# PRELIMINARY SITE ASSESSMENT MERYL B. MABE PROPERTY 3810 LEO STREET WINSTON-SALEM, NORTH CAROLINA STATE PROJECT: U-2826B WBS ELEMENT: 34871.2.1

## Prepared for:

## **NC Department of Transportation**

Geotechnical Engineering Unit GeoEnvironmental Section 1589 Mail Service Center Raleigh, North Carolina 27699-1589

## Prepared by:

**Solutions-IES** 

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Solutions-IES Project No. 3944.10A3.NDOT

**April 28 2010** 

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#### 1.0 INTRODUCTION

The Meryl B. Mabe (Mabe) Property in Forsyth County is currently in use as Randy Moore's Auto Repair & Towing facility located at 3810 Leo Street, Winston-Salem, North Carolina. The location of the property is shown on **Figures 1** and **2**. The NCDOT plans to acquire this property due to the planned realignment of entrance and exit ramps to US-52. This report summarizes the results of field and laboratory activities conducted during the Preliminary Site Assessment (PSA) of the subject property. The scope of work executed at the site was performed in general accordance with Solutions-IES proposal NC101062 revised March 1, 2010, and was initiated based on a Notice to Proceed issued by the NCDOT Geotechnical Engineering Unit on March 3, 2010 under contract 7000010453, dated June 25, 2009.

#### 2.0 BACKGROUND AND SITE DESCRIPTION

An auto repair, tow and recovery business currently operates on the Mabe property. It is located approximately 300 feet north of the Akron Drive and Leo Street intersection. This property has no assigned parcel number. The PSA was performed along the proposed right-of-way (ROW) stretching north to south inside a fenced parking lot located on the east face of the storefront. Work was not performed in areas of the properties outside of the proposed ROW. Photographs of the site are included in **Appendix A.** 

## 3.0 FIELD ACTIVITIES

Prior to mobilizing to the site to conduct work, Solutions-IES contacted North Carolina One Call to locate underground utilities at the site. Pyramid Environmental & Engineering, P.C. (Pyramid) was contracted to perform a geophysical survey, and mobilized to the study area March 10 and March 15, 2010. The geophysical investigation consisted of electromagnetic (EM) induction-metal detection surveys using a Geonics EM61-MK1 metal detection instrument and ground penetrating radar (GPR) surveys using a GSSI SIR-2000 unit equipped with a 400 MHz antenna. Results of the survey suggested that the proposed ROW at the Meryl B. Mabe property does not contain metallic underground storage tanks (UST). Images of the EM and GPR findings are included in the geophysical report included as **Appendix B**. After a review of the geophysical report, Solutions-IES mobilized to the site on March 30, 2010, to collect soil samples. Five soil borings were advanced to a depth of 8 feet below ground surface (ft bgs). All soil borings were advanced using a Geoprobe®. The approximate location of the soil borings are displayed in **Figure 3**. The GPS coordinates of the boring locations are included in **Appendix C**.

Preliminary Site Assessment – Mabe Property State Project: U-2826B, WBS Element: 34871.2.1

A Macro-Core<sup>®</sup> sampler fitted with a dedicated polyvinyl chloride (PVC) liner was used to collect samples at 2-foot intervals. Each soil sample was split into two aliquots. Each aliquot was placed in a separate resealable plastic bag. One bag was placed on ice for possible laboratory analysis, while the other bag was sealed and placed at ambient temperature for field screening with a flame ionization detector (FID). After approximately 20 minutes to allow accumulation of volatile organic compounds (VOCs) in the headspace of the bag, each sealed bag was scanned with the FID. The FID measurements were entered into the field logbook along with the soil description and any indications of petroleum staining or odor. That information was subsequently transferred onto boring logs. The boring logs are provided in **Appendix D** and the field screening results are summarized in **Table 1**. The field screening results are also summarized on the boring logs.

The subsurface at the site generally consisted of red-brown clays overlying white-pink silty to clayey sands (Unified Soil Classification CL to SM-SC). Soils were dry to moist and groundwater was not encountered in the borings to a depth of 8 ft bgs.

**Table 1** shows the FID field screening results of the soils ranged from not detected to 0.9 parts per million (ppm). A soil sample was collected from each boring at the interval identified in **Table 1** and was placed in laboratory-supplied jars and stored on ice pending courier service to Prism Laboratories in Charlotte, NC. Sample information was recorded on the chain-of-custody form, and the samples were submitted for analysis of gasoline range organics (GRO) and diesel range organics (DRO) total petroleum hydrocarbons (TPH) by EPA Modified Method 8015 with preparation methods 5030 and 3545, respectively. GRO and DRO TPH analysis can be used to screen soil which may be impacted by fuel constituents.

#### 4.0 LABORATORY RESULTS

The laboratory analytical results do not indicate the presence of TPH in soil samples collected from borings M-1 through M-5. Concentrations do not exceed the laboratory reporting limit. The analytical results are summarized in **Table 2**, and the laboratory report is included in **Appendix E**.

## 5.0 DISCUSSION

The geophysical survey conducted at the site suggested that no buried metallic objects such as a UST are present within the proposed ROW. Solutions-IES advanced five soil borings to a depth of 8 ft bgs. The highest FID reading measured 0.9 ppm in boring M-4 at depths of 2 to 4 ft and 4 to 6 ft bgs.

TPH (GRO or DRO) was not detected above the laboratory reporting limits in soil samples collected from the site. Therefore, the concentrations do not exceed the tank closure screening level of 10 mg/kg in *Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement, (State of North Carolina Department of Environment and Natural Resources [NCDENR], Division of Waste Management [DWM], Underground Storage Tank [UST] Division, March 1, 2007; Version; Change 3, Effective December 1, 2008) (Site Check Guidelines).* Further assessment at this site is not necessary at this time.



## TABLE 1

## Summary of Field Screening Results for Soil Meryl B. Mabe Property 3810 Leo Street

## Winston-Salem, North Carolina

WBS Element: 34871.2.1; State Project:U-2826B Sample Collection Date: March 30, 2010

Sample Depth Below	Soil Boring				
Ground Surface	M-1	M-2	M-3	M-4	M-5
Ground Surface	FID Reading (ppm)				
0 - 2 feet	0.0	0.0	0.7	0.5	0.0
2 - 4 feet	0.0	0.3	0.0	0.9	0.0
4 - 6 feet	0.0	0.0	0.3	0.9	0.0
6 - 8 feet	0.0	0.2	0.1	0.0	0.0

#### Notes:

Samples denoted by shaded cells were submitted for laboratory analysis. FID readings were obtained with a Photovac MicroFID Flame Ionization Detector. ppm = parts per million

#### **TABLE 2**

## Summary of Soil Analytical Results Meryl B. Mabe Property, 3810 Leo Street

## Winston-Salem, North Carolina

WBS Element: 34871.2.1; State Project:U-2826B Sample Collection Date: March 30, 2010

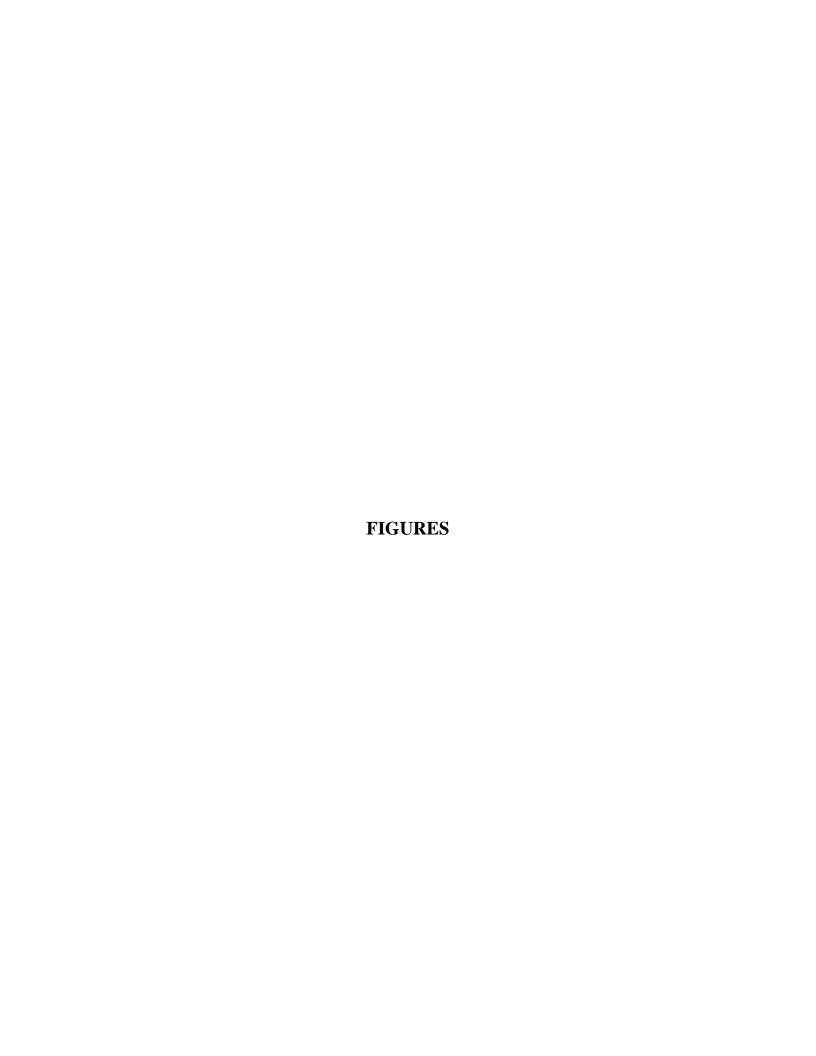
Sample In	formation	Total Petroleum	n Hydrocarbons
Boring Number	Depth (ft bgs)	Gasoline Range <sup>1</sup> (mg/kg)	Diesel Range <sup>2</sup> (mg/kg)
M-1	6-8	< 7.2	< 10
M-2	6-8	< 6.9	< 9.6
M-3	6-8	< 6.7	< 9.3
M-4	6-8	< 6.1	< 8.5
M-5	6-8	< 5.8	< 8.1

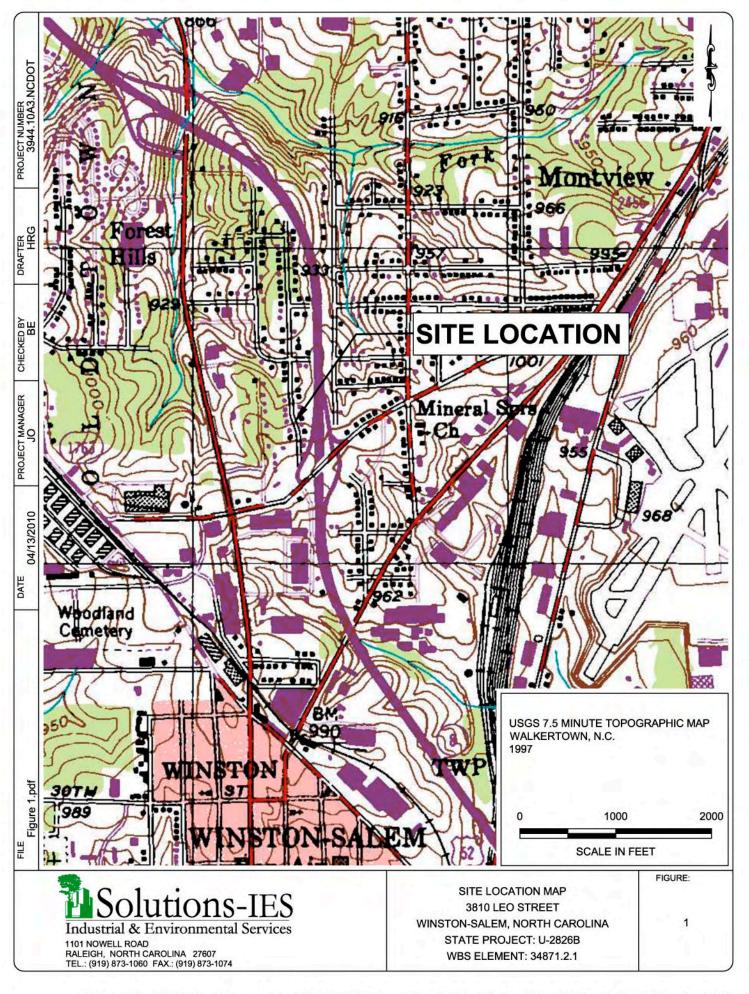
#### Notes:

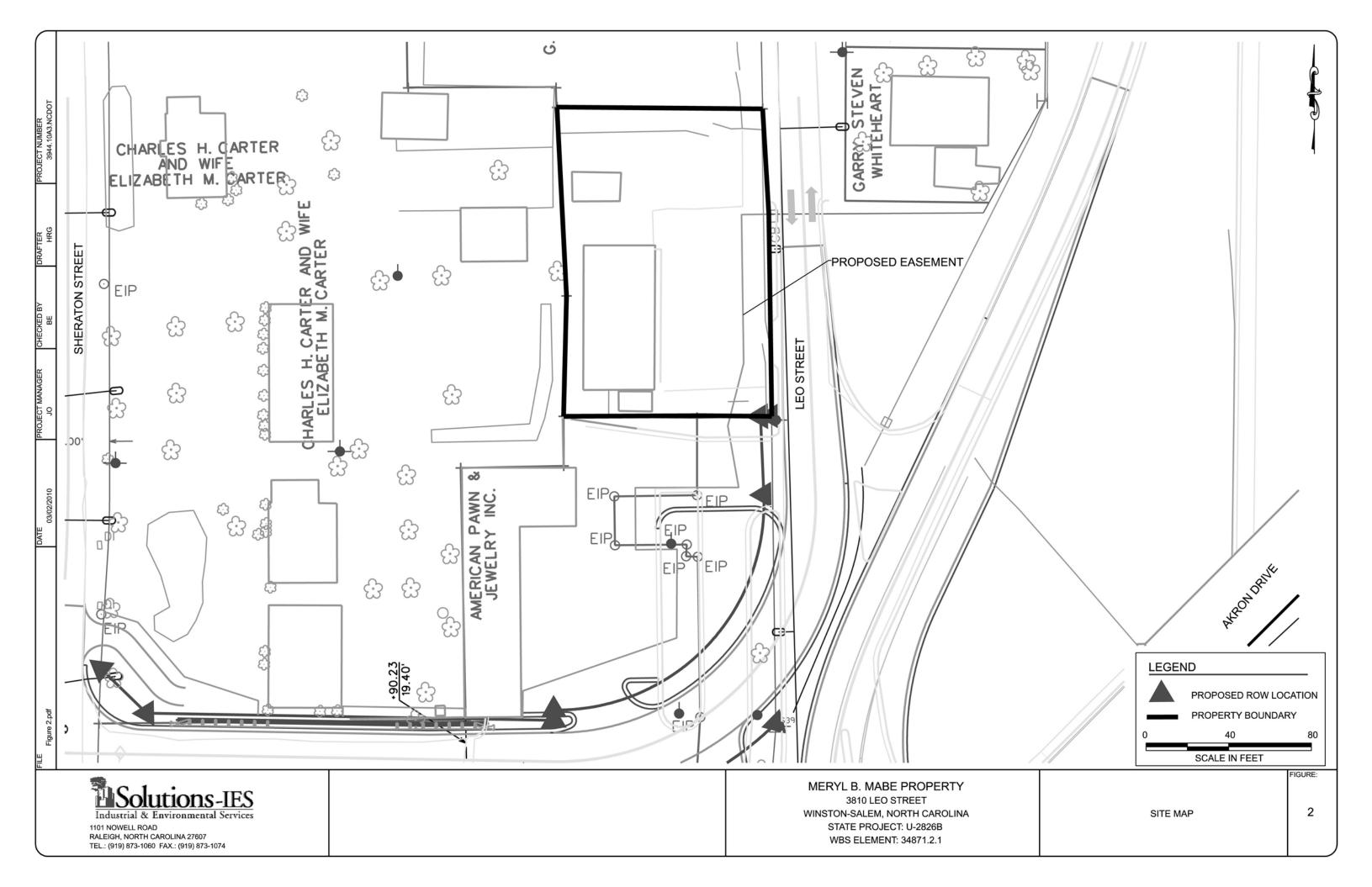
- 1. Total Petroleum Hydrocarbons (TPH) Method 5030/8015MOD Gasoline Range Hydrocarbons
- 2. Total Petroleum Hydrocarbons (TPH) Method 3545/8015MOD Diesel Range Hydrocarbons

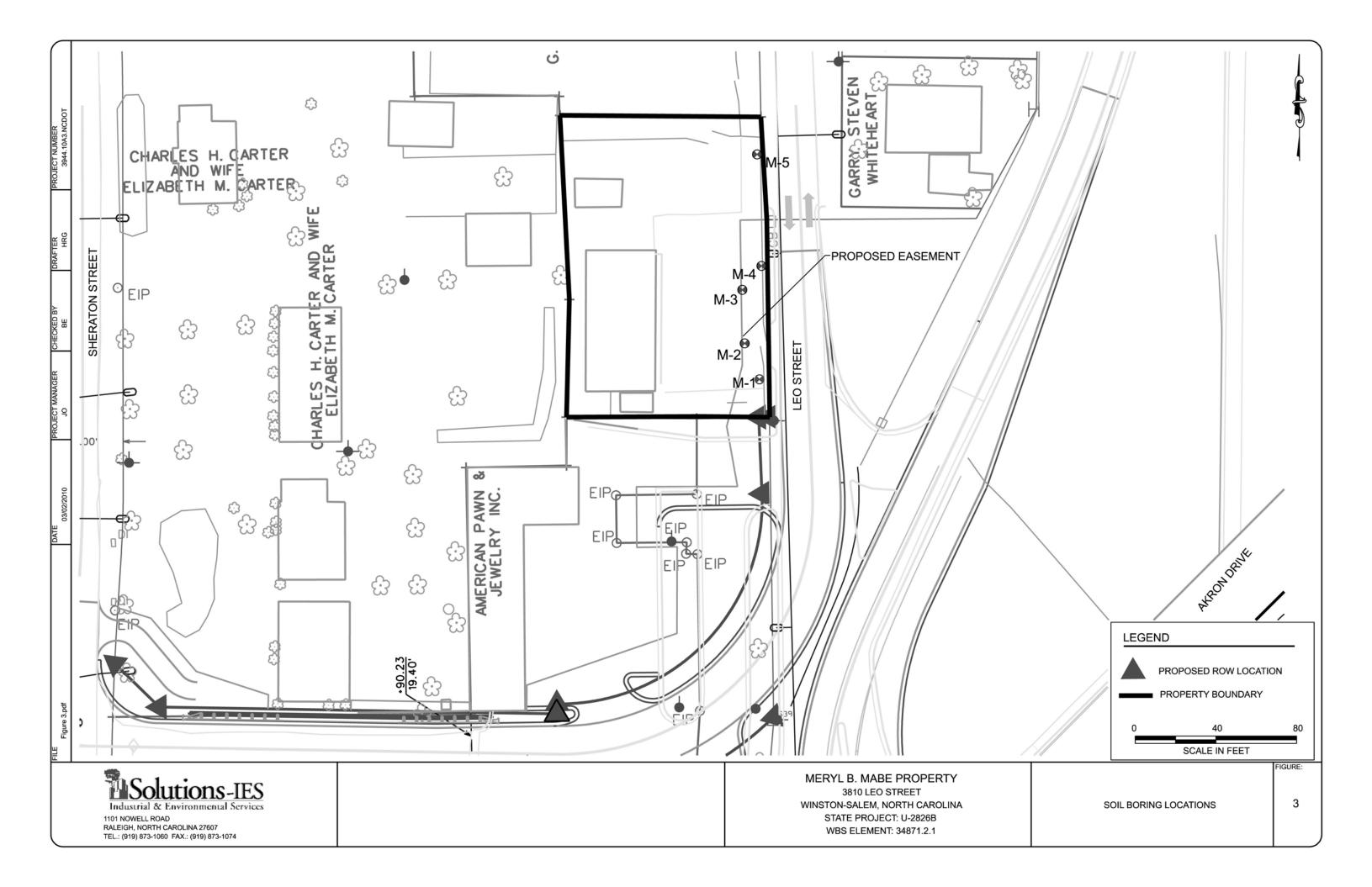
ft bgs = feet below ground surface

mg/kg = milligram per kilogram









APPENDIX A

**PHOTOGRAPHS** 

## APPENDIX A - PHOTOGRAPHS



**Photograph 1** – View of the Meryl B. Mabe Property looking southwest along Leo Street.



**Photograph 2** – View of the fenced lot looking north.

## APPENDIX A - PHOTOGRAPHS



Photograph 3 – View of the fenced lot looking south.

## APPENDIX B

GEOPHYSICAL REPORT

## GEOPHYSICAL INVESTIGATION REPORT

## GEOPHYSICAL SURVEYS FOR THE DETECTION OF METALLIC USTS

Akron Drive & Martin Luther King Jr. Drive Sites Winston-Salem, North Carolina Preliminary Site Assessments State Project #U2826B

March 26, 2010

Report prepared for:

**Jody Overmyer** 

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## Solutions-IES GEOPHYSICAL INVESTIGATION REPORT

# Akron Drive & Martin Luther King, Jr. Drive Sites Winston-Salem, North Carolina

## **Preliminary Site Assessments State Project #U2826B**

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### 1.0 INTRODUCTION

Pyramid Environmental & Engineering, PC conducted geophysical investigations for Solutions - IES during the period of March 8-16, 2010, within the proposed Right-of-Way (ROW) areas at five sites located along Akron Drive and Martin Luther King, Jr. Drive in Winston-Salem, North Carolina. The work was done as part of the North Carolina Department of Transportation (NCDOT) Preliminary Site Assessments State Project #U2826B. The geophysical surveys were conducted to determine if unknown metallic underground storage tanks (UST's) were present beneath the proposed ROW area of each site.

Solutions - IES representative Ms. Jessica Keener, PE provided maps and site photographs during the week of February 15, 2010 that outlined the geophysical survey area of each site. Ms. Keener also provided project management during the geophysical investigation of the sites. The following, listed in geographical order from northern-most to southern-most locations, are the five sites in which geophysical investigations were conducted within the proposed ROW areas.

Property Owner	<u>Parcel</u>	Present Use of Property
Meryl B. Mabe Property	none	Randy Moore's Auto Repair
American Pawn & Jewelry Property	7	Cash America Pawn Shop
Burgerbusters Iii, LLC Property	6	Taco Bell Restaurant
A & M Realty Property	2	Piedmont Garage Doors
M. & M. Fowler Property	29	BP Gas Station/Store

Photographs of the geophysical equipment used in this investigation and the geophysical survey areas of the five sites are shown in **Figure 1**.

## 2.0 FIELD METHODOLOGY

Prior to conducting the geophysical investigations at the five Winston-Salem sites, a 10-foot by 10-foot survey grid was established across each of the geophysical survey areas using measuring tapes,

pin flags and water-based marking paint. These grid marks were used as X-Y coordinates for location control when collecting the geophysical data and establishing base maps for the geophysical results.

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection surveys using a Geonics EM61-MK1 metal detection instrument. According to the instrument specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. All of the EM61 data were digitally collected at 0.8 foot intervals along northerly-southerly (X-axis) or easterly-westerly (Y-axis), parallel survey lines spaced five feet apart. All of the data were downloaded to a computer and reviewed in the office using the Geonics DAT61W and Surfer for Windows Version 7.0 software programs.

Upon processing and review of the EM61 metal detection data, ground penetrating radar (GPR) surveys were conducted across selected EM61 differential anomalies, areas containing steel reinforced concrete and around areas that contained parked vehicles when the metal detection surveys were conducted. GPR data were collected using a Geophysical Survey Systems SIR-2000 unit equipped with a 400 MHz antenna. Data were digitally collected in a continuous mode along X-axis and/or Y-axis survey lines, spaced 2.5 to 5.0 feet apart using a vertical scan of 512 samples, at a rate of 48 scans per second. A 70 MHz high pass filter and an 800 MHz low pass filter were used during data acquisition with the 400 MHz antenna. GPR data were collected down to a maximum depth of approximately 5.0 feet, based on an estimated two-way travel time of 8 nanoseconds per foot. All of the GPR data were downloaded to a field computer and reviewed in the field and office using Radprint software.

Contour plots of the EM61 bottom coil and differential results are presented in this report for each of the five sites. The bottom coil results represent the most sensitive component of the EM61 instrument and detect metal objects regardless of size. The bottom coil response can be used to delineate metal conduits or utility lines, small, isolated metal objects, and areas containing insignificant metal debris. The differential results are obtained from the difference between the top

and bottom coils of the EM61 instrument. The differential results focus on the larger metal objects such as drums and USTs and ignore the smaller insignificant metal objects.

Preliminary geophysical results obtained from the five Winston-Salem sites were reported to Ms. Keener during the weeks of March 15 and March 22, 2010.

### 3.0 <u>DISCUSSION OF RESULTS</u>

## 3.1 Meryl B. Mabe Property

The Meryl B. Mabe property is located at 3810 Leo Street and contains the Randy Moore's Auto Repair & Towing facility. The ROW area consists primarily of flat-lying asphalt pavement with non-operating, parked vehicles. The EM61 bottom coil and differential metal detection results are presented in **Figures 2**. GPR surveys were conducted across several of the differential anomalies and a GPR reconnaissance was conducted around the parked, non-operating vehicles.

The linear EM61 metal detection anomalies intersecting grid coordinates X=340 Y=360 and X=340 Y=405 are probably in response to the metallic fence that runs along the edge of the property. GPR data suggest that the negative EM61 differential anomalies (contours shaded in green) centered near grid coordinates X=316 Y=360, X=330 Y=440 and X=330 Y=470 are probably in response to the parked vehicles. The negative differential anomalies centered near grid coordinates X=345 Y=432 and X=345 Y=447 are probably in response to a water meter and a storm sewer drain, respectively.

The geophysical results suggest that the proposed ROW area at the Meryl B. Mabe property does not contain metallic USTs.

3.2 American Pawn & Jewelry – Burgerbusters, Iii, LLC Properties (Parcels 7 & 6)

The American Pawn & Jewelry property (Parcel 7) is located at 3800 Leo Street and contains the Cash America Pawn Shop. The proposed ROW area consists primarily of flat-lying asphalt or grass

surfaces and includes the east-west trending asphalt access road that runs from the pawn shop parking area to Sheridan Street. The Burgerbusters, Iii, LLC property is located immediately south of Parcel 7 at 349 Akron Drive. The property consists of a Taco Bell Restaurant and lies along the intersection of Akron Drive and Leo Street. The proposed ROW area at Parcel 6 consists of the asphalt access road that runs parallel to Leo Street and terminates in the Taco Bell parking lot and the grass island between the access road and Leo Street. The EM61 bottom coil and differential metal detection results obtained across the proposed ROW areas for the American Pawn and Burgerbusters properties are presented in **Figures 3 and 4**, respectively.

The linear, EM61 bottom coil anomalies intersecting grid coordinates X=15 Y=190, X=280 Y=154 and X=300 Y=324 are probably in response to buried utility lines or conduits. Similarly, the series of linear northeast-southwest trending bottom coil anomalies intersecting grid coordinates X=265 Y=170 may be in response to a buried line or conduit. The numerous bottom coil anomalies located along the grass island immediately west of Leo Street are probably in response to known surface objects or utility-related equipment or lines. GPR data suggest the high amplitude bottom coil anomalies (contours shaded in red) centered near grid coordinates X=237 Y=135 and X=280 Y=130 are in response to the Taco Bell drive thru-related equipment and the large sign poles, respectively.

GPR data suggest the higher amplitude EM61 differential anomaly centered near grid coordinates X=293 Y=300 is in response to utility-related equipment and/or lines. GPR data collected across the negative differential anomalies centered near grid coordinates X=210 Y=203 and X=227 Y=220 are in response to the steel reinforced concrete sidewalk, the pawn shop building and metallic bollards. The negative linear anomaly intersecting grid coordinates X=300 Y=350 is probably in response to the metallic fence. The geophysical investigation suggests that the surveyed portions of Parcels 7 & 6 (proposed ROW areas) do not contain unknown, metallic USTs.

## 3.3 A & M Realty Company Property (Parcel 2)

The A & M Realty Company property (Parcel 2) is located at 1151 North Martin Luther King, Jr. Drive and contains the Piedmont Garage Doors facility. The proposed ROW area consists of asphalt,

concrete and grass surfaces and includes the eastern and southern portions of the property. The EM61 bottom coil and differential metal detection results obtained across the proposed ROW area at the A & M Realty property are presented in **Figures 5 and 6**, respectively.

The linear, EM61 bottom coil anomalies intersecting grid coordinates X=230 Y=120 and X=249 Y=150 are probably in response to the metallic fence line. The linear bottom coil anomalies intersecting grid coordinates X=60 Y=52, X=75 Y=60, X=220 Y=74, and X=240 Y=53 are probably in response to buried utility lines or conduits. GPR data suggest that the bottom coil anomalies centered near grid coordinates X=120 Y=57 and X=170 Y=55 are in response to the building.

GPR data suggest the EM61 differential anomalies centered near grid coordinates X=225 Y=176 are in response to the dumpsters and metal fence line. Similarly, GPR data suggest the negative differential anomaly centered near grid coordinates X=195 Y=65 is in response to the parked vehicle that was present during the EM61 survey. The remaining negative differential anomalies are probably in response to known surface objects or utility-related equipment. The geophysical investigation suggests that the surveyed portions of Parcel 2 (proposed ROW area) do not contain unknown, metallic USTs.

#### 3.4 M. M. Fowler Property (Parcel 29)

The M. M. Fowler property (Parcel 29) is located at 105 North Martin Luther King, Jr. Drive and contains a BP gas station/store facility. The proposed ROW area consists of asphalt, concrete and grass surfaces and includes the western and southern portions of the property. The EM61 bottom coil and differential metal detection results obtained across the proposed ROW area at the Fowler property are presented in **Figures 7 and 8**, respectively

The linear, EM61 bottom coil anomalies recorded along the edge of Martin Luther King, Jr. Drive and adjacent to East 1<sup>st</sup> Street (which intersect grid coordinates X=14 Y=140 and X=35 Y=36) are probably in response to buried utility lines. Similarly, the linear bottom coil anomalies intersecting grid coordinates X=27 Y=174 and X=84 Y=26 are probably in response to buried utility lines or

conduits. GPR data suggest that the high amplitude bottom coil anomalies or series of differential anomalies centered near grid coordinates X=30 Y=140 and X=90 Y=70 are in response to steel reinforced concrete.

GPR data suggest the negative EM61 differential anomalies centered near grid coordinates X=28 Y=60 and X=48 Y=76 are in response to the sign poles, telephones and bollards. The remaining differential anomalies are probably in response to known surface objects or utility line-related equipment. The geophysical investigation suggests that the surveyed portions of Parcel 29 (proposed ROW area) do not contain unknown, metallic USTs.

## 4.0 **SUMMARY & CONCLUSIONS**

Our evaluation of the EM61 & GPR data acquired across the proposed ROW areas at the five sites located along Akron Drive and Martin Luther King Jr. Drive in Winston-Salem, North Carolina, provides the following summary and conclusions:

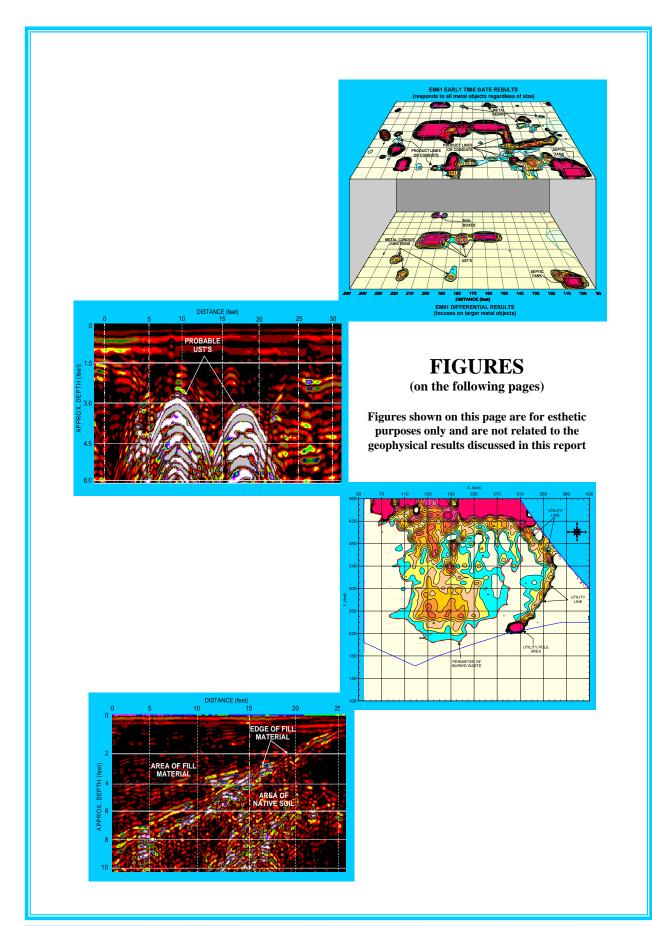
- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the surveyed portions of the sites.
- GPR data suggest that the EM61 differential anomalies recorded at the Meryl B. Mabe property (Tommy Moore's Auto Repair) are in response to the metal fence line, parked, nonoperating vehicles or utility-related equipment.
- The geophysical results suggest that the proposed ROW area at the Meryl B. Mabe property does not contain metallic USTs.
- At the American Pawn and Burgerbusters properties (Parcels 7 & 6), GPR data suggest the higher amplitude EM61 differential anomaly centered near grid X=293 Y=300 is in response to utility-related equipment and/or lines. GPR data collected across the remaining negative

differential anomalies are in response to the steel reinforced concrete sidewalk, building, metallic bollards or metallic fence.

- The geophysical investigation suggests that the surveyed portions of Parcels 7 & 6 (proposed ROW areas) do not contain unknown, metallic USTs.
- GPR data acquired at the A & M Realty Company property (Parcel 2) suggest the negative EM61 differential anomalies are in response to dumpsters, a park vehicle, metal fence, known surface objects, or utility-line related equipment.
- The geophysical investigation suggests that the surveyed portions of Parcel 2 (proposed ROW area) do not contain unknown, metallic USTs.
- GPR data acquired at the M. M. Fowler property (Parcel 29) suggest the negative EM61 differential anomalies are in response to steel reinforced concrete, sign poles, possible abandoned wells, known surface objects, or utility-line related objects.
- The geophysical investigation suggests that the surveyed portions of Parcel 29 (proposed ROW area) do not contain unknown, metallic USTs.

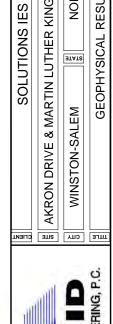
### **5.0 LIMITATIONS**

EM61 and GPR surveys have been performed and this report prepared for Solutions-IES in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR surveys are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained across the proposed ROW areas at the five sites located in Winston-Salem have not conclusively determine that the surveyed portions of the sites do not contain buried, unknown, metallic USTs, but that none were detected.





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GEOPHYSICAL EQUIPMENT

The photograph shows the Geonics EM61 metal detector that was used to conduct the metal detection survey at the sites in Winston-Salem, North Carolina. The EM61 surveys were conducted during the week of March 8, 2010



The photographs show the SIR-2000 GPR system equipped with a 400 MHz antenna that were used to conduct the ground penetrating radar investigation at the sites in Winston-Salem, North Carolina. The GPR surveys were conducted during the week of March 15, 2010.



BURGERBUSTERS III, LLC PROPERTY (PARCEL 6) TACO BELL RESTAURANT 349 AKRON DRIVE



AMERICAN PAWN & JEWELRY PROPERTY (PARCEL 7) CASH AMERICA PAWN SHOP 3800 LEO STREET

MERYL B. MABE PROPERTY RANDY MOORE'S AUTO REPAIR & TOWING 3810 LEO STREET



M. M. FOWLER PROPERTY - (PARCEL 29) BP GAS STATION/STORE 105 N. MARTIN LUTHER KING, JR. DRIVE

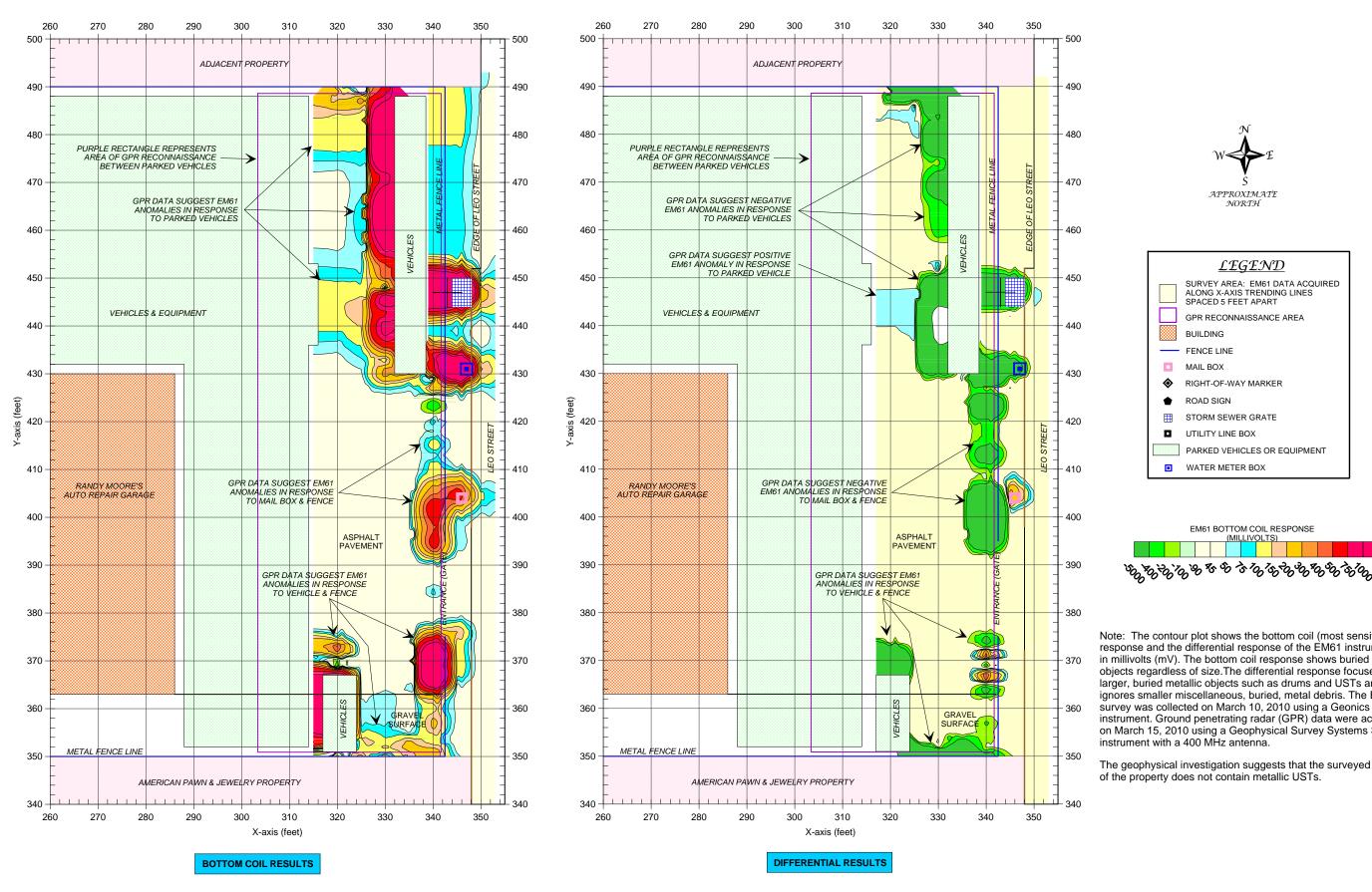


ACCESS ROAD LOCATED BETWEEN AMERICAN PAWN & BURGERBUSTERS PROPERTIES 3800 LEO STREET

#### SITE PHOTOGRAPHS

This figure shows the photographs of the five sites located along Akron Drive or Martin Luther King, Jr. Drive in Winston-Salem, North Carolina where geophysical investigations were conducted within the ROW areas for the detection of unknown, metallic USTs.









