8260B	7/14/10 17:45	KLA	P0G0241
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.11	0.0015	1	8260B	7/14/10 17:45	KLA	P0G0241
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.057	0.0012	1	8260B	7/14/10 17:45	KLA	P0G0241
Methylene Chloride	BRL	mg/kg dry	0.0057	0.0015	1	8260B	7/14/10 17:45	KLA	P0G0241
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.011	0.0012	1	8260B	7/14/10 17:45	KLA	P0G0241
Naphthalene	BRL	mg/kg dry	0.011	0.0031	1	8260B	7/14/10 17:45	KLA	P0G0241
n-Butylbenzene	BRL	mg/kg dry	0.0057	0.0021	1	8260B	7/14/10 17:45	KLA	P0G0241
n-Propylbenzene	BRL	mg/kg dry	0.0057	0.0016	1	8260B	7/14/10 17:45	KLA	P0G0241
o-Xylene	BRL	mg/kg dry	0.0057	0.0013	1	8260B	7/14/10 17:45	KLA	P0G0241
sec-Butylbenzene	BRL	mg/kg dry	0.0057	0.0015	1	8260B	7/14/10 17:45	KLA	P0G0241
Styrene	BRL	mg/kg dry	0.0057	0.0011	1	8260B	7/14/10 17:45	KLA	P0G0241
tert-Butylbenzene	BRL	mg/kg dry	0.0057	0.0015	1	8260B	7/14/10 17:45	KLA	P0G0241
Tetrachloroethylene	BRL	mg/kg dry	0.0057	0.0015	1	8260B	7/14/10 17:45	KLA	P0G0241
Toluene	BRL	mg/kg dry	0.0057	0.0014	1	8260B	7/14/10 17:45	KLA	P0G0241
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0057	0.0011	1	8260B	7/14/10 17:45	KLA	P0G0241
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0057	0.0011	1	8260B	7/14/10 17:45	KLA	P0G0241
Trichloroethylene	BRL	mg/kg dry	0.0057	0.0016	1	8260B	7/14/10 17:45	KLA	P0G0241
Trichlorofluoromethane	BRL	mg/kg dry	0.0057	0.0016	1	8260B	7/14/10 17:45	KLA	P0G0241
Vinyl acetate	BRL	mg/kg dry	0.029	0.0039	1	8260B	7/14/10 17:45	KLA	P0G0241
Vinyl chloride	BRL	mg/kg dry	0.0057	0.0015	1	8260B	7/14/10 17:45	KLA	P0G0241
Xylenes, total	BRL	mg/kg dry	0.017	0.0043	1	8260B	7/14/10 17:45	KLA	P0G0241
			Surrogate			Reco	very	Control	Limits
			4 Promoflue				0.0/	70 120	

 Surrogate
 Recovery
 Control Limits

 4-Bromofluorobenzene
 119 %
 70-130

 Dibromofluoromethane
 109 %
 84-123

 Toluene-d8
 111 %
 76-129







AMEC Earth & Env. Inc.(DOT Gree)

Attn: Helen Corley

338 North Elm St. Suite 112 Greensboro, NC 27401 Project: NCDOT: Independence Blvd.

Parcel 78

Project No.: WBS #34749.1.1

Sample Matrix: Solid

Client Sample ID: P78-SB-3 (4-5) Prism Sample ID: 0070232-03 Prism Work Order: 0070232 Time Collected: 07/08/10 14:50 Time Submitted: 07/09/10 11:13

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analy: Date/T		Analyst	Batch ID	
Diesel Range Organics by GC/FI	D										
Diesel Range Organics	22	mg/kg dry	8.9	1.4	1	*8015C	7/19/10	14:10	JMV	P0G0333	
			Surrogate			Recov	ery		Control	Limits	
			o-Terpheny	I		93 %			49-124		
Gasoline Range Organics by GC	/FID										
Gasoline Range Organics	BRL	mg/kg dry	4.9	0.63	50	*8015C	7/20/10	2:10	HPE	P0G0340	
			Surrogate			Recov	ery		Control	Limits	
			a,a,a-Trifluo	rotoluene		98	%		55-129		
General Chemistry Parameters											
% Solids	78.4	% by Weight	0.100	0.100	1	*SM2540 G	7/14/10	13:45	JAB	P0G0257	
Volatile Organic Compounds by	GC/MS										
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0044	0.0010	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,1-Dichloroethane	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,1-Dichloroethylene	BRL	mg/kg dry	0.0044	0.0010	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,1-Dichloropropylene	BRL	mg/kg dry	0.0044	0.00091	1	8260B	7/14/10	18:14	KLA	P0G024	
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0044	0.0014	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0044	0.0018	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,2-Dibromoethane	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,2-Dichloroethane	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,2-Dichloropropane	BRL	mg/kg dry	0.0044	0.0013	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0044	0.0010	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,3-Dichloropropane	BRL	mg/kg dry	0.0044	0.00090	1	8260B	7/14/10	18:14	KLA	P0G0241	
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10	18:14	KLA	P0G0241	
2,2-Dichloropropane	BRL	mg/kg dry	0.0044	0.0010	1	8260B	7/14/10	18:14	KLA	P0G0241	
2-Chlorotoluene	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10	18:14	KLA	P0G0241	
4-Chlorotoluene	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10	18:14	KLA	P0G0241	
4-Isopropyltoluene	BRL	mg/kg dry	0.0044	0.0013	1	8260B	7/14/10	18:14	KLA	P0G0241	
Acetone	BRL	mg/kg dry	0.044	0.0019	1	8260B	7/14/10	18:14	KLA	P0G0241	
Benzene	BRL	mg/kg dry	0.0026	0.0012	1	8260B	7/14/10			P0G024	
Bromobenzene	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10			P0G0241	
Bromochloromethane	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10	18:14	KLA	P0G024	
Bromodichloromethane	BRL	mg/kg dry	0.0044	0.0010	1	8260B	7/14/10			P0G024	
Bromoform	BRL	mg/kg dry	0.0044	0.00095	1	8260B	7/14/10			P0G0241	
Bromomethane	BRL	mg/kg dry	0.0087	0.0011	1	8260B	7/14/10	18:14	KLA	P0G0241	
Carbon Tetrachloride	BRL	mg/kg dry	0.0044	0.0013	1	8260B	7/14/10	18:14	KLA	P0G0241	

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AMEC Earth & Env. Inc.(DOT Gree)
Attn: Helen Corley

338 North Elm St. Suite 112 Greensboro, NC 27401 Project: NCDOT: Independence Blvd.

Parcel 78

Project No.: WBS #34749.1.1

Sample Matrix: Solid

Client Sample ID: P78-SB-3 (4-5) Prism Sample ID: 0070232-03 Prism Work Order: 0070232 Time Collected: 07/08/10 14:50 Time Submitted: 07/09/10 11:13