Note: The contour plot shows the bottom coil (most sensitive) response and the differential response of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM61 survey was collected on March 10, 2010 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on March 15, 2010 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

EM61 BOTTOM COIL RESPONSE

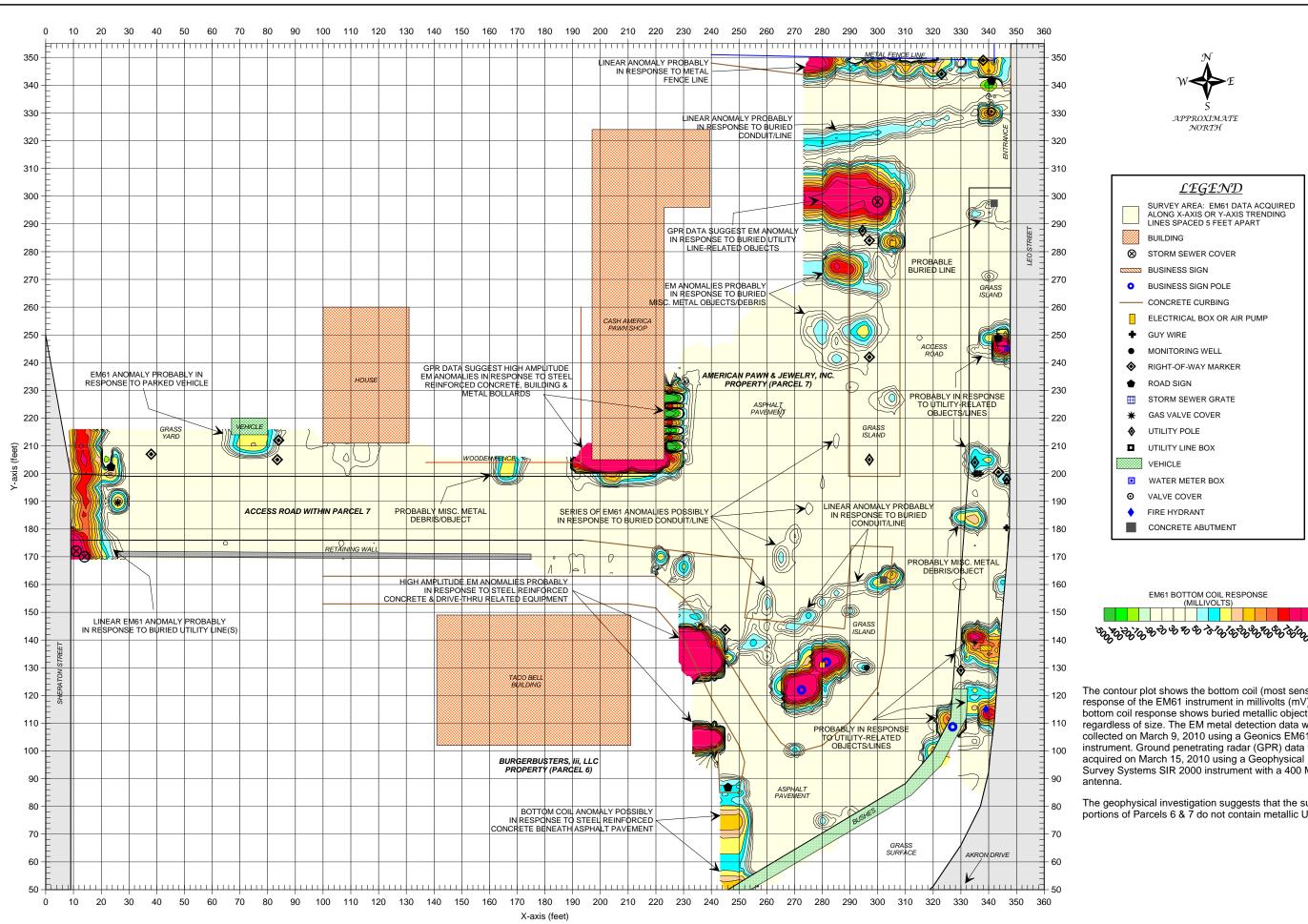
The geophysical investigation suggests that the surveyed portion of the property does not contain metallic USTs.

METAL DETECTION RESULTS EM61

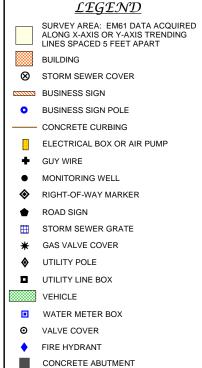
GRAPHIC SCALE IN FEET DWG LAY DATE J-NO. SOLUTIONS-IES MABE WINSTON-SAL œ. MERYL



TITLE CITY SITE CLIENT







The contour plot shows the bottom coil (most sensitive) response of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The EM metal detection data were collected on March 9, 2010 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on March 15, 2010 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz

EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

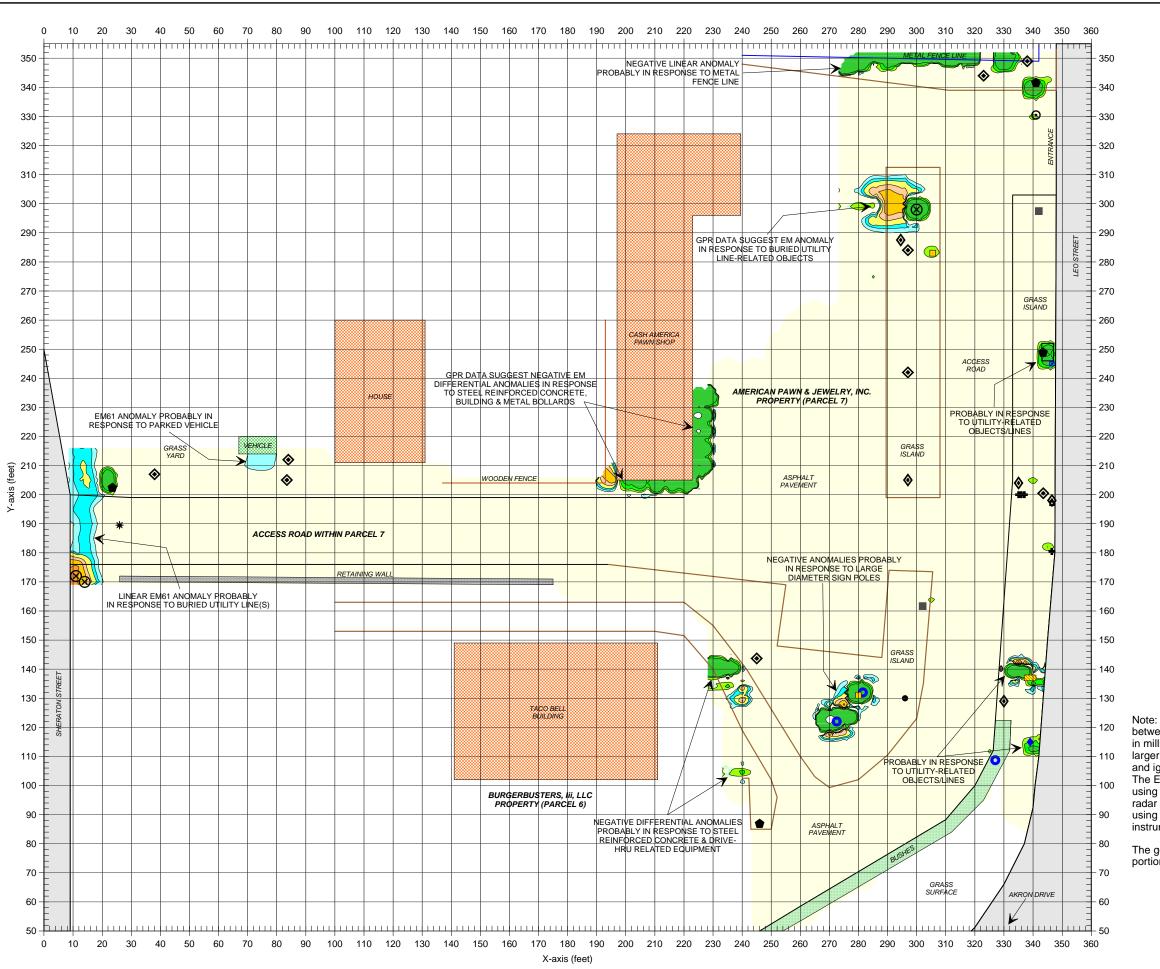
The geophysical investigation suggests that the surveyed portions of Parcels 6 & 7 do not contain metallic USTs.

EM61 METAL DETECTION (BOTTOM COIL RESULTS)

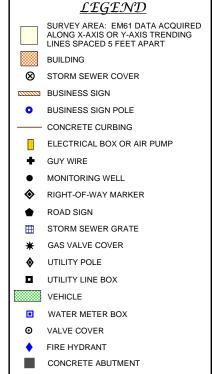
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S-IES	MERICAN PAWN & BURGERBUSTERS PROPERTIES (PARCELS 7&6)	NORTH CAROLINA	GEOPHYSICAL RESULTS
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SOLUTIONS-IES	AMERICAN PAWN & BURGERBUS	WINSTON-SALEM	GEOPHYS



TITLE CITY SITE CLIENT







Note: The contour plot shows the differential response between the bottom and top coils of the EM61 instrument in millivolts (mV). The differential response focuses on larger, buriedmetallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM61 data were collected on March 9, 2010 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on March 15, 2010 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

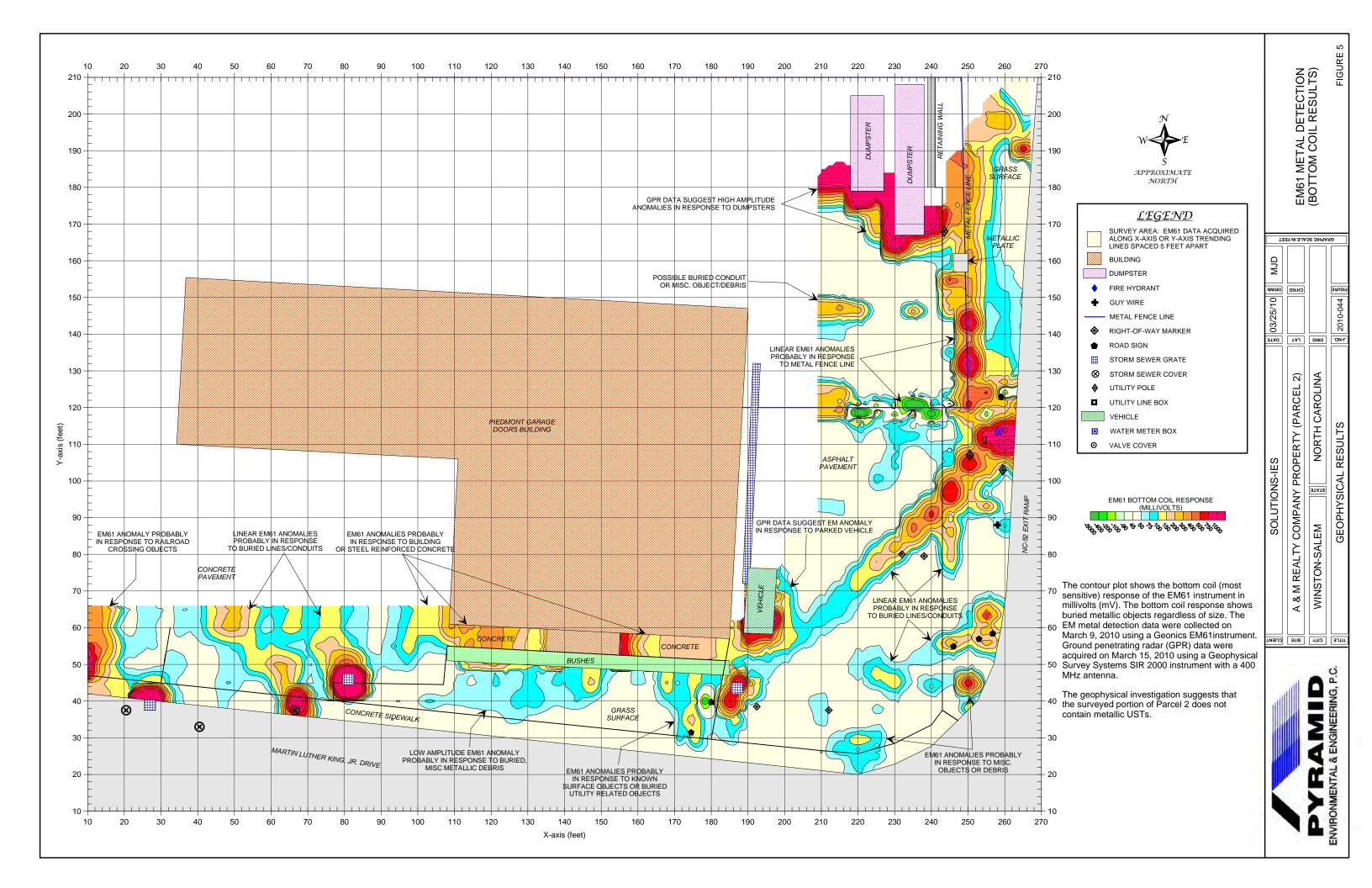
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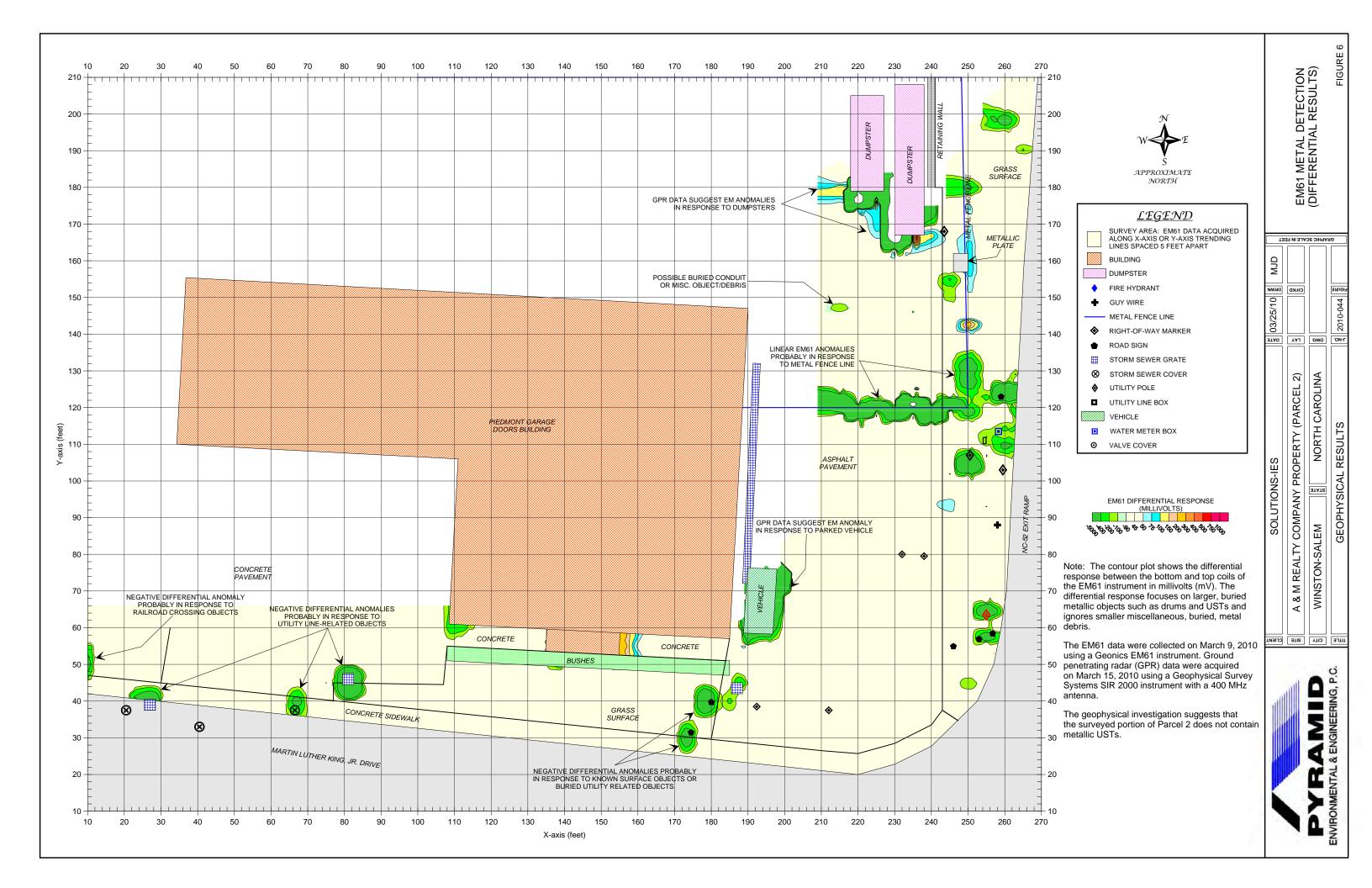
The geophysical investigation suggests that the surveyed portions of Parcels 6 & 7 do not contain metallic USTs.

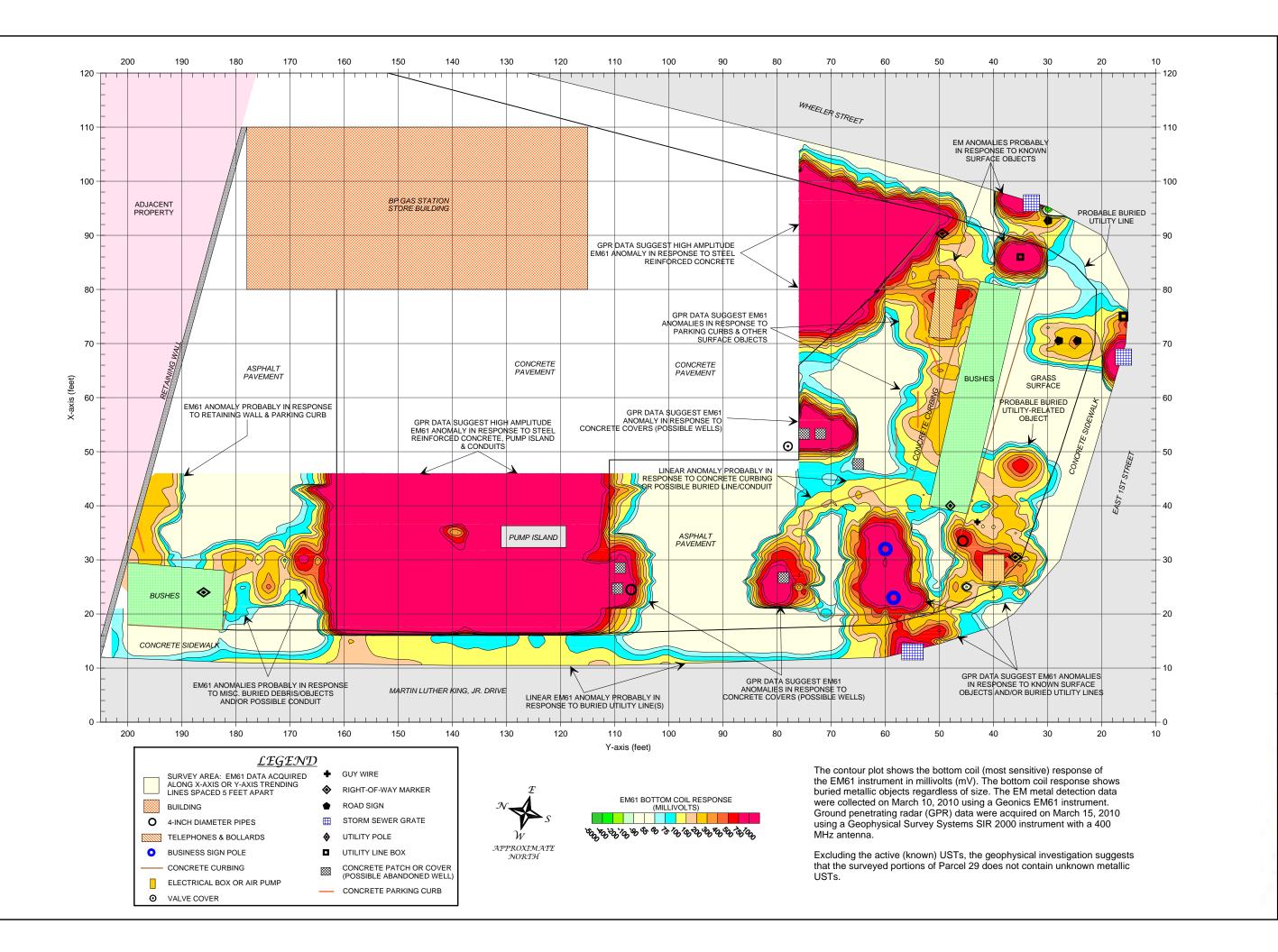
EM61 METAL DETECTION (DIFFERENTIAL RESULTS)



TITLE CITY SITE CLIENT





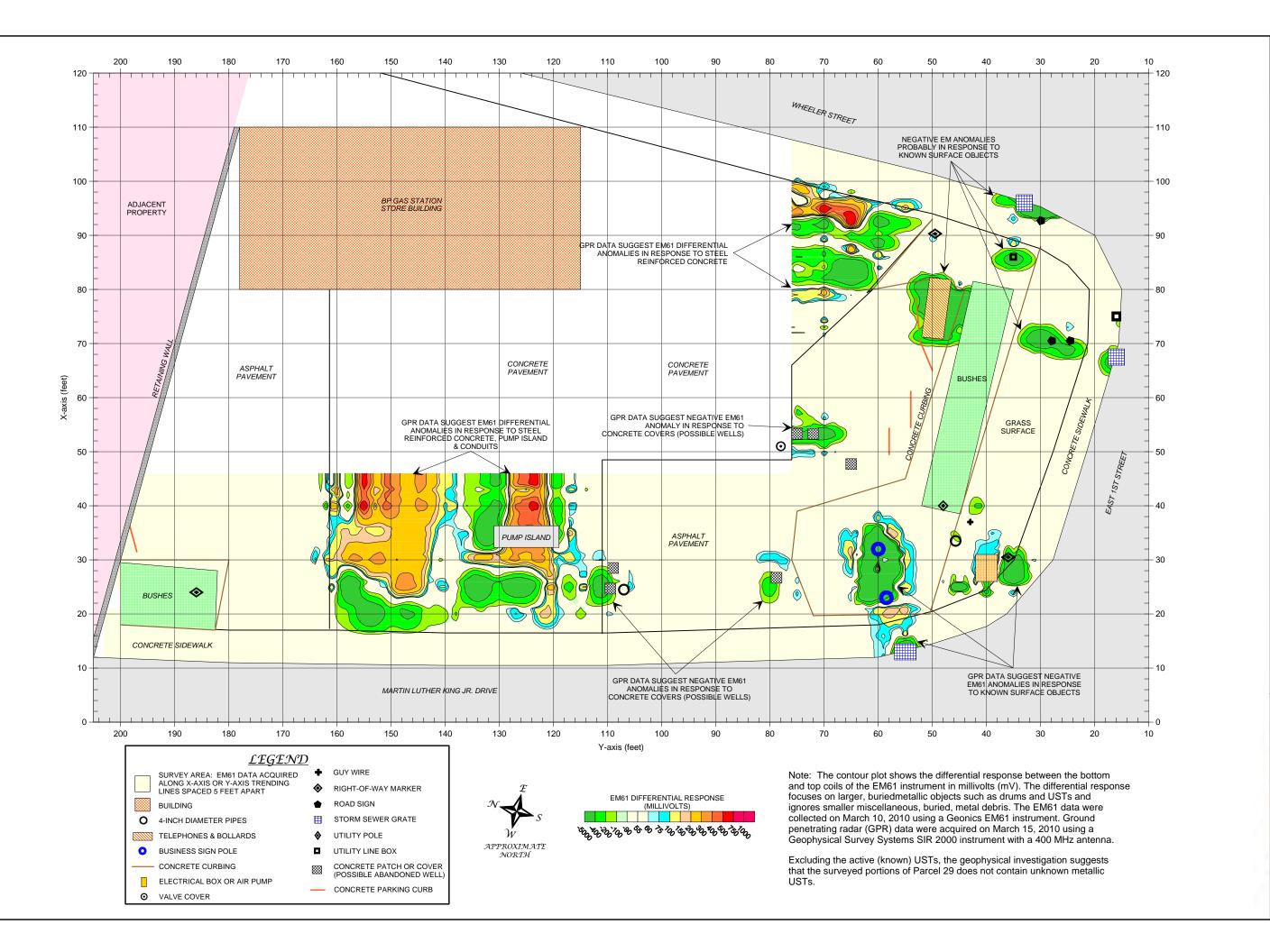


EM61 METAL DETECTION (BOTTOM COIL RESULTS)

GRAPHIC SCALE IN FEET

7	SOLUTIONS-IES	<b>JTAQ</b>	03/25/10	МЛО	
M. FOWLER F	M. M. FOWLER PROPERTY - PARCEL 29	YAJ	Олиз	сн.кр	
INSTON-SALEM	NORTH CAROLINA	DMC			
GEOPHY	GEOPHYSICAL RESULTS	J-NO.	2010-044	неик <b>Е</b>	





EM61 METAL DETECTION (DIFFERENTIAL RESULTS)

GRAPHIC SCALE IN FEET

SOLUTIONS-IES	AFF	D3/25/10	BF	MJD
SOLUTIONS-IES	AFF	BF	BF	
SOLUTIONS-IES	AFF	AFF		
SOLUTIONS-IES				
SOLUTIONS-IES				
SOLUTIONS-IES	AFF			
SOLUTIONS-IES				
S				



## APPENDIX C

**GPS COORDINATES** 

## BORING LOCATION GPS COORDINATES

## Meryl B. Mabe Property 3810 Leo Street

## Winston-Salem, North Carolina WBS Element: 34871.2.1; State Project:U-2826B

<b>Boring Identification</b>	Latitude	Longitude
M-1	36.13830521	-80.24030733
M-2	36.13838341	-80.24036122
M-3	36.13836522	-80.24037849
M-4	36.13845591	-80.24035309
M-5	36.1385389	-80.24037011

APPENDIX D

**BORING LOGS** 

Project: 3944.10A3.NDOT
Client: NCDOT
WBS # 34871.2.1
State Project # U-2826B
Drilling Method: Geoprobe®
Sampler Type: Macro-Core®
Logged By: BE

Boring Number: M-1
Boring Date: 3/30/2010
Total Depth of Boring: 8' bgs
Initial Water Level: N/A
Stabilized Water Level: N/A
Cave In Depth: N/A
County: Forsyth

Logged B	y:	BE					County:	F	orsyth
		SUBSURFACE PROFILE	SA	MP	LE				
Depth ft. bgs	USCS Symbol	Description	Sample Interval		% Recovery	PID Field Screen ppm	FID Field Screen ppm	Lab Sample Depth	Well Data
		Ground Surface							
0		Black, Asphalt, Gravel fill							
1-2-	CL	Red, dry, Sandy Clay	П		100%	NS	0.0		
3—			Ш			NS	0.0		
] _3	SM	White, semi-moist, Silty Sand		Ш					
4	SM	White-Pink, semi-moist, Silty Sand		П					
_	CL	Clay lens		ш					
5 6	SM	White-Pink, semi-moist, Silty Sand	П		100%	NS	0.0		
-	CL	Clay lens		ш				m	
7	SM	White-Pink, semi-moist, Silty Sand				NS	0.0	M-1-6-8	
9—			П						
11-			П						
12									
13		EOB 1420 TD 8' BGS							
] =	Bori	ing backfilled with soil clippings and bentonite.							
14		NR - No Recovery							
15									
16 -									



Project: 3944.10A3.NDOT Client: NCDOT WBS # 34871.2.1 State Project # U-2826B Drilling Method: Geoprobe® Sampler Type: Macro-Core®

Boring Number: M-2 Boring Date: 3/30/2010 Total Depth of Boring: 8' bgs Initial Water Level: N/A Stabilized Water Level: N/A Cave In Depth: N/A

Logged By		Macro-Core® BE					County:	in Depth:	N/A rsyth
_09900 _	, ·	SUBSURFACE PROFILE	S	٩M	PLE		o o anniy i		
Depth ft. bgs	USCS Symbol	Description	Sample Interval		% Recovery	PID Field Screen ppm	FID Field Screen ppm	Lab Sample Depth	Well Data
0-		Ground Surface							
I		Black, Asphalt Gravel fill		П					
1	CL	Red, Dry, Silty Clay	П		100%	NS	0.0		
3 -	SC	White, Dry, Clayey Sand	Ш		10070	NS	0.3		
]	CL	Red, Moist, Silty Clay		П					
4	CL	Red, Moist, Silty Clay		П					
5—			Ш			NS	0.0		
6-	SM-SC	Brown-White, Clayey Silty Sand	Ш		100%			8-	
7-			Ш			NS	0.2	M-2-6-8	
8 -									
9—			Ш						
10			Ш						
11 -									
12		I							
13	Bor	EOB 1435 TD 8' BGS ing backfilled with soil clippings and bentonite.							
14	БОІ	NR - No Recovery							
15									
16 -									



Project: 3944.10A3.NDOT
Client: NCDOT
WBS # 34871.2.1
State Project # U-2826B
Drilling Method: Geoprobe®
Sampler Type: Macro-Core®
Logged By: BE

Boring Number: M-3
Boring Date: 3/30/2010
Total Depth of Boring: 8' bgs
Initial Water Level: N/A
Stabilized Water Level: N/A
Cave In Depth: N/A

County: Forsyth

Logged By	y:	BE				County:	FOI	syth
		SUBSURFACE PROFILE	SAN	IPLE				
Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen ppm	FID Field Screen ppm	Lab Sample Depth	Well Data
0		Ground Surface						
1-		NR			NS	0.7		
2		Black-Gray, Dry, Sandy Gravel, Asphalt		60%				
3-	CL	Brown, Moist, Silty Clay			NS	0.0		
1 4 -		NR						
5	CL	Red-Brown, Moist, Silty Clay with Gravel		050/	NS	0.3		
6-	SW	White, Dry, Clean Sand		85%				
7	SC	White-Pink-Red, Moist, Clayey Sand			NS	0.1	8-9-E-M	
9 - 10 - 11 - 12 -		EOB 1458						
13		TD 8' BGS						
=	Bor	ing backfilled with soil clippings and bentonite.						
14		NR - No Recovery						
'4 =		INC - NO RECOVERY						
15								
16								



Project: 3944.10A3.NDOT
Client: NCDOT
WBS # 34871.2.1
State Project # U-2826B
Drilling Method: Geoprobe®
Sampler Type: Macro-Core®
Logged By: BE

Boring Number: M-4
Boring Date: 3/30/2010
Total Depth of Boring: 8' bgs
Initial Water Level: N/A
Stabilized Water Level: N/A
Cave In Depth: N/A

County: Forsyth

Logged By	y:	BE				County:	FO	rsyth
		SUBSURFACE PROFILE	SAN	/IPLE				
Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen ppm	FID Field Screen ppm	Lab Sample Depth	Well Data
0		Ground Surface						
0 — 1 — 2 —		NR		50%	NS	0.5		
		Black, Sandy Gravel, Asphalt		30 /6				
3 - 4 -	CL	Red, Moist, Silty Clay			NS	0.9		
5 - 1 - 1 - 6 -	CL	Red, Moist, Silty Clay		100%	NS	0.9		
7	sc	Red-White-Pink, Moist, Clayey Sand		10070	NS	0.0	M-4-6-8	
9 - 10 - 11 - 12 -								
13 13 14 15 16	Bori	EOB 1517 TD 8' BGS ing backfilled with soil clippings and bentonite. NR - No Recovery						



Project: 3944.10A3.NDOT Client: NCDOT WBS # 34871.2.1 State Project # U-2826B Drilling Method: Geoprobe® Sampler Type: Macro-Core®

Boring Number: M-5 Boring Date: 3/30/2010 Total Depth of Boring: 8' bgs Initial Water Level: N/A Stabilized Water Level: N/A Cave In Depth: N/A

Logged By		BE					County:	in Depth: Fo	N/A rsyth
		SUBSURFACE PROFILE		SAM	IPLE				
Depth ft. bgs	USCS Symbol	Description	Samolo	Interval	% Recovery	PID Field Screen ppm	FID Field Screen ppm	Lab Sample Depth	Well Data
0		Ground Surface							
		Black-Gray, Sandy Gravel, Asphalt							
1 -					100%	NS	0.0		
3-	CL	Red-Brown, Moist, Silty Clay			100 /8	NS	0.0		
4 -									
5	CL	Red-Brown, Moist, Silty Clay, some Gravel				NS	0.0		
6-					100%			8	
7-	SC	Brown-Red, Dry, Silty Clayey Sand, some Gravel				NS	0.0	M-5-6-8	
8 -									
9—									
10—									
11 —									
12		EOB 1535							
13	Bori	TD 8' BGS ing backfilled with soil clippings and bentonite.							
14		NR - No Recovery							
15									
16									



# APPENDIX E LABORATORY ANALYTICAL REPORT

#### **Case Narrative**



Date:

04/19/10

Company: N. C. Department of Transportation

Contact: Jodi Overmyer

Address: c/o Solution - IES 1101 Nowell Road

Raleigh, NC 27607

**Client Project ID:** 

NCDOT Forsyth Co. PSA-Parcel 2

**Prism COC Group No:** 

Collection Date(s):

G0410028 03/30/10

Lab Submittal Date(s):

03/31/10

Client Project Name Or No: U-2826-B WBS# 34871.2.1

This data package contains the analytical results for the project identified above and includes a Case Narrative, Laboratory Report and Quality Control Data totaling 194 pages. A chain-of-custody is also attached for the samples submitted to Prism for this project. 105 KLAIPNUM

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

#### Semi Volatile Analysis

Analysis Note for Q49259 MS Di-n-octylphthalate: MS and MSD recovery outside the control limits.

Analysis note for Semi-Volatile Organics by GCMS: Laboratory report states Method as 8270C; however, samples were analyzed under 8270D method criteria.

#### Volatile Analysis

No Anomalies Reported

#### **Metals Analysis**

Analysis Note for Q49277 Method Blank Barium: MB is greater than the reporting limit, but all samples are greater than 10X the

Analysis Note for Q49277 MS Cadmium: MS recovery outside of the control limits. Matrix interference is suspected.

Analysis Note for Q49277 MS Chromium: MS recovery outside of the control limits. Matrix interference is suspected.

Analysis Note for Q49277 MS Lead: MS and MSD recoveries outside control limits. Sample concentration too high for recovery evaluation.

Analysis Note for Q49277 MSD Cadmium: MSD recovery outside the control limits.

Analysis Note for Q49277 MSD Chromium: MSD recovery outside the control limits.

N/A

#### Wet Lab and Micro Analysis

N/A

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

Data Reviewed by:

Robbi A. Jones

Project Manager:

Angela vercash

Signature:

Signature:

**Approval Date:** 

04/19/10

**Review Date:** 

**Data Qualifiers Key Reference:** 

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

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.

#### **Case Narrative**



Date:

04/19/10

Company: N. C. Department of Transportation

Contact:

Jodi Overmyer Address: c/o Solution - IES

1101 Nowell Road

Raleigh, NC 27607

M: A matrix effect is present.