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Chlorobenzene	BRL	mg/kg dry	0.0044	0.00099	1	8260B	7/14/10 18:14	KLA	P0G0241
Chloroethane	BRL	mg/kg dry	0.0087	0.0023	1	8260B	7/14/10 18:14	KLA	P0G0241
Chloroform	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10 18:14	KLA	P0G0241
Chloromethane	BRL	mg/kg dry	0.0044	0.0010	1	8260B	7/14/10 18:14	KLA	P0G0241
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0044	0.0010	1	8260B	7/14/10 18:14	KLA	P0G0241
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0044	0.0010	1	8260B	7/14/10 18:14	KLA	P0G0241
Dibromochloromethane	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10 18:14	KLA	P0G0241
Dichlorodifluoromethane	BRL	mg/kg dry	0.0044	0.00090	1	8260B	7/14/10 18:14	KLA	P0G0241
Ethylbenzene	BRL	mg/kg dry	0.0044	0.00091	1	8260B	7/14/10 18:14	KLA	P0G0241
Isopropyl Ether	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10 18:14	KLA	P0G0241
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0044	0.00098	1	8260B	7/14/10 18:14	KLA	P0G0241
m,p-Xylenes	BRL	mg/kg dry	0.0087	0.0023	1	8260B	7/14/10 18:14	KLA	P0G0241
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.044	0.0013	1	8260B	7/14/10 18:14	KLA	P0G0241
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.087	0.0011	1	8260B	7/14/10 18:14	KLA	P0G0241
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.044	0.00095	1	8260B	7/14/10 18:14	KLA	P0G0241
Methylene Chloride	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10 18:14	KLA	P0G0241
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.0087	0.00091	1	8260B	7/14/10 18:14	KLA	P0G0241
Naphthalene	BRL	mg/kg dry	0.0087	0.0024	1	8260B	7/14/10 18:14	KLA	P0G0241
n-Butylbenzene	BRL	mg/kg dry	0.0044	0.0016	1	8260B	7/14/10 18:14	KLA	P0G0241
n-Propylbenzene	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10 18:14	KLA	P0G0241
o-Xylene	BRL	mg/kg dry	0.0044	0.00097	1	8260B	7/14/10 18:14	KLA	P0G0241
sec-Butylbenzene	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10 18:14	KLA	P0G0241
Styrene	BRL	mg/kg dry	0.0044	0.00085	1	8260B	7/14/10 18:14	KLA	P0G0241
tert-Butylbenzene	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10 18:14	KLA	P0G0241
Tetrachloroethylene	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10 18:14	KLA	P0G0241
Toluene	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10 18:14	KLA	P0G0241
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0044	0.00086	1	8260B	7/14/10 18:14	KLA	P0G0241
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0044	0.00087	1	8260B	7/14/10 18:14	KLA	P0G0241
Trichloroethylene	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10 18:14	KLA	P0G0241
Trichlorofluoromethane	BRL	mg/kg dry	0.0044	0.0012	1	8260B	7/14/10 18:14	KLA	P0G0241
Vinyl acetate	BRL	mg/kg dry	0.022	0.0030	1	8260B	7/14/10 18:14	KLA	P0G0241
Vinyl chloride	BRL	mg/kg dry	0.0044	0.0011	1	8260B	7/14/10 18:14	KLA	P0G0241
Xylenes, total	BRL	mg/kg dry	0.013	0.0033	1	8260B	7/14/10 18:14	KLA	P0G0241
			Surrogate			Recov	very	Control	Limits

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	111 %	70-130
Dibromofluoromethane	108 %	84-123
Toluene-d8	103 %	76-129







Project: NCDOT: Independence Blvd.

Parcel 78

Project No.: WBS #34749.1.1

Sample Matrix: Solid

Client Sample ID: P78-SB-4 (4-5) Prism Sample ID: 0070232-04 Prism Work Order: 0070232 Time Collected: 07/08/10 15:40 Time Submitted: 07/09/10 11:13

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID									
Diesel Range Organics	BRL	mg/kg dry	8.7	1.4	1	*8015C	7/19/10 14:4	6 JMV	P0G0333
			Surrogate			Recovery C			Limits
			o-Terphenyl				5 %	49-124	
Gasoline Range Organics by GC/FID	)								
Gasoline Range Organics	BRL	mg/kg dry	5.1	0.67	50	*8015C	7/20/10 2:41	HPE	P0G0340
			Surrogate			Reco	very	Control	Limits
			a,a,a-Trifluo	rotoluene		11	4 %	55-129	
General Chemistry Parameters									
% Solids	80.0	% by Weight	0.100	0.100	1	*SM2540 G	7/14/10 13:4	5 JAB	P0G0257







Project: NCDOT: Independence Blvd.

Parcel 78

Project No.: WBS #34749.1.1

Sample Matrix: Solid

Client Sample ID: P78-SB-5 (4-5) Prism Sample ID: 0070232-05 Prism Work Order: 0070232 Time Collected: 07/08/10 16:00 Time Submitted: 07/09/10 11:13

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID			LIIIII		1 actor		- Date/Time		- ID
Diesel Range Organics	BRL	mg/kg dry	8.5	1.4	1	*8015C	7/19/10 15:2:	2 JMV	P0G0333
			Surrogate		Reco	very	Control Limits		
			o-Terphenyl				81 %		
Gasoline Range Organics by GC/FID									
Gasoline Range Organics	BRL	mg/kg dry	4.8	0.62	50	*8015C	7/20/10 3:12	. HPE	P0G0340
			Surrogate			Reco	very	Control	Limits
			a,a,a-Trifluo	rotoluene		10	1 %	55-129	
<b>General Chemistry Parameters</b>									
% Solids	81.7	% by Weight	0.100	0.100	1	*SM2540 G	7/14/10 13:4	5 JAB	P0G0257







 $\label{project:ncd} \mbox{Project: NCDOT: Independence Blvd.}$ 

Parcel 78

Project No.: WBS #34749.1.1

Sample Matrix: Solid

Client Sample ID: P78-SB-6 (4-5) Prism Sample ID: 0070232-06 Prism Work Order: 0070232 Time Collected: 07/08/10 16:10 Time Submitted: 07/09/10 11:13

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID									
Diesel Range Organics	BRL	mg/kg dry	8.5	1.4	1	*8015C	7/19/10 15:5	7 JMV	P0G0333
			Surrogate				Recovery Con		
			o-Terphenyl			87	49-124		
Gasoline Range Organics by GC/FIE	)								
Gasoline Range Organics	BRL	mg/kg dry	4.5	0.59	50	*8015C	7/20/10 3:43	B HPE	P0G0340
			Surrogate			Recov	very	Control	Limits
			a,a,a-Trifluo	rotoluene		10	2 %	55-129	
General Chemistry Parameters									
% Solids	81.7	% by Weight	0.100	0.100	1	*SM2540 G	7/14/10 13:4	5 JAB	P0G0257







Project: NCDOT: Independence Blvd.

Parcel 78

Project No.: WBS #34749.1.1

Sample Matrix: Solid

Client Sample ID: P78-SB-7 (4-5) Prism Sample ID: 0070232-07 Prism Work Order: 0070232 Time Collected: 07/08/10 16:30 Time Submitted: 07/09/10 11:13

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Diesel Range Organics by GC/FID									
Diesel Range Organics	BRL	mg/kg dry	8.8	1.4	1	*8015C	7/19/10 16:3	3 JMV	P0G0333
			Surrogate				Recovery Co		
			o-Terphenyl			84	1 %	49-124	
Gasoline Range Organics by GC/F	ID								
Gasoline Range Organics	BRL	mg/kg dry	4.7	0.61	50	*8015C	7/20/10 4:13	B HPE	P0G0340
			Surrogate			Reco	very	Control	Limits
			a,a,a-Trifluo	rotoluene		10	6 %	55-129	
<b>General Chemistry Parameters</b>									
% Solids	79.1	% by Weight	0.100	0.100	1	*SM2540 G	7/14/10 13:4	5 JAB	P0G0257



AMEC Earth & Env. Inc.(DOT Gree)

Attn: Helen Corley 338 North Elm St. Suite 112 Greensboro, NC 27401 Project: NCDOT: Independence Blvd.