**Client Project ID:** 

NCDOT Forsyth Co. PSA-Parcel 2

**Prism COC Group No:** 

Collection Date(s):

G0410028

Lab Submittal Date(s):

03/30/10 03/31/10

Client Project Name Or No: U-2826-B WBS# 34871.2.1



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-1-2-4

Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275456

COC Group:

G0410028

03/30/10 8:26

Project No.:

WBS# 34871.2.1

Time Collected:

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analys Date/Time	t Batch ID
Percent Solids Determination Percent Solids	86.8	%			1	SM2540 G	04/05/10 13:30 jbrayton	7.7 (2)
Volatile Organic Compounds by GC/I								
1,1,1,2-Tetrachloroethane	BRL	µg/kg	4.7	1.6	1	8260B	04/06/10 20:38 erussell	Q49229
1,1,1-Trichloroethane	BRL	µg/kg	4.7	1.1	1	8260B	04/06/10 20:38 erussell	Q49229
1,1,2,2-Tetrachloroethane	BRL	μg/kg	4.7	1.3	1	8260B	04/06/10 20:38 erussell	Q49229
1,1,2-Trichloroethane	BRL	μg/kg	4.7	1.3	1	8260B	04/06/10 20:38 erussell	Q49229
1,1-Dichloroethane	BRL	μg/kg	4.7	1.2	1	8260B	04/06/10 20:38 erussell	Q49229
1,1-Dichloroethene	BRL	μg/kg	4.7	1.1	1 ,	8260B	04/06/10 20:38 erussell	Q49229
1,1-Dichloropropene	BRL	μg/kg	4.7	0.97	1	8260B	04/06/10 20:38 erussell	Q49229
1,2,3-Trichlorobenzene	BRL	μg/kg	9.4	1.5	1	8260B	04/06/10 20:38 erusseli	Q49229
1,2,3-Trichloropropane	BRL	µg/kg	4.7	1.9	1	8260B	04/06/10 20:38 erussell	Q49229
1,2,4-Trichlorobenzene	BRL	μg/kg	9.4	1.3	1	8260B	04/06/10 20:38 erussell	Q49229
1,2,4-Trimethylbenzene	BRL	µg/kg	9.4	1.2	1	8260B	04/06/10 20:38 erussell	Q49229
1,2-Dibromo-3-chloropropane	BRL	μg/kġ	4.7	1.7	1	8260B	04/06/10 20:38 erussell	Q49229
1,2-Dibromoethane (EDB)	BRL	μg/kg	4.7	1.3	1	8260B	04/06/10 20:38 erussell	Q49229
1,2-Dichlorobenzene	BRL	μg/kg	9.4	1.3	1	8260B	04/06/10 20:38 erusseli	Q49229
1,2-Dichloroethane	BRL	μg/kg	4.7	1.2	1	8260B	04/06/10 20:38 erussell	Q49229
1,2-Dichloropropane	BRL	μg/kg	4.7	1.4	1	8260B	04/06/10 20:38 erussell	Q49229
1,3,5-Trimethylbenzene	BRL	µg/kg	9.4	1.2	1	8260B	04/06/10 20:38 erussell	Q49229
1,3-Dichlorobenzene	BRL	μg/kg	9.4	1.1	1	8260B	04/06/10 20:38 erussell	Q49229
1,3-Dichloropropane	BRL	µg/kg	4.7	0.96	1	8260B	04/06/10 20:38 erussell	Q49229
1,4-Dichlorobenzene	BRL	μg/kg	9.4	1.2	1	8260B	04/06/10 20:38 erussell	Q49229
2,2-Dichloropropane	BRL	μg/kg	4.7	1.1	1	8260B	04/06/10 20:38 erussell	Q49229
2-Chloroethyl vinyl ether	BRL	μg/kg	9.4	1.4	1	8260B	04/06/10 20:38 erussell	Q49229
2-Chlorotoluene	BRL	μg/kg	9.4	1.2	1	8260B	04/06/10 20:38 erussell	Q49229
2-Hexanone	BRL	μg/kg	47	1.4	1	8260B	04/06/10 20:38 erussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-1-2-4

NCDOT Forsyth Co. PSA-Prism Sample ID: 275456

Parcel 2

G0410028

COC Group:

03/30/10 8:26

Project No.:

WBS# 34871.2.1

Time Collected:

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
4-Chiorotoluene	BRL	μg/kg	9.4	1.2	1	8260B	04/06/10 20:38	erussell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	9.4	1.0	1	8260B	04/06/10 20:38	erussell	Q49229
Acetone	35	μg/kg	19	2.0	1	8260B	04/06/10 20:38	erussell	Q49229
Benzene	BRL	μg/kg	2.8	1.2	1	8260B	04/06/10 20:38	erussell	Q49229
Bromobenzene	BRL	μg/kg	4.7	1.1	1	8260B	04/06/10 20:38	erussell	Q49229
Bromochloromethane	BRL	µg/kg	4.7	1.3	1	8260B	04/06/10 20:38	erussell	Q49229
Bromodichloromethane	BRL	μg/kg	4.7	1.1	1	8260B	04/06/10 20:38	erussell	Q49229
Bromoform	BRL	µg/kg	4.7	1.0	1	8260B	04/06/10 20:38	erussell	Q49229
Bromomethane	BRL	μg/kg	9.4	1.2	1	8260B	04/06/10 20:38	erussell	Q49229
Carbon disulfide	BRL	μg/kg	9.4	0.95	1	8260B	04/06/10 20:38	erussell	Q49229
Carbon tetrachloride	BRL	µg/kg	4.7	1.4	1	8260B	04/06/10 20:38	erussell	Q49229
Chlorobenzene	BRL	μg/kg	4.7	1.1	1	8260B	04/06/10 20:38	erussell	Q49229
Chlorodibromomethane	BRL	μg/kg	4.7	1.2	1	8260B	04/06/10 20:38	erussell	Q49229
Chloroethane	BRL	μg/kg	9.4	2.4	1	8260B	04/06/10 20:38	erussell	Q49229
Chloroform	BRL	µg/kg	4.7	1.2	1	8260B	04/06/10 20:38	erussell	Q49229
Chloromethane	BRL	µg/kg	9.4	1.1	1	8260B	04/06/10 20:38	erussell	Q49229
cis-1,2-Dichloroethene	BRL	µg/kg	4.7	1.1	1	8260B	04/06/10 20:38	erussell	Q49229
cis-1,3-Dichloropropene	BRL	μg/kg	4.7	1.1	1	8260B	04/06/10 20:38	erusseli	Q49229
Dibromomethane	BRL	μg/kg	4.7	1.3	1	8260B	04/06/10 20:38	erussell	Q49229
Dichlorodifluoromethane	BRL	μg/kg	9.4	0.96	1 .	8260B	04/06/10 20:38	erussell	Q49229
Ethylbenzene	BRL	μg/kg	4.7	0.97	1	8260B	04/06/10 20:38	erussell	Q49229
Hexachlorobutadiene	BRL	µg/kg	14	1.1	1	8260B	04/06/10 20:38	erussell	Q49229
Isopropyl ether (IPE)	BRL	μg/kg	4.7	1.2	1	8260B	04/06/10 20:38	erusseli	Q49229
Isopropylbenzene	BRL	μg/kg	9.4	1.0	1	8260B	04/06/10 20:38	erussell	Q49229
m,p-Xylenes	BRL.	μg/kg	9.4	2.5	1	8260B	04/06/10 20:38	erussell	Q49229
Methyl ethyl ketone (MEK)	BRL	μg/kg	19	1.2	1	8260B	04/06/10 20:38	erussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	µg/kg	4.7	0.97	1	8260B	04/06/10 20:38	erussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-1-2-4

NCDOT Forsyth Co. PSA-Prism Sample ID: 275456

Project No.:

WBS# 34871.2.1

COC Group:

G0410028

Parcel 2

Time Collected:

03/30/10 8:26

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methylene chloride	BRL	µg/kg	9.4	1.2	1	8260B	04/06/10 20:38	erussell	Q49229
n-Butylbenzene	BRL	μg/kg	14	1.7	1	8260B	04/06/10 20:38	erussell	Q49229
n-Propylbenzene	BRL	μg/kg	9.4	1.3	1	8260B	04/06/10 20:38	erussell	Q49229
Naphthalene	BRL	μg/kg	4.7	2.5	1	8260B	04/06/10 20:38	erussell	Q49229
o-Xylene	BRL	μg/kg	4.7	1.0	1	8260B	04/06/10 20:38	erussell	Q49229
p-Isopropyltoluene	BRL	μg/kg	14	1.4	1	8260B	04/06/10 20:38	erussell	Q49229
sec-Butylbenzene	BRL	μg/kg	14	1.2	1	8260B	04/06/10 20:38	erussell	Q49229
Styrene	BRL	· μg/kg	4.7	0.91	1	8260B	04/06/10 20:38	erussell	Q49229
tert-Butylbenzene	BRL	μg/kg	19	1.3	1	8260B	04/06/10 20:38	erussell	Q49229
Tetrachloroethene	BRL	μg/kg	9.4	1.2	1	8260B	04/06/10 20:38	erussell	Q49229
Toluene	BRL	μg/kg	4.7	1.1	1	8260B	04/06/10 20:38	erussell	Q49229
trans-1,2-Dichloroethene	BRL	μg/kg	4.7	0.93	1	8260B	04/06/10 20:38	erussell	Q49229
trans-1,3-Dichloropropene	BRL	µg/kg	4.7	0.94	1	8260B	04/06/10 20:38	erussell	Q49229
Trichloroethene	BRL	μg/kg	4.7	1.3	1	8260B	04/06/10 20:38	erussell	Q49229
Trichlorofluoromethane	BRL	μg/kg	4.7	1.3	1	8260B	04/06/10 20:38	erussell	Q49229
Vinyl chloride	BRL	μg/kg	9.4	1.2	1	8260B	04/06/10 20:38	erussell	Q49229

					Surrogate Toluene-d8 Dibromofluoromethane		% Reco	very	Control Limits
							106 105		81 - 128
									67 - 143
					Bromoflu	orobenzene	10	1	77 - 128
Sample Weight Determination								7/	at Addition to the state of the
Weight Bisulfate 1	6.41	g			1	5035	04/06/10	Ibrown	
Weight Bisulfate 2	6.16	g			1	5035	04/06/10	Ibrown	•
Weight Methanol	5.81	g			1	5035	04/06/10	Ibrown	
Semi-volatile Organic Compounds	by GC/MS								
1,2,4-Trichlorobenzene	BRL	μg/kg	380	42	1	8270C	04/07/10 20	:37 cphilbri	ck Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-1-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275456 Parcel 2

G0410028

Project No.:

WBS# 34871.2.1

COC Group:

03/30/10 8:26

Sample Matrix: Soil

Time Collected:

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2-Dichlorobenzene	BRL	µg/kg	380	42	1	8270C	04/07/10 20:37	cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	μg/kg	380	37	1	8270C	04/07/10 20:37	cphilbrick	Q49259
1,4-Dichlorobenzene	BRL	μg/kg	380	45	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	μg/kg	380	45	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	μg/kg	380	41	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2,4-Dichlorophenol	BRL	μg/kg	380	25	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2,4-Dimethylphenol	BRL	μg/kg	380	57	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2,4-Dinitrophenol	BRL	µg/kg	380	110	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2,4-Dinitrotoluene	BRL	µg/kg	380	50	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	µg/kg	380	69	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2-Chloronaphthalene	BRL	µg/kg	380	48	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2-Chlorophenol	BRL	µg/kg	380	16	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2-Methylnaphthalene	BRL	μg/kg	380	43	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2-Methylphenol	BRL	µg/kg	380	31	1	8270C	04/07/10 20:37	cphilbrick	Q49259
2-Nitrophenol	BRL	μg/kg	380	54	1	8270C	04/07/10 20:37	cphilbrick	Q49259
3&4-Methylphenol	BRL	μg/kg	380	45	1	8270C	04/07/10 20:37	cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	µg/kg	380	69	1.	8270C	04/07/10 20:37	cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	µg/kg	380	33	1	8270C	04/07/10 20:37	cphilbrick	Q49259
4-Bromophenylphenylether	BRL	μg/kg	380	47	1	8270C	04/07/10 20:37	cphilbrick	Q49259
4-Chloro-3-methylphenol	BRL	μg/kg	380	45	1	8270C	04/07/10 20:37	cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	μg/kg	380	48	1	8270C	04/07/10 20:37	cphilbrick	Q49259
4-Nitrophenol	BRL	μg/kg	380	49	1	8270C	04/07/10 20:37	cphilbrick	Q49259
Acenaphthene	BRL	µg/kg	380	52	1	8270C	04/07/10 20:37	cphilbrick	Q49259
Acenaphthylene	BRL	µg/kg	380	36	1	8270C	04/07/10 20:37	cphilbrick	Q49259
Anthracene	150 J	μg/kg	380	28	1	8270C	04/07/10 20:37	cphilbrick	Q49259
Benzo(a)anthracene	940	μg/kg	380	43	1	8270C	04/07/10 20:37	cphilbrick	Q49259
Benzo(a)pyrene	1100	μg/kg	380	48	1	8270C	04/07/10 20:37	cphilbrick	Q49259



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-1-2-4

Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275456

G0410028

Project No.:

WBS# 34871.2.1

COC Group:

03/30/10 8:26

Time Collected:

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Benzo(b)fluoranthene	1700	μg/kg	380	78	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Benzo(g,h,i)perylene	450	µg/kg	380	49	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Benzo(k)fluoranthene	720	μg/kg	380	100	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Bis(2-chloroethoxy)methane	BRL	μg/kg	380	64	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Bis(2-chloroethyl)ether	BRL	µg/kg	380	47	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Bis(2-chloroisopropyl)ether	BRL	μg/kg	380	38	1	8270C	04/07/10 20:37 9	philbrick	Q49259
Bis(2-ethylhexyl)phthalate	BRL	μg/kg	380	29	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Butylbenzylphthalate	BRL	µg/kg	380	47	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Chrysene	990	μg/kg	380	26	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Di-n-butylphthalate	BRL	µg/kg	380	61	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Di-n-octylphthalate	BRL	µg/kg	380	110	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Dibenzo(a,h)anthracene	150 J	μg/kg	380	36	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Dibenzofuran	BRL	µg/kg	380	46	1	8270C	04/07/10 20:37 0	philbrick	Q49259
Diethylphthalate	BRL	µg/kg	380	98	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Dimethylphthalate	BRL	µg/kg	380	56	1	8270C	04/07/10 20:37 9	philbrick	Q49259
Fluoranthene	1700	µg/kg	380	67	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Fluorene	BRL	µg/kg	380	54	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Hexachlorobenzene	BRL	µg/kg	380	52	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Hexachlorobutadiene	BRL	µg/kg	380	38	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Hexachlorocyclopentadiene	BRL	µg/kg	380	57	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Hexachloroethane	BRL	µg/kg	380	16	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Indeno(1,2,3-cd)pyrene	610	μg/kg	380	36	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Isophorone	BRL	μg/kg	380	36	1	8270C	04/07/10 20:37 c	philbrick	Q49259
N-Nitrosodi-n-propylamine	BRL	μg/kg	380	22	1	8270C	04/07/10 20:37 c	philbrick	Q49259
N-Nitrosodiphenylamine	BRL	µg/kg	380	55	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Naphthalene	BRL	µg/kg	380	45	1	8270C	04/07/10 20:37 c	philbrick	Q49259
Nitrobenzene	BRL	μg/kg	380	48	1	8270C	04/07/10 20:37 c	philbrick	Q49259



#### **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-1-2-4

Project ID: Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275456

Project No.:

COC Group:

G0410028

Sample Matrix: Soil

WBS# 34871.2.1

Time Collected:

03/30/10 8:26

Time Submitted: 03/31/10

14:30

Parameter .	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	t Batch ID
Pentachlorophenol	BRL	μg/kg	380	58	1	8270C	04/07/10 20:37	cphilbrick	Q4925
Phenanthrene	890	μg/kg	380	32	1	8270C	04/07/10 20:37	cphilbrick	Q4925
Phenol	BRL	μg/kg	380	67	1	8270C	04/07/10 20:37	cphilbrick	Q49259
Pyrene	1600	µg/kg	380	73	1	8270C	04/07/10 20:37	cphilbrick	Q4925
Sample Preparation:	:		29	.96 g	/ 1 mL	3550B	04/06/10 13:30	) aguptill	P27199
					Surrogate		% Recovery	y Co	ntrol Limits
•					Terphenyl-	d14	113		41 - 136
					Phenol-d5		84		13 - 95
					Nitrobenze	ne-d5	79		14 - 103
					2-Fluoroph	enol	84		14 - 89
					2-Fluorobip	ohenyl	91		21 - 108
					2,4,6-Tribro	omophenol	95		25 - 123
<u>Diesel Range Organics (DRO) by G</u> Diesel Range Organics (DRO)	6C-FID 43	mg/kg	8.1	1.3	1	8015B	04/09/10 8:15	jvogel	Q49287
Sample Preparation:	:		24.	.97 g	/ 1 mL	3545	04/07/10 17:00	athao	P27216
•					Surrogate		% Recovery	, Co	ntrol Limits
					o-Terpheny	/l	81		49 - 124
Sample Weight Determination									
Weight 1	6.31	9			1	GRO	04/06/10 0:00	Ibrown	
Weight 2	5.51	g			1	GRO	04/06/10 0:00	lbrown	
Gasoline Range Organics (GRO) by	y GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	5.8	3.6	50	8015B	04/08/10 3:12	heasler	Q49290



#### **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-1-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275456

Project No.:

Parcel 2 WBS# 34871.2.1

COC Group:

G0410028

03/30/10 8:26

Sample Matrix: Soil

Time Collected:

Time Submitted: 03/31/10 14:30

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

						0		0/ D			
						Surrogate aaa-TFT		% Ke	covery 96	Cor	trol Limits 55 - 129
						aaa-11 1					
Mercury by CVA	A										
Mercury		0.22	mg/kg	0.023	0.0016	1	7471A	04/09/10	15:11	kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10	8:20	kpowers	P27230
Metals by ICP											
Arsenic		4.4	mg/kg	0.58	0.065	1	6010B	04/08/10	23:57	pfitzgerald	Q49277
Barium		160	mg/kg	2.9	0.43	5	6010B	04/13/10	23:58	dsullivan	Q49277
Cadmium		2.8	mg/kg	0.29	0.031	1	6010B	04/08/10	23:57	pfitzgerald	Q49277
Chromium		. 31	mg/kg	0.29	0.040	1	6010B	04/08/10	23:57	pfitzgerald	Q49277
Lead		530	mg/kg	1.4	0.36	5	6010B	04/13/10	23:58	dsullivan	Q49277
Selenium		1.2 J	mg/kg	2.9	0.58	5	6010B	04/13/10	23:58	dsullivan	Q49277
Silver		BRL	mg/kg	0.29	0.029	1	6010B	04/08/10	23:57	pfitzgerald	Q49277
	Sample Preparation:			2	2.03 g /	50 mL	3050B	04/07/10	9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-2-2-4

NCDOT Forsyth Co. PSA-Prism Sample ID: 275457

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 8:46

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	69.5	%			1	SM2540 G	04/05/10 13:30	jbrayton	
Volatile Organic Compounds by G									
1,1,1,2-Tetrachloroethane	BRL	µg/kg	5.2	1.7	1	8260B	04/06/10 17:51		Q49229
1,1,1-Trichloroethane	BRL	µg/kg	5.2	1.2	1	8260B	04/06/10 17:51		Q49229
1,1,2,2-Tetrachloroethane	BRL	μg/kg	5.2	1.4	1	8260B	04/06/10 17:51	erussell	Q49229
1,1,2-Trichloroethane	BRL	μg/kg	5.2	1.5	1	8260B	04/06/10 17:51	erussell	Q49229
1,1-Dichloroethane	BRL	μg/kg	5.2	1.3	1	8260B	04/06/10 17:51	erussell	Q49229
1,1-Dichloroethene	BRL	µg/kg	5.2	1.2	1	8260B	04/06/10 17:51	erussell	Q49229
1,1-Dichloropropene	BRL	μg/kg	5.2	1.1	1	8260B	04/06/10 17:51	erussell	Q49229
1,2,3-Trichlorobenzene	BRL	μg/kg	10	1.7	1	8260B	04/06/10 17:51	erussell	Q49229
1,2,3-Trichloropropane	BRL	μg/kg	5.2	2.2	1	8260B	04/06/10 17:51	erussell	Q49229
1,2,4-Trichlorobenzene	BRL	μg/kg	10	1.4	1	8260B	04/06/10 17:51	erussell	Q49229
1,2,4-Trimethylbenzene	BRL	μg/kg	10	1.3	1	8260B	04/06/10 17:51	erussell	Q49229
1,2-Dibromo-3-chloropropane	BRL	μg/kg	5.2	1.9	1	8260B	04/06/10 17:51	erussell	Q49229
1,2-Dibromoethane (EDB)	BRL	μg/kg	5.2	1.4	1	8260B	04/06/10 17:51	erussell	Q49229
1,2-Dichlorobenzene	BRL	μg/kg	10	1.4	1	8260B	04/06/10 17:51	erussell	Q49229
1,2-Dichloroethane	BRL	μg/kg	5.2	1.4	1	8260B	04/06/10 17:51	erussell	Q49229
1,2-Dichloropropane	BRL	μg/kg	5.2	1.5	1	8260B	04/06/10 17:51	erussell	Q49229
1,3,5-Trimethylbenzene	BRL	μg/kg	10	1.4	1	8260B	04/06/10 17:51	erussell	Q49229
1,3-Dichlorobenzene	BRL	μg/kg	10	1.2	1	8260B	04/06/10 17:51	erussell	Q49229
1,3-Dichloropropane	BRL	μg/kg	5.2	1.1	1	8260B	04/06/10 17:51	erussell	Q49229
1,4-Dichlorobenzene	BRL	μg/kg	10	1.3	1	8260B	04/06/10 17:51	erussell	Q49229
2,2-Dichloropropane	BRL	µg/kg	5.2	1.2	1	8260B	04/06/10 17:51	erussell	Q49229
2-Chloroethyl vinyl ether	BRL	μg/kg	10	1.5	1	8260B	04/06/10 17:51	erussell	Q49229
2-Chlorotoluene	BRL	μg/kg	10	1.3	1	8260B	04/06/10 17:51	erussell	Q49229
2-Hexanone	BRL	μg/kg	52	1.6	1	8260B	04/06/10 17:51	erussell	Q49229

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# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-2-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275457

Project No.:

Parcel 2

COC Group:

G0410028 03/30/10

WBS# 34871.2.1

Time Collected:

8:46

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
4-Chlorotoluene	BRL	μg/kg	10	1.3	1	8260B	04/06/10 17:51 en	ussell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	10	1.1	1	8260B	04/06/10 17:51 en	ussell	Q49229
Acetone	33	µg/kg	21	2.3	1	8260B	04/06/10 17:51 en	ussell	Q49229
Benzene	BRL	μg/kg	3.1	1.4	1	8260B	04/06/10 17:51 eru	ussell	Q49229
Bromobenzene	BRL	µg/kg	5.2	1.3	1	8260B	04/06/10 17:51 eru	usseli	Q49229
Bromochloromethane	BRL	μg/kg	5.2	1.4	1	8260B	04/06/10 17:51 eru	ussell	Q49229
Bromodichloromethane	BRL	μg/kg	5.2	1.2	1	8260B	04/06/10 17:51 eru	ussell	Q49229
Bromoform	BRL	µg/kg	5.2	1.1	1	8260B	04/06/10 17:51 eru	ussell	Q49229
Bromomethane	BRL	µg/kg	10	1.3	1	8260B	04/06/10 17:51 eru	ussell	Q49229
Carbon disulfide	BRL	µg/kg	10	1.1	1	8260B	04/06/10 17:51 eru	ussell	Q49229
Carbon tetrachloride	BRL	μg/kg	5.2	1.5	1	8260B	04/06/10 17:51 eru	ussell	Q49229
Chlorobenzene	BRL	µg/kg	5.2	1.2	1	8260B	04/06/10 17:51 eru	ıssell	Q49229
Chlorodibromomethane	BRL	μg/kg	5.2	1,3	1	8260B	04/06/10 17:51 eru	ussell	Q49229
Chloroethane	BRL	µg/kg	10	2.7	1	8260B	04/06/10 17:51 eru	ıssell	Q49229
Chloroform	BRL	µg/kg	5.2	1.3	1	8260B	04/06/10 17:51 eru	ıssell	Q49229
Chloromethane	BRL	µg/kg	10	1.2	1	8260B	04/06/10 17:51 eru	ıssell	Q49229
cis-1,2-Dichloroethene	18	µg/kg	5.2	1.2	1	8260B	04/06/10 17:51 eru	ısseil	Q49229
cis-1,3-Dichloropropene	BRL	µg/kg	5.2	1.2	1	8260B	04/06/10 17:51 eru	ıssell	Q49229
Dibromomethane	BRL	μg/kg	5.2	1.5	1	8260B	04/06/10 17:51 eru	ısseli	Q49229
Dichlorodifluoromethane	BRL	µg/kg	10	1.1	1	8260B	04/06/10 17:51 eru	ssell	Q49229
Ethylbenzene	BRL	µg/kg	5.2	1.1	1	8260B	04/06/10 17:51 eru	sseli	Q49229
Hexachlorobutadiene	BRL	µg/kg	16	1.2	1	8260B	04/06/10 17:51 eru	ssell	Q49229
sopropyl ether (IPE)	BRL	µg/kg	5.2	1.3	1	8260B	04/06/10 17:51 eru:	sseli	Q49229
sopropylbenzene	BRL	μg/kg	10	1.2	1	8260B	04/06/10 17:51 eru:	ssell	Q49229
n,p-Xylenes	BRL	μg/kg	10	2.8	1	8260B	04/06/10 17:51 eru:	ssell	Q49229
flethyl ethyl ketone (MEK)	BRL	µg/kg	21	1.3	1	8260B	04/06/10 17:51 erus	ssell	Q49229
Nethyl t-butyl ether (MTBE)	BRL	µg/kg	5.2	1.1	1	8260B	04/06/10 17:51 erus	ssell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-2-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275457

c/o Solution - IES

Project No.:

Parcel 2

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 8:46

Sample Matrix: Soil

Time Submitted:	03/31/10	14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methylene chloride	BRL	μg/kg	10	1.4	1	8260B	04/06/10 17:51	erussell	Q49229
n-Butylbenzene	BRL	μg/kg	16	1.9	1	8260B	04/06/10 17:51	erussell	Q49229
n-Propylbenzene	BRL	μg/kg	10	1.5	1	8260B	04/06/10 17:51	erussell	Q49229
Naphthalene	BRL	µg/kg	5.2	2.8	1	8260B	04/06/10 17:51	erussell	Q49229
o-Xylene	BRL	μg/kg	5.2	1.2	1	8260B	04/06/10 17:51	erussell	Q49229
p-Isopropyltoluene	BRL	μg/kg	16	1.5	1	8260B	04/06/10 17:51	erussell	Q49229
sec-Butylbenzene	BRL	μg/kg	16	1.4	1	8260B	04/06/10 17:51	erussell	Q49229
Styrene	BRL	μg/kg	5.2	1.0	1	8260B	04/06/10 17:51	erussell	Q49229
tert-Butylbenzene	BRL	µg/kg	21	1.4	1	8260B	04/06/10 17:51	erussell	Q49229
Tetrachloroethene	BRL	µg/kg	10	1.3	1	8260B	04/06/10 17:51	erussell	Q49229
Toluene	BRL	µg/kg	5.2	1.3	1	8260B	04/06/10 17:51	erussell	Q49229
trans-1,2-Dichloroethene	BRL	μg/kg	5.2	1.0	1	8260B	04/06/10 17:51	erussell	Q49229
trans-1,3-Dichloropropene	BRL	μg/kg	5.2	1.0	1	8260B	04/06/10 17:51	erussell	Q49229
Trichloroethene	38	μg/kg	5.2	1.5	1	8260B	04/06/10 17:51	erussell	Q49229
Trichlorofluoromethane	BRL	μg/kg	5.2	1.5	. 1	8260B	04/06/10 17:51	erussell	Q49229
Vinyl chloride	BRL	µg/kg	10	1.4	1	8260B	04/06/10 17:51	erussell	Q49229

					Surroga	te	% Rec	overy	Control Limits
•					Toluene-d8		106		81 - 128
					Dibromot	luoromethane	1	105	67 - 143
					Bromofluorobenzene		102		77 - 128
Sample Weight Determination									and the second s
Weight Bisulfate 1	6.92	g			1	5035	04/06/10	lbrown	
Weight Bisulfate 2	6.35	g			1	5035	04/06/10	ibrown	
Weight Methanol	6.36	g			1	5035	04/06/10	lbrown	
Semi-volatile Organic Compounds	by GC/MS								
1,2,4-Trichlorobenzene	BRL	μg/kg	470	52	1	8270C	04/08/10	16:52 cphilbri	ck Q4925



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-2-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275457

Project No.:

Parcel 2

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 8:46

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2-Dichlorobenzene	BRL	μg/kg	470	52	1	8270C	04/08/10 16:52	cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	μg/kg	470	46	1	8270C	04/08/10 16:52	cphilbrick	Q49259
1,4-Dichlorobenzene	BRL	μg/kg	470	56	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	μg/kg	470	56	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	μg/kg	470	51	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2,4-Dichlorophenol	BRL	μg/kg	470	31	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2,4-Dimethylphenol	BRL	μg/kg	470	70	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2,4-Dinitrophenol	BRL	μg/kg	470	140	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2,4-Dinitrotoluene	BRL	μg/kg	470	62	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	μg/kg	470	85	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2-Chloronaphthalene	BRL	μg/kg	470	59	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2-Chlorophenol	BRL	μg/kg	470	20	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2-Methylnaphthalene	BRL	μg/kg	470	53	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2-Methylphenol	BRL	μg/kg	470	38	1	8270C	04/08/10 16:52	cphilbrick	Q49259
2-Nitrophenol	BRL	µg/kg	470	66	1	8270C	04/08/10 16:52	cphilbrick	Q49259
3&4-Methylphenol	BRL	μg/kg	470	55	1	8270C	04/08/10 16:52	cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	μg/kg	470	85	1	8270C	04/08/10 16:52	cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	μg/kg	470	40	1	8270C	04/08/10 16:52	cphilbrick	Q49259
4-Bromophenylphenylether	BRL	μg/kg	470	59	1	8270C	04/08/10 16:52	cphilbrick	Q49259
4-Chloro-3-methylphenoi	BRL	μg/kg	470	56	1	8270C	04/08/10 16:52	cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	μg/kg	470	59	1	8270C	04/08/10 16:52	cphilbrick	Q49259
4-Nitrophenol	BRL	μg/kg	470	60	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Acenaphthene	BRL	µg/kg	470	64	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Acenaphthylene	BRL	µg/kg	470	44	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Anthracene	BRL	μg/kg	470	34	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Benzo(a)anthracene	BRL	μg/kg	470	53	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Benzo(a)pyrene	BRL	μg/kg	470	59	1	8270C	04/08/10 16:52	cohilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-2-2-4

NCDOT Forsyth Co. PSA-Prism Sample ID: 275457

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 8:46

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Benzo(b)fluoranthene	BRL	μg/kg	470	96	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Benzo(g,h,i)perylene	BRL	μg/kg	470	60	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Benzo(k)fluoranthene	BRL	µg/kg	470	130	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Bis(2-chloroethoxy)methane	BRL	µg/kg	470	79	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Bis(2-chloroethyl)ether	BRL	µg/kg	470	58	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Bis(2-chloroisopropyl)ether	BRL	μg/kg	470	47	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Bis(2-ethylhexyl)phthalate	BRL	µg/kg	470	36	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Butylbenzylphthalate	BRL	μg/kg	470	58	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Chrysene	BRL	μg/kg	470	32	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Di-n-butylphthalate	BRL	µg/kg	470	75	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Di-n-octylphthalate	BRL	µg/kg	470	140	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Dibenzo(a,h)anthracene	BRL	µg/kg	470	44	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Dibenzofuran	BRL	µg/kg	470	57	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Diethylphthalate	BRL	μg/kg	470	120	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Dimethylphthalate	BRL	µg/kg	470	70	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Fluoranthene	BRL	μ <b>g</b> /kg	470	83	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Fluorene	BRL	μg/kg	470	67	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Hexachlorobenzene	BRL	µg/kg	470	65	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Hexachlorobutadiene	BRL	μg/kg	470	47	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Hexachlorocyclopentadiene	BRL	µg/kg	470	70	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Hexachloroethane	BRL	µg/kg	470	19	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Indeno(1,2,3-cd)pyrene	BRL	µg/kg	470	45	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Isophorone	BRL	µg/kg	470	45	1	8270C	04/08/10 16:52	cphilbrick	Q49259
N-Nitrosodi-n-propylamine	BRL	μg/kg	470	27	1	8270C	04/08/10 16:52	cphilbrick	Q49259
N-Nitrosodiphenylamine	BRL	μg/kg	470	68	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Naphthalene	BRL	μg/kg	470	56	1	8270C	04/08/10 16:52	cphilbrick	Q49259
Nitrobenzene	BRL	μg/kg	470	59	1	8270C	04/08/10 16:52	onhilhriak	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Parcel 2

WBS# 34871.2.1

Client Sample ID: P2-2-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275457

G0410028

Project No.:

COC Group:

03/30/10 8:46

Sample Matrix: Soil

Time Collected:

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	t Batch ID
Pentachlorophenol	BRL	μg/kg	470	72	1	8270C	04/08/10 16:5	2 cphilbrick	Q49259
Phenanthrene	BRL	μg/kg	470	40	1	8270C	04/08/10 16:5	2 cphilbrick	Q49259
Phenol	BRL	μg/kg	470	83	1	8270C	04/08/10 16:5	2 cphilbrick	Q49259
Pyrene	BRL	μg/kg	470	90	1	8270C	04/08/10 16:5	2 cphilbrick	Q49259
Sample Preparation:	;		30	.28 g	/ 1 mL	3550B	04/06/10 13:3	0 aguptill	P27199
					Surrogate	:	% Recove	ry Co	ntrol Limits
					Terphenyl-	d14	100		41 - 136
					Phenol-d5		56		13 - 95
					Nitrobenze	ne-d5	56		14 - 103
					2-Fluoroph	enol	57		14 - 89
					2-Fluorobip	ohenyl	64		21 - 108
					2,4,6-Tribro	omophenol	61		25 - 123
<u>Diesel Range Organics (DRO) by G</u> Diesel Range Organics (DRO)	<u>C-FID</u> 39	mg/kg	10	1.6	1	8015B	04/09/10 2:57	jvogel	Q49287
Sample Preparation:			25	.18 g	/ 1 mL	3545	04/07/10 17:0	00 athao	P27216
					Surrogate		% Recove	ry Co	ntrol Limits
					o-Terphen	yl	88		49 - 124
Sample Weight Determination						000	04/00/40 0.00		
Weight 1	6.37	g			1	GRO	04/06/10 0:00		
Weight 2	6.09	g			1	GRO	04/06/10 0:00	Ibrown	
Gasoline Range Organics (GRO) by	y GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	7.2	4.5	50	8015B	04/08/10 3:43	heasler	Q49290



## **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-2-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275457

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

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

Surrogate recovery was outside the control limits. No target compounds were detected in this sample that were associated with this surrogate. No further action was taken.

						Surrogate		% Recover	у Соі	ntrol Limits
						aaa-TFT		230	#	55 - 129
Mercury by CVA	Ā	1.1	mg/kg	0.029	0.0020	1	7471A	04/09/10 15:15	kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10 8:20	kpowers	P27230
Metals by ICP										
Arsenic		12	mg/kg	0.72	0.081	1	6010B	04/09/10 0:19	pfitzgerald	Q49277
Barium		130	mg/kg	3.6	0.53	5	6010B	04/14/10 0:20	dsullivan	Q49277
Cadmium		2.9	mg/kg	0.36	0.038	1	6010B	04/09/10 0:19	pfitzgerald	Q49277
Chromium		31	mg/kg	0.36	0.049	1	6010B	04/09/10 0:19	pfitzgerald	Q49277
Lead		260	mg/kg	1.8	0.44	5	6010B	04/14/10 0:20	dsullivan	Q49277
Selenium		BRL	mg/kg	3.6	0.73	5	6010B	04/14/10 0:20	dsullivan	Q49277
Silver		BRL	mg/kg	0.36	0.037	1	6010B	04/09/10 0:19	pfitzgerald	Q49277
	Sample Preparation:			2	2.03 g /	50 mL	3050B	04/07/10 9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-3-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275458

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 9:20

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	74.8	%	4.		1	SM2540 G	04/05/10 13:30 j	ibrayton	
Volatile Organic Compounds by GO	C/MS BRL	ua/ka	6.8	2.2	1	8260B	04/06/10 17:18	erussell	Q49229
1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	BRL	µg/kg µg/kg	6.8	1.6	1	8260B	04/06/10 17:18		Q49229
1,1,2,2-Tetrachloroethane	BRL	µg/kg	6.8	1.9	1	8260B	04/06/10 17:18		Q49229
1,1,2-Trichloroethane	BRL	µg/kg	6.8	1.9	1	8260B	04/06/10 17:18		Q49229
1,1,2-1 inchloroethane	BRL	µg/kg	6.8	1.7	1	8260B	04/06/10 17:18		Q49229
1.1-Dichloroethene	BRL	µg/kg	6.8	1.6	1	8260B	04/06/10 17:18		Q49229
1,1-Dichloropropene	BRL	µg/kg	6.8	1.4	1	8260B	04/06/10 17:18		Q49229
1,2,3-Trichlorobenzene	BRL	µg/kg	14	2.2	1	8260B	04/06/10 17:18		Q49229
1,2,3-Trichloropropane	BRL	µg/kg	6.8	2.8	1	8260B	04/06/10 17:18		Q49229
1,2,4-Trichlorobenzene	BRL	μg/kg	14	1.8	1	8260B	04/06/10 17:18		Q49229
1,2,4-Trimethylbenzene	BRL	µg/kg	14	1.7	1	8260B	04/06/10 17:18	erussell	Q49229
1,2-Dibromo-3-chloropropane	BRL	µg/kg	6.8	2.4	1	8260B	04/06/10 17:18		Q49229
1,2-Dibromoethane (EDB)	BRL	µg/kg	6.8	1.9	1	8260B	04/06/10 17:18	erussell	Q49229
1,2-Dichlorobenzene	BRL	μg/kg	14	1.8	1	8260B	04/06/10 17:18		Q49229
1,2-Dichloroethane	BRL	μg/kg	6.8	1.8	1	8260B	04/06/10 17:18		Q49229
1,2-Dichloropropane	BRL	μg/kg	6.8	2.0	1	8260B	04/06/10 17:18	erussell	Q49229
1,3,5-Trimethylbenzene	BRL	µg/kg	14	1.8	1	8260B	04/06/10 17:18	erussell	Q49229
1,3-Dichlorobenzene	BRL	µg/kg	14	1.6	1	8260B	04/06/10 17:18	erussell	Q49229
1,3-Dichloropropane	BRL	µg/kg		1.4	1	8260B	04/06/10 17:18		Q49229
1,4-Dichlorobenzene	BRL	μg/kg	14	1.7	1	8260B	04/06/10 17:18		Q49229
2,2-Dichloropropane	BRL	µg/kg	6.8	1.6	1	8260B	04/06/10 17:18		Q49229
2-Chloroethyl vinyl ether	BRL	µg/kg		2.0	1	8260B	04/06/10 17:18		Q49229
2-Chlorotoluene	BRL	μg/kg	14	1.7	1	8260B	04/06/10 17:18		Q49229
2-Hexanone	BRL	µg/kg		2.0	1	8260B	04/06/10 17:18		Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-3-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275458

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10

Sample Matrix: Soil

9:20 14:30

Time Submitted: 03/31/10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
4-Chlorotoluene	BRL	μg/kg	14	1.7	1	8260B	04/06/10 17:18	erussell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	µg/kg	14	1.5	1	8260B	04/06/10 17:18	erussell	Q49229
Acetone	70	μg/kg	27	2.9	1	8260B	04/06/10 17:18	erussell	Q49229
Benzene	BRL	μg/kg	4.1	1.8	1	8260B	04/06/10 17:18	erussell	Q49229
Bromobenzene	BRL	μ <b>g</b> /kg	6.8	1.7	1	8260B	04/06/10 17:18	erussell	Q49229
Bromochloromethane	BRL	μg/kg	6.8	1.8	1	8260B	04/06/10 17:18	erussell	Q49229
Bromodichloromethane	BRL	μg/kg	6.8	1.6	1	8260B	04/06/10 17:18	erusseil	Q49229
Bromoform	BRL	μg/kg	6.8	1.5	1	8260B	04/06/10 17:18	erussell	Q49229
Bromomethane	BRL	µg/kg	14	1.7	1	8260B	04/06/10 17:18	erussell	Q49229
Carbon disulfide	BRL	μg/kg	14	1.4	1	8260B	04/06/10 17:18	erussell	Q49229
Carbon tetrachloride	BRL	<b>µg</b> /kg	6.8	2.0	1	8260B	04/06/10 17:18	erusseli	Q49229
Chlorobenzene	BRL	µg/kg	6.8	1.5	1	8260B	04/06/10 17:18	erussell	Q49229
Chlorodibromomethane	BRL	μg/kg	6.8	1.7	1	8260B	04/06/10 17:18	erussell	Q49229
Chloroethane	BRL	μ <b>g</b> /kg	14	3.5	1	8260B	04/06/10 17:18	erussell	Q49229
Chloroform	BRL	μg/kg	6.8	1.7	1	8260B	04/06/10 17:18	erussell <sub>.</sub>	Q49229
Chloromethane	BRL	μg/kg	14	1.6	1	8260B	04/06/10 17:18	erussell	Q49229
cis-1,2-Dichloroethene	BRL	μg/kg	6.8	1.6	1	8260B	04/06/10 17:18	erussell	Q49229
cis-1,3-Dichloropropene	BRL	µg/kg	6.8	1.6	1	8260B	04/06/10 17:18	erussell	Q49229
Dibromomethane	BRL	μg/kg	6.8	1.9	1	8260B	04/06/10 17:18	erussell	Q49229
Dichlorodifluoromethane	BRL	μg/kg	14	1.4	1	8260B	04/06/10 17:18	erussell	Q49229
Ethylbenzene	BRL	μg/kg	6.8	1.4	1	8260B	04/06/10 17:18	erussell	Q49229
Hexachlorobutadiene	BRL	µg/kg	20	1.6	1	8260B	04/06/10 17:18	erussell	Q49229
Isopropyl ether (IPE)	BRL	μg/kg	6.8	1.7	1	8260B	04/06/10 17:18	erussell	Q49229
Isopropylbenzene	BRL	µg/kg	14	1.5	1	8260B	04/06/10 17:18	erussell	Q49229
m,p-Xylenes	BRL	μ <b>g</b> /kg	14	3.6	1	8260B	04/06/10 17:18	erussell	Q49229
Methyl ethyl ketone (MEK)	BRL	μg/kg	27	1.7	1	8260B	04/06/10 17:18	erussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	µg/kg	6.8	1.4	1	8260B	04/06/10 17:18	erussell	Q49229



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-3-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275458 Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 9:20

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Ana Date/Time	lyst Batch ID
Methylene chloride	BRL	µg/kg	14	1.8	1	8260B	04/06/10 17:18 erusse	l Q49229
n-Butylbenzene	BRL	μg/kg	20	2.5	1	8260B	04/06/10 17:18 erusse	Q49229
n-Propylbenzene	BRL	μg/kg	14	1.9	1	8260B	04/06/10 17:18 erusse	Q49229
Naphthalene	BRL	μg/kg	6.8	3.7	1	8260B	04/06/10 17:18 erusse	Q49229
o-Xylene	BRL	μg/kg	6.8	1.5	1	8260B	04/06/10 17:18 erusse	Q49229
p-Isopropyltoluene	BRL	μg/kg	20	2.0	1	8260B	04/06/10 17:18 erusse	Q49229
sec-Butylbenzene	BRL	μg/kg	20	1.8	1	8260B	04/06/10 17:18 erusse	Q49229
Styrene	BRL	μg/kg	6.8	1.3	1	8260B	04/06/10 17:18 erusse	Q49229
tert-Butylbenzene	BRL	μg/kg	27	1.8	1	8260B	04/06/10 17:18 erusse	Q49229
Tetrachloroethene	BRL	µg/kg	14	1.7	1	8260B	04/06/10 17:18 erusse	Q49229
Toluene	BRL	μg/kg	6.8	1.7	1	8260B	04/06/10 17:18 erusse	Q49229
trans-1,2-Dichloroethene	BRL	μg/kg	6.8	1.3	1	8260B	04/06/10 17:18 erusse	Q49229
trans-1,3-Dichloropropene	BRL	μg/kg	6.8	1.4	1	8260B	04/06/10 17:18 erusse	Q49229
Trichloroethene	BRL	µg/kg	6.8	1.9	1 .	8260B	04/06/10 17:18 erusse	Q49229
Trichlorofluoromethane	BRL	µg/kg	6.8	1.9	1	8260B	04/06/10 17:18 erusse	Q49229
Vinyl chloride	BRL	μg/kg	14	1.8	1	8260B	04/06/10 17:18 erusse	Q49229

					Surrogat	Surrogate Toluene-d8		ery	Control Limits
					Toluene-				81 - 128
					Dibromofluoromethane		106		67 - 143
					Bromoflu	orobenzene	100		77 - 128
Sample Weight Determination									
Weight Bisulfate 1	4.94	g			1	5035	04/06/10	Ibrown	
Weight Bisulfate 2	5.61	g			1	5035	04/06/10	Ibrown	
Weight Methanol	5.50	g			1	5035	04/06/10	Ibrown	
Semi-volatile Organic Compounds I	oy GC/MS								
1,2,4-Trichlorobenzene	BRL	μg/kg	440	48	1	8270C	04/08/10 17:2	22 cphilbri	ck Q49259



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-3-2-4

NCDOT Forsyth Co. PSA-Prism Sample ID: 275458

G0410028

Project No.:

Parcel 2 WBS# 34871.2.1

COC Group:

03/30/10 9:20

Sample Matrix: Soil

Time Collected:

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2-Dichlorobenzene	BRL	μg/kg	440	48	1	8270C	04/08/10 17:22	cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	µg/kg	440	42	1	8270C	04/08/10 17:22	cphilbrick	Q49259
1,4-Dichlorobenzene	BRL	μg/kg	440	52	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	μg/kg	440	52	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	μg/kg	440	47	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2,4-Dichlorophenol	BRL	μg/kg	440	29	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2,4-Dimethylphenol	BRL	μg/kg	440	65	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2,4-Dinitrophenol	BRL	μg/kg	440	130	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2,4-Dinitrotoluene	BRL	μg/kg	440	57	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	μg/kg	440	79	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2-Chloronaphthalene	BRL	μg/kg	440	55	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2-Chlorophenol	BRL	μg/kg	440	18	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2-Methylnaphthalene	BRL	μg/kg	440	49	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2-Methylphenol	BRL	µg/kg	440	35	1	8270C	04/08/10 17:22	cphilbrick	Q49259
2-Nitrophenol	BRL	µg/kg	440	61	1	8270C	04/08/10 17:22	cphilbrick	Q49259
3&4-Methylphenol	BRL	μg/kg	440	51	1 1	8270C	04/08/10 17:22	cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	μg/kg	440	79	1	8270C	04/08/10 17:22	cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	μg/kg	440	37	1	8270C	04/08/10 17:22	cphilbrick	Q49259
4-Bromophenylphenylether	BRL	μg/kg	440	54	1	8270C	04/08/10 17:22	cphilbrick	Q49259
4-Chloro-3-methylphenol	BRL	μg/kg	440	52	1	8270C	04/08/10 17:22	cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	μg/kg	440	55	1	8270C	04/08/10 17:22	cphilbrick	Q49259
4-Nitrophenol	BRL	μg/kg	440	56	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Acenaphthene	BRL	μg/kg	440	59	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Acenaphthylene	BRL	µg/kg	440	41	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Anthracene	BRL	μg/kg	440	32	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Benzo(a)anthracene	300 J	μg/kg	440	49	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Benzo(a)pyrene	300 J	µg/kg	440	55	1	8270C	04/08/10 17:22	cphilbrick	Q49259



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-3-2-4

NCDOT Forsyth Co. PSA-Prism Sample ID: 275458

c/o Solution - IES

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 9:20

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Benzo(b)fluoranthene	400 J	µg/kg	440	89	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Benzo(g,h,i)perylene	120 J	μg/kg	440	56	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Benzo(k)fluoranthene	180 J	µg/kg	440	120	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Bis(2-chloroethoxy)methane	BRL	μg/kg	440	74	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Bis(2-chloroethyl)ether	BRL	µg/kg	440	54	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Bis(2-chloroisopropyl)ether	BRL	μg/kg	440	44	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Bis(2-ethylhexyl)phthalate	BRL	μg/kg	440	34	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Butylbenzylphthalate	BRL	µg/kg	440	54	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Chrysene	300 J	µg/kg	440	29	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Di-n-butylphthalate	BRL	µg/kg	440	70	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Di-n-octylphthalate	BRL	μg/kg	440	130	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Dibenzo(a,h)anthracene	BRL	μg/kg	440	41	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Dibenzofuran	BRL	μg/kg	440	53	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Diethylphthalate	BRL	μg/kg	440	110	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Dimethylphthalate	BRL	μg/kg	440	65	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Fluoranthene	580	μg/kg	440	77	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Fluorene	BRL	μg/kg	440	62	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Hexachlorobenzene	BRL	µg/kg	440	60	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Hexachlorobutadiene	BRL	μg/kg	440	43	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Hexachlorocyclopentadiene	BRL	μg/kg	440	65	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Hexachloroethane	BRL	μg/kg	440	18	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Indeno(1,2,3-cd)pyrene	170 J	µg/kg	440	41	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Isophorone	BRL	µg/kg	440	42	1	8270C	04/08/10 17:22	cphilbrick	Q49259
N-Nitrosodi-n-propylamine	BRL	μg/kg	440	25	1	8270C	04/08/10 17:22	cphilbrick	Q49259
N-Nitrosodiphenylamine	BRL	μg/kg	440	63	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Naphthalene	BRL	µg/kg	440	52	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Nitrobenzene	BRL	μg/kg	440	55	1	8270C	04/08/10 17:22	cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-3-2-4

Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275458

Project ID:

Project No.:

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 9:20

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	t Batch ID
Pentachlorophenol	BRL	μg/kg	440	67	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Phenanthrene	380 J	μg/kg	440	37	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Phenol	BRL	μg/kg	440	77	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Pyrene	540	μg/kg	440	83	1	8270C	04/08/10 17:22	cphilbrick	Q49259
Sample Preparation:			30.:	28 g	/ 1 mL	3550B	04/06/10 13:30	aguptill	P27199
					Surrogate	***************************************	% Recovery	Co	ntrol Limits
					Terphenyl-	d14	102		41 - 136
					Phenol-d5		67		13 - 95
					Nitrobenze	ne-d5	63		14 - 103
					2-Fluoroph	enol	. 63		14 - 89
					2-Fluorobip	henyl	72		21 - 108
					2,4,6-Tribro	mophenol	90		25 - 123
Diesel Range Organics (DRO) by GC-	FID		٠						N
Diesel Range Organics (DRO)	18	mg/kg	9.3	1.5	1	8015B	04/09/10 2:22	jvogel	Q49287
Sample Preparation:			25.0	)5 g	/ 1 mL	3545	04/07/10 17:00	athao	P27216
					Surrogate		% Recovery	Со	ntrol Limits
					o-Terpheny	l	82		49 - 124
Sample Weight Determination						2		A LANGE AND A LANGE AND ADDRESS OF THE ADDRESS OF T	
Weight 1	5.76	g			1	GRO	04/06/10 0:00	lbrown ·	
Weight 2	5.41	g			1	GRO	04/06/10 0:00	lbrown	
Gasoline Range Organics (GRO) by G	C-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.7	4.2	50	8015B	04/08/10 4:15	heasler	Q49290



#### **Laboratory Report**

04/19/10

Batch

ID

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-3-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275458 Parcel 2

Date/Time

G0410028

1101 Nowell Road

Project No.:

WBS# 34871.2.1

Factor

COC Group: Time Collected:

03/30/10

Sample Matrix: Soil

Time Submitted: 03/31/10

9:20

14:30

Result Parameter Units Report MDL Dilution Method Analysis Analyst

Limit

						Surrogate		% Re	covery	Cor	ntrol Limits
						aaa-TFT			105		55 - 129
Mercury by CVAA											
Mercury		0.41	mg/kg	0.027	0.0018	1	7471A	04/09/10	15:20	kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10	8:20	kpowers	P27230
Metals by ICP											
Arsenic		5.1	mg/kg	0.67	0.076	1	6010B	04/09/10	0:26	pfitzgerald	Q49277
Barium		140	mg/kg	3.3	0.50	5	6010B	04/14/10	0:28	dsullivan	Q49277
Cadmium		1.8	mg/kg	0.33	0.035	1	6010B	04/09/10	0:26	pfitzgerald	Q49277
Chromium		55	mg/kg	0.33	0.046	1	6010B	04/09/10	0:26	pfitzgerald	Q49277
Lead		87	mg/kg	1.7	0.41	5	6010B	04/14/10	0:28	dsullivan	Q49277
Selenium		BRL	mg/kg	3.3	0.68	5	6010B	04/14/10	0:28	dsullivan	Q49277
Silver		BRL	mg/kg	0.33	0.034	1	6010B	04/09/10	0:26	pfitzgerald	Q49277
S	Sample Preparation:			2	2.04 g /	50 mL	3050B	04/07/10	9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-4-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275459

Parcel 2

Project No.:

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 9:49

sample	Matrix:	Soil		

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis A Date/Time	nalyst	Batch ID
Percent Solids Determination Percent Solids	82.8	%			1 ,	SM2540 G	04/05/10 13:30 jbra	yton	
Volatile Organic Compounds by GC									
1,1,1,2-Tetrachloroethane	BRL	µg/kg	5.4	1.8	1	8260B	04/06/10 16:44 erus	ssell	Q49229
1,1,1-Trichloroethane	BRL	µg/kg	5.4	1.2	1	8260B	04/06/10 16:44 erus	ssell	Q49229
1,1,2,2-Tetrachloroethane	BRL	µg/kg	5.4	1.5	1	8260B	04/06/10 16:44 erus	ssell	Q49229
1,1,2-Trichloroethane	BRL	µg/kg	5.4	1.5	1	8260B	04/06/10 16:44 erus	ssell	Q49229
1,1-Dichloroethane	BRL	µg/kg	5.4	1.4	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,1-Dichloroethene	BRL	µg/kg	5.4	1.3	1	8260B	04/06/10 16:44 erus	ssell	Q49229
1,1-Dichloropropene	BRL	μg/kg	5.4	1.1	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,2,3-Trichlorobenzene	BRL	μg/kg	11	1.8	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,2,3-Trichloropropane	BRL	μg/kg	5.4	2.2	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,2,4-Trichlorobenzene	BRL	μg/kg	11	1.5	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,2,4-Trimethylbenzene	BRL	μg/kg	11	1.3	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,2-Dibromo-3-chloropropane	BRL	μg/kg	5.4	2.0	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,2-Dibromoethane (EDB)	BRL	µg/kg	5.4	1.5	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,2-Dichlorobenzene	BRL	μg/kg	11	1.5	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,2-Dichloroethane	BRL	μg/kg	5.4	1.4	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,2-Dichloropropane	BRL	μg/kg	5.4	1.6	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,3,5-Trimethylbenzene	BRL	μg/kg	11	1.4	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,3-Dichlorobenzene	BRL	μg/kg	11	1.3	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,3-Dichloropropane	BRL	μg/kg	5.4	1.1	1	8260B	04/06/10 16:44 erus	sell	Q49229
1,4-Dichlorobenzene	BRL	μg/kg	11	1.3	1	8260B	04/06/10 16:44 erus	sell	Q49229
2,2-Dichloropropane	BRL	μg/kg	5.4	1.3	1	8260B	04/06/10 16:44 erus	sell	Q49229
2-Chloroethyl vinyl ether	BRL	µg/kg	11	1.6	1	8260B	04/06/10 16:44 erus	sell	Q49229
2-Chlorotoluene	BRL	μg/kg	11	1.4	1	8260B	04/06/10 16:44 erus	sell	Q49229



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-4-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275459

Project No.:

Parcel 2

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 9:49

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analyst Date/Time	Batch ID
4-Chlorotoluene	BRL	μg/kg	11	1.3	1	8260B	04/06/10 16:44 erussell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	11	1.2	1	8260B	04/06/10 16:44 erussell	Q49229
Acetone	30	μg/kg	22	2.3	1	8260B	04/06/10 16:44 erussell	Q49229
Benzene	BRL	μg/kg	3.2	1.4	1	8260B	04/06/10 16:44 erussell	Q49229
Bromobenzene	BRL	μg/kg	5.4	1.3	1	8260B	04/06/10 16:44 erussell	Q49229
Bromochloromethane	BRL	μg/kg	5.4	1.5	1	8260B	04/06/10 16:44 erussell	Q49229
Bromodichloromethane	BRL	μg/kg	5.4	1.2	1	8260B	04/06/10 16:44 erussell	Q49229
Bromoform	BRL	μg/kg	5.4	1.2	1	8260B	04/06/10 16:44 erussell	Q49229
Bromomethane	BRL	μg/kg	11	1.4	1	8260B	04/06/10 16:44 erussell	Q49229
Carbon disulfide	BRL	μg/kg	11	1.1	1	8260B	04/06/10 16:44 erussell	Q49229
Carbon tetrachloride	BRL	μg/kg	5.4	1.6	1	8260B	04/06/10 16:44 erussell	Q49229
Chlorobenzene	BRL	μg/kg	5.4	1.2	1	8260B	04/06/10 16:44 erussell	Q49229
Chlorodibromomethane	BRL	µg/kg	5.4	1.4	1	8260B	04/06/10 16:44 erussell	Q49229
Chloroethane	BRL	μg/kg	11	2.8	1	8260B	04/06/10 16:44 erussell	Q49229
Chloroform	BRL	μg/kg	5.4	1.4	1	8260B	04/06/10 16:44 erussell	Q49229
Chloromethane	BRL	μg/kg	11	1.3	1	8260B	04/06/10 16:44 erussell	Q49229
cis-1,2-Dichloroethene	BRL	μg/kg	5.4	1.3	1	8260B	04/06/10 16:44 erussell	Q49229
cis-1,3-Dichloropropene	BRL	μg/kg	5.4	1.3	1	8260B	04/06/10 16:44 erussell	Q49229
Dibromomethane	BRL	μg/kg	5.4	1.5	1	8260B	04/06/10 16:44 erussell	Q49229
Dichlorodifluoromethane	BRL	μg/kg	11	1.1	1	8260B	04/06/10 16:44 erussell	Q49229
Ethylbenzene	BRL	μg/kg	5.4	1.1	1	8260B	04/06/10 16:44 erussell	Q49229
Hexachlorobutadiene	BRL	μg/kg	16	1.3	1	8260B	04/06/10 16:44 erussell	Q49229
Isopropyl ether (IPE)	BRL	μg/kg	5.4	1.3	1	8260B	04/06/10 16:44 erussell	Q49229
Isopropylbenzene	BRL	μg/kg		1.2	1	8260B	04/06/10 16:44 erussell	Q49229
m,p-Xylenes	BRL	μg/kg	11	2.9	. 1	8260B	04/06/10 16:44 erussell	Q49229
Methyl ethyl ketone (MEK)	BRL	µg/kg		1.4	1	8260B	04/06/10 16:44 erussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	μg/kg		1.1	1	8260B	04/06/10 16:44 erussell	Q49229



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-4-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275459

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected: 03/30/10 9:49

Sample Matrix

Matrix: Soil	Time Submitted:	03/31/10	14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methylene chloride	BRL	μg/kg	11	1.4	1	8260B	04/06/10 16:44	erussell	Q49229
n-Butylbenzene	BRL	μg/kg	16	2.0	1	8260B	04/06/10 16:44	erussell	Q49229
n-Propylbenzene	BRL	μg/kg	11	1.5	1	8260B	04/06/10 16:44	erussell	Q49229
Naphthalene	BRL	μg/kg	5.4	2.9	1	8260B	04/06/10 16:44	erussell	Q49229
o-Xylene	BRL	μg/kg	5.4	1.2	1	8260B	04/06/10 16:44	erussell	Q49229
p-Isopropyltoluene	BRL	μg/kg	16	1.6	1	8260B	04/06/10 16:44	erussell	Q49229
sec-Butylbenzene	BRL	μg/kg	16	1.4	1	8260B	04/06/10 16:44	erussell	Q49229
Styrene	BRL	μg/kg	5.4	1.0	1	8260B	04/06/10 16:44	erusseli	Q49229
tert-Butylbenzene	BRL	μg/kg	22	1.5	1	8260B	04/06/10 16:44	erussell	Q49229
Tetrachloroethene	BRL	μg/kg	11	1.4	1	8260B	04/06/10 16:44	erussell	Q49229
Toluene	BRL	μg/kg	5.4	1.3	1	8260B	04/06/10 16:44	erussell	Q49229
trans-1,2-Dichloroethene	BRL	μg/kg	5.4	1.1	1	8260B	04/06/10 16:44	erussell	Q49229
trans-1,3-Dichloropropene	BRL	μg/kg	5.4	1.1	1	8260B	04/06/10 16:44	erussell	Q49229
Trichloroethene	BRL	μg/kg	5.4	1.5	1	8260B	04/06/10 16:44	erussell	Q49229
Trichlorofluoromethane	BRL	μg/kg	5.4	1.5	1	8260B	04/06/10 16:44	erussell	Q49229
Vinyl chloride	BRL	µg/kg	11	1.4	1	8260B	04/06/10 16:44	erussell	Q49229

					Surrogate Toluene-d8 Dibromofluoromethane		% Recove	ery (	Control Limits
							106		81 - 128
							105		67 - 143
·					Bromoflu	orobenzene	104		77 - 128
Sample Weight Determination									
Weight Bisulfate 1	5.59	9			1	5035	04/06/10	Ibrown	
Weight Bisulfate 2	5.82	g			1	5035	04/06/10	Ibrown	
Weight Methanol	6.30	g			1	5035	04/06/10	Ibrown	
Semi-volatile Organic Compounds	by GC/MS								
1,2,4-Trichlorobenzene	BRL	μg/kg	390	44	1	8270C	04/08/10 17:	52 cphilbric	k Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-4-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275459

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2-Dichlorobenzene	BRL	μg/kg	390	44	1	8270C	04/08/10 17:52	cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	μg/kg	390	38	1	8270C	04/08/10 17:52	cphilbrick	Q49259
1,4-Dichlorobenzene	BRL	µg/kg	390	47	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	μg/kg	390	47	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	µg/kg	390	42	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2,4-Dichlorophenol	BRL	µg/kg	390	26	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2,4-Dimethylphenol	BRL	μg/kg	390	59	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2,4-Dinitrophenol	BRL	µg/kg	390	110	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2,4-Dinitrotoluene	BRL	μg/kg	390	52	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	µg/kg	390	71	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2-Chloronaphthalene	BRL	μg/kg	390	50	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2-Chlorophenol	BRL	μg/kg	390	17	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2-Methylnaphthalene	110 J	µg/kg	390	44	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2-Methylphenol	BRL	μg/kg	390	32	1	8270C	04/08/10 17:52	cphilbrick	Q49259
2-Nitrophenol	BRL	µg/kg	390	56	1	8270C	04/08/10 17:52	cphilbrick	Q49259
3&4-Methylphenol	BRL	μg/kg	390	46	1	8270C	04/08/10 17:52	cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	μg/kg	390	72	1	8270C	04/08/10 17:52	cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	μg/kg	390	34	. 1	8270C	04/08/10 17:52	cphilbrick	Q49259
4-Bromophenylphenylether	BRL	μg/kg	390	49	1	8270C	04/08/10 17:52	cphilbrick	Q49259
4-Chloro-3-methylphenol	BRL	μg/kg	390	47	1 .	8270C	04/08/10 17:52	cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	µg/kg	390	50	1	8270C	04/08/10 17:52	cphilbrick	Q49259
4-Nitrophenol	BRL	μg/kg	390	50	1	8270C	04/08/10 17:52	cphilbrick	Q49259
Acenaphthene	BRL	µg/kg	390	54	1	8270C	04/08/10 17:52	cphilbrick	Q49259
Acenaphthylene	BRL	μg/kg	390	37	1	8270C	04/08/10 17:52	cphilbrick	Q49259
Anthracene	160 J	µg/kg	390	29	1	8270C	04/08/10 17:52	cphilbrick	Q49259
Benzo(a)anthracene	640	μg/kg	390	45	1	8270C	04/08/10 17:52	cphilbrick	Q49259
Benzo(a)pyrene	670	µg/kg	390	50	1	8270C	04/08/10 17:52	cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-4-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275459 Parcel 2

G0410028

1101 Nowell Road

Project No.:

WBS# 34871.2.1

COC Group:

03/30/10

Sample Matrix: Soil

Time Collected:

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analyst Date/Time	Batch ID
Benzo(b)fluoranthene	1000	µg/kg	390	81	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Benzo(g,h,i)perylene	350 J	μg/kg	390	50	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Benzo(k)fluoranthene	390 J	μg/kg	390	110	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Bis(2-chloroethoxy)methane	BRL	μg/kg	390	67	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Bis(2-chloroethyl)ether	BRL	μg/kg	390	49	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Bis(2-chloroisopropyl)ether	BRL	µg/kg	390	40	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Bis(2-ethylhexyl)phthalate	110 J	µg/kg	390	31	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Butylbenzylphthalate	BRL	μg/kg	390	49	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Chrysene	590	μg/kg	390	27	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Di-n-butylphthalate	BRL	μg/kg	390	63	1 .	8270C	04/08/10 17:52 cphilbrick	Q49259
Di-n-octylphthalate	BRL	µg/kg	390	110	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Dibenzo(a,h)anthracene	BRL	μg/kg	390	37	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Dibenzofuran	BRL	μg/kg	390	48	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Diethylphthalate	BRL	μg/kg	390	100	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Dimethylphthalate	BRL	μg/kg	390	59	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Fluoranthene	1400	μg/kg	390	70	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Fluorene	BRL	μg/kg	390	56	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Hexachlorobenzene	BRL	μg/kg	390	54	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Hexachlorobutadiene	BRL	μg/kg	390	39	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Hexachlorocyclopentadiene	BRL	µg/kg	390	59	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Hexachloroethane	BRL	μg/kg	390	16	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Indeno(1,2,3-cd)pyrene	460	μg/kg	390	37	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Isophorone	BRL	μg/kg	390	38	1	8270C	04/08/10 17:52 cphilbrick	Q49259
N-Nitrosodi-n-propylamine	BRL	µg/kg	z <b>390</b>	23	1	8270C	04/08/10 17:52 cphilbrick	Q49259
N-Nitrosodiphenylamine	BRL	μg/kg	390	57	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Naphthalene	110 J	µg/kg	390	47	1	8270C	04/08/10 17:52 cphilbrick	Q49259
Nitrobenzene	BRL	µg/kg	390	50	1	8270C	04/08/10 17:52 cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-4-2-4

NCDOT Forsyth Co. PSA-Prism Sample ID: 275459 Parcel 2

COC Group:

G0410028

Project No.:

Time Collected:

03/30/10 9:49

WBS# 34871.2.1

14:30

Sample	Matrix:	Soil
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Time Submitted: 03/31/10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	Batch ID
Pentachlorophenol	BRL	µg/kg	390	60	1	8270C	04/08/10 17:52	cphilbrick	Q49259
Phenanthrene	1000	µg/kg	390	34	1	8270C	04/08/10 17:52	cphilbrick	Q49259
Phenol	BRL	µg/kg	390	70	1	8270C	04/08/10 17:52	cphilbrick	Q49259
Pyrene	1300	µg/kg	390	75	1	8270C	04/08/10 17:52	cphilbrick	Q49259
Sample Preparation:	;		30	.27 g	/ 1 mL	3550B	04/06/10 13:30	aguptill	P27199
					Surrogate		% Recovery	y Co	ntrol Limits
					Terphenyl-	d14	103		41 - 136
					Phenol-d5		63		13 - 95
					Nitrobenze	ne-d5	74		14 - 103
					2-Fluoroph	enol	58		14 - 89
					2-Fluorobij	ohenyl	80		21 - 108
					2,4,6-Tribr	omophenol	81		25 - 123
Diesel Range Organics (DRO) by G	C-FID								
Diesel Range Organics (DRO)	BRL	mg/kg	8.4	1.4	1	8015B	04/09/10 1:46	jvogel	Q49287
Sample Preparation:	:		25	.03 g	/ 1 mL	3545	04/07/10 17:00	) athao	P27216
					Surrogate		% Recover	y Co	ntrol Limits
					o-Terphen	yl	74		49 - 124
Sample Weight Determination									
Weight 1	6.23	g			1	GRO	04/06/10 0:00	Ibrown	
Weight 2	5.87	g			1	GRO	04/06/10 0:00	lbrown	
Gasoline Range Organics (GRO) b	y GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.0	3.8	50	8015B	04/08/10 4:46	heasler	Q49290

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



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-4-2-4

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275459

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 9:49

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

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

						Surrogate		% Re	covery	Cor	itrol Limits
						aaa-TFT			63		55 - 129
Mercury by CVA	<u> </u>										
Mercury		0.10	mg/kg	0.024	0.0016	1	7471A	04/09/10	15:24	kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10	8:20	kpowers	P27230
Metals by ICP											
Arsenic	4	3.4	mg/kg	0.60	0.068	1	6010B	04/09/10	0:34	pfitzgerald	Q49277
Barium		140	mg/kg	3.0	0.45	5	6010B	04/14/10	0:49	dsullivan	Q49277
Cadmium		1.2	mg/kg	0.30	0.032	1	6010B	04/09/10	0:34	pfitzgerald	Q49277
Chromium		15	mg/kg	0.30	0.042	1	6010B	04/09/10	0:34	pfitzgerald	Q49277
Lead		410	mg/kg	1.5	0.37	5	6010B	04/14/10	0:49	dsulliyan	Q49277
Selenium		4.3	mg/kg	3.0	0.61	5	6010B	04/14/10	0:49	dsullivan	Q49277
Silver		BRL	mg/kg	0.30	0.031	1	6010B	04/09/10	0:34	pfitzgerald	Q49277
	Sample Preparation:			2	.01 g /	50 mL	3050B	04/07/10	9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



#### **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-5-0-2

Project ID: Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275460

G0410028

Project No.:

WBS# 34871.2.1

COC Group: Time Collected:

03/30/10 10:20

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis A Date/Time	nalyst	Batch ID
Percent Solids Determination Percent Solids	93.6	%			1	SM2540 G	04/05/10 13:30 jbray	yton	
Volatile Organic Compounds by G	GC/MS								
1,1,1,2-Tetrachloroethane	BRL	μg/kg	4.5	1.5	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,1,1-Trichloroethane	BRL	μg/kg	4.5	1.0	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,1,2,2-Tetrachloroethane	BRL	µg/kg	4.5	1.2	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,1,2-Trichloroethane	BRL	μg/kg	4.5	1.3	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,1-Dichloroethane	BRL	μg/kg	4.5	1.2	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,1-Dichloroethene	BRL	μg/kg	4.5	1.1	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,1-Dichloropropene	BRL	μg/kg	4.5	0.93	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,2,3-Trichlorobenzene	BRL	μg/kg	9.0	1.5	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,2,3-Trichloropropane	BRL	μg/kg	4.5	1.9	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,2,4-Trichlorobenzene	BRL	μg/kg	9.0	1.2	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,2,4-Trimethylbenzene	BRL	μg/kg	9.0	1.1	1	8260B	04/06/10 15:04 erus	sseil	Q49229
1,2-Dibromo-3-chloropropane	BRL	μg/kg	4.5	1.6	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,2-Dibromoethane (EDB)	BRL	μg/kg	4.5	1.2	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,2-Dichlorobenzene	BRL	μg/kg	9.0	1.2	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,2-Dichloroethane	BRL	μg/kg	4.5	1.2	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,2-Dichloropropane	BRL	µg/kg	4.5	1.3	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,3,5-Trimethylbenzene	BRL	µg/kg	9.0	1.2	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,3-Dichlorobenzene	BRL	μg/kg	9.0	1.1	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,3-Dichloropropane	BRL	µg/kg	4.5	0.92	1	8260B	04/06/10 15:04 erus	ssell	Q49229
1,4-Dichlorobenzene	BRL	μg/kg	9.0	1.1	1	8260B	04/06/10 15:04 erus	ssell	Q49229
2,2-Dichloropropane	BRL	μg/kg	4.5	1.1	1	8260B	04/06/10 15:04 erus	ssell	Q49229
2-Chloroethyl vinyl ether	BRL	μg/kg	9.0	1.3	1	8260B	04/06/10 15:04 erus	ssell	Q49229
2-Chlorotoluene	BRL	μg/kg	9.0	1.1	1	8260B	04/06/10 15:04 erus	ssell	Q49229
2-Hexanone	BRL	μg/kg	45	1.4	1	8260B	04/06/10 15:04 erus	ssell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-5-0-2

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275460

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

03/30/10 10:20

Time Collected:

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
4-Chlorotoluene	BRL	μg/kg	9.0	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	9.0	0.98	1	8260B	04/06/10 15:04	erussell	Q49229
Acetone	17 J	μg/kg	18	1.9	1	8260B	04/06/10 15:04	erussell	Q49229
Benzene	BRL	μg/kg	2.7	1.2	1	8260B	04/06/10 15:04	erussell	Q49229
Bromobenzene	BRL	μg/kg	4.5	1.1	1 ,	8260B	04/06/10 15:04	erussell	Q49229
Bromochloromethane	BRL	μg/kg	4.5	1.2	1	8260B	04/06/10 15:04	erussell	Q49229
Bromodichloromethane	BRL	μg/kg	4.5	1.0	1	8260B	04/06/10 15:04	erussell	Q49229
Bromoform	BRL	μg/kg	4.5	0.98	1	8260B	04/06/10 15:04	erussell	Q49229
Bromomethane	BRL	μg/kg	9.0	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
Carbon disulfide	BRL	μg/kg	9.0	0.92	1	8260B	04/06/10 15:04	erussell	Q49229
Carbon tetrachloride	BRL	μg/kg	4.5	1.3	1	8260B	04/06/10 15:04	erussell	Q49229
Chlorobenzene	BRL	μg/kg	4.5	1.0	1	8260B	04/06/10 15:04	erussell	Q49229
Chlorodibromomethane	BRL	μg/kg	4.5	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
Chloroethane	BRL	μg/kg	9.0	2.3	1	8260B	04/06/10 15:04	erussell	Q49229
Chloroform	BRL	μg/kg	4.5	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
Chloromethane	BRL	μg/kg	9.0	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
cis-1,2-Dichloroethene	BRL	µg/kg	4.5	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
cis-1,3-Dichloropropene	BRL	μg/kg	4.5	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
Dibromomethane	BRL	μg/kg	4.5	1.3	1	8260B	04/06/10 15:04	erussell	Q49229
Dichlorodifluoromethane	BRL	μg/kg	9.0	0.92	1	8260B	04/06/10 15:04	erussell	Q49229
Ethylbenzene	BRL	μg/kg	4.5	0.93	1	8260B	04/06/10 15:04	erussell	Q49229
Hexachlorobutadiene	BRL	µg/kg	13	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
Isopropyl ether (IPE)	BRL	μg/kg	4.5	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
Isopropylbenzene	BRL	μg/kg	9.0	1.0	1	8260B	04/06/10 15:04	erussell	Q49229
m,p-Xylenes	BRL	μg/kg	9.0	2.4	1	8260B	04/06/10 15:04	erussell	Q49229
Methyl ethyl ketone (MEK)	BRL	µg/kg	18	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	μg/kg	4.5	0.93	1	8260B	04/06/10 15:04	erussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-5-0-2

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275460

Parcel 2

COC Group:

G0410028

03/30/10 10:20

Project No.:

WBS# 34871.2.1

Time Collected:

14:30

Sample Matrix: Soil

Time Submitted: 03/31/10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methylene chloride	BRL	μg/kg	9.0	1.2	1	8260B	04/06/10 15:04	erussell	Q49229
n-Butylbenzene	BRL	μg/kg	13	1.6	1	8260B	04/06/10 15:04	erussell	Q49229
n-Propylbenzene	BRL	μg/kg	9.0	1.3	1	8260B	04/06/10 15:04	erussell	Q49229
Naphthalene	BRL	µg/kg	4.5	2.4	1	8260B	04/06/10 15:04	erussell	Q49229
o-Xylene	BRL	μg/kg	4.5	0.99	1	8260B	04/06/10 15:04	erussell	Q49229
p-Isopropyltoluene	BRL	μg/kg	13	1.3	1	8260B	04/06/10 15:04	erussell	Q49229
sec-Butylbenzene	BRL	μg/kg	13	1.2	1	8260B	04/06/10 15:04	erussell	Q49229
Styrene	BRL	μg/kg	4.5	0.87	1	8260B	04/06/10 15:04	erussell	Q49229
tert-Butylbenzene	BRL	µg/kg	18	1.2	1	8260B	04/06/10 15:04	erussell	Q49229
Tetrachloroethene	BRL	μg/kg	9.0	1.2	1	8260B	04/06/10 15:04	erussell	Q49229
Toluene	BRL	µg/kg	4.5	1.1	1	8260B	04/06/10 15:04	erussell	Q49229
trans-1,2-Dichloroethene	BRL	µg/kg	4.5	0.89	1	8260B	04/06/10 15:04	erussell	Q49229
trans-1,3-Dichloropropene	BRL	μg/kg	4.5	0.90	1	8260B	04/06/10 15:04	erussell	Q49229
Trichloroethene	BRL	µg/kg	4.5	1.3	1 .	8260B	04/06/10 15:04	erussell	Q49229
Trichlorofluoromethane	BRL	µg/kg	4.5	1.3	1	8260B	04/06/10 15:04	erussell	Q49229
Vinyl chloride	BRL	μg/kg	9.0	1.2	1	8260B	04/06/10 15:04	erusseil	Q49229