Parcel 78 Project No: WBS #34749.1.1 Prism Work Order: 0070232

Time Submitted: 7/9/10 11:13:00AM

### Volatile Organic Compounds by GC/MS - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch P0G0241 - 5035			
Blank (P0G0241-BLK1)			Prepared & Analyzed: 07/14/10
1,1,1-Trichloroethane	BRL	0.0050	mg/kg wet
1,1,2,2-Tetrachloroethane	BRL	0.0050	mg/kg wet
1,1,2-Trichloroethane	BRL	0.0050	mg/kg wet
1,1-Dichloroethane	BRL	0.0050	mg/kg wet
1,1-Dichloroethylene	BRL	0.0050	mg/kg wet
1,1-Dichloropropylene	BRL	0.0050	mg/kg wet
1,2,3-Trichlorobenzene	BRL	0.0050	mg/kg wet
1,2,3-Trichloropropane	BRL	0.0050	mg/kg wet
1,2,4-Trichlorobenzene	BRL	0.0050	mg/kg wet
1,2,4-Trimethylbenzene	BRL	0.0050	mg/kg wet
1,2-Dibromoethane	BRL	0.0050	mg/kg wet
1,2-Dichlorobenzene	BRL	0.0050	mg/kg wet
1,2-Dichloroethane	BRL	0.0050	mg/kg wet
1,2-Dichloropropane	BRL	0.0050	mg/kg wet
1,3,5-Trimethylbenzene	BRL	0.0050	mg/kg wet
1,3-Dichlorobenzene	BRL	0.0050	mg/kg wet
1,3-Dichloropropane	BRL	0.0050	mg/kg wet
1,4-Dichlorobenzene	BRL	0.0050	mg/kg wet
2,2-Dichloropropane	BRL	0.0050	mg/kg wet
2-Chlorotoluene	BRL	0.0050	mg/kg wet
4-Chlorotoluene	BRL	0.0050	mg/kg wet
4-Isopropyltoluene	BRL	0.0050	mg/kg wet
Acetone	BRL	0.050	mg/kg wet
Benzene	BRL	0.0030	mg/kg wet
Bromobenzene	BRL	0.0050	mg/kg wet
Bromochloromethane	BRL	0.0050	mg/kg wet
Bromodichloromethane	BRL	0.0050	mg/kg wet
Bromoform	BRL	0.0050	mg/kg wet
Bromomethane	BRL	0.010	mg/kg wet
Carbon Tetrachloride	BRL	0.0050	mg/kg wet
Chlorobenzene	BRL	0.0050	mg/kg wet
Chloroethane	BRL	0.010	mg/kg wet
Chloroform	BRL	0.0050	mg/kg wet
Chloromethane	BRL	0.0050	mg/kg wet
cis-1,2-Dichloroethylene	BRL	0.0050	mg/kg wet
cis-1,3-Dichloropropylene	BRL	0.0050	mg/kg wet
Dibromochloromethane	BRL	0.0050	mg/kg wet
Dichlorodifluoromethane	BRL	0.0050	mg/kg wet
Ethylbenzene	BRL	0.0050	mg/kg wet
Isopropyl Ether	BRL	0.0050	mg/kg wet
Isopropylbenzene (Cumene)	BRL	0.0050	mg/kg wet
m,p-Xylenes	BRL	0.010	mg/kg wet
Methyl Butyl Ketone (2-Hexanone)	BRL	0.050	mg/kg wet
Methyl Ethyl Ketone (2-Butanone)	BRL	0.10	mg/kg wet
Methyl Isobutyl Ketone	BRL	0.050	mg/kg wet
Methylene Chloride	BRL	0.0050	mg/kg wet

RPD



AMEC Earth & Env. Inc.(DOT Gree) Attn: Helen Corley 338 North Elm St. Suite 112 Greensboro, NC 27401

Surrogate: Toluene-d8

Project: NCDOT: Independence Blvd.

Parcel 78

52.9

Project No: WBS #34749.1.1

Reporting

Prism Work Order: 0070232

%REC

Time Submitted: 7/9/10 11:13:00AM

# Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P0G0241 - 5035										
Blank (P0G0241-BLK1)			ſ	Prepared	& Analyze	d: 07/14/1	0			
Methyl-tert-Butyl Ether	BRL	0.010	mg/kg wet							
Naphthalene	BRL	0.010	mg/kg wet							
n-Butylbenzene	BRL	0.0050	mg/kg wet							
n-Propylbenzene	BRL	0.0050	mg/kg wet							
o-Xylene	BRL	0.0050	mg/kg wet							
sec-Butylbenzene	BRL	0.0050	mg/kg wet							
Styrene	BRL	0.0050	mg/kg wet							
tert-Butylbenzene	BRL	0.0050	mg/kg wet							
Tetrachloroethylene	BRL	0.0050	mg/kg wet							
Toluene	BRL	0.0050	mg/kg wet							
trans-1,2-Dichloroethylene	BRL	0.0050	mg/kg wet							
trans-1,3-Dichloropropylene	BRL	0.0050	mg/kg wet							
Trichloroethylene	BRL	0.0050	mg/kg wet							
Trichlorofluoromethane	BRL	0.0050	mg/kg wet							
Vinyl acetate	BRL	0.025	mg/kg wet							
Vinyl chloride	BRL	0.0050	mg/kg wet							
Xylenes, total	BRL	0.015	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	58.1		ug/L	50.0		116	70-130			
Surrogate: Dibromofluoromethane	48.5		ug/L	50.0		97	84-123			
Surrogate: Toluene-d8	52.1		ug/L	50.0		104	76-129			
LCS (P0G0241-BS1)			ı	Prepared	& Analyze	d: 07/14/1	0			
1,1-Dichloroethylene	0.0515	0.0050	mg/kg wet	0.0500		103	67-149			
Benzene	0.0522	0.0030	mg/kg wet	0.0500		104	74-127			
Chlorobenzene	0.0522	0.0050	mg/kg wet	0.0500		104	74-118			
Toluene	0.0494	0.0050	mg/kg wet	0.0500		99	71-129			
Trichloroethylene	0.0543	0.0050	mg/kg wet	0.0500		109	75-133			
Surrogate: 4-Bromofluorobenzene	59.5		ug/L	50.0		119	70-130			
Surrogate: Dibromofluoromethane	51.5		ug/L	50.0		103	84-123			

ug/L

50.0

106

76-129

Spike

Source



Project: NCDOT: Independence Blvd.

Parcel 78

Project No: WBS #34749.1.1

Prism Work Order: 0070232

Time Submitted: 7/9/10 11:13:00AM

### Volatile Organic Compounds by GC/MS - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P0G0241 - 5035										
LCS Dup (P0G0241-BSD1)				Prepared	& Analyze	ed: 07/14/1	0			
1,1-Dichloroethylene	0.0493	0.0050	mg/kg wet	0.0500		99	67-149	4	200	
Benzene	0.0512	0.0030	mg/kg wet	0.0500		102	74-127	2	200	
Chlorobenzene	0.0534	0.0050	mg/kg wet	0.0500		107	74-118	2	200	
Toluene	0.0497	0.0050	mg/kg wet	0.0500		99	71-129	0.5	200	
Trichloroethylene	0.0542	0.0050	mg/kg wet	0.0500		108	75-133	0.3	200	
Surrogate: 4-Bromofluorobenzene	57.0		ug/L	50.0		114	70-130			
Surrogate: Dibromofluoromethane	51.1		ug/L	50.0		102	84-123			
Surrogate: Toluene-d8	53.1		ug/L	50.0		106	76-129			



Project: NCDOT: Independence Blvd.

Parcel 78

Project No: WBS #34749.1.1

Prism Work Order: 0070232

Time Submitted: 7/9/10 11:13:00AM

### Gasoline Range Organics by GC/FID - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P0G0340 - 5035										
Blank (P0G0340-BLK1)			F	Prepared	& Analyze	ed: 07/19/1	0			
Gasoline Range Organics	BRL	5.0	mg/kg wet							
Surrogate: a,a,a-Trifluorotoluene	4.70		mg/kg wet	5.00		94	55-129			
LCS (P0G0340-BS1)			F	Prepared	& Analyze	d: 07/19/1	0			
Gasoline Range Organics	47.9	5.0	mg/kg wet	50.0		96	67-116			
Surrogate: a,a,a-Trifluorotoluene	5.40		mg/kg wet	5.00		108	55-129			
LCS Dup (P0G0340-BSD1)			F	repared	& Analyze	d: 07/19/1	0			
Gasoline Range Organics	49.4	5.0	mg/kg wet	50.0		99	67-116	3	200	
Surrogate: a,a,a-Trifluorotoluene	5.50		mg/kg wet	5.00		110	55-129			



Project: NCDOT: Independence Blvd.

Parcel 78

Project No: WBS #34749.1.1

Prism Work Order: 0070232

Time Submitted: 7/9/10 11:13:00AM

### Diesel Range Organics by GC/FID - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P0G0333 - 3545A										
Blank (P0G0333-BLK1)				Prepared:	07/16/10	Analyzed	: 07/19/10			
Diesel Range Organics	BRL	7.0	mg/kg wet							
Surrogate: o-Terphenyl	1.46		mg/kg wet	1.60		91	49-124			
LCS (P0G0333-BS1)				Prepared:	07/16/10	Analyzed	: 07/19/10			
Diesel Range Organics	56.6	7.0	mg/kg wet	80.0		71	55-109			
Surrogate: o-Terphenyl	1.80		mg/kg wet	1.60		113	49-124			
LCS Dup (P0G0333-BSD1)				Prepared:	07/16/10	Analyzed	: 07/19/10			
Diesel Range Organics	58.0	7.0	mg/kg wet	80.0		73	55-109	2	200	
Surrogate: o-Terphenyl	1.85		mg/kg wet	1.60		116	49-124			
Matrix Spike (P0G0333-MS1)	Sourc	e: 007023	2-02	Prepared:	07/16/10	Analyzed	: 07/19/10			
Diesel Range Organics	98.0	12	mg/kg dry	134	BRL	73	50-117			
Surrogate: o-Terphenyl	3.13		mg/kg dry	2.67		117	49-124			
Matrix Spike Dup (P0G0333-MSD1)	Sourc	e: 007023	2-02	Prepared:	07/16/10	Analyzed	: 07/19/10			
Diesel Range Organics	101	12	mg/kg dry	134	BRL	76	50-117	3	24	
Surrogate: o-Terphenyl	3.37		mg/kg dry	2.67		126	49-124			Α