•					Surrogat	e	% Recove	ery	Control Limits
					Toluene-	d8	106		81 - 128
					Dibromofluoromethane Bromofluorobenzene		106 101		67 - 143
									77 - 128
Sample Weight Determination									
Weight Bisulfate 1	5.95	g			1	5035	04/06/10	Ibrown	
Weight Bisulfate 2	6.31	g			1	5035	04/06/10	Ibrown	
Weight Methanol	6.34	g			1	5035	04/06/10	Ibrown	
Semi-volatile Organic Compounds	by GC/MS								
1,2,4-Trichlorobenzene	BRL	µg/kg	350	39	1	8270C	04/08/10 18:	22 cphilbrid	ck Q49259



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Project ID:

Client Sample ID: P2-5-0-2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275460

Project No.:

Parcel 2

COC Group:

G0410028

WBS# 34871.2.1

Time Collected: 03/30/10 10:20

Sample Matrix: Soil

Time Submitted

Submitted:	03/31/10	14:30

1,2-Dichlorobenzene       BRL       μg/kg       350       39       1       8270C         1,3-Dichlorobenzene       BRL       μg/kg       350       34       1       8270C         1,4-Dichlorobenzene       BRL       μg/kg       350       42       1       8270C         2,4,5-Trichlorophenol       BRL       μg/kg       350       42       1       8270C         2,4,6-Trichlorophenol       BRL       μg/kg       350       38       1       8270C         2,4-Dichlorophenol       BRL       μg/kg       350       23       1       8270C         2,4-Dimethylphenol       BRL       μg/kg       350       53       1       8270C         2,4-Dinitrophenol       BRL       μg/kg       350       46       1       8270C         2,4-Dinitrotoluene       BRL       μg/kg       350       46       1       8270C         2,6-Dinitrotoluene       BRL       μg/kg       350       64       1       8270C         2-Chloronaphthalene       BRL       μg/kg       350       44       1       8270C	04/08/10 18:22 cphilbrick	Q49259
1,4-Dichlorobenzene BRL μg/kg 350 42 1 8270C 2,4,5-Trichlorophenol BRL μg/kg 350 42 1 8270C 2,4,6-Trichlorophenol BRL μg/kg 350 38 1 8270C 2,4-Dichlorophenol BRL μg/kg 350 23 1 8270C 2,4-Dimethylphenol BRL μg/kg 350 53 1 8270C 2,4-Dinitrophenol BRL μg/kg 350 53 1 8270C 2,4-Dinitrophenol BRL μg/kg 350 100 1 8270C 2,4-Dinitrotoluene BRL μg/kg 350 46 1 8270C 2,6-Dinitrotoluene BRL μg/kg 350 64 1 8270C	0.4/0.0/4.0 4.0 0.0 1.00 1.10	Q48208
2,4,5-Trichlorophenol BRL μg/kg 350 42 1 8270C 2,4,6-Trichlorophenol BRL μg/kg 350 38 1 8270C 2,4-Dichlorophenol BRL μg/kg 350 23 1 8270C 2,4-Dimethylphenol BRL μg/kg 350 53 1 8270C 2,4-Dinitrophenol BRL μg/kg 350 100 1 8270C 2,4-Dinitrotoluene BRL μg/kg 350 46 1 8270C 2,6-Dinitrotoluene BRL μg/kg 350 64 1 8270C	04/08/10 18:22 cphilbrick	Q49259
2,4,6-Trichlorophenol BRL μg/kg 350 38 1 8270C 2,4-Dichlorophenol BRL μg/kg 350 23 1 8270C 2,4-Dimethylphenol BRL μg/kg 350 53 1 8270C 2,4-Dinitrophenol BRL μg/kg 350 100 1 8270C 2,4-Dinitrotoluene BRL μg/kg 350 46 1 8270C 2,6-Dinitrotoluene BRL μg/kg 350 64 1 8270C	04/08/10 18:22 cphilbrick	Q49259
2,4-Dichlorophenol BRL μg/kg 350 23 1 8270C  2,4-Dimethylphenol BRL μg/kg 350 53 1 8270C  2,4-Dinitrophenol BRL μg/kg 350 100 1 8270C  2,4-Dinitrotoluene BRL μg/kg 350 46 1 8270C  2,6-Dinitrotoluene BRL μg/kg 350 64 1 8270C	04/08/10 18:22 cphilbrick	Q49259
2,4-Dimethylphenol BRL μg/kg 350 53 1 8270C  2,4-Dinitrophenol BRL μg/kg 350 100 1 8270C  2,4-Dinitrotoluene BRL μg/kg 350 46 1 8270C  2,6-Dinitrotoluene BRL μg/kg 350 64 1 8270C	04/08/10 18:22 cphilbrick	Q49259
2,4-Dinitrophenol BRL μg/kg 350 100 1 8270C 2,4-Dinitrotoluene BRL μg/kg 350 46 1 8270C 2,6-Dinitrotoluene BRL μg/kg 350 64 1 8270C	04/08/10 18:22 cphilbrick	Q49259
2,4-Dinitrotoluene BRL μg/kg 350 46 1 8270C 2,6-Dinitrotoluene BRL μg/kg 350 64 1 8270C	04/08/10 18:22 cphilbrick	Q49259
2,6-Dinitrotoluene BRL μg/kg 350 64 1 8270C	04/08/10 18:22 cphilbrick	Q49259
2,0 0 11111 11111 11111 11111 11111 11111 1111	04/08/10 18:22 cphilbrick	Q49259
2-Chloronaphthalene BRL $\mu g/kg$ 350 44 1 8270C	04/08/10 18:22 cphilbrick	Q49259
	04/08/10 18:22 cphilbrick	Q49259
2-Chlorophenol BRL $\mu g/kg$ 350 15 1 8270C	04/08/10 18:22 cphilbrick	Q49259
2-Methylnaphthalene BRL $\mu g/kg$ 350 40 1 8270C	04/08/10 18:22 cphilbrick	Q49259
2-Methylphenol BRL: $\mu g/kg$ 350 29 1 8270C	04/08/10 18:22 cphilbrick	Q49259
2-Nitrophenol BRL $\mu g/kg$ 350 50 1 8270C	04/08/10 18:22 cphilbrick	Q49259
3&4-Methylphenol BRL μg/kg 350 41 1 8270C	04/08/10 18:22 cphilbrick	Q49259
3,3´-Dichlorobenzidine BRL $\mu g/kg$ 350 64 1 8270C	04/08/10 18:22 cphilbrick	Q49259
4,6-Dinitro-2-methylphenol BRL $\mu$ g/kg 350 30 1 8270C	04/08/10 18:22 cphilbrick	Q49259
4-Bromophenylphenylether BRL $\mu$ g/kg 350 44 1 8270C	04/08/10 18:22 cphilbrick	Q49259
4-Chloro-3-methylphenol BRL $\mu$ g/kg 350 42 1 8270C	04/08/10 18:22 cphilbrick	Q49259
4-Chlorophenylphenylether BRL $\mu g/kg$ 350 45 1 8270C	04/08/10 18:22 cphilbrick	Q49259
4-Nitrophenol BRL μg/kg 350 45 1 8270C	04/08/10 18:22 cphilbrick	Q49259
Acenaphthene         BRL         μg/kg         350         48         1         8270C	04/08/10 18:22 cphilbrick	Q49259
Acenaphthylene BRL $\mu g/kg$ 350 33 1 8270C	04/08/10 18:22 cphilbrick	Q49259
Anthracene BRL μg/kg 350 26 1 8270C	04/08/10 18:22 cphilbrick	Q49259
Benzo(a)anthracene <b>300 J</b> μg/kg 350 40 1 8270C	04/08/10 18:22 cphilbrick	Q49259
Benzo(a)pyrene <b>300 J</b> μg/kg 350 45 1 8270C		



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-5-0-2

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275460

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 10:20

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Benzo(b)fluoranthene	460	µg/kg	350	72	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Benzo(g,h,i)perylene	160 J	µg/kg	350	45	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Benzo(k)fluoranthene	170 J	µg/kg	350	95	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Bis(2-chloroethoxy)methane	BRL	μg/kg	350	60	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Bis(2-chloroethyl)ether	BRL	μg/kg	350	44	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Bis(2-chloroisopropyl)ether	BRL	µg/kg	350	35	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Bis(2-ethylhexyl)phthalate	BRL.	μg/kg	350	27	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Butylbenzylphthalate	BRL	μg/kg	350	44	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Chrysene	280 J	μg/kg	350	24	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Di-n-butylphthalate	BRL	µg/kg	350	57	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Di-n-octylphthalate	BRL	µg/kg	350	100	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Dibenzo(a,h)anthracene	BRL	µg/kg	350	33	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Dibenzofuran	BRL	µg/kg	350	43	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Diethylphthalate	BRL	µg/kg	350	91	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Dimethylphthalate	BRL	μg/kg	350	52	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Fluoranthene	580	µg/kg	350	62	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Fluorene	BRL	μg/kg	350	50	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Hexachlorobenzene	BRL	µg/kg	350	49	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Hexachlorobutadiene	BRL	µg/kg	350	35	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Hexachlorocyclopentadiene	BRL	μg/kg	350	53	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Hexachloroethane	BRL	µg/kg	350	15	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Indeno(1,2,3-cd)pyrene	220 J	μg/kg	350	34	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Isophorone	BRL	µg/kg	350	34	1	8270C	04/08/10 18:22	cphilbrick	Q49259
N-Nitrosodi-n-propylamine	BRL	µg/kg	350	21	1	8270C	04/08/10 18:22	cphilbrick	Q49259
N-Nitrosodiphenylamine	BRL	μg/kg	350	51	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Naphthalene	BRL	µg/kg	350	42	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Nitrobenzene	BRL	µg/kg	350	44	1	8270C	04/08/10 18:22	cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-5-0-2

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275460

Parcel 2

COC Group:

G0410028

Project No.: Sample Matrix: Soil

WBS# 34871.2.1

Time Collected:

03/30/10 10:20

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	Batch ID
Pentachlorophenol	BRL	µg/kg	350	54	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Phenanthrene	380	μg/kg	350	30	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Phenol	BRL	μg/kg	350	62	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Pyrene	530	μg/kg	350	68	1	8270C	04/08/10 18:22	cphilbrick	Q49259
Sample Preparation:			2	9.9 g /	1 mL	3550B	04/06/10 13:30	) aguptill	P27199
					Surrogate		% Recovery	y Co	ntrol Limits
					Terphenyl-	d14	112		41 - 136
					Phenol-d5		69		13 - 95
					Nitrobenze	ne-d5	71		14 - 103
					2-Fluoroph	enol	64		14 - 89
					2-Fluorobij	ohenyl	83		21 - 108
					2,4,6-Tribr	omophenol	91		25 - 123
<u>Diesel Range Organics (DRO) by GC</u> Diesel Range Organics (DRO)	<u>-FID</u> 38	mg/kg	7.4	1.2	1	8015B	04/09/10 4:45	jvogel	Q49287
Sample Preparation:				.13 g /	′ 1 mL	3545	04/07/10 17:00	) athao	P27216
					Surrogate		% Recover	y Co	ntrol Limits
					o-Terphen	yl	79		49 - 124
Sample Weight Determination		,			. 1,111 (88,77)				
Weight 1	6.13	g			1	GRO	04/06/10 0:00	Ibrown	
Weight 2	6.69	g			1	GRO	04/06/10 0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	5.3	3.3	50	8015B	04/08/10 5:17	heasler	Q49290



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-5-0-2

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275460 Parcel 2

G0410028

Project No.:

WBS# 34871.2.1

COC Group:

03/30/10 10:20

Time Collected:

Time Submitted: 03/31/10

Sample Matrix: Soil

14:30

Parameter	- Addition	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
						Surrogate		% Recover	/ Cor	ntrol Limits
						aaa-TFT	THE COLUMN TO SECURE AS A SECURITY AS A SECURI	114		55 - 129
Mercury by CVA Mercury	A	0.43	mg/kg	0.021	0.0015	1	7471A	04/09/10 15:29	kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10 8:20	kpowers	P27230
Metals by ICP Arsenic Barium		9.1 140	mg/kg mg/kg	0.53 2.7	0.060 0.40	1 5	6010B	04/09/10 0:41 04/14/10 0:58	pfitzgerald dsullivan	Q49277 Q49277
Cadmium		2.4	mg/kg	0.27	0.028	1	6010B	04/09/10 0:41	pfitzgerald	Q49277
Chromium		29	mg/kg	0.27	0.037	1	6010B	04/09/10 0:41	pfitzgerald	Q49277
Lead		770	mg/kg	2.7	0.66	10	6010B	04/14/10 23:22	dsullivan	Q49277
Selenium		BRL	mg/kg	2.7	0.54	5	6010B	04/14/10 0:58	dsullivan	Q49277
Silver		BRL	mg/kg	0.27	0.027	1	6010B	04/09/10 0:41	pfitzgerald	Q49277
	Sample Preparation	n:			2 g /	50 mL	3050B	04/07/10 9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

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

J- Estimated value between the Reporting Limit and the MDL



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-6-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275461

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 10:25

14:30

Time Submitted: 03/31/10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	83.7	%			1	SM2540 G	04/05/10 13:30	jbrayton	
Volatile Organic Compounds by G	C/MS								
1,1,1,2-Tetrachloroethane	BRL	μg/kg	4.8	1.6	1	8260B	04/06/10 14:30	erussell	Q49229
1,1,1-Trichloroethane	BRL	µg/kg	4.8	1.1	1	8260B	04/06/10 14:30	erussell	Q49229
1,1,2,2-Tetrachloroethane	BRL	μg/kg	4.8	1.3	1	8260B	04/06/10 14:30	erussell	Q49229
1,1,2-Trichloroethane	BRL	μ <b>g</b> /kg	4.8	1.4	1	8260B	04/06/10 14:30	erussell	Q49229
1,1-Dichloroethane	BRL	μg/kg	4.8	1.2	1	8260B	04/06/10 14:30	erussell	Q49229
1,1-Dichloroethene	BRL	µg/kg	4.8	1.1	1	8260B	04/06/10 14:30	erussell	Q49229
1,1-Dichloropropene	BRL	μg/kg	4.8	1.0	1	8260B	04/06/10 14:30	erussell	Q49229
1,2,3-Trichlorobenzene	BRL	μg/kg	9.6	1.6	1	8260B	04/06/10 14:30	erussell	Q49229
1,2,3-Trichloropropane	BRL	μg/kg	4.8	2.0	1	8260B	04/06/10 14:30	erussell	Q49229
1,2,4-Trichlorobenzene	BRL	μg/kg	9.6	1.3	1	8260B	04/06/10 14:30	erussell	Q49229
1,2,4-Trimethylbenzene	BRL	μ <b>g</b> /kg	9.6	1.2	1	8260B	04/06/10 14:30	erussell	Q49229
1,2-Dibromo-3-chloropropane	BRL	μg/kg	4.8	1.7	1	8260B	04/06/10 14:30	erussell	Q49229
1,2-Dibromoethane (EDB)	BRL	µg/kg	4.8	1.3	1	8260B	04/06/10 14:30	erussell	Q49229
1,2-Dichlorobenzene	BRL	μg/kg	9.6	1.3	1	8260B	04/06/10 14:30	erussell	Q49229
1,2-Dichloroethane	BRL	μg/kg	4.8	1.3	1	8260B	04/06/10 14:30	erussell	Q49229
1,2-Dichloropropane	BRL	μg/kg	4.8	1.4	1	8260B	04/06/10 14:30	erussell	Q49229
1,3,5-Trimethylbenzene	BRL	μg/kg	9.6	1.3	1	8260B	04/06/10 14:30	erussell	Q49229
1,3-Dichlorobenzene	BRL	μg/kg	9.6	1.2	1	8260B	04/06/10 14:30	erussell	Q49229
1,3-Dichloropropane	BRL	μg/kg	4.8	0.98	1	8260B	04/06/10 14:30	erussell	Q49229
1,4-Dichlorobenzene	BRL	μg/kg	9.6	1.2	. 1	8260B	04/06/10 14:30	erussell	Q49229
2,2-Dichloropropane	BRL	μg/kg	4.8	1.1	1	8260B	04/06/10 14:30	erussell	Q49229
2-Chloroethyl vinyl ether	BRL	μg/kg	9.6	1.4	1	8260B	04/06/10 14:30	erussell	Q49229
2-Chlorotoluene	BRL	μg/kg	9.6	1.2	1	8260B	04/06/10 14:30	erussell	Q49229
2-Hexanone	BRL	μg/kg	48	1.5	1	8260B	04/06/10 14:30	erussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-6-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275461

Project ID:

Parcel 2

COC Group:

G0410028

Project No.: WBS# 34871.2.1

Time Collected:

03/30/10 10:25

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Anal Date/Time	yst Batch ID
4-Chlorotoluene	BRL	µg/kg	9.6	1.2	1	8260B	04/06/10 14:30 erussell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	9.6	1.1	1	8260B	04/06/10 14:30 erussell	Q49229
Acetone	BRL	µg/kg	19	2.1	1	8260B	04/06/10 14:30 erussell	Q49229
Benzene	BRL	μg/kg	2.9	1.3	1	8260B	04/06/10 14:30 erussell	Q49229
Bromobenzene	BRL	µg/kg	4.8	1.2	1	8260B	04/06/10 14:30 erussell	Q49229
Bromochloromethane	BRL	µg/kg	4.8	1.3	1	8260B	04/06/10 14:30 erussell	Q49229
Bromodichloromethane	BRL	μg/kg	4.8	1.1	1	8260B	04/06/10 14:30 erussell	Q49229
Bromoform	BRL	µg/kg	4.8	1.1	1	8260B	04/06/10 14:30 erussell	Q49229
Bromomethane	BRL	μg/kg	9.6	1.2	, 1	8260B	04/06/10 14:30 erussell	Q49229
Carbon disulfide	BRL	μg/kg	9.6	0.98	1	8260B	04/06/10 14:30 erussell	Q49229
Carbon tetrachloride	BRL	μg/kg	4.8	1.4	1	8260B	04/06/10 14:30 erussell	Q49229
Chlorobenzene	BRL	µg/kg	4.8	1.1	1	8260B	04/06/10 14:30 erussell	Q49229
Chlorodibromomethane	BRL	μg/kg	4.8	1.2	1	8260B	04/06/10 14:30 erussell	Q49229
Chloroethane	BRL	μg/kg	9.6	2.5	1	8260B	04/06/10 14:30 erussell	Q49229
Chloroform	BRL	µg/kg	4.8	1.2	1	8260B	04/06/10 14:30 erussell	Q49229
Chloromethane	BRL	μg/kg	9.6	1.1	1	8260B	04/06/10 14:30 erussell	Q49229
cis-1,2-Dichloroethene	BRL	μg/kg	4.8	1.1	1	8260B	04/06/10 14:30 erussell	Q49229
cis-1,3-Dichloropropene	BRL	μg/kg	4.8	1.1	1	8260B	04/06/10 14:30 erussell	Q49229
Dibromomethane	BRL	μg/kg	4.8	1.4	1	8260B	04/06/10 14:30 erussell	Q49229
Dichlorodifluoromethane	BRL	μg/kg	9.6	0.98	1 .	8260B	04/06/10 14:30 erussell	Q49229
Ethylbenzene	BRL	μg/kg	4.8	1.0	1	8260B	04/06/10 14:30 erussell	Q49229
Hexachlorobutadiene	BRL	μg/kg	14	1.1	1	8260B	04/06/10 14:30 erussell	Q49229
Isopropyl ether (IPE)	BRL	µg/kg	4.8	1.2	1	8260B	04/06/10 14:30 erussell	Q49229
Isopropylbenzene	BRL	µg/kg	9.6	1.1	1	8260B	04/06/10 14:30 erussell	Q49229
m,p-Xylenes	BRL	µg/kg	9.6	2.6	1	8260B	04/06/10 14:30 erussell	Q49229
Methyl ethyl ketone (MEK)	BRL	μg/kg	19	1.2	1	8260B	04/06/10 14:30 erussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	µg/kg	4.8	1.0	1	8260B	04/06/10 14:30 erussell	Q49229



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-6-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275461

Project No.:

Parcel 2

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 10:25

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analy Date/Time	rst Batch ID
Methylene chloride	BRL	μg/kg	9.6	1.3	1	8260B	04/06/10 14:30 erussell	Q49229
n-Butylbenzene	BRL	μg/kg	14	1.8	1	8260B	04/06/10 14:30 erussell	Q49229
n-Propylbenzene	BRL	µg/kg	9.6	1.4	1	8260B	04/06/10 14:30 erussell	Q49229
Naphthalene	BRL	μg/kg	4.8	2.6	1	8260B	04/06/10 14:30 erussell	Q49229
o-Xylene	BRL	µg/kg	4.8	1.1	1	8260B	04/06/10 14:30 erussell	Q49229
p-Isopropyltoluene	BRL	μg/kg	<sup>′</sup> 14	1.4	1	8260B	04/06/10 14:30 erussell	Q49229
sec-Butylbenzene	BRL	μg/kg	14	1.3	1	8260B	04/06/10 14:30 erussell	Q49229
Styrene	BRL	μg/kg	4.8	0.93	1	8260B	04/06/10 14:30 erussell	Q49229
tert-Butylbenzene	BRL	μg/kg	19	1.3	1	8260B	04/06/10 14:30 erussell	Q49229
Tetrachloroethene	BRL	μg/kg	9.6	1.2	1	8260B	04/06/10 14:30 erussell	Q49229
Toluene	BRL	µg/kg	4.8	1.2	1	8260B	04/06/10 14:30 erussell	Q49229
trans-1,2-Dichloroethene	BRL	μg/kg	4.8	0.95	1	8260B	04/06/10 14:30 erussell	Q49229
trans-1,3-Dichloropropene	BRL	μg/kg	4.8	0.96	1	8260B	04/06/10 14:30 erussell	Q49229
Trichloroethene	BRL	μg/kg	4.8	1.4	1	8260B	04/06/10 14:30 erussell	Q49229
Trichlorofluoromethane	BRL	μg/kg	4.8	1.4	1	8260B	04/06/10 14:30 erussell	Q49229
Vinyl chloride	BRL	μg/kg	9.6	1.3	1	8260B	04/06/10 14:30 erussell	Q49229

					Surrogate		% Recover	y (	Control Limits
					Toluene-d8  Dibromofluoromethane  Bromofluorobenzene		103 105 98		81 - 128
									67 - 143
									77 - 128
Sample Weight Determination						7.00		THE THE PERSON NAMED ASSESSMENT	
Weight Bisulfate 1	6.15	g			1	5035	04/06/10	lbrown	
Weight Bisulfate 2	6.20	g			1	5035	04/06/10	Ibrown	
Weight Methanol	6.00	g			1	5035	04/06/10	ibrown	
Semi-volatile Organic Compounds	by GC/MS								
1,2,4-Trichlorobenzene	BRL	µg/kg	390	43	1	8270C	04/07/10 23:04	cphilbric	k Q49259



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-6-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275461

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 10:25

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2-Dichlorobenzene	BRL	μg/kg	390	43	1	8270C	04/07/10 23:04	cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	μg/kg	390	38	1	8270C	04/07/10 23:04	cphilbrick	Q49259
1,4-Dichlorobenzene	BRL.	μg/kg	390	47	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	µg/kg	390	47	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	μg/kg	390	42	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2,4-Dichlorophenol	BRL	μg/kg	390	26	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2,4-Dimethylphenol	BRL	µg/kg	390	58	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2,4-Dinitrophenol	BRL	µg/kg	390	110	1	8270C	04/07/10 23:04	cphilbrick .	Q49259
2,4-Dinitrotoluene	BRL	μg/kg	390	52	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	μg/kg	390	71	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2-Chloronaphthalene	BRL	μg/kg	390	49	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2-Chlorophenol	BRL	μg/kg	390	16	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2-Methylnaphthalene	BRL	μg/kg	390	44	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2-Methylphenol	BRL	μg/kg	390	32	1	8270C	04/07/10 23:04	cphilbrick	Q49259
2-Nitrophenol	BRL	µg/kg	390	55	1	8270C	04/07/10 23:04	cphilbrick	Q49259
3&4-Methylphenol	BRL	µg/kg	390	46	1	8270C	04/07/10 23:04	cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	μg/kg	390	71	1	8270C	04/07/10 23:04	cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	μg/kg	390	34	1	8270C	04/07/10 23:04	cphilbrick	Q49259
4-Bromophenylphenylether	BRL	μg/kg	390	49	1	8270C	04/07/10 23:04	cphilbrick	Q49259
4-Chloro-3-methylphenol	BRL	μg/kg	390	46	1	8270C	04/07/10 23:04	cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	μg/kg	390	49	1	8270C	04/07/10 23:04	cphilbrick	Q49259
4-Nitrophenol	BRL	μg/kg	390	50	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Acenaphthene	BRL	μg/kg	390	53	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Acenaphthylene	BRL	μg/kg	390	37	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Anthracene	BRL	μg/kg	390	29	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Benzo(a)anthracene	BRL	µg/kg	390	44	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Benzo(a)pyrene	BRL	μg/kg	390	50	1	8270C	04/07/10 23:04	cphilbrick	Q49259



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-6-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275461

c/o Solution - IES

Project No.:

Parcel 2

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 10:25

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Benzo(b)fluoranthene	BRL	µg/kg	390	80	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Benzo(g,h,i)perylene	BRL	μg/kg	390	50	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Benzo(k)fluoranthene	BRL	μg/kg	390	110	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Bis(2-chloroethoxy)methane	BRL	μg/kg	390	66	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Bis(2-chloroethyl)ether	BRL	µg/kg	390	49	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Bis(2-chloroisopropyl)ether	BRL	μg/kg	390	39	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Bis(2-ethylhexyl)phthalate	BRL	μg/kg	390	30	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Butylbenzylphthalate	BRL	μg/kg	390	48	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Chrysene	BRL	μg/kg	390	26	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Di-n-butylphthalate	BRL	μg/kg	390	63	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Di-n-octylphthalate	BRL	μg/kg	390	110	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Dibenzo(a,h)anthracene	BRL	μg/kg	390	37	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Dibenzofuran	BRL	μg/kg	390	48	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Diethylphthalate	BRL	μg/kg	390	100	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Dimethylphthalate	BRL	μg/kg	390	58	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Fluoranthene	BRL	μg/kg	390	69	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Fluorene	BRL	μg/kg	390	56	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Hexachlorobenzene	BRL	µg/kg	390	54	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Hexachlorobutadiene	BRL	μg/kg	390	39	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Hexachlorocyclopentadiene	BRL	μg/kg	390	58	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Hexachloroethane	BRL	μg/kg	390	16	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Indeno(1,2,3-cd)pyrene	BRL	μg/kg	390	37	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Isophorone	BRL	μg/kg	390	37	1	8270C	04/07/10 23:04	cphilbrick	Q49259
N-Nitrosodi-n-propylamine	BRL	μg/kg	390	23	1	8270C	04/07/10 23:04	cphilbrick	Q49259
N-Nitrosodiphenylamine	BRL	μg/kg	390	57	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Naphthalene	BRL	μg/kg	390	47	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Nitrobenzene	BRL	μg/kg	390	49	1	8270C	04/07/10 23:04	cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road

Project Name: U-2826-B

Client Sample ID: P2-6-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275461 Parcel 2

G0410028

Raleigh, NC 27607

Project No.:

COC Group: Time Collected:

03/30/10 10:25

WBS# 34871.2.1

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	t Batch ID
Pentachlorophenol	BRL	μg/kg	390	60	1	8270C	04/07/10 23:04	cphilbrick	Q49259
Phenanthrene	BRL	µg/kg	390	33	1	8270C	04/07/10 23:04	1 cphilbrick	Q49259
Phenol	BRL	μg/kg	390	69	1	8270C	04/07/10 23:04	1 cphilbrick	Q49259
Pyrene	BRL	μg/kg	390	75	1	8270C	04/07/10 23:04	1 cphilbrick	Q49259
Sample Preparation:			30	.13 g	/ 1 mL	3550B	04/06/10 13:3	) aguptill	P27199
					Surrogate		% Recover	у Со	ntrol Limits
					Terphenyl-	d14	102		41 - 136
					Phenol-d5		68		13 - 95
					Nitrobenze	ne-d5	71		14 - 103
					2-Fluoroph	enol	70		14 - 89
					2-Fluorobip	ohenyl	72		21 - 108
					2,4,6-Tribr	omophenol	79		25 - 123
<u>Diesel Range Organics (DRO) by GO</u> Diesel Range Organics (DRO)	C-FID BRL	mg/kg	8.3	1.3	· 1	8015B	04/08/10 18:4	O jvogel	Q49287
Sample Preparation:		,		.06 g	/ 1 mL	3545	04/07/10 17:0	0 athao	P27216
					Surrogate		% Recove	ry Co	entrol Limits
					o-Terphen	yl	61		49 - 124
Sample Weight Determination									
Weight 1	6.16	g			1	GRO	04/06/10 0:00	Ibrown	
Weight 2	6.52	9			1	GRO	04/06/10 0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.0	3.7	50	8015B	04/08/10 18:3	6 heasler	Q4929



#### **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-6-6-8

Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275461

Project No.:

WBS# 34871.2.1

COC Group:

G0410028 03/30/10

10:25

Sample Matrix: Soil

Time Collected:

Time Submitted: 03/31/10

14:30

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

						Surrogate		% Re	covery	Cor	itrol Limits
						aaa-TFT	TOTAL CONTROL OF THE		81		55 - 129
Mercury by CVA	A		h	0.004	0.0046	4	7474 6	0.4/0.0/4.0	45.00		0.40000
Mercury		0.051	mg/kg	0.024	0.0016	1	7471A	04/09/10	15:33	kpowers	Q49336
	Sample Preparation:				0.6 g z /	30 mL	7471A	04/09/10	8:20	kpowers	P27230
Metals by ICP											
Arsenic		2.7	mg/kg	0.60	0.068	1	6010B	04/09/10	1:00	pfitzgerald	Q49277
Barium		52	mg/kg	3.0	0.44	5	6010B	04/14/10	1:05	dsullivan	Q49277
Cadmium		1.5	mg/kg	0.30	0.032	1 .	6010B	04/09/10	1:00	pfitzgerald	Q49277
Chromium		55	mg/kg	0.30	0.041	1	6010B	04/09/10	1:00	pfitzgerald	Q49277
Lead		16	mg/kg	1.5	0.37	5	6010B	04/14/10	1:05	dsullivan	Q49277
Selenium		BRL	mg/kg	3.0	0.60	5	6010B	04/14/10	1:05	dsullivan	Q49277
Silver		BRL	mg/kg	0.30	0.030	1	6010B	04/09/10	1:00	pfitzgerald	Q49277
	Sample Preparation:			2	2.01 g /	50 mL	3050B	04/07/10	9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-7-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275462

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 10:55

14:30

Sample Matrix: Soil

Time Submitted: 03/31/10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	81.4	%			1	SM2540 G	04/05/10 13:30	ibravton	
Percent Solids	01.4	/0			•	OWEO-10 C	04/00/10 10:00	, and , to	
Volatile Organic Compounds by GC	C/MS								
1,1,1,2-Tetrachloroethane	BRL	μg/kg	4.9	1.6	1	8260B	04/06/10 13:56	erussell	Q49229
1,1,1-Trichloroethane	BRL	μg/kg	4.9	1.1	1	8260B	04/06/10 13:56	erussell	Q49229
1,1,2,2-Tetrachloroethane	BRL	μg/kg	4.9	1.4	1	8260B	04/06/10 13:56	erussell	Q49229
1,1,2-Trichloroethane	BRL	µg/kg	4.9	1.4	1	8260B	04/06/10 13:56	erussell	Q49229
1,1-Dichloroethane	BRL	μg/kg	4.9	1.3	1	8260B	04/06/10 13:56	erussell	Q49229
1,1-Dichloroethene	BRL	μg/kg	4.9	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
1,1-Dichloropropene	BRL	μg/kg	4.9	1.0	1	8260B	04/06/10 13:56	erussell	Q49229
1,2,3-Trichlorobenzene	BRL	μg/kg	9.8	1.6	1	8260B	04/06/10 13:56	erussell	Q49229
1,2,3-Trichloropropane	BRL	μg/kg	4.9	2.0	1	8260B	04/06/10 13:56	erussell	Q49229
1,2,4-Trichlorobenzene	BRL	μg/kg	9.8	1.3	1	8260B	04/06/10 13:56	erussell	Q49229
1,2,4-Trimethylbenzene	BRL	μg/kg	9.8	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
1,2-Dibromo-3-chloropropane	BRL	μg/kg	4.9	1.8	1	8260B	04/06/10 13:56	erussell	Q49229
1,2-Dibromoethane (EDB)	BRL	μg/kg	4.9	1.4	1	8260B	04/06/10 13:56	erussell	Q49229
1,2-Dichlorobenzene	BRL	μg/kg	9.8	1.3	1	8260B	04/06/10 13:56	erussell	Q49229
1,2-Dichloroethane	BRL	μg/kg	4.9	1.3	1	8260B	04/06/10 13:56	erussell	Q49229
1,2-Dichloropropane	BRL	μg/kg	4.9	1.5	1	8260B	04/06/10 13:56	erusseli	Q49229
1,3,5-Trimethylbenzene	BRL	μg/kg	9.8	1.3	1	8260B	04/06/10 13:56	erussell	Q49229
1,3-Dichlorobenzene	BRL	μg/kg	9.8	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
1,3-Dichloropropane	BRL	μg/kg	4.9	1.0	1	8260B	04/06/10 13:56	erussell	Q49229
1,4-Dichlorobenzene	BRL	µg/kg	9.8	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
2,2-Dichloropropane	BRL	µg/kg	4.9	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
2-Chloroethyl vinyl ether	BRL	µg/kg	9.8	1.5	1	8260B	04/06/10 13:56	erussell	Q49229
2-Chlorotoluene	BRL	µg/kg	9.8	1.3	1	8260B	04/06/10 13:56	erussell	Q49229
2-Hexanone	BRL	μg/kg	49	1.5	1	8260B	04/06/10 13:56	erussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-7-6-8

Project ID: Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275462

G0410028

Project No.:

WBS# 34871.2.1

COC Group:

03/30/10 10:55

Sample Matrix: Soil

Time Collected: Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
4-Chlorotoluene	BRL	μg/kg	9.8	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	9.8	1.1	1	8260B	04/06/10 13:56	erussell	Q49229
Acetone	BRL	μg/kg	20	2.1	1	8260B	04/06/10 13:56	erussell	Q49229
Benzene	BRL	μg/kg	2.9	1.3	1	8260B	04/06/10 13:56	erussell	Q49229
Bromobenzene	BRL	μg/kg	4.9	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
Bromochloromethane	BRL	μg/kg	4.9	1.3	1	8260B	04/06/10 13:56	erussell	Q49229
Bromodichloromethane	BRL	μg/kg	4.9	1.1	1	8260B	04/06/10 13:56	erussell	Q49229
Bromoform	BRL	μg/kg	4.9	1.1	1	8260B	04/06/10 13:56	erussell	Q49229
Bromomethane	BRL	μg/kg	9.8	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
Carbon disulfide	BRL	μg/kg	9.8	0.99	1	8260B	04/06/10 13:56	erussell	Q49229
Carbon tetrachloride	BRL	μg/kg	4.9	1.4	1	8260B	04/06/10 13:56	erussell	Q49229
Chlorobenzene	BRL	μg/kg	4.9	1.1	1	8260B	04/06/10 13:56	erussell	Q49229
Chlorodibromomethane	BRL	μg/kg	4.9	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
Chloroethane	BRL	µg/kg	9.8	2.5	1	8260B	04/06/10 13:56	erussell	Q49229
Chloroform	BRL	μg/kg	4.9	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
Chloromethane	BRL	μg/kg	9.8	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
cis-1,2-Dichloroethene	BRL	μg/kg	4.9	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
cis-1,3-Dichloropropene	BRL	μg/kg	4.9	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
Dibromomethane	BRL	μg/kg	4.9	1.4	1	8260B	04/06/10 13:56	erussell	Q49229
Dichlorodifluoromethane	BRL	µg/kg	9.8	1.0	1	8260B	04/06/10 13:56	erussell	Q49229
Ethylbenzene	BRL	μg/kg	4.9	1.0	1	8260B	04/06/10 13:56	erussell	Q49229
Hexachlorobutadiene	BRL	μg/kg	15	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
Isopropyl ether (IPE)	BRL	μg/kg	4.9	1.2	1	8260B	04/06/10 13:56	erussell	Q49229
Isopropylbenzene	BRL	μg/kg	9.8	1.1	1	8260B	04/06/10 13:56	erussell	Q49229
m,p-Xylenes	BRL	μg/kg	9.8	2.6	1	8260B	04/06/10 13:56	erussell	Q49229
Methyl ethyl ketone (MEK)	BRL	μg/kg	20	1.3	1	8260B	04/06/10 13:56	erussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	μg/kg	4.9	1.0	1	8260B	04/06/10 13:56	erussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES

Project Name: U-2826-B

Parcel 2

Client Sample ID: P2-7-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275462

Project No.:

COC Group:

G0410028

03/30/10 10:55

1101 Nowell Road Raleigh, NC 27607

Sample Matrix: Soil

WBS# 34871.2.1

Time Collected:

Time Submitted: 03/31/10

14:30

Methylene chloride         BRL         μg/kg         9.8         1.3         1         8260B         04/06/10         13:56         e           n-Butylbenzene         BRL         μg/kg         15         1.8         1         8260B         04/06/10         13:56         e           n-Propylbenzene         BRL         μg/kg         9.8         1.4         1         8260B         04/06/10         13:56         e           Naphthalene         BRL         μg/kg         4.9         2.7         1         8260B         04/06/10         13:56         e           o-Xylene         BRL         μg/kg         4.9         1.1         1         8260B         04/06/10         13:56         e           p-Isopropyltoluene         BRL         μg/kg         15         1.4         1         8260B         04/06/10         13:56         e           sec-Butylbenzene         BRL         μg/kg         15         1.3         1         8260B         04/06/10         13:56         e           Styrene         BRL         μg/kg         4.9         0.95         1         8260B         04/06/10         13:56         e           Tetrachloroethene         BRL         <		Q49229
n-Propylbenzene BRL µg/kg 9.8 1.4 1 8260B 04/06/10 13:56 e Naphthalene BRL µg/kg 4.9 2.7 1 8260B 04/06/10 13:56 e o-Xylene BRL µg/kg 4.9 1.1 1 8260B 04/06/10 13:56 e p-Isopropyltoluene BRL µg/kg 15 1.4 1 8260B 04/06/10 13:56 e sec-Butylbenzene BRL µg/kg 15 1.3 1 8260B 04/06/10 13:56 e Styrene BRL µg/kg 4.9 0.95 1 8260B 04/06/10 13:56 e tert-Butylbenzene BRL µg/kg 20 1.3 1 8260B 04/06/10 13:56 e Tetrachloroethene BRL µg/kg 9.8 1.3 1 8260B 04/06/10 13:56 e Toluene BRL µg/kg 4.9 1.2 1 8260B 04/06/10 13:56 e	orussoll (	~ 10220
Naphthalene       BRL       μg/kg       4.9       2.7       1       8260B       04/06/10       13:56 e         o-Xylene       BRL       μg/kg       4.9       1.1       1       8260B       04/06/10       13:56 e         p-Isopropyltoluene       BRL       μg/kg       15       1.4       1       8260B       04/06/10       13:56 e         sec-Butylbenzene       BRL       μg/kg       15       1.3       1       8260B       04/06/10       13:56 e         Styrene       BRL       μg/kg       4.9       0.95       1       8260B       04/06/10       13:56 e         tert-Butylbenzene       BRL       μg/kg       20       1.3       1       8260B       04/06/10       13:56 e         Tetrachloroethene       BRL       μg/kg       9.8       1.3       1       8260B       04/06/10       13:56 e         Toluene       BRL       μg/kg       4.9       1.2       1       8260B       04/06/10       13:56 e	ciusseii (	Q49229
o-Xylene BRL µg/kg 4.9 1.1 1 8260B 04/06/10 13:56 e p-Isopropyltoluene BRL µg/kg 15 1.4 1 8260B 04/06/10 13:56 e sec-Butylbenzene BRL µg/kg 15 1.3 1 8260B 04/06/10 13:56 e Styrene BRL µg/kg 4.9 0.95 1 8260B 04/06/10 13:56 e tert-Butylbenzene BRL µg/kg 20 1.3 1 8260B 04/06/10 13:56 e Tetrachloroethene BRL µg/kg 9.8 1.3 1 8260B 04/06/10 13:56 e Toluene BRL µg/kg 4.9 1.2 1 8260B 04/06/10 13:56 e	erussell (	Q49229
p-Isopropyltoluene BRL µg/kg 15 1.4 1 8260B 04/06/10 13:56 e sec-Butylbenzene BRL µg/kg 15 1.3 1 8260B 04/06/10 13:56 e Styrene BRL µg/kg 4.9 0.95 1 8260B 04/06/10 13:56 e tert-Butylbenzene BRL µg/kg 20 1.3 1 8260B 04/06/10 13:56 e Tetrachloroethene BRL µg/kg 9.8 1.3 1 8260B 04/06/10 13:56 e Toluene BRL µg/kg 4.9 1.2 1 8260B 04/06/10 13:56 e	erussell (	Q49229
sec-Butylbenzene BRL µg/kg 15 1.3 1 8260B 04/06/10 13:56 e  Styrene BRL µg/kg 4.9 0.95 1 8260B 04/06/10 13:56 e  tert-Butylbenzene BRL µg/kg 20 1.3 1 8260B 04/06/10 13:56 e  Tetrachloroethene BRL µg/kg 9.8 1.3 1 8260B 04/06/10 13:56 e  Toluene BRL µg/kg 4.9 1.2 1 8260B 04/06/10 13:56 e	erussell (	Q49229
Styrene       BRL       μg/kg       4.9       0.95       1       8260B       04/06/10       13:56 e         tert-Butylbenzene       BRL       μg/kg       20       1.3       1       8260B       04/06/10       13:56 e         Tetrachloroethene       BRL       μg/kg       9.8       1.3       1       8260B       04/06/10       13:56 e         Toluene       BRL       μg/kg       4.9       1.2       1       8260B       04/06/10       13:56 e	erussell (	Q49229
tert-Butylbenzene BRL µg/kg 20 1.3 1 8260B 04/06/10 13:56 e Tetrachloroethene BRL µg/kg 9.8 1.3 1 8260B 04/06/10 13:56 e Toluene BRL µg/kg 4.9 1.2 1 8260B 04/06/10 13:56 e	erussell (	Q49229
Tetrachloroethene BRL $\mu g/kg$ 9.8 1.3 1 8260B 04/06/10 13:56 e Toluene BRL $\mu g/kg$ 4.9 1.2 1 8260B 04/06/10 13:56 e	erussell (	Q49229
Toluene BRL μg/kg 4.9 1.2 1 8260B 04/06/10 13:56 e	erussell (	Q49229
	erussell (	Q49229
trans-1,2-Dichloroethene BRL µg/kg 4.9 0.97 1 8260B 04/06/10 13:56 e	erussell (	Q49229
	erussell (	Q49229
trans-1,3-Dichloropropene BRL µg/kg 4.9 0.98 1 8260B 04/06/10 13:56 e	erussell (	Q49229
Trichloroethene BRL µg/kg 4.9 1.4 1 8260B 04/06/10 13:56 e	erussell (	Q49229
Trichlorofluoromethane BRL µg/kg 4.9 1.4 1 8260B 04/06/10 13:56 e	erussell (	Q49229
Vinyl chloride BRL μg/kg 9.8 1.3 1 8260B 04/06/10 13:56 e	erussell (	Q49229

					Surrogate Toluene-d8 Dibromofluoromethane		% Recovery 103 104		Control Limits
									81 - 128
									67 - 143
					Bromoflu	orobenzene	97		77 - 128
Sample Weight Determination									
Weight Bisulfate 1	6.28	g			1	5035	04/06/10	Ibrown	
Weight Bisulfate 2	5.92	g			1	5035	04/06/10	Ibrown	
Weight Methanol	6.23	g			1	5035	04/06/10	Ibrown	
Semi-volatile Organic Compounds	by GC/MS								
1,2,4-Trichlorobenzene	BRL	μg/kg	400	45	1	8270C	04/07/10 23:34	<b>c</b> philbric	k Q4925



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-7-6-8

Project ID: Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275462

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 10:55

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analys Date/Time	Batch ID
1,2-Dichlorobenzene	BRL	µg/kg	400	45	. 1	8270C	04/07/10 23:34 cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	μg/kg	400	39	1	8270C	04/07/10 23:34 cphilbrick	Q49259
1,4-Dichlorobenzene	BRL	μg/kg	400	48	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	μg/kg	400	48	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	μg/kg	400	44	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2,4-Dichlorophenol	BRL	μg/kg	400	27	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2,4-Dimethylphenol	BRL	μg/kg	400	60	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2,4-Dinitrophenol	BRL	μg/kg	400	120	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2,4-Dinitrotoluene	BRL	μg/kg	400	53	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	μg/kg	400	73	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2-Chloronaphthalene	BRL	μg/kg	400	51	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2-Chlorophenol	BRL	μg/kg	400	17	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2-Methylnaphthalene	BRL	μg/kg	400	45	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2-Methylphenol	BRL	μg/kg	400	33	1	8270C	04/07/10 23:34 cphilbrick	Q49259
2-Nitrophenol	BRL	μg/kg	400	57	1	8270C	04/07/10 23:34 cphilbrick	Q49259
3&4-Methylphenol	BRL	μg/kg	400	47	1	8270C	04/07/10 23:34 cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	μg/kg	400	73	1	8270C	04/07/10 23:34 cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	μg/kg	400	35	1	8270C	04/07/10 23:34 cphilbrick	Q49259
4-Bromophenylphenylether	BRL	μg/kg	400	50	1	8270C	04/07/10 23:34 cphilbrick	Q49259
4-Chloro-3-methylphenol	BRL	μg/kg	400	48	1	8270C	04/07/10 23:34 cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	µg/kg	400	51	1	8270C	04/07/10 23:34 cphilbrick	Q49259
4-Nitrophenol	BRL	μg/kg	400	52	1	8270C	04/07/10 23:34 cphilbrick	Q49259
Acenaphthene	BRL	μg/kg	400	55	1	8270C	04/07/10 23:34 cphilbrick	Q49259
Acenaphthylene	BRL	μg/kg	400	38	1	8270C	04/07/10 23:34 cphilbrick	Q49259
Anthracene	BRL	μg/kg	400	29	1	8270C	04/07/10 23:34 cphilbrick	Q49259
Benzo(a)anthracene	BRL	μg/kg	400	46	1	8270C	04/07/10 23:34 cphilbrick	Q49259
Benzo(a)pyrene	BRL	μg/kg	400	51	1	8270C	04/07/10 23:34 cphilbrick	Q49259



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-7-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275462

Parcel 2

Project No.: WBS# 34871.2.1 COC Group:

G0410028

Time Collected:

03/30/10 10:55

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis An Date/Time	alyst Batch ID
Benzo(b)fluoranthene	BRL	µg/kg	400	83	1	8270C	04/07/10 23:34 cphilb	rick Q49259
Benzo(g,h,i)perylene	BRL	μg/kg	400	52	1	8270C	04/07/10 23:34 cphilb	rick Q49259
Benzo(k)fluoranthene	BRL	µg/kg	400	110	1	8270C	04/07/10 23:34 cphilb	rick Q49259
Bis(2-chloroethoxy)methane	BRL	µg/kg	400	68	1	8270C	04/07/10 23:34 cphilb	rick Q49259
Bis(2-chloroethyl)ether	BRL	μg/kg	400	50	1	8270C	04/07/10 23:34 cphilb	rick Q49259
Bis(2-chloroisopropyl)ether	BRL	μg/kg	400	41	1	8270C	04/07/10 23:34 cphilb	rick Q49259
Bis(2-ethylhexyl)phthalate	BRL	μg/kg	400	31	1	8270C	04/07/10 23:34 cphilb	rick Q49259
Butylbenzylphthalate	BRL	μg/kg	400	50	. 1	8270C	04/07/10 23:34 cphilb	rick Q49259
Chrysene	BRL	μg/kg	400	27	1	8270C	04/07/10 23:34 cphilb	rick Q49259
Di-n-butylphthalate	BRL	µg/kg	400	65	1	8270C	04/07/10 23:34 cphilb	rick Q49259
Di-n-octylphthalate	BRL	μg/kg	400	120	1	8270C	04/07/10 23:34 cphilbs	rick Q49259
Dibenzo(a,h)anthracene	BRL	µg/kg	400	38	1	8270C	04/07/10 23:34 cphilbs	rick Q49259
Dibenzofuran	BRL	μg/kg	400	49	1	8270C	04/07/10 23:34 cphilbs	rick Q49259
Diethylphthalate	BRL	μg/kg	400	100	1	8270C	04/07/10 23:34 cphilbr	rick Q49259
Dimethylphthalate	BRL	µg/kg	400	60	1	8270C	04/07/10 23:34 cphilbr	rick Q49259
Fluoranthene	BRL	μg/kg	400	72	1	8270C	04/07/10 23:34 cphilbr	rick Q49259
Fluorene	BRL	μg/kg	400	58	1	8270C	04/07/10 23:34 cphilbr	rick Q49259
Hexachlorobenzene	BRL	μg/kg	400	56	1	8270C	04/07/10 23:34 cphilbr	rick Q49259
Hexachlorobutadiene	BRL	μ <b>g</b> /kg	400	40	1	8270C	04/07/10 23:34 cphilbr	ick Q49259
Hexachlorocyclopentadiene	BRL	μg/kg	400	60	1	8270C	04/07/10 23:34 cphilbr	ick Q49259
Hexachloroethane	BRL	μg/kg	400	17	1	8270C	04/07/10 23:34 cphilbr	ick Q49259
Indeno(1,2,3-cd)pyrene	BRL	μg/kg	400	38	1	8270C	04/07/10 23:34 cphilbr	ick Q49259
Isophorone	BRL	μg/kg	400	39	1	8270C	04/07/10 23:34 cphilbr	ick Q49259
N-Nitrosodi-n-propylamine	BRL	µg/kg	400	24	1	8270C	04/07/10 23:34 cphilbr	ick Q49259
N-Nitrosodiphenylamine	BRL	μg/kg	400	59	1	8270C	04/07/10 23:34 cphilbri	ick Q49259
Naphthalene	BRL	µg/kg	400	48	1	8270C	04/07/10 23:34 cphilbri	ick Q49259
Nitrobenzene	BRL	μg/kg	400	51	1	8270C	04/07/10 23:34 cphilbri	



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Gasoline Range Organics (GRO) by GC-FID

Gasoline Range Organics (GRO)

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-7-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275462

Parcel 2

COC Group:

G0410028

Project No.: Sample Matrix: Soil

WBS# 34871.2.1

Time Collected:

03/30/10 10:55

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	t Batch ID
Pentachlorophenol	BRL	μg/kg	400	62	1	8270C	04/07/10 23:34	cphilbrick	Q49259
Phenanthrene	BRL	μg/kg	400	34	1	8270C	04/07/10 23:34	cphilbrick	Q49259
Phenol	BRL	μg/kg	400	71	1	8270C	04/07/10 23:34	cphilbrick	Q49259
Pyrene	BRL	μg/kg	400	77	1	8270C	04/07/10 23:34	cphilbrick	Q49259
Sample Preparation:			30.	.04 g	1 mL	3550B	04/06/10 13:3	) aguptill	P27199
					Surrogate		% Recover	y Co	ntrol Limits
					Terphenyl-	d14	96		41 - 136
					Phenol-d5		82		13 - 95
					Nitrobenze	ne-d5	84		14 - 103
					2-Fluoroph	enol	87		14 - 89
					2-Fluorobip	henyl	82		21 - 108
				•	2,4,6-Tribro	omophenol	79		25 - 123
Diesel Range Organics (DRO) by GO Diesel Range Organics (DRO)	C-FID BRL	mg/kg	8.6	1.4	1	8015B	04/09/10 4:09	jvogel	Q49287
Sample Preparation:			25	.12 g	/ 1 mL	3545	04/07/10 17:0	) athao	P27216
					Surrogate		% Recover	у Со	ntrol Limits
					o-Terpheny	<i>/</i>	77	energenegelings and judiciolists a probability	49 - 124
Sample Weight Determination Weight 1	4.82	g			1	GRO	04/06/10 0:00	lbrown	
A A CIRCLE	7.02	9			•				

6.1

mg/kg

BRL

3.8

50

8015B

Q49295

04/08/10 19:07 heasier



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-7-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275462

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

03/30/10 10:55

Sample Matrix: Soil

Time Collected:

Time Submitted: 03/31/10

14:30

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

•											
						Surrogate		% Re	covery	Con	trol Limits
						aaa-TFT			82		55 - 129
Mercury by CVA	<u> </u>	0.030	mg/kg	0.025	0.0017	1	7471A	04/09/10	15:37	kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10	8:20	kpowers	P27230
Metals by ICP											
Arsenic		BRL	mg/kg	0.61	0.069	1	6010B	04/09/10	1:07	pfitzgerald	Q49277
Barium		140	mg/kg	3.1	0.46	5	6010B	04/14/10	1:11	dsullivan	Q49277
Cadmium		2.7	mg/kg	0.31	0.033	1	6010B	04/09/10	1:07	pfitzgerald	Q49277
Chromium		32	mg/kg	0.31	0.042	1	6010B	04/09/10	1:07	pfitzgerald	Q49277
Lead		17	mg/kg	1.5	0.38	5	6010B	04/14/10	1:11	dsullivan	Q49277
Selenium		BRL	mg/kg	3.1	0.62	5	6010B	04/14/10	1:11	dsullivan	Q49277
Silver		BRL	mg/kg	0.31	0.031	1	6010B	04/09/10	1:07	pfitzgerald	Q49277
	Sample Preparation:			2	2.04 g /	50 mL	3050B	04/07/10	9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-8-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275463

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected: 03/30/10 11:20

Sample Matrix: Soil

viacin.	6611	Time Submitted:	03/31/10	14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analys Date/Time	Batch ID
Percent Solids Determination Percent Solids	81.9	%			1	SM2540 G	04/05/10 13:30 jbrayton	
Volatile Organic Compounds by G	C/MS BRL	ua/ka	4.3	1.4	1	8260B	04/06/10 13:23 erussell	Q49229
1,1,1,2-Tetrachloroethane		μg/kg	4.3	0.98	1	8260B	04/06/10 13:23 erussell	Q49229
1,1,1-Trichloroethane	BRL	μg/kg	4.3	1.2	1	8260B	04/06/10 13:23 erussell	Q49229
1,1,2,2-Tetrachloroethane	BRL	μg/kg	4.3	1.2	1	8260B	04/06/10 13:23 erussell	Q49229
1,1,2-Trichloroethane	BRL	μg/kg	4.3	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
1,1-Dichloroethane	BRL	μg/kg		1.0	1	8260B	04/06/10 13:23 erussell	Q49229
1,1-Dichloroethene	BRL	μg/kg	4.3	0.89	1	8260B	04/06/10 13:23 erussell	Q49229
1,1-Dichloropropene	BRL	μg/kg	4.3		1	8260B	04/06/10 13:23 erussell	Q49229
1,2,3-Trichlorobenzene	BRL	μg/kg	8.5	1.4		8260B	04/06/10 13:23 erussell	Q49229
1,2,3-Trichloropropane	BRL	μg/kg "	4.3	1.8	1		04/06/10 13:23 erussell	Q49229 Q49229
1,2,4-Trichlorobenzene	BRL	μg/kg 		1.2	1	8260B		Q49229 Q49229
1,2,4-Trimethylbenzene	BRL	μg/kg		1.1	1	8260B	04/06/10 13:23 erussell	
1,2-Dibromo-3-chloropropane	BRL	µg/kg		1.5	1	8260B	04/06/10 13:23 erussell	Q49229
1,2-Dibromoethane (EDB)	BRL	µg/kg	4.3	1.2	1	8260B	04/06/10 13:23 erussell	Q49229
1,2-Dichlorobenzene	BRL	µg/kg	8.5	1.2	1	8260B	04/06/10 13:23 erussell	Q49229
1,2-Dichloroethane	BRL	μg/kg	4.3	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
1,2-Dichloropropane	BRL	µg/kg	4.3	1.3	1	8260B	04/06/10 13:23 erussell	Q49229
1,3,5-Trimethylbenzene	BRL	μg/kg	8.5	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
1,3-Dichlorobenzene	BRL	μg/kg	8.5	1.0	1	8260B	04/06/10 13:23 erussell	Q49229
1,3-Dichloropropane	BRL	µg/kg	4.3	0.88	1	8260B	04/06/10 13:23 erusseli	Q49229
1,4-Dichlorobenzene	BRL	µg/kg	8.5	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
2,2-Dichloropropane	BRL	μg/kg	4.3	1.0	1	8260B	04/06/10 13:23 erussell	Q49229
2-Chloroethyl vinyl ether	BRL	μg/kg	8.5	1.3	1	8260B	04/06/10 13:23 erussell	Q49229
2-Chlorotoluene	BRL	μg/kg	8.5	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
2-Hexanone	BRL	μg/kg		1.3	1	8260B	04/06/10 13:23 erussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-8-6-8

Project ID: Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275463

G0410028

Project No.:

WBS# 34871.2.1

COC Group:

03/30/10 11:20

Time Collected:

14:30

Sample Matrix: Soil

Time Submitted: 03/31/10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analyst Date/Time	Batch ID
4-Chlorotoluene	BRL	μg/kg	8.5	1.0	1	8260B	04/06/10 13:23 erussell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	8.5	0.93	1	8260B	04/06/10 13:23 erussell	Q49229
Acetone	BRL	μg/kg	17	1.9	1	8260B	04/06/10 13:23 erussell	Q49229
Benzene	BRL	μg/kg	2.6	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
Bromobenzene	BRL	μg/kg	4.3	1.0	1	8260B	04/06/10 13:23 erussell	Q49229
Bromochloromethane	BRL	μg/kg	4.3	1.2	1	8260B	04/06/10 13:23 erussell	Q49229
Bromodichloromethane	BRL	μg/kg	4.3	0.98	1	8260B	04/06/10 13:23 erussell	Q49229
Bromoform	BRL	μg/kg	4.3	0.93	1	8260B	04/06/10 13:23 erussell	Q49229
Bromomethane	BRL	μg/kg	8.5	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
Carbon disulfide	BRL	μg/kg	8.5	0.87	1	8260B	04/06/10 13:23 erussell	Q49229
Carbon tetrachloride	BRL	μg/kg	4.3	1.2	1	8260B	04/06/10 13:23 erussell	Q49229
Chlorobenzene	BRL	μg/kg	4.3	0.97	1	8260B	04/06/10 13:23 erussell	Q49229
Chlorodibromomethane	BRL	μg/kg	4.3	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
Chloroethane	BRL	μg/kg	8.5	2.2	1	8260B	04/06/10 13:23 erussell	Q49229
Chloroform	BRL	μg/kg	4.3	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
Chloromethane	BRL	μg/kg	8.5	1.0	1	8260B	04/06/10 13:23 erussell	Q49229
cis-1,2-Dichloroethene	BRL	μg/kg	4.3	1.0	1	8260B	04/06/10 13:23 erussell	Q49229
cis-1,3-Dichloropropene	BRL	μg/kg	4.3	1.0	1	8260B	04/06/10 13:23 erussell	Q49229
Dibromomethane	BRL	µg/kg	4.3	1.2	1	8260B	04/06/10 13:23 erussell	Q49229
Dichlorodifluoromethane	BRL	μg/kg	8.5	0.88	1	8260B	04/06/10 13:23 erussell	Q49229
Ethylbenzene	BRL	μg/kg	4.3	0.89	1	8260B	04/06/10 13:23 erussell	Q49229
Hexachlorobutadiene	BRL	μg/kg	13	1.0	1	8260B	04/06/10 13:23 erussell	Q49229
Isopropyl ether (IPE)	BRL	μg/kg	4.3	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
Isopropylbenzene	BRL	μg/kg	8.5	0.95	1	8260B	04/06/10 13:23 erussell	Q49229
m,p-Xylenes	BRL	μg/kg	8.5	2.3	1	8260B	04/06/10 13:23 erussell	Q49229
Methyl ethyl ketone (MEK)	BRL	μg/kg	17	1.1	1	8260B	04/06/10 13:23 erussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	μg/kg	4.3	0.89	1	8260B	04/06/10 13:23 erussell	Q49229

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# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-8-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275463

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 11:20

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methylene chloride	BRL	µg/kg	8.5	1.1	1	8260B	04/06/10 13:23	erussell	Q49229
n-Butylbenzene	BRL	µg/kg	13	1.6	1	8260B	04/06/10 13:23	erussell	Q49229
n-Propylbenzene	BRL	µg/kg	8.5	1.2	1	8260B	04/06/10 13:23	erussell	Q49229
Naphthalene	BRL	μg/kg	4.3	2.3	1	8260B	04/06/10 13:23	erussell	Q49229
o-Xylene	BRL	µg/kg	4.3	0.95	1	8260B	04/06/10 13:23	erussell	Q49229
p-Isopropyltoluene	BRL	µg/kg	13	1.2	1	8260B	04/06/10 13:23	erussell	Q49229
sec-Butylbenzene	BRL	μg/kg	13	1.1	1	8260B	04/06/10 13:23	erussell	Q49229
Styrene	BRL	μg/kg	4.3	0.83	1	8260B	04/06/10 13:23	erussell	Q49229
tert-Butylbenzene	BRL	μg/kg	17	1.2	1	8260B	04/06/10 13:23	erussell	Q49229
Tetrachloroethene	BRL	μg/kg	8.5	1.1	1	8260B	04/06/10 13:23	erussell	Q49229
Toluene	BRL	µg/kg	4.3	1.0	1	8260B	04/06/10 13:23	erussell	Q49229
trans-1,2-Dichloroethene	BRL	μg/kg	4.3	0.84	1	8260B	04/06/10 13:23	erussell	Q49229
trans-1,3-Dichloropropene	BRL	µg/kg	4.3	0.85	1	8260B	04/06/10 13:23	erussell	Q49229
Trichloroethene	BRL	μg/kg	4.3	1.2	1	8260B	04/06/10 13:23	erussell	Q49229
Trichlorofluoromethane	BRL	µg/kg	4.3	1.2	1	8260B	04/06/10 13:23	erussell	Q49229
Vinyl chloride	BRL	µg/kg	8.5	1.1	1	8260B	04/06/10 13:23	erussell	Q49229

					Surrogate Toluene-d8 Dibromofluoromethane Bromofluorobenzene		% Recovery		Control Limits	
							103		81 - 128	
							105 98		67 - 143	
									77 - 128	
Sample Weight Determination										
Weight Bisulfate 1	7.16	g			1	5035	04/06/10	lbrown		
Weight Bisulfate 2	7.30	g			1	5035	04/06/10	Ibrown		
Weight Methanol	6.71	g			1	5035	04/06/10	Ibrown		
Semi-volatile Organic Compounds	by GC/MS									
1,2,4-Trichlorobenzene	BRL	µg/kg	400	44	1	8270C	04/08/10 0:03	cphilbric	k Q49259	



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-8-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275463

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 11:20

14:30

Sample Matrix: Soil

Time Submitted: 03/31/10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2-Dichlorobenzene	BRL	µg/kg	400	44	1	8270C	04/08/10 0:03	cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	μg/kg	400	39	1	8270C	04/08/10 0:03	cphilbrick	Q49259
1,4-Dichlorobenzene	BRL	μg/kg	400	48	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	μg/kg	400	47	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	μg/kg	400	43	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2,4-Dichlorophenol	BRL	μg/kg	400	26	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2,4-Dimethylphenol	BRL	μg/kg	400	59	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2,4-Dinitrophenol	BRL	μg/kg	400	120	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2,4-Dinitrotoluene	BRL	μg/kg	400	52	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	μg/kg	400	72	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2-Chloronaphthalene	BRL	μg/kg	400	50	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2-Chlorophenol	BRL	μg/kg	400	17	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2-Methylnaphthalene	BRL	μg/kg	400	45	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2-Methylphenol	BRL	μg/kg	400	32	1	8270C	04/08/10 0:03	cphilbrick	Q49259
2-Nitrophenol	BRL	μg/kg	400	56	1	8270C	04/08/10 0:03	cphilbrick	. Q49259
3&4-Methylphenol	BRL	μg/kg	400	47	1	8270C	04/08/10 0:03	cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	µg/kg	400	72	1	8270C	04/08/10 0:03	cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	μg/kg	400	34	1	8270C	04/08/10 0:03	cphilbrick	Q49259
4-Bromophenylphenylether	BRL	μg/kg	400	50	1	8270C	04/08/10 0:03	cphilbrick	Q49259
4-Chloro-3-methylphenol	BRL	μg/kg	400	47	1	8270C	04/08/10 0:03	cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	µg/kg	400	50	1	8270C	04/08/10 0:03	cphilbrick	Q49259
4-Nitrophenol	BRL.	μg/kg	400	51	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Acenaphthene	BRL	μg/kg	400	54	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Acenaphthylene	BRL	μg/kg	400	37	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Anthracene	BRL	μg/kg	400	29	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Benzo(a)anthracene	BRL	μg/kg	400	45	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Benzo(a)pyrene	BRL	μg/kg	400	50	1	8270C	04/08/10 0:03	cphilbrick	Q49259



#### **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-8-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275463

G0410028

Project No.:

Parcel 2

COC Group:

03/30/10 11:20

Sample Matrix: Soil

WBS# 34871.2.1

Time Collected:

Time Submitted: 03/31/10 14	1:30
-----------------------------	------

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Benzo(b)fluoranthene	BRL	µg/kg	400	81	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Benzo(g,h,i)perylene	BRL	μg/kg	400	51	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Benzo(k)fluoranthene	BRL	μg/kg	400	110	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Bis(2-chloroethoxy)methane	BRL	μg/kg	400	67	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Bis(2-chloroethyl)ether	BRL	µg/kg	400	49	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Bis(2-chloroisopropyl)ether	BRL	μg/kg	400	40	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Bis(2-ethylhexyl)phthalate	BRL	μg/kg	400	31	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Butylbenzylphthalate	BRL	µg/kg	400	49	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Chrysene	BRL	µg/kg	400	27	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Di-n-butylphthalate	BRL	μg/kg	400	64	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Di-n-octylphthalate	BRL	μg/kg	400	120	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Dibenzo(a,h)anthracene	BRL	μg/kg	400	37	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Dibenzofuran	BRL	µg/kg	400	49	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Diethylphthalate	BRL	μg/kg	400	100	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Dimethylphthalate	BRL	μg/kg	400	59	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Fluoranthene	BRL	μg/kg	400	70	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Fluorene	BRL	µg/kg	400	57	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Hexachlorobenzene	BRL	μg/kg	400	55	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Hexachlorobutadiene	BRL	µg/kg	400	40	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Hexachlorocyclopentadiene	BRL	µg/kg	400	59	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Hexachloroethane	BRL	µg/kg	400	16	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Indeno(1,2,3-cd)pyrene	BRL	μg/kg	400	38	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Isophorone	BRL	µg/kg	400	38	1	8270C	04/08/10 0:03	cphilbrick	Q49259
N-Nitrosodi-n-propylamine	BRL	μg/kg	400	23	1	8270C	04/08/10 0:03	cphilbrick	Q49259
N-Nitrosodiphenylamine	BRL	μg/kg	400	58	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Naphthalene	BRL	μg/kg	400	48	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Nitrobenzene	BRL	μg/kg	400	50	1	8270C	04/08/10 0:03	cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-8-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275463 Parcel 2

G0410028

Project No.:

COC Group:

03/30/10 11:20

Sample Matrix: Soil

WBS# 34871.2.1

Time Collected:

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analysi	: Batch ID
Pentachlorophenol	BRL	µg/kg	400	61	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Phenanthrene	BRL	μg/kg	400	34	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Phenol	BRL	μg/kg	400	70	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Pyrene	BRL	µg/kg	400	76	1	8270C	04/08/10 0:03	cphilbrick	Q49259
Sample Preparatio	n:		3	0.3 g /	1 mL	3550B	04/06/10 13:30	aguptill	P27199
					Surrogate		% Recovery	y Coi	ntrol Limits
					Terphenyl-	d14	89		41 - 136
					Phenol-d5		69		13 - 95
					Nitrobenze	ne-d5	70		14 - 103
					2-Fluoroph	enol	74		14 - 89
					2-Fluorobip	ohenyl	69		21 - 108
					2,4,6-Tribro	omophenol	68		25 - 123
Diesel Range Organics (DRO) by G			0.5	4.4	4	8015B	04/09/40 40:45	ivogel	Q49287
Diesel Range Organics (DRO)	BRL	mg/kg	8.5	1.4	1	80108	04/08/10 19:15	yogei	Q49287
Sample Preparation	:		25	.09 g /	1 mL	3545	04/07/10 17:00	) athao	P27216
					Surrogate		% Recover	y Co	ntrol Limits
					o-Terphen	yl	56		49 - 124
Sample Weight Determination									
Weight 1	6.69	g			1	GRO	04/06/10 0:00	Ibrown	
Weight 2	6.69	g			1	GRO	04/06/10 0:00	Ibrown	
Gasoline Range Organics (GRO) b	y GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.1	3.8	50	8015B	04/08/10 19:39	) heasler	Q49295



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-8-6-8

Project ID: Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275463

G0410028

Project No.:

WBS# 34871.2.1

COC Group:

03/30/10

11:20

Sample Matrix: Soil

Time Collected: Time Submitted: 03/31/10

14:30

Parameter		Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Tir		Analyst	Batch ID
						Surrogate		% Re	covery	Con	trol Limits
						aaa-TFT			96		55 - 129
Mercury by CVA Mercury	<u>A</u>	0.072	mg/kg	0.024	0.0017	1	7471A	04/09/10	15:42	kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10	8:20	kpowers	P27230
Metals by ICP											
Arsenic		2.7	mg/kg	0.61	0.069	1	6010B	04/09/10	1:14	pfitzgerald	Q49277
Barium		32	mg/kg	3.1	0.45	5	6010B	04/14/10	1:18	dsullivan	Q49277
Cadmium		1.1	mg/kg	0.31	0.032	1	6010B	04/09/10	1:14	pfitzgerald	Q49277
Chromium		33	mg/kg	0.31	0.042	1	6010B	04/09/10	1:14	pfitzgerald	Q49277
Lead		17	mg/kg	1.5	0.38	5	6010B	04/14/10	1:18	dsullivan	Q49277
Selenium		2.0 J	mg/kg	3.1	0.62	5	6010B	04/14/10	1:18	dsullivan	Q49277
Silver		BRL	mg/kg	0.31	0.031	1	6010B	04/09/10	1:14	pfitzgerald	Q49277
	Sample Preparation:			2	2.05 g /	50 mL	3050B	04/07/10	9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-9-6-8

Project ID: Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275464

Project No.:

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 11:40

Sa

ample Matrix:	Soil	Time Submitted:	03/31/10	14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis / Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	64.3	%			1	SM2540 G	04/05/10 13:30 jbr	ayton	
Volatile Organic Compounds by G		ua/ka	6.2	2.1	1	8260B	04/06/10 20:05 en	ussell	Q49229
1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	BRL BRL	µg/kg µg/kg	6.2	1.4	1	8260B	04/06/10 20:05 eru		Q49229
1,1,2,2-Tetrachloroethane	BRL		6.2	1.7	1	8260B	04/06/10 20:05 eru		Q49229
		µg/kg	6.2	1.8	1	8260B	04/06/10 20:05 eru		Q49229
1,1,2-Trichloroethane	BRL BRL	μg/kg	6.2	1.6	1	8260B	04/06/10 20:05 er		Q49229
1,1-Dichloroethane	BRL	µg/kg	6.2	1.5	1	8260B	04/06/10 20:05 eru		Q49229
1,1-Dichloroethene	BRL	μg/kg	6.2	1.3	1	8260B	04/06/10 20:05 en		Q49229
1,1-Dichloropropene 1,2,3-Trichlorobenzene	BRL	µg/kg µg/kg	12	2.0	1	8260B	04/06/10 20:05 en		Q49229
, ,	BRL		6.2	2.6	1	8260B	04/06/10 20:05 er		Q49229
1,2,3-Trichloropropane 1,2,4-Trichlorobenzene	BRL	µg/kg µg/kg	12	1.7	1	8260B	04/06/10 20:05 er		Q49229
1,2,4-Trimethylbenzene	BRL	μg/kg	12	1.5	1	8260B	04/06/10 20:05 er		Q49229
1,2-Dibromo-3-chloropropane	BRL	μg/kg	6.2	2.2	1	8260B	04/06/10 20:05 erd		Q49229
1,2-Dibromoethane (EDB)	BRL	μg/kg	6.2	1.7	1	8260B	04/06/10 20:05 en		Q49229
1,2-Dichlorobenzene	BRL	µg/kg	12	1.7	1	8260B	04/06/10 20:05 er		Q49229
1,2-Dichloroethane	BRL	µg/kg	6.2	1.6	1	8260B	04/06/10 20:05 en		Q49229
1,2-Dichloropropane	BRL	µg/kg	6.2	1.8	1	8260B	04/06/10 20:05 en		Q49229
1,3,5-Trimethylbenzene	BRL	µg/kg	12	1.6	1	8260B	04/06/10 20:05 er		Q49229
1,3-Dichlorobenzene	BRL	μg/kg	12	1.5	1	8260B	04/06/10 20:05 era		Q49229
·	BRL	μg/kg	6.2	1.3	1	8260B	04/06/10 20:05 er		Q49229
1,3-Dichloropropane	BRL	μg/kg	12	1.5	, 1	8260B	04/06/10 20:05 er		Q49229
1,4-Dichlorobenzene			6.2	1.5	1	8260B	04/06/10 20:05 er		Q49229
2,2-Dichloropropane	BRL	μg/kg	12	1.8	1	8260B	04/06/10 20:05 en		Q49229
2-Chloroethyl vinyl ether	BRL	μg/kg				8260B	04/06/10 20:05 en		Q49229 Q49229
2-Chlorotoluene	BRL	µg/kg	12	1.6	1				
2-Hexanone	BRL	µg/kg	62	1.9	1	8260B	04/06/10 20:05 en	ussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-9-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275464

Project No.:

Parcel 2

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 11:40

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis A Date/Time	Analyst	Batch ID
4-Chlorotoluene	BRL	μg/kg	12	1.5	1	8260B	04/06/10 20:05 eru	ıssell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	. 12	1.3	1	8260B	04/06/10 20:05 erus	ıssell	Q49229
Acetone	13 J	μg/kg	25	2.7	1	8260B	04/06/10 20:05 eru:	ıssell	Q49229
Benzene	BRL	μg/kg	3.7	1.6	1	8260B	04/06/10 20:05 eru	ıssell	Q49229
Bromobenzene	BRL	μg/kg	6.2	1.5	1	8260B	04/06/10 20:05 eru	ıssell	Q49229
Bromochloromethane	BRL	μg/kg	6.2	1.7	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Bromodichloromethane	BRL	μg/kg	6.2	1.4	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Bromoform	BRL	μg/kg	6.2	1.3	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Bromomethane	BRL	μg/kg	12	1.6	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Carbon disulfide	BRL	μg/kg	12	1.3	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Carbon tetrachloride	BRL	μg/kg	6.2	1.8	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Chlorobenzene	BRL	μg/kg	6.2	1.4	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Chlorodibromomethane	BRL	μg/kg	6.2	1.6	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Chloroethane	BRL	μg/kg	12	3.2	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Chloroform	BRL	μg/kg	6.2	1.6	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Chloromethane	BRL	μg/kg	12	1.5	1	8260B	04/06/10 20:05 eru	ussell	Q49229
cis-1,2-Dichloroethene	BRL	μg/kg	6.2	1.5	1	8260B	04/06/10 20:05 eru	ussell	Q49229
cis-1,3-Dichloropropene	BRL	µg/kg	6.2	1.5	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Dibromomethane	BRL	µg/kg	6.2	1.7	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Dichlorodifluoromethane	BRL	μg/kg	12	1.3	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Ethylbenzene	BRL	μg/kg	6.2	1.3	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Hexachlorobutadiene	BRL	µg/kg	19	1.5	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Isopropyl ether (IPE)	BRL	μg/kg	6.2	1.5	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Isopropylbenzene	BRL	μg/kg	12	1.4	1	8260B	04/06/10 20:05 eru	ussell	Q49229
m,p-Xylenes	BRL	μg/kg	12	3.3	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Methyl ethyl ketone (MEK)	BRL	μg/kg	25	1.6	1	8260B	04/06/10 20:05 eru	ussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	μg/kg	6.2	1.3	1	8260B	04/06/10 20:05 eru	ussell	Q49229