## **Sample Extraction Data**

### Prep Method: 3545A

Lab Number	Batch	Initial	Final	Date	
0070232-01	P0G0333	25.16 g	1 mL	07/16/10	
0070232-02	P0G0333	25.05 g	1 mL	07/16/10	
0070232-03	P0G0333	25.1 g	1 mL	07/16/10	
0070232-04	P0G0333	25.02 g	1 mL	07/16/10	
0070232-05	P0G0333	25.2 g	1 mL	07/16/10	
0070232-06	P0G0333	25.09 g	1 mL	07/16/10	
0070232-07	P0G0333	25.08 g	1 mL	07/16/10	
Prep Method: 5035					
Lab Number	Batch	Initial	Final	Date	
0070232-01	P0G0340	5.61 g	5 mL	07/19/10	· · · · · ·
0070232-02	P0G0340	6.35 g	5 mL	07/19/10	
0070232-03	P0G0340	6.56 g	5 mL	07/19/10	
0070232-04	P0G0340	6.1 g	5 mL	07/19/10	
0070232-05	P0G0340	6.37 g	5 mL	07/19/10	
0070232-06	P0G0340	6.77 g	5 mL	07/19/10	
0070232-07	P0G0340	6.77 g	5 mL	07/19/10	
NO PREP					
Lab Number	Batch	Initial	Final	Date	
0070232-01	P0G0257	30 g	30 mL	07/14/10	
0070232-02	P0G0257	30 g	30 mL	07/14/10	
0070232-03	P0G0257	30 g	30 mL	07/14/10	
0070232-04	P0G0257	30 g	30 mL	07/14/10	
0070232-05	P0G0257	30 g	30 mL	07/14/10	
0070232-06	P0G0257	30 g	30 mL	07/14/10	
0070232-07	P0G0257	30 g	30 mL	07/14/10	
Prep Method: 5035					
Lab Number	Batch	Initial	Final	Date	
0070232-01	P0G0241	5.83 g	5 mL	07/14/10	
0070232-02	P0G0241	7.3 g	5 mL	07/14/10	
0070232-03	P0G0241	7.3 g	5 mL	07/14/10	

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

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

Reporting Address: 338 Report To/Contact Name: Client Company Name: AMELETE Corporation NL PA COL 2740

Site Location Physical Address: Site Location Name: \_

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provisions and/or QC Requirements Short Hold Analysis: (Yes) (No) Project Name: Heter Independence Invoice To:\_ \*Please ATTACH any project specific reporting (QC LEVEL I II III IV PAGE L OF Helen LOCIEY SWWO QUOTE # TO ENSURE PROPER BILLING: UST Project: (Yes) (N

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)

I	TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL	IN BY CLI	IENT/SAMPLI	NG PERS	ONNEL
	Certification:	NELAC	USACE	<u>ਜ਼</u> 	No.
		SC C	OTHER	N/A	-
	Water Chlorinated: YES NO	ted: YES_	NO		
	Sample Iced Upon Collection: YES/_ NO_	on Collec	tion: YES /	NO_	

	FIGURE CONTRACT				Date			i:	coratories By	Received For Prism Laboratories By:	Rece			Relinquished By: (Signature)
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PRISM		\	<b>₩</b>	YSES REQUES			PRESERVA-	VINER	SAMPLE CONTAINER	SAMP	MATRIX (SOIL,	TIME	DATE	CLIENT
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SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

ONC OSC ONC OSC

ONC OSC GROUNDWATER: ☐ Prism Field Service

ONC

□NC □SC RCRA:

ONC OSC CERCLA

ONC OSC LANDFILL

ONC OSC OTHER:

SOLID WASTE:

DRINKING WATER:

Other.

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

NPDES:

UST:

□ Fed Ex □ UPS Hand-delivered

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 COC UNTIL RECEIVED AT THE LABORATORY.

73-10 COC Group No.

1111/3

Mileage:

0070232