#### **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-9-6-8

Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275464

Project No.:

COC Group:

G0410028

03/30/10 11:40

WBS# 34871.2.1

Time Collected:

Samp	ıe	wau	IX:	2011

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analyst Date/Time	Batch ID
Methylene chloride	BRL	μg/kg	12	1.6	1	8260B	04/06/10 20:05 erussell	Q49229
n-Butylbenzene	BRL	μg/kg	19	2.3	1 .	8260B	04/06/10 20:05 erussell	Q49229
n-Propylbenzene	BRL	μg/kg	12	1.8	1	8260B	04/06/10 20:05 erussell	Q49229
Naphthalene	BRL	μg/kg	6.2	3.4	1	8260B	04/06/10 20:05 erussell	Q49229
o-Xylene	BRL	μg/kg	6.2	1.4	1	8260B	04/06/10 20:05 erussell	Q49229
p-Isopropyltoluene	BRL	µg/kg	19	1.8	1	8260B	04/06/10 20:05 erussell	Q49229
sec-Butylbenzene	BRL	µg/kg	19	1.6	1	8260B	04/06/10 20:05 erussell	Q49229
Styrene	BRL	μg/kg	6.2	1.2	1	8260B	04/06/10 20:05 erussell	Q49229
tert-Butylbenzene	BRL	μg/kg	25	1.7	1	8260B	04/06/10 20:05 erussell	Q49229
Tetrachloroethene	BRL	μg/kg	12	1.6	1	8260B	04/06/10 20:05 erussell	Q49229
Toluene	BRL	µg/kg	6.2	1.5	1	8260B	04/06/10 20:05 erussell	Q49229
trans-1,2-Dichloroethene	BRL	µg/kg	6.2	1.2	1	8260B	04/06/10 20:05 erussell	Q49229
trans-1,3-Dichloropropene	BRL	µg/kg	6.2	1.2	1	8260B	04/06/10 20:05 erussell	Q49229
Trichloroethene	BRL	µg/kg	6.2	1.7	1	8260B	04/06/10 20:05 erussell	Q49229
Trichlorofluoromethane	BRL	μg/kg	6.2	1.8	1	8260B	04/06/10 20:05 erussell	Q49229
Vinyl chloride	BRL	µg/kg	12	1.6	1	8260B	04/06/10 20:05 erussell	Q49229

					Surrogat		% Recover	-	Control Limits
					Toluene-		104		81 - 128
					Dibromof	luoromethane	104		67 - 143
					Bromoflu	orobenzene	98		77 - 128
Sample Weight Determination									TO THE THE PROPERTY COMMENTS
Weight Bisulfate 1	6.29	9			1	5035	04/06/10	ibrown	
Weight Bisulfate 2	6.07	g			1	5035	04/06/10	Ibrown	
Weight Methanol	5.96	g			1	5035	04/06/10	İbrown	
Semi-volatile Organic Compounds	by GC/MS								
1,2,4-Trichlorobenzene	BRL	μg/kg	510	56	1	8270C	04/08/10 0:33	cphilbric	k Q49259



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-9-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275464

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 11:40

Sa

30

ample Matrix: Sc	oil	Time Submitted:	03/31/10	14:3

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2-Dichlorobenzene	BRL	µg/kg	510	57	1	8270C	04/08/10 0:33	cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	μg/kg	510	50	1	8270C	04/08/10 0:33	cphilbrick	Q49259
1,4-Dichlorobenzene	BRL	μ <b>g</b> /kg	510	61	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	μg/kg	510	61	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	μg/kg	510	55	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2,4-Dichlorophenol	BRL	μg/kg	510	34	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2,4-Dimethylphenol	BRL	µg/kg	510	76	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2,4-Dinitrophenol	BRL	μg/kg	510	150	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2,4-Dinitrotoluene	BRL	μg/kg	510	67	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	μg/kg	510	92	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2-Chloronaphthalene	BRL	μg/kg	510	64	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2-Chlorophenol	BRL	μg/kg	510	21	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2-Methylnaphthalene	BRL	μg/kg	510	57	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2-Methylphenol	BRL	μg/kg	510	41	1	8270C	04/08/10 0:33	cphilbrick	Q49259
2-Nitrophenol	BRL	μg/kg	510	72	1	8270C	04/08/10 0:33	cphilbrick	Q49259
3&4-Methylphenol	BRL	μg/kg	510	60	1	8270C	04/08/10 0:33	cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	μg/kg	510	93	1	8270C	04/08/10 0:33	cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	µg/kg	510	44	1	8270C	04/08/10 0:33	cphilbrick	Q49259
4-Bromophenylphenylether	BRL	µg/kg	510	64	1	8270C	04/08/10 0:33	cphilbrick	Q49259
4-Chloro-3-methylphenol	BRL	µg/kg	510	60	1	8270C	04/08/10 0:33	cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	μg/kg	510	65	1	8270C	04/08/10 0:33	cphilbrick	Q49259
4-Nitrophenol	BRL	µg/kg	510	65	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Acenaphthene	BRL	μg/kg	510	69	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Acenaphthylene	BRL	µg/kg	510	48	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Anthracene	BRL	µg/kg	510	37	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Benzo(a)anthracene	BRL	µg/kg	510	58	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Benzo(a)pyrene	BRL	μg/kg	510	65	1	8270C	04/08/10 0:33	cphilbrick	Q49259



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-9-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275464

G0410028

Project No.:

Parcel 2 WBS# 34871.2.1 COC Group: Time Collected:

03/30/10 11:40

Sample Matrix: Soil

ample Matrix:	5011	Time Submitted:	03/31/10	14:30	

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Benzo(b)fluoranthene	BRL	μg/kg	510	100	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Benzo(g,h,i)perylene	BRL	μg/kg	510	65	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Benzo(k)fluoranthene	BRL	μg/kg	510	140	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Bis(2-chloroethoxy)methane	BRL	μg/kg	510	86	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Bis(2-chloroethyl)ether	BRL	μg/kg	510	63	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Bis(2-chloroisopropyl)ether	BRL	μg/kg	510	51	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Bis(2-ethylhexyl)phthalate	BRL	μg/kg	510	40	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Butylbenzylphthalate	BRL	μg/kg	510	63	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Chrysene	BRL	μg/kg	510	34	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Di-n-butylphthalate	BRL	μg/kg	510	82	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Di-n-octylphthalate	BRL	µg/kg	510	150	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Dibenzo(a,h)anthracene	BRL	μg/kg	510	48	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Dibenzofuran	BRL	μg/kg	510	63	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Diethylphthalate	BRL	μg/kg	510	130	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Dimethylphthalate	BRL	μg/kg	510	76	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Fluoranthene	BRL	µg/kg	510	90	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Fluorene	BRL	μg/kg	510	73	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Hexachlorobenzene	BRL	µg/kg	510	70	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Hexachlorobutadiene	BRL	μg/kg	510	51	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Hexachlorocyclopentadiene	BRL	μg/kg	510	76	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Hexachloroethane	BRL	μg/kg	510	21	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Indeno(1,2,3-cd)pyrene	BRL	μg/kg	510	49	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Isophorone	BRL	μg/kg	510	49	1	8270C	04/08/10 0:33	cphilbrick	Q49259
N-Nitrosodi-n-propylamine	BRL	μg/kg	510	30	1	8270C	04/08/10 0:33	cphilbrick	Q49259
N-Nitrosodiphenylamine	BRL	µg/kg	510	74	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Naphthalene	BRL	μg/kg	510	61	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Nitrobenzene	BRL	µg/kg	510	64	1	8270C	04/08/10 0:33	cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-9-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275464 Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 11:40

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analysi	Batch ID
Pentachlorophenol	BRL	µg/kg	510	78	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Phenanthrene	BRL	μg/kg	510	43	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Phenol	BRL	μg/kg	510	90	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Pyrene	BRL	μg/kg	510	98	1	8270C	04/08/10 0:33	cphilbrick	Q49259
Sample Preparation:			30.	.08 g	1 mL	3550B	04/06/10 13:30	) aguptill	P27199
					Surrogate		% Recover	y Co	ntrol Limits
					Terphenyl-	d14	80		41 - 136
					Phenol-d5		64		13 - 95
					Nitrobenze	ne-d5	66		14 - 103
					2-Fluoroph	enol	68		14 - 89
					2-Fluorobip	henyl	67		21 - 108
					2,4,6-Tribro	omophenol	61		25 - 123
Diesel Range Organics (DRO) by GO									
Diesel Range Organics (DRO)	BRL	mg/kg	7.8	1.8	1	8015B	04/08/10 19:50	) jvogel	Q49287
Sample Preparation:			24	.97 g	1 mL	3545	04/07/10 17:0	) athao	P27216
					Surrogate		% Recover	y Co	ntrol Limits
					o-Terpheny	A	61		49 - 124
Sample Weight Determination									
Weight 1	6.05	g			1	GRO	04/06/10 0:00	Ibrown	
Weight 2	6.45	9			1	GRO	04/06/10 0:00	lbrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	7.8	4.9	50	8015B	04/08/10 20:10	) heasler	Q49295



#### **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-9-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275464

Project ID: Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 11:40

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

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

						Surrogate		% Recovery		Control Limits	
						aaa-TFT			85		55 - 129
Mercury by CVA	<u> </u>	0.051	mg/kg	0.031	0.0021	1	7471A	04/09/10	15:55	kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10	8:20	kpowers	P27230
Metals by ICP Arsenic		3.4	mg/kg	0.78	0.088	1	6010B	04/09/10	1:21	pfitzgerald	Q49277
Barium		130	mg/kg	3.9	0.58	5	6010B	04/14/10	1:25	dsullivan	Q49277
Cadmium		1.3	mg/kg	0.39	0.041	1	6010B	04/09/10	1:21	pfitzgerald	Q49277
Chromium		41	mg/kg	0.39	0.053	1	6010B	04/09/10	1:21	pfitzgerald	Q49277
Lead		14	mg/kg	1.9	0.48	5	6010B	04/14/10	1:25	dsullivan	Q49277
Selenium		3.6 J	mg/kg	3.9	0.79	5	6010B	04/14/10	1:25	dsullivan	Q49277
Silver		BRL	mg/kg	0.39	0.040	1	6010B	04/09/10	1:21	pfitzgerald	Q49277
	Sample Preparation:				2 g /	50 mL	3050B	04/07/10	9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-10-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275465 Parcel 2

G0410028

Project No.:

COC Group:

03/30/10 12:18

Sample Matrix: Soil

WBS# 34871.2.1

Time Collected:

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analys Date/Time	t Batch ID
Percent Solids Determination Percent Solids	76.2	%			1	SM2540 G	04/05/10 13:30 jbrayton	
Volatile Organic Compounds by	GC/MS BRL	ualka	5.6	1.8	1	8260B	04/06/10 19:31 erussell	Q49229
1,1,1,2-Tetrachloroethane	BRL	µg/kg	5.6	1.3	1	8260B	04/06/10 19:31 erussell	Q49229
1,1,1-Trichloroethane		µg/kg	5.6	1.5	1	8260B	04/06/10 19:31 erussell	Q49229
1,1,2,2-Tetrachloroethane	BRL BRL	μg/kg	5.6	1.6	' 1	8260B	04/06/10 19:31 erussell	Q49229
1,1,2-Trichloroethane		µg/kg	5.6	1.4	1	8260B	04/06/10 19:31 erussell	Q49229
1,1-Dichloroethane	BRL BRL	µg/kg µg/kg	5.6	1.3	1	8260B	04/06/10 19:31 erussell	Q49229
1,1-Dichloroethene	BRL			1.2	· · 1	8260B	04/06/10 19:31 erussell	Q49229
1,1-Dichloropropene	BRL	µg/kg µg/kg		1:8	. 1	8260B	04/06/10 19:31 erusseli	Q49229
1,2,3-Trichlorobenzene	BRL	μg/kg		2.3	1	8260B	04/06/10 19:31 erussell	Q49229
1,2,3-Trichloropropane	BRL			1.5	1	8260B	04/06/10 19:31 erussell	Q49229
1,2,4-Trichlorobenzene	BRL	µg/kg		1.4	1	8260B	04/06/10 19:31 erussell	Q49229
1,2,4-Trimethylbenzene		µg/kg		2.0	1	8260B	04/06/10 19:31 erussell	Q49229
1,2-Dibromo-3-chloropropane	BRL	µg/kg		1.5	1	8260B	04/06/10 19:31 erussell	Q49229
1,2-Dibromoethane (EDB)	BRL	µg/kg		1.5	1	8260B	04/06/10 19:31 erussell	Q49229
1,2-Dichlorobenzene	BRL	μg/kg		1.4	1	8260B	04/06/10 19:31 erussell	Q49229
1,2-Dichloroethane	BRL	μg/kg		1.7	1	8260B	04/06/10 19:31 erussell	Q49229
1,2-Dichloropropane	BRL	μg/kg "			1	8260B	04/06/10 19:31 erussell	Q49229
1,3,5-Trimethylbenzene	BRL	μg/kg "		1.5			04/06/10 19:31 erussell	Q49229
1,3-Dichlorobenzene	BRL	μg/kg 		1.3	1	8260B		
1,3-Dichloropropane	BRL	µg/kg		1.1	1	8260B	04/06/10 19:31 erussell	Q49229
1,4-Dichlorobenzene	BRL	µg/kg		1.4	1	8260B	04/06/10 19:31 erussell	Q49229
2,2-Dichloropropane	BRL	μg/kg	5.6	1.3	1	8260B	04/06/10 19:31 erussell	Q49229
2-Chloroethyl vinyl ether	BRL	μg/kg	11	1.7	1	8260B	04/06/10 19:31 erussell	Q49229
2-Chlorotoluene	BRL	µg/kg	11	1.4	1	8260B	04/06/10 19:31 erussell	Q49229
2-Hexanone	BRL	μg/kg	56	1.7	1	8260B	04/06/10 19:31 erussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-10-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275465 Parcel 2

Project No.:

WBS# 34871.2.1

COC Group:

G0410028 03/30/10 12:18

Sample Matrix: Soil

Time Collected:

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
4-Chlorotoluene	BRL	μg/kg	11	1.4	1	8260B	04/06/10 19:31	erussell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	11	1.2	1	8260B	04/06/10 19:31	erussell	Q49229
Acetone	15 J	μg/kg	22	2.4	1	8260B	04/06/10 19:31	erussell	Q49229
Benzene	BRL	μg/kg	3.3	1.5	1	8260B	04/06/10 19:31	erussell	Q49229
Bromobenzene	BRL	μg/kg	5.6	1.4	1	8260B	04/06/10 19:31	erussell	Q49229
Bromochloromethane	BRL	μg/kg	5.6	1.5	1	8260B	04/06/10 19:31	erussell	Q49229
Bromodichloromethane	BRL	µg/kg	5.6	1.3	1	8260B	04/06/10 19:31	erussell	Q49229
Bromoform	BRL	μg/kg	5.6	1.2	1	8260B	04/06/10 19:31	erussell	Q49229
Bromomethane	BRL	μg/kg	11	1.4	1	8260B	04/06/10 19:31	erussell	Q49229
Carbon disulfide	BRL	μg/kg	11	1.1	1	8260B	04/06/10 19:31	erussell	Q49229
Carbon tetrachloride	BRL	μg/kg	5.6	1.6	1	8260B	04/06/10 19:31	erussell	Q49229
Chlorobenzene	BRL	μg/kg	5.6	1.3	1	8260B	04/06/10 19:31	erussell	Q49229
Chlorodibromomethane	BRL	μg/kg	5.6	1.4	1	8260B	04/06/10 19:31	erussell	Q49229
Chloroethane	BRL	µg/kg	11	2.9	1	8260B	04/06/10 19:31	erussell	Q49229
Chloroform	BRL	µg/kg	5.6	1.4	1	8260B	04/06/10 19:31	erussell	Q49229
Chloromethane	BRL	µg/kg	11	1.3	1	8260B	04/06/10 19:31	erussell	Q49229
cis-1,2-Dichloroethene	BRL	μg/kg	5.6	1.3	1	8260B	04/06/10 19:31	erussell	Q49229
cis-1,3-Dichloropropene	BRL	μg/kg	5.6	1.3	1	8260B	04/06/10 19:31	erussell	Q49229
Dibromomethane	BRL	μg/kg	5.6	1.6	1	8260B	04/06/10 19:31	erussell	Q49229
Dichlorodifluoromethane	BRL	µg/kg	11	1.1	1	8260B	04/06/10 19:31	erussell	Q49229
Ethylbenzene	BRL	µg/kg	5.6	1.2	1	8260B	04/06/10 19:31	erussell	Q49229
Hexachlorobutadiene	BRL	µg/kg	17	1.3	1	8260B	04/06/10 19:31	erussell	Q49229
Isopropyl ether (IPE)	BRL	µg/kg	5.6	1.4	1	8260B	04/06/10 19:31	erussell	Q49229
Isopropylbenzene	BRL	μg/kg	11	1.2	1	8260B	04/06/10 19:31	erussell	Q49229
m,p-Xylenes	BRL	μg/kg	11	3.0	1	8260B	04/06/10 19:31	erussell	Q49229
Methyl ethyl ketone (MEK)	BRL	μg/kg	22	1.4	1	8260B	04/06/10 19:31	erussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	μg/kg	5.6	1.2	1	8260B	04/06/10 19:31	erussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-10-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275465

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10

Sample Matrix: Soil

Time Submitted: 03/31/10

12:18 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analy Date/Time	st Batch ID
Methylene chloride	BRL	μg/kg	11	1.5	1	8260B	04/06/10 19:31 erussell	Q49229
n-Butylbenzene	BRL	μg/kg	17	2.0	1	8260B	04/06/10 19:31 erussell	Q49229
n-Propylbenzene	BRL	μg/kg	11	1.6	1	8260B	04/06/10 19:31 erussell	Q49229
Naphthalene	BRL	μg/kg	5.6	3.0	1	8260B	04/06/10 19:31 erussell	Q49229
o-Xylene	BRL	μg/kg	5.6	1.2	1	8260B	04/06/10 19:31 erussell	Q49229
p-Isopropyltoluene	BRL	μg/kg	17	1.6	1	8260B	04/06/10 19:31 erussell	Q49229
sec-Butylbenzene	BRL	μg/kg	17	1.5	1	8260B	04/06/10 19:31 erussell	Q49229
Styrene	BRL	μg/kg	5.6	1.1	1	8260B	04/06/10 19:31 erussell	Q49229
tert-Butylbenzene	BRL	μg/kg	22	1.5	1	8260B	04/06/10 19:31 erussell	Q49229
Tetrachloroethene	BRL	μg/kg	11	1.4	1	8260B	04/06/10 19:31 erussell	Q49229
Toluene	BRL	μg/kg	5.6	1.4	1	8260B	04/06/10 19:31 erussell	Q49229
trans-1,2-Dichloroethene	BRL	μg/kg	5.6	1.1	• 1	8260B	04/06/10 19:31 erussell	Q49229
trans-1,3-Dichloropropene	BRL	μg/kg	5.6	1.1	1	8260B	04/06/10 19:31 erussell	Q49229
Trichloroethene	BRL	μg/kg	5.6	1.6	1	8260B	04/06/10 19:31 erussell	Q49229
Trichlorofluoromethane	BRL	μg/kg	5.6	1.6	1	8260B	04/06/10 19:31 erussell	Q49229
Vinyl chloride	BRL	μg/kg	11	1.4	1	8260B	04/06/10 19:31 erussell	Q49229

					Surrogate		% Recovery		Control Limits
					Toluene-c	18	104	ar vi vanak busansa	81 - 128
					Dibromofluoromethane  Bromofluorobenzene		105		67 - 143
							98		77 - 128
Sample Weight Determination									
Weight Bisulfate 1	6.41	g		-	1	5035	04/06/10	Ibrown	
Weight Bisulfate 2	5.91	9			1	5035	04/06/10	Ibrown	
Weight Methanol	6.41	g			1	5035	04/06/10	Ibrown	
Semi-volatile Organic Compounds	by GC/MS								
1,2,4-Trichlorobenzene	BRL	μg/kg	430	48	1	8270C	04/08/10 1:03	cphilbrid	k Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-10-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275465

Project No.:

Parcel 2

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 12:18

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2-Dichlorobenzene	BRL	μg/kg	430	48	1	8270C	04/08/10 1:03	cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	μg/kg	430	42	1'	8270C	04/08/10 1:03	cphilbrick	Q49259
1,4-Dichlorobenzene	BRL	μg/kg	430	52	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	μg/kg	430	51	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	μg/kg	430	47	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2,4-Dichlorophenol	BRL	μg/kg	430	28	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2,4-Dimethylphenol	BRL	μg/kg	430	64	• 1	8270C	04/08/10 1:03	cphilbrick	Q49259
2,4-Dinitrophenol	BRL	μg/kg	430	130	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2,4-Dinitrotoluene	BRL	μg/kg	430	57	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	μg/kg	430	78	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2-Chloronaphthalene	BRL	μg/kg	430	54	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2-Chlorophenol	BRL	μg/kg	430	18	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2-Methylnaphthalene	BRL	μg/kg	430	48	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2-Methylphenol	BRL	μg/kg	430	35	1	8270C	04/08/10 1:03	cphilbrick	Q49259
2-Nitrophenol	BRL	μg/kg	430	61	1	8270C	04/08/10 1:03	cphilbrick	Q49259
3&4-Methylphenol	BRL	μg/kg	430	51	1	8270C	04/08/10 1:03	cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	µg/kg	430	78	1	8270C	04/08/10 1:03	cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	µg/kg	430	37	1	8270C	04/08/10 1:03	cphilbrick	Q49259
4-Bromophenylphenylether	BRL	µg/kg	430	54	1	8270C	04/08/10 1:03	cphilbrick	Q49259
4-Chloro-3-methylphenol	BRL	μg/kg	430	51	1	8270C	04/08/10 1:03	cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	μg/kg	430	55	1	8270C	04/08/10 1:03	cphilbrick	Q49259
4-Nitrophenol	BRL	μg/kg	430	55	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Acenaphthene	BRL	μg/kg	430	59	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Acenaphthylene	BRL	μg/kg	430	41	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Anthracene	BRL	μg/kg	430	31	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Benzo(a)anthracene	BRL	μg/kg	430	49	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Benzo(a)pyrene	BRL	μg/kg	430	55	1	8270C	04/08/10 1:03	cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-10-6-8

Project ID:

Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275465

G0410028

Project No.:

WBS# 34871.2.1

COC Group: Time Collected:

03/30/10 12:18

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Benzo(b)fluoranthene	BRL	μg/kg	430	88	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Benzo(g,h,i)perylene	BRL	μg/kg	430	55	. 1	8270C	04/08/10 1:03	cphilbrick	Q49259
Benzo(k)fluoranthene	BRL	μg/kg	430	120	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Bis(2-chloroethoxy)methane	BRL	μg/kg	430	73	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Bis(2-chloroethyl)ether	BRL	µg/kg	430	54	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Bis(2-chloroisopropyl)ether	BRL	μg/kg	430	43	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Bis(2-ethylhexyl)phthalate	BRL	μg/kg	430	33	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Butylbenzylphthalate	BRL	μg/kg	430	53	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Chrysene	BRL.	μg/kg	430	29	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Di-n-butylphthalate	BRL	μg/kg	430	69	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Di-n-octylphthalate	BRL	μg/kg	430	120	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Dibenzo(a,h)anthracene	BRL	μg/kg	430	40	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Dibenzofuran	BRL	μg/kg	430	53	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Diethylphthalate	BRL	μg/kg	430	110	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Dimethylphthalate	BRL	μg/kg	430	64	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Fluoranthene	BRL.	μg/kg	430	76	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Fluorene	BRL	μg/kg	430	62	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Hexachlorobenzene	BRL	μg/kg	430	59	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Hexachlorobutadiene	BRL	µg/kg	430	43	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Hexachlorocyclopentadiene	BRL	μg/kg	430	64	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Hexachloroethane	BRL	μg/kg	430	18	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Indeno(1,2,3-cd)pyrene	BRL	μg/kg	430	41	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Isophorone	BRL	μg/kg	430	41	1	8270C	04/08/10 1:03	cphilbrick	Q49259
N-Nitrosodi-n-propylamine	BRL	μg/kg	430	25	1	8270C	04/08/10 1:03	cphilbrick	Q49259
N-Nitrosodiphenylamine	BRL	μ <b>g</b> /kg	430	63	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Naphthalene	BRL	μg/kg	430	52	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Nitrobenzene	BRL	μg/kg	430	54	1	8270C	04/08/10 1:03	cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-10-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275465

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 12:18

14:30

Sample Matrix: Soil

Time Submitted: 03/31/10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	Batch ID
Pentachlorophenol	BRL	μg/kg	430	66	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Phenanthrene	BRL	μg/kg	430	37	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Phenol	BRL	µg/kg	430	76	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Pyrene	BRL	μg/kg	430	83	1	8270C	04/08/10 1:03	cphilbrick	Q49259
Sample Preparation:			30.	.04 g	1 mL	3550B	04/06/10 13:30	aguptill	P27199
					Surrogate		% Recovery	, Coi	ntrol Limits
					Terphenyl-	d14	107		41 - 136
					Phenol-d5		77		13 - 95
					Nitrobenze	ne-d5	81		14 - 103
					2-Fluoroph	enol	81		14 - 89
					2-Fluorobip	henyl	79		21 - 108
					2,4,6-Tribro	omophenol	77		25 - 123
Diesel Range Organics (DRO) by G	C-FID								
Diesel Range Organics (DRO)	BRL	mg/kg	9.1	1.5	1	8015B	04/08/10 20:25	jvogel	Q49287
Sample Preparation:			25.	.19 g /	1 mL	3545	04/07/10 17:00	athao	P27216
					Surrogate		% Recovery	, Coi	ntrol Limits
					o-Terpheny	/	54		49 - 124
Sample Weight Determination									
Weight 1	5.71	9			1	GRO	04/06/10 0:00	lbrown	
Weight 2	6.13	g			1	GRO	04/06/10 0:00	Ibrown	
Gasoline Range Organics (GRO) by	GC-FID								
Gasoline Range Organics (GRO)	BRL	mg/kg	6.6	4.1	50	8015B	04/08/10 21:44	heasler	Q49295



## **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-10-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275465 Parcel 2

G0410028

Project No.:

WBS# 34871.2.1

COC Group: Time Collected:

03/30/10 12:18

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
	00000 00 BBI, 48 10 00 10 10 10 10 10 10 10 10 10 10 10							_	

						Surrogate		% Re	covery	Cor	ntrol Limits
						aaa-TFT			109		55 - 129
Mercury by CVA Mercury	<u>va</u>	0.073	mg/kg	0.026	0.0018	1	7471A	04/09/10	16:00	kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10	8:20	kpowers	P27230
Metals by ICP											
Arsenic		3.6	mg/kg	0.66	0.074	1	6010B	04/09/10	1:28	pfitzgerald	Q49277
Barium		45	mg/kg	3.3	0.49	5	6010B	04/14/10	1:33	dsullivan	Q49277
Cadmium		1.4	mg/kg	0.33	0.035	1	6010B	04/09/10	1:28	pfitzgerald	Q49277
Chromium		56	mg/kg	0.33	0.045	1	6010B	04/09/10	1:28	pfitzgerald	Q49277
Lead		21	mg/kg	1.6	0.40	5	6010B	04/14/10	1:33	dsullivan	Q49277
Selenium		1.5 J	mg/kg	3.3	0.66	5	6010B	04/14/10	1:33	dsullivan	Q49277
Silver		BRL	mg/kg	0.33	0.033	1	6010B	04/09/10	1:28	pfitzgerald	Q49277
	Sample Preparation:			2	2.05 g /	50 mL	3050B	04/07/10	9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



## **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-11-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275466

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 12:40

Sam

30

mple Matrix: Soil	Time Submitted:	03/31/10	14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	73.2	%			1	SM2540 G	04/05/10 13:30	jbrayton	
Volatile Organic Compounds by C				0.4		00000	04/00/40 40:50		0.40000
1,1,1,2-Tetrachloroethane	BRL	µg/kg	6.4	2.1	1	8260B	04/06/10 18:58		Q49229
1,1,1-Trichloroethane	BRL	µg/kg	6.4	1.5	1	8260B	04/06/10 18:58		Q49229
1,1,2,2-Tetrachloroethane	BRL	μg/kg	6.4	1.8	1	8260B	04/06/10 18:58	erussell	Q49229
1,1,2-Trichloroethane	BRL	µg/kg	6.4	1.8	1	8260B	04/06/10 18:58	erussell	Q49229
1,1-Dichloroethane	BRL	μg/kg	6.4	1.7	1	8260B	04/06/10 18:58	erussell	Q49229
1,1-Dichloroethene	BRL	μg/kg	6.4	1.5	1	8260B	04/06/10 18:58	erussell	Q49229
1,1-Dichloropropene	BRL	µg/kg	6.4	1.3	1	8260B	04/06/10 18:58	erussell	Q49229
1,2,3-Trichlorobenzene	BRL	μg/kg	13	2.1	1	8260B	04/06/10 18:58	erussell	Q49229
1,2,3-Trichloropropane	BRL	μg/kg	6.4	2.7	1	8260B	04/06/10 18:58	erussell	Q49229
1,2,4-Trichlorobenzene	BRL	μg/kg	13	1.7	1	8260B	04/06/10 18:58	erussell	Q49229
1,2,4-Trimethylbenzene	BRL	μg/kg	13	1.6	1	8260B	04/06/10 18:58	erussell	Q49229
1,2-Dibromo-3-chloropropane	BRL	μg/kg	6.4	2.3	1	8260B	04/06/10 18:58	erussell	Q49229
1,2-Dibromoethane (EDB)	BRL	μg/kg	6.4	1.8	1	8260B	04/06/10 18:58	erussell	Q49229
1,2-Dichlorobenzene	BRL	µg/kg	13	1.7	1	8260B	04/06/10 18:58	erussell	Q49229
1,2-Dichloroethane	BRL	μg/kg	6.4	1.7	1	8260B	04/06/10 18:58	erussell	Q49229
1,2-Dichloropropane	BRL	μg/kg	6.4	1.9	1	8260B	04/06/10 18:58	erussell	Q49229
1,3,5-Trimethylbenzene	BRL	μg/kg	13	1.7	1	8260B	04/06/10 18:58	erussell	Q49229
1,3-Dichlorobenzene	BRL	μg/kg	13	1.5	1	8260B	04/06/10 18:58	erussell	Q49229
1,3-Dichloropropane	BRL	μg/kg	6.4	1.3	1	8260B	04/06/10 18:58	erussell	Q49229
1,4-Dichlorobenzene	BRL	μg/kg	13	1.6	1	8260B	04/06/10 18:58	erussell	Q49229
2,2-Dichloropropane	BRL	μg/kg	6.4	1.5	1	8260B	04/06/10 18:58	erussell	Q49229
2-Chloroethyl vinyl ether	BRL	μg/kg	13	1.9	1	8260B	04/06/10 18:58	erussell	Q49229
2-Chlorotoluene	BRL	μg/kg		1.6	1	8260B	04/06/10 18:58	erussell	Q49229
2-Hexanone	BRL	μg/kg		1.9	1	8260B	04/06/10 18:58	erussell	Q49229
		1-33							



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-11-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275466

Project No.:

Parcel 2

COC Group:

G0410028

WBS# 34871.2.1

Time Collected:

03/30/10 12:40

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
4-Chlorotoluene	BRL	μg/kg	13	1.6	1	8260B	04/06/10 18:58 er	russell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	13	1.4	. 1	8260B	04/06/10 18:58 er	russell	Q49229
Acetone	BRL	μg/kg	26	2.8	1	8260B	04/06/10 18:58 er	russell	Q49229
Benzene	BRL	μg/kg	3.8	1.7	1	8260B	04/06/10 18:58 er	russell	Q49229
Bromobenzene	BRL	μg/kg	6.4	1.6	1	8260B	04/06/10 18:58 er	russell	Q49229
Bromochloromethane	BRL	μg/kg	6.4	1.7	1	8260B	04/06/10 18:58 e	russell	Q49229
Bromodichloromethane	BRL	μg/kg	6.4	1.5	1	8260B	04/06/10 18:58 e	russell	Q49229
Bromoform	BRL	µg/kg	6.4	1.4	1	8260B	04/06/10 18:58 e	russell	Q49229
Bromomethane	BRL	μg/kg	13	1.6	1	8260B	04/06/10 18:58 e	russell	Q49229
Carbon disulfide	BRL	μg/kg	13	1.3	1	8260B	04/06/10 18:58 e	russell	Q49229
Carbon tetrachloride	BRL	μg/kg	6.4	1.9	1	8260B	04/06/10 18:58 e	russell	Q49229
Chlorobenzene	BRL	µg/kg	6.4	1.5	1	8260B	04/06/10 18:58 e	russell	Q49229
Chlorodibromomethane	BRL	μg/kg	6.4	1.6	1	8260B	04/06/10 18:58 e	russell	Q49229
Chloroethane	BRL	μg/kg	13	3.3	1	8260B	04/06/10 18:58 e	russell	Q49229
Chloroform	BRL	µg/kg	6.4	1.6	1	8260B	04/06/10 18:58 e	russell	Q49229
Chloromethane	BRL	μg/kg	13	1.5	1	8260B	04/06/10 18:58 e	russell	Q49229
cis-1,2-Dichloroethene	BRL	µg/kg	6.4	1.5	1	8260B	04/06/10 18:58 e	russell	Q49229
cis-1,3-Dichloropropene	BRL	μg/kg	6.4	1.5	1	8260B	04/06/10 18:58 e	erusselt	Q49229
Dibromomethane	BRL	μg/kg	6.4	1.8	1	8260B	04/06/10 18:58 e	erussell	Q49229
Dichlorodifluoromethane	BRL	μg/kg	13	1.3	1	8260B	04/06/10 18:58 e	erussell	Q49229
Ethylbenzene	BRL	μg/kg	6.4	1.3	1	8260B	04/06/10 18:58 e	erussell	Q49229
Hexachlorobutadiene	BRL	μg/kg	19	1.5	1	8260B	04/06/10 18:58 e	erussell	Q49229
Isopropyl ether (IPE)	BRL	μg/kg	6.4	1.6	1	8260B	04/06/10 18:58 e	erussell	Q49229
Isopropylbenzene	BRL	μg/kg	13	1.4	1	8260B	04/06/10 18:58 e	erussell	Q49229
m,p-Xylenes	BRL	μg/kg	13	3.4	1	8260B	04/06/10 18:58 e	erussell	Q49229
Methyl ethyl ketone (MEK)	BRL	µg/kg	26	1.6	1	8260B	04/06/10 18:58 e	erussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	μg/kg	6.4	1.3	1	8260B	04/06/10 18:58 e	erussell	Q49229



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-11-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275466

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 12:40

Sample Matrix: Soil

Time Submit

tted:	03/31/10	14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methylene chloride	BRL	µg/kg	13	1.7	1	8260B	04/06/10 18:58	erussell	Q49229
n-Butylbenzene	BRL	μg/kg	19	2.3	1	8260B	04/06/10 18:58	erussell	Q49229
n-Propylbenzene	BRL	μg/kg	13	1.8	1	8260B	04/06/10 18:58	erussell	Q49229
Naphthalene	BRL	μg/kg	6.4	3.5	1	8260B	04/06/10 18:58	erussell	Q49229
o-Xylene	BRL	μg/kg	6.4	1.4	1	8260B	04/06/10 18:58	erussell	Q49229
p-Isopropyltoluene	BRL	μg/kg	19	1.9	1	8260B	04/06/10 18:58	erussell	Q49229
sec-Butylbenzene	BRL	μg/kg	19	1.7	1	8260B	04/06/10 18:58	erussell	Q49229
Styrene	BRL	μg/kg	6.4	1.2	1	8260B	04/06/10 18:58	erussell	Q49229
tert-Butylbenzene	BRL	μg/kg	26	1.7	1	8260B	04/06/10 18:58	erussell	Q49229
Tetrachloroethene	BRL	μg/kg	13	1.7	1	8260B	04/06/10 18:58	erussell	Q49229
Toluene	BRL	μ <b>g</b> /kg	6.4	1.6	1	8260B	04/06/10 18:58	erussell	Q49229
trans-1,2-Dichloroethene	BRL	μg/kg	6.4	1.3	1	8260B	04/06/10 18:58	erussell	Q49229
trans-1,3-Dichloropropene	BRL	μg/kg	6.4	1.3	1	8260B	04/06/10 18:58	erussell	Q49229
Trichloroethene	BRL	µg/kg	6.4	1.8	1	8260B	04/06/10 18:58	erussell	Q49229
Trichlorofluoromethane	BRL	μg/kg	6.4	1.8	1	8260B	04/06/10 18:58	erussell	Q49229
Vinyl chloride	BRL	µg/kg	13	1.7	1	8260B	04/06/10 18:58	erussell	Q49229

					Surrogat	e	% Recover	y · · (	Control Limits
					Toluene-c	18	104		81 - 128
					Dibromofluoromethane Bromofluorobenzene		106 98		67 - 143
									77 - 128
Sample Weight Determination									
Weight Bisulfate 1	5.34	g			1	5035	04/06/10	lbrown	
Weight Bisulfate 2	5.34	g			1	5035	04/06/10	Ibrown	
Weight Methanol	5.60	g			1	5035	04/06/10	lbrown .	
Semi-volatile Organic Compounds	s by GC/MS								
1.2.4-Trichlorobenzene	BRL	μg/kg	450	49	1	8270C	04/08/10 1:33	cphilbric	k Q492



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-11-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275466

Parcel 2

COC Group:

G0410028

Project No.: Sample Matrix: Soil

WBS# 34871.2.1

Time Collected:

03/30/10 12:40

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2-Dichlorobenzene	BRL	µg/kg	450	49	1	8270C	04/08/10 1:33	cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	μg/kg	450	43	1	8270C	04/08/10 1:33	cphilbrick	Q49259
1,4-Dichlorobenzene	BRL	μg/kg	450	53	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	µg/kg	450	53	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	µg/kg	450	48	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2,4-Dichlorophenol	BRL	μg/kg	450	29	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2,4-Dimethylphenol	BRL	μg/kg	450	66	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2,4-Dinitrophenol	BRL	μg/kg	450	130	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2,4-Dinitrotoluene	BRL	μg/kg	450	58	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	μg/kg	450	80	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2-Chloronaphthalene	BRL	μg/kg	450	56	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2-Chlorophenol	BRL	μg/kg	450	19	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2-Methylnaphthalene	BRL	μg/kg	450	50	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2-Methylphenol	BRL	μg/kg	450	36	1	8270C	04/08/10 1:33	cphilbrick	Q49259
2-Nitrophenol	BRL	µg/kg	450	63	1	8270C	04/08/10 1:33	cphilbrick	Q49259
3&4-Methylphenol	BRL	μg/kg	450	52	1	8270C	04/08/10 1:33	cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	μg/kg	450	81	1	8270C	04/08/10 1:33	cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	µg/kg	450	38	1	8270C	04/08/10 1:33	cphilbrick	Q49259
4-Bromophenylphenylether	BRL	μg/kg	450	55	1	8270C	04/08/10 1:33	cphilbrick	Q49259
4-Chloro-3-methylphenol	BRL	μg/kg	450	53	1	8270C	04/08/10 1:33	cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	μg/kg	450	56	1	8270C	04/08/10 1:33	cphilbrick	Q49259
4-Nitrophenol	BRL	μg/kg	450	57	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Acenaphthene	BRL	μg/kg	450	60	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Acenaphthylene	BRL	μg/kg	450	42	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Anthracene	BRL	μg/kg	450	32	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Benzo(a)anthracene	BRL	μg/kg	450	50	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Benzo(a)pyrene	BRL	μg/kg	450	56	1	8270C	04/08/10 1:33	cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-11-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275466 Parcel 2

G0410028

Project No.:

COC Group:

03/30/10

WBS# 34871.2.1

Time Collected:

12:40

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Benzo(b)fluoranthene	BRL	μg/kg	450	91	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Benzo(g,h,i)perylene	BRL	μg/kg	450	57	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Benzo(k)fluoranthene	BRL	μg/kg	450	120	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Bis(2-chloroethoxy)methane	BRL	μg/kg	450	75	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Bis(2-chloroethyl)ether	BRL	μg/kg	450	55	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Bis(2-chloroisopropyl)ether	BRL	μg/kg	450	45	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Bis(2-ethylhexyl)phthalate	BRL	μg/kg	450	34	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Butylbenzylphthalate	BRL	μg/kg	450	55	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Chrysene	BRL	μg/kg	450	30	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Di-n-butylphthalate	BRL	μg/kg	450	71	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Di-n-octylphthalate	BRL	μg/kg	450	130	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Dibenzo(a,h)anthracene	BRL	μg/kg	450	42	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Dibenzofuran	BRL	μg/kg	450	54	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Diethylphthalate	BRL	μg/kg	450	110	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Dimethylphthalate	BRL	μg/kg	450	66	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Fluoranthene	BRL	µg/kg	450	79	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Fluorene	BRL	μg/kg	450	63	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Hexachlorobenzene	BRL	μg/kg	450	61	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Hexachlorobutadiene	BRL	μg/kg	450	44	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Hexachlorocyclopentadiene	BRL	µg/kg	450	66	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Hexachloroethane	BRL	μg/kg	450	18	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Indeno(1,2,3-cd)pyrene	BRL	μg/kg	450	42	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Isophorone	BRL	μg/kg	450	43	1	8270C	04/08/10 1:33	cphilbrick	Q49259
N-Nitrosodi-n-propylamine	BRL	μg/kg	450	26	1	8270C	04/08/10 1:33	cphilbrick	Q49259
N-Nitrosodiphenylamine	BRL	μg/kg	450	65	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Naphthalene	BRL	µg/kg	450	53	1	8270C	04/08/10 1:33	cphilbrick	Q49259
Nitrobenzene	BRL	μg/kg	450	56	1	8270C	04/08/10 1:33	cphilbrick	Q49259



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-11-6-8

Project ID:

Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275466

Project No.:

WBS# 34871.2.1

COC Group: Time Collected:

G0410028 03/30/10

Sample Matrix: Soil

Time Submitted: 03/31/10

12:40 14:30

Parameter .	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Ti		Analyst	Batch ID
Pentachlorophenol	BRL	μg/kg	450	68	1	8270C	04/08/10	1:33	cphilbrick	Q49259
Phenanthrene	BRL	μg/kg	450	38	1	8270C	04/08/10	1:33	cphilbrick	Q49259
Phenol	BRL	μg/kg	450	78	1	8270C	04/08/10	1:33	cphilbrick	Q49259
Pyrene	BRL	μg/kg	450	85	1	8270C	04/08/10	1:33	cphilbrick	Q49259
Sample Preparation:			30	.37 g	/ 1 mL	3550B	04/06/10	13:30	aguptill	P27199
					Surrogate		% Re	covery	Co	ntrol Limits
					Terphenyl-	-d14		98		41 - 136
					Phenol-d5			60		13 - 95
					Nitrobenze	ene-d5		62		14 - 103
					2-Fluoroph	nenol		60		14 - 89
					2-Fluorobi	phenyl		64		21 - 108
					2,4,6-Tribr	omophenol		72	and the second section of the section o	25 - 123
Diesel Range Organics (DRO) by G		a. //-	9.5	1.5	1	8015B	04/09/10	5:56	jvogel	Q4928
Diesel Range Organics (DRO)	BRL.	mg/kg	9.5	1.5	'	00100	04/05/10	0.00	,	Q-1020
Sample Preparation:			25	i.11 g	/ 1 mL	3545	04/07/10	17:00	athao	P27216
					Surrogate	•	% Re	covery	y Co	ntrol Limits
					o-Terphen	nyl		76		49 - 124
Sample Weight Determination						22.0	0.4/0.0/4/0		th a name	
Weight 1	5.85	g			1	GRO	04/06/10		Ibrown	
Weight 2	5.33	g			1	GRO	04/06/10	0:00	Ibrown	
Gasoline Range Organics (GRO) by	y GC-FID									0.1000
Gasoline Range Organics (GRO)	BRL	mg/kg	6.8	4.3	50	8015B	04/08/10	22:16	neasler	Q4929



#### **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-11-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275466 Parcel 2

G0410028

Project No.:

Sample Matrix: Soil

WBS# 34871.2.1

COC Group: Time Collected:

03/30/10

12:40

Time Submitted: 03/31/10

14:30

Parameter

Result

Units

Report MDL Limit

Dilution Factor

Method

**Analysis** Date/Time Analyst

Batch ID

Surrogate recovery was outside the control limits. No target compounds were detected in this sample that were associated with this surrogate. No further action was taken.

						Surrogate		% Recover	y Co	ntrol Limits
						aaa-TFT		135	#	55 - 129
Mercury by CVA	<u>4</u>	0.031	mg/kg	0.027	0.0019	1	7471A	04/09/10 16:04	‡ kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10 8:20	kpowers	P27230
Metals by ICP										
Arsenic		2.9	mg/kg	0.68	0.077	1	6010B	04/09/10 1:36	pfitzgerald	Q49277
Barium		95	mg/kg	3.4	0.51	5	6010B	04/14/10 1:40	dsullivan	Q49277
Cadmium		1.5	mg/kg	0.34	0.036	1	6010B	04/09/10 1:36	pfitzgerald	Q49277
Chromium		14	mg/kg	0.34	0.047	1	6010B	04/09/10 1:36	pfitzgerald	Q49277
Lead		38	mg/kg	1.7	0.42	5	6010B	04/14/10 1:40	dsullivan	Q49277
Selenium		1.2 J	mg/kg	3.4	0.69	5	6010B	04/14/10 1:40	dsullivan	Q49277
Silver		BRL	mg/kg	0.34	0.035	1	6010B	04/09/10 1:36	pfitzgerald	Q49277
	Sample Preparation:				2 g /	50 mL	3050B	04/07/10 9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-12-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275467

Project No.:

Parcel 2 WBS# 34871.2.1

COC Group:

G0410028

Time Collected:

03/30/10 13:15

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination Percent Solids	63.8	%			1	SM2540 G	04/05/10 13:30 j	brayton	
Volatile Organic Compounds by G				2.2		00000	04/05/40 40:05 4	o week and	0.40000
1,1,1,2-Tetrachloroethane	BRL	µg/kg	6.7	2.2	1	8260B	04/06/10 18:25		Q49229
1,1,1-Trichloroethane	BRL	µg/kg	6.7	1.5	1	8260B	04/06/10 18:25		Q49229
1,1,2,2-Tetrachloroethane	BRL	µg/kg	6.7	1.9	1	8260B	04/06/10 18:25		Q49229
1,1,2-Trichloroethane	BRL	µg/kg	6.7	1.9	1	8260B	04/06/10 18:25 •		Q49229
1,1-Dichloroethane	BRL	µg/kg	6.7	1.7	1	8260B	04/06/10 18:25		Q49229
1,1-Dichloroethene	BRL	μg/kg	6.7	1.6	1	8260B	04/06/10 18:25	erussell	Q49229
1,1-Dichloropropene	BRL	μg/kg	6.7	1.4	1	8260B	04/06/10 18:25	erussell	Q49229
1,2,3-Trichlorobenzene	BRL	μg/kg	13	2.2	1	8260B	04/06/10 18:25	erussell	Q49229
1,2,3-Trichloropropane	BRL	μg/kg	6.7	2.8	1	8260B	04/06/10 18:25	erussell	Q49229
1,2,4-Trichlorobenzene	BRL	µg/kg	13	1.8	1	8260B	04/06/10 18:25	erussell	Q49229
1,2,4-Trimethylbenzene	BRL	μg/kg	13	1.7	1	8260B	04/06/10 18:25	erussell	Q49229
1,2-Dibromo-3-chloropropane	BRL	μg/kg	6.7	2.4	1	8260B	04/06/10 18:25	erussell	Q49229
1,2-Dibromoethane (EDB)	BRL	μg/kg	6.7	1.9	1	8260B	04/06/10 18:25	erussell	Q49229
1,2-Dichlorobenzene	BRL	µg/kg	13	1.8	1	8260B	04/06/10 18:25	erussell	Q49229
1,2-Dichloroethane	BRL	μg/kg	6.7	1.7	1	8260B	04/06/10 18:25	erussell	Q49229
1,2-Dichloropropane	BRL	μg/kg	6.7	2.0	1	8260B	04/06/10 18:25	erussell	Q49229
1,3,5-Trimethylbenzene	BRL	μg/kg	13	1.8	1	8260B	04/06/10 18:25	erusseli	Q49229
1,3-Dichlorobenzene	BRL	μg/kg	13	1.6	1	8260B	04/06/10 18:25	erussell	Q49229
1,3-Dichloropropane	BRL	μg/kg	6.7	1.4	1	8260B	04/06/10 18:25	erussell	Q49229
1,4-Dichlorobenzene	BRL	µg/kg	13	1.7	1	8260B	04/06/10 18:25	erussell	Q49229
2,2-Dichloropropane	BRL	μg/kg	6.7	1.6	1	8260B	04/06/10 18:25	erussell	Q49229
2-Chloroethyl vinyl ether	BRL	μg/kg	13	2.0	1	8260B	04/06/10 18:25	erussell	Q49229
2-Chlorotoluene	BRL	μg/kg	13	1.7	1	8260B	04/06/10 18:25	erussell	Q49229
2-Hexanone	BRL	μg/kg	67	2.0	1	8260B	04/06/10 18:25	erussell	Q49229



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-12-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275467

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 13:15

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Analys Date/Time	t Batch ID
4-Chlorotoluene	BRL	μg/kg	13	1.6	1	8260B	04/06/10 18:25 erussell	Q49229
4-Methyl-2-pentanone (MIBK)	BRL	μg/kg	13	1.5	1	8260B	04/06/10 18:25 erussell	Q49229
Acetone	BRL	μg/kg	27	2.9	1	8260B ·	04/06/10 18:25 erussell	Q49229
Benzene	BRL	μg/kg	4.0	1.8	. 1	8260B	04/06/10 18:25 erussell	Q49229
Bromobenzene	BRL	μg/kg	6.7	1.6	1	8260B	04/06/10 18:25 erussell	Q49229
Bromochloromethane	BRL	µg/kg	6.7	1.8	1	8260B	04/06/10 18:25 erussell	Q49229
Bromodichloromethane	BRL	μg/kg	6.7	1.5	1	8260B	04/06/10 18:25 erussell	Q49229
Bromoform	BRL	μg/kg	6.7	1.5	1	8260B	04/06/10 18:25 erussell	Q49229
Bromomethane	BRL	μg/kg	13	1.7	1	8260B	04/06/10 18:25 erussell	Q49229
Carbon disulfide	BRL	μg/kg	13	1.4	1	8260B	04/06/10 18:25 erussell	Q49229
Carbon tetrachloride	BRL	μg/kg	6.7	2.0	1	8260B	04/06/10 18:25 erussell	Q49229
Chlorobenzene	BRL	μg/kg	6.7	1.5	1	8260B	04/06/10 18:25 erussell	Q49229
Chlorodibromomethane	BRL	μg/kg	6.7	1.7	1	8260B	04/06/10 18:25 erussell	Q49229
Chloroethane	BRL	µg/kg	13	3.5	1	8260B	04/06/10 18:25 erussell	Q49229
Chloroform	BRL	µg/kg	6.7	1.7	1	8260B	04/06/10 18:25 erussell	Q49229
Chloromethane	BRL	μg/kg	13	1.6	1	8260B	04/06/10 18:25 erussell	Q49229
cis-1,2-Dichloroethene	BRL	µg/kg	6.7	1.6	1	8260B	04/06/10 18:25 erussell	Q49229
cis-1,3-Dichloropropene	BRL	μg/kg	6.7	1.6	1	8260B	04/06/10 18:25 erussell	Q49229
Dibromomethane	BRL	μg/kg	6.7	1.9	1	8260B	04/06/10 18:25 erussell	Q49229
Dichlorodifluoromethane	BRL	μg/kg	13	1.4	1	8260B	04/06/10 18:25 erussell	Q49229
Ethylbenzene	BRL	µg/kg	6.7	1.4	1	8260B	04/06/10 18:25 erussell	Q49229
Hexachlorobutadiene	BRL	μg/kg	20	1.6	1	8260B	04/06/10 18:25 erussell	Q49229
Isopropyl ether (IPE)	BRL	μg/kg	6.7	1.7	1	8260B	04/06/10 18:25 erussell	Q49229
Isopropylbenzene	BRL	μg/kg	13	1.5	1	8260B	04/06/10 18:25 erussell	Q49229
m,p-Xylenes	BRL	µg/kg	13	3.6	1	8260B	04/06/10 18:25 erussell	Q49229
Methyl ethyl ketone (MEK)	BRL	μg/kg	27	1.7	1	8260B	04/06/10 18:25 erussell	Q49229
Methyl t-butyl ether (MTBE)	BRL	μg/kg	6.7	1.4	1	8260B	04/06/10 18:25 erussell	Q49229



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-12-6-8

Project ID: Parcel 2

NCDOT Forsyth Co. PSA-Prism Sample ID: 275467

Project No.:

WBS# 34871.2.1

COC Group:

G0410028

03/30/10

13:15

Sample Matrix: Soil

Time Collected: Time Submitted: 03/31/10

14:30

					•				
Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methylene chloride	BRL	μg/kg	13	1.8	1	8260B	04/06/10 18:25	erussell	Q49229
n-Butylbenzene	BRL	µg/kg	20	2.4	. 1	8260B	04/06/10 18:25	erussell	Q49229
n-Propylbenzene	BRL	μg/kg	13	1.9	1	8260B	04/06/10 18:25	erussell	Q49229
Naphthalene	BRL	μg/kg	6.7	3.6	1	8260B	04/06/10 18:25	erussell	Q49229
o-Xylene	BRL	µg/kg	6.7	1.5	1	8260B	04/06/10 18:25	erussell	Q49229
p-Isopropyltoluene	BRL	µg/kg	20	1.9	1	8260B	04/06/10 18:25	erussell	Q49229
sec-Butylbenzene	BRL	μg/kg	20	1.8	1	8260B	04/06/10 18:25	erussell	Q49229
Styrene	BRL	μg/kg	6.7	1.3	1	8260B	04/06/10 18:25	erussell	Q49229
tert-Butylbenzene	BRL	μg/kg	27	1.8	1	8260B	04/06/10 18:25	erussell	Q49229
Tetrachloroethene	BRL	µg/kg	13	1.7	1	8260B	04/06/10 18:25	erussell	Q49229
Toluene	BRL	μg/kg	6.7	1.6	1	8260B	04/06/10 18:25	erussell	Q49229
trans-1,2-Dichloroethene	BRL	μg/kg	6.7	1.3	1	8260B	04/06/10 18:25	erusseli	Q49229
trans-1,3-Dichloropropene	BRL	μg/kg	6.7	1.3	1	8260B	04/06/10 18:25	erussell	Q49229
Trichloroethene	BRL	μg/kg	6.7	1.9	1	8260B	04/06/10 18:25	erussell	Q49229
Trichlorofluoromethane	BRL	μg/kg	6.7	1.9	1	8260B	04/06/10 18:25	erussell	Q49229
Vinyl chloride	BRL	μg/kg	13	1.7	1	8260B	04/06/10 18:25	erussell	Q49229

					Surrogat	e	% Recover	y (	Control Limits	
					Toluene-	d8	103 106		81 - 128	
					Dibromof	luoromethane			67 - 143	
					Bromofluorobenzene		97		77 - 128	
Sample Weight Determination										
Weight Bisulfate 1	5.86	g			1	5035	04/06/10	lbrown		
Weight Bisulfate 2		g			1	5035	04/06/10	Ibrown		
Weight Methanol	5.04	g			1	5035	04/06/10	lbrown		
Semi-volatile Organic Compounds	by GC/MS									
1,2,4-Trichlorobenzene	BRL	µg/kg	520	57	1	8270C	04/08/10 3:02	cphilbric	k Q49259	



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-12-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275467

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 13:15

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2-Dichlorobenzene	BRL	μg/kg	520	57	1	8270C	04/08/10 3:02	cphilbrick	Q49259
1,3-Dichlorobenzene	BRL	μg/kg	520	50	1	8270C	04/08/10 3:02	cphilbrick	Q49259
1,4-Dichlorobenzene	BRL	μg/kg	520	62	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2,4,5-Trichlorophenol	BRL	µg/kg	520	61	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2,4,6-Trichlorophenol	BRL	µg/kg	520	56	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2,4-Dichlorophenol	BRL	μg/kg	520	34	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2,4-Dimethylphenol	BRL	µg/kg	520	77	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2,4-Dinitrophenol	BRL	μg/kg	520	150	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2,4-Dinitrotoluene	BRL	µg/kg	520	68	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2,6-Dinitrotoluene	BRL	µg/kg	520	93	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2-Chloronaphthalene	BRL	µg/kg	520	65	. 1	8270C	04/08/10 3:02	cphilbrick	Q49259
2-Chlorophenol	BRL	µg/kg	520	22	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2-Methylnaphthalene	BRL	µg/kg	520	58	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2-Methylphenol	BRL	μg/kg	520	42	1	8270C	04/08/10 3:02	cphilbrick	Q49259
2-Nitrophenol	BRL	μg/kg	520	73	1	8270C	04/08/10 3:02	cphilbrick	Q49259
3&4-Methylphenol	BRL	µg/kg	520	61	1	8270C	04/08/10 3:02	cphilbrick	Q49259
3,3'-Dichlorobenzidine	BRL	μg/kg	520	94	1	8270C	04/08/10 3:02	cphilbrick	Q49259
4,6-Dinitro-2-methylphenol	BRL	μg/kg	520	44	1	8270C	04/08/10 3:02	cphilbrick	Q49259
4-Bromophenylphenylether	BRL	μg/kg	520	65	1	8270C	04/08/10 3:02	cphilbrick	Q49259
4-Chloro-3-methylphenol	BRL	μg/kg	520	61	1	8270C	04/08/10 3:02	cphilbrick	Q49259
4-Chlorophenylphenylether	BRL	μg/kg	520	65	1	8270C	04/08/10 3:02	cphilbrick	Q49259
4-Nitrophenol	BRL	μg/kg	520	66	1	8270C	04/08/10 3:02	cphilbrick	Q49259
Acenaphthene	BRL	μg/kg	520	70	1	8270C	04/08/10 3:02	cphilbrick	Q49259
Acenaphthylene	BRL	μg/kg	520	49	1	8270C	04/08/10 3:02	cphilbrick	Q49259
Anthracene	BRL	μg/kg	520	38	1	8270C	04/08/10 3:02	cphilbrick	Q49259
Benzo(a)anthracene	BRL	μg/kg	520	58	1	8270C	04/08/10 3:02	cphilbrick	Q49259
Benzo(a)pyrene	BRL	μg/kg	520	65	1	8270C	04/08/10 3:02	cphilbrick	Q49259



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Fluoranthene

Hexachlorobenzene

Hexachlorobutadiene

Hexachloroethane

Isophorone

Naphthalene

Nitrobenzene

Indeno(1,2,3-cd)pyrene

N-Nitrosodi-n-propylamine

N-Nitrosodiphenylamine

Hexachlorocyclopentadiene

Fluorene

Project Name:

U-2826-B

Client Sample ID: P2-12-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275467

8270C

04/08/10 3:02

04/08/10 3:02

04/08/10 3:02

04/08/10 3:02

04/08/10 3:02

04/08/10 3:02

04/08/10 3:02

04/08/10 3:02

04/08/10 3:02

04/08/10 3:02

04/08/10 3:02

04/08/10 3:02

cphilbrick

Q49259

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871,2.1

Time Collected:

03/30/10 13:15

Sample Matrix: Soil

Time Submitted:

03/31/10 14:30

Raleign, NC 27607		Odmpie	, maann	00.1		Time Submitted: 03/31/10 14:30				
Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID	
Benzo(b)fluoranthene	BRL	µg/kg	520	110	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Benzo(g,h,i)perylene	BRL	μg/kg	520	66	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Benzo(k)fluoranthene	BRL	μg/kg	520	140	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Bis(2-chloroethoxy)methane	BRL	µg/kg	520	87	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Bis(2-chloroethyl)ether	BRL	μg/kg	520	64	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Bis(2-chloroisopropyl)ether	BRL	μg/kg	520	52	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Bis(2-ethylhexyl)phthalate	BRL	μg/kg	520	40	1 .	8270C	04/08/10 3:02	cphilbrick	Q49259	
Butylbenzylphthalate	BRL	μg/kg	520	64	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Chrysene	BRL	μg/kg	520	35	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Di-n-butylphthalate	BRL	μg/kg	520	83	. 1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Di-n-octylphthalate	BRL	μg/kg	520	150	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Dibenzo(a,h)anthracene	BRL	µg/kg	520	48	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Dibenzofuran	BRL	µg/kg	520	63	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Diethylphthalate	BRL	µg/kg	520	130	1	8270C	04/08/10 3:02	cphilbrick	Q49259	
Dimethylphthalate	BRL	μg/kg	520	77	1	8270C	04/08/10 3:02	cphilbrick	Q49259	

520

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**BRL** 

**BRL** 

**BRL** 

92

74

71

51

77

21

49

49

30

75

62

65

1

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1

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1



# **Laboratory Report**

04/19/10

N. C. Department of Transportation

Gasoline Range Organics (GRO) by GC-FID

Gasoline Range Organics (GRO)

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: P2-12-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275467

Project No.:

Parcel 2 WBS# 34871.2.1

COC Group:

03/30/10 13:15

Sample Matrix: Soil

Time Collected:

Time Submitted: 03/31/10

G0410028

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Pentachlorophenol	BRL	µg/kg	520	79	1	8270C	04/08/10 3:02	cphilbrick	Q49259
Phenanthrene	BRL	μg/kg	520	44	1	8270C	04/08/10 3:02	cphilbrick	Q49259
Phenol	BRL	μg/kg	520	91	1	8270C	04/08/10 3:02	cphilbrick	Q49259
Pyrene	BRL	μg/kg	520	99	1	8270C	04/08/10 3:02	cphilbrick	Q49259
Sample Preparation:			29.	96 g /	1 mL	3550B	04/06/10 13:30	aguptill	P27199
					Surrogate		% Recovery	/ Cor	ntrol Limits
					Terphenyl-	d14	88		41 - 136
			•		Phenol-d5		53		13 - 95
					Nitrobenze	ne-d5	54		14 - 103
					2-Fluoroph	enol	56		14 - 89
					2-Fluorobip	henyl	52		21 - 108
					2,4,6-Tribro	omophenol	59		25 - 123
Diesel Range Organics (DRO) by G		ma//.a	7.8	1.8	1	8015B	04/08/10 21:01	ivogel	Q49287
Diesel Range Organics (DRO)	BRL	mg/kg	7.0	1.0	'	00100	04/00/10 21:01	jvogo:	Q49207
Sample Preparation:			25.	07 g /	1 mL	3545	04/07/10 17:00	athao	P27216
					Surrogate		% Recovery	y Coi	ntrol Limits
					o-Terpheny	Ŋ	62		49 - 124
Sample Weight Determination									
Weight 1	5.02	g			1	GRO	04/06/10 0:00	Ibrown	
Weight 2	5.62	g			1	GRO	04/06/10 0:00	Ibrown	

7.8

mg/kg

BRL

4.9

50

8015B

04/08/10 22:47 heasler

Q49295



## **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: P2-12-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275467 Parcel 2

G0410028

Project No .:

WBS# 34871.2.1

COC Group:

03/30/10 13:15

Time Collected:

14:30

Sample Matrix: Soil

Time Submitted: 03/31/10

Parameter		Result	Units	Report Limit	MDL	Dilution Factor	Method	Analys Date/Tir		Analyst	Batch ID
					•	Surrogate		% Red	covery	Cor	ntrol Limits
						aaa-TFT			127		55 - 129
Mercury by CVA Mercury	A	0.033	mg/kg	0.031	0.0021	1	7471A	04/09/10	16:09	kpowers	Q49336
	Sample Preparation:				0.6 g /	30 mL	7471A	04/09/10	8:20	kpowers	P27230
Metals by ICP Arsenic Barium		2.7 32	mg/kg mg/kg	0.78 3.9	0.089 0.58	1 5	6010B 6010B	04/09/10 04/14/10		pfitzgerald dsullivan	Q49277 Q49277
Cadmium		1.2	mg/kg	0.39	0.042	1	6010B	04/09/10	1:43	pfitzgerald	Q49277
Chromium		11	mg/kg	0.39	0.054	1	6010B	04/09/10	1:43	pfitzgerald	Q49277
Lead		37	mg/kg	2.0	0.48	5	6010B	04/14/10	1:48	dsullivan	Q49277
Selenium		4.2	mg/kg	3.9	0.79	5	6010B	04/14/10	1:48	dsullivan	Q49277
Silver		BRL	mg/kg	0.39	0.040	1	6010B	04/09/10	1:43	pfitzgerald	Q49277
	Sample Preparation:			:	2.03 g /	50 mL	3050B	04/07/10	9:15	jbrayton	P27212

#### Sample Comment(s):

BRL = Below Reporting Limit

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

J- Estimated value between the Reporting Limit and the MDL



## **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: M-1-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275468 Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 14:30

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	t Batch ID
Percent Solids Determination Percent Solids	69.6	%			1	SM2540 G	04/05/10 13:30	jbrayton	
<u>Diesel Range Organics (DRO) by GC</u> Diesel Range Organics (DRO)	<u>-FID</u> BRL	mg/kg	10	1.6	1	8015B	04/08/10 21:36	jvogel	Q49287
Sample Preparation:			25.	.11 g /	·1 mL	3545	04/07/10 17:00	athao	P27216
					Surrogate	ŀ	% Recovery	Co	ntrol Limits
					o-Terphen	yl	71		49 - 124
Sample Weight Determination Weight 1	5.98	g			1	GRO	04/06/10 0:00	Ibrown	
Weight 2	6.37	g			1	GRO	04/06/10 0:00	Ibrown	

Surrogate recovery was outside the control limits. No target compounds were detected in this sample that were associated with this surrogate. No further action was taken.

Surrogate	% Recove	•	Control Limits
aaa-TFT	131		55 - 129

#### Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



# **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: M-2-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275469

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 14:50

Sample Matrix: Soil

Time Submitted: 03/31/10

14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	t Batch ID
Percent Solids Determination Percent Solids	72.8	%			1	SM2540 G	04/05/10 13:30	jbrayton	
Diesel Range Organics (DRO) by G Diesel Range Organics (DRO)	C-FID BRL	mg/kg	9.6	1.5	1	8015B	04/08/10 22:12	jvogel	Q49287
Sample Preparation:			25.	.13 g /	1 mL	3545	04/07/10 17:00	athao	P27216
					Surrogate	<b>:</b>	% Recovery	Co	ntrol Limits
					o-Terphen	yl	65		49 - 124
Sample Weight Determination						CDO	04/06/40 0.00	Ibrown	
Weight 1 Weight 2	6.32 6.41	g g			1	GRO GRO	04/06/10 0:00 04/06/10 0:00	Ibrown	
-				•	•				
Gasoline Range Organics (GRO) be Gasoline Range Organics (GRO)	y GC-FID BRL	mg/kg	6.9	4.3	50	8015B	04/08/10 23:50	heasler	Q49295
					Surrogate	1	% Recovery	Co	ntrol Limits
					aaa-TFT		115	About 1 of the state of the sta	55 - 129

#### Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



## **Laboratory Report**

04/19/10

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: M-3-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275470

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 15:15

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysi Date/Tin		Analy	st Batch ID
Percent Solids Determination										
Percent Solids	75.1	%			1	SM2540 G	04/05/10	13:30	jbrayton	
Diesel Range Organics (DRO) by G	C-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	9.3	1.5	1	8015B	04/09/10	5:20	jvogel	Q49287
Sample Preparati	on:			25 g	/ 1 mL	3545	04/07/10	17:00	athao	P27216
					Surrogate	<b>!</b>	% Rec	overy	С	ontrol Limits
					o-Terphen	yl		69		49 - 124
Sample Weight Determination										
Weight 1	7.16	g			1	GRO	04/06/10	0:00	Ibrown	
Weight 2	6.79	g			1	GRO	04/06/10	0:00	lbrown	
Gasoline Range Organics (GRO) by	y GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	6.7	4.2	50	8015B	04/09/10	0:21	heasler	Q49295
					Surrogate		% Rec	overy	· c	ontrol Limits
					aaa-TFT		1	115	of the street continues the street	55 - 129

#### Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



## **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B

Client Sample ID: M-4-6-8

Project ID:

NCDOT Forsyth Co. PSA-Prism Sample ID: 275471

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 15:30

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	t Batch ID
Percent Solids Determination	-tellander retreat (mentler free free ) for all or site or per (men								THE STATE OF THE S
Percent Solids	82.4	%			1	SM2540 G	04/05/10 13:30	jbrayton	
Diesel Range Organics (DRO) by GC	-FID								
Diesel Range Organics (DRO)	BRL	mg/kg	8.5	1.4	1	8015B	04/08/10 22:48	jvogel	Q49287
Sample Preparation:			25.	04 g	/ 1 mL	3545	04/07/10 17:00	athao	P27216
					Surrogate	ı	% Recovery	Co	ntrol Limits
					o-Terphen	yl	63		49 - 124
Sample Weight Determination									
Weight 1	6.69	g			1	GRO	04/06/10 0:00	Ibrown	
Weight 2	6.63	g			1	GRO	04/06/10 0:00	Ibrown	
Gasoline Range Organics (GRO) by		,		2.0	50	00455	04/00/40 0 50	handa.	0.4050=
Gasoline Range Organics (GRO)	BRL	mg/kg	6.1	3.8	50	8015B	04/09/10 0:52	heasler	Q49295

Surrogate recovery was outside the control limits. No target compounds were detected in this sample that were associated with this surrogate. No further action was taken.

Surrogate	% Recove	-	Control Limits
aaa-TFT	137	#	55 - 129

#### Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



## **Laboratory Report**

N. C. Department of Transportation

Attn: Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name: U-2826-B Project ID:

Client Sample ID: M-5-6-8

NCDOT Forsyth Co. PSA-Prism Sample ID: 275472

Parcel 2

COC Group:

G0410028

Project No.:

WBS# 34871.2.1

Time Collected:

03/30/10 15:50

Sample Matrix: Soil

Time Submitted: 03/31/10 14:30

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analys	Batch ID
Percent Solids Determination Percent Solids	86.7	%			1	SM2540 G	04/05/10 13:30	jbrayton	
<u>Diesel Range Organics (DRO) by GC</u> Diesel Range Organics (DRO)	-FID BRL	mg/kg	8.1	1.3	1	8015B	04/09/10 18:42	jvogel	Q49322
Sample Preparation:			25.	.02 g /	1 mL	3545	04/08/10 17:00	athao	P27223
					Surrogate	•	% Recovery	Co	ntrol Limits
					o-Terphen	yl	62		49 - 124
Sample Weight Determination Weight 1	6.46	g			1	GRO	04/06/10 0:00	Ibrown	
Weight 2	6.34	g			1	GRO	04/06/10 0:00	Ibrown	
Gasoline Range Organics (GRO) by Gasoline Range Organics (GRO)	<u>GC-FID</u> BRL	mg/kg	5.8	3.6	50	8015B	04/09/10 1:24	heasler	Q49295

Surrogate recovery was outside the control limits. No target compounds were detected in this sample that were associated with this surrogate. No further action was taken.

Surrogate	% Recover	У	Control Limits
aaa-TFT		#	55 - 129

#### Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

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

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services



# Level II QC Report

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project

U-2826-B

COC Group Number: G0410028

Name: Project ID:

Project No.:

NCDOT Forsyth Co. PSA-

Parcel 2 WBS# 34871.2.1 Date/Time Submitted: 3/31/10 14:30

#### Volatile Organic Compounds by GC/MS, method 8260B

od Blank	Result	RL	Control Limit	Units	QC Batcl ID
1,1,1,2-Tetrachloroethane	ND	5	<2.5	μg/kg	Q49229
1,1,1-Trichloroethane	ND	5	<2.5	µg/kg	Q49229
1,1,2,2-Tetrachloroethane	ND	5	<2.5	µg/kg	Q49229
1,1,2-Trichloroethane	ND	5	<2.5	μg/kg	Q49229
1,1-Dichloroethane	ND	5	<2.5	μg/kg	Q49229
1,1-Dichloroethene	ND	5	<2.5	μg/kg	Q49229
1,1-Dichloropropene	ND	5	<2.5	μg/kg	Q49229
1,2,3-Trichlorobenzene	ND	10	<5	μg/kg	Q49229
1,2,3-Trichloropropane	ND	5	<2.5	μg/kg	Q49229
1,2,4-Trichlorobenzene	ND	10	<5	µg/kg	Q49229
1,2,4-Trimethylbenzene	ND	10	<5	μg/kg	Q49229
1,2-Dibromo-3-chloropropane	ND	5	<2.5	µg/kg	Q49229
1,2-Dibromoethane (EDB)	ND	5	<2.5	µg/kg	Q4922
1,2-Dichlorobenzene	ND	10	<5	µg/kg	Q4922
1,2-Dichloroethane	ND	5	<2.5	µg/kg	Q4922
1,2-Dichloropropane	ND	5	<2.5	µg/kg	Q4922
1,3,5-Trimethylbenzene	ND	10	<5	µg/kg	Q4922
1,3-Dichlorobenzene	ND	10	<5	μg/kg	Q4922
1,3-Dichloropropane	ND	5	<2.5	μg/kg	Q4922
1,4-Dichlorobenzene	ND	10	<5	µg/kg	Q4922
2,2-Dichloropropane	ND	5	<2.5	μg/kg	Q4922
2-Chloroethyl vinyl ether	ND	10	<5	μg/kg	Q4922
2-Chlorotoluene	ND	10	<5	µg/kg	Q4922
2-Hexanone	ND	50	<25	µg/kg	Q4922
4-Chlorotoluene	ND	10	<5	µg/kg	Q4922
4-Methyl-2-pentanone (MIBK)	ND	10	<5	µg/kg	Q4922
Acetone	ND	20	<10	µg/kg	Q4922
Benzene	ND	3	<1.5	µg/kg	Q4922
Bromobenzene	ND	5	<2.5	μg/kg	Q4922
Bromochloromethane	ND	5	<2.5	µg/kg	Q4922
Bromodichloromethane	ND	5	<2.5	µg/kg	Q4922
Bromoform	ND	5	<2.5	µg/kg	Q4922
Bromomethane	ND	10	· <b>&lt;</b> 5	μg/kg	Q4922
Carbon disulfide	ND	10	<5	μg/kg	Q4922



# Level II QC Report

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project

U-2826-B

COC Group Number: G0410028

Name: Project ID: Date/Time Submitted:

3/31/10 14:30

Project No.:

NCDOT Forsyth Co. PSA-Parcel 2

WBS# 34871.2.1

ethod Blank	Result	RL	Control Limit	Units			QC Batch ID
Carbon tetrachloride	ND	5	<2.5	μg/kg		31MA	Q49229
Chlorobenzene	ND	5	<2.5	μg/kg			Q49229
Chlorodibromomethane	ND	5	<2.5	μg/kg			Q49229
Chloroethane	ND	10	<5	μg/kg			Q49229
Chloroform	ND	5	<2.5	μg/kg			Q49229
Chloromethane	ND	10	<5	μg/kg			Q49229
cis-1,2-Dichloroethene	ND	5	<2.5	µg/kg			Q49229
cis-1,3-Dichloropropene	ND	5	<2.5	µg/kg			Q49229
Dibromomethane	ND	5	<2.5	μg/kg			Q49229
Dichlorodifluoromethane	ND	10	<5	µg/kg			Q49229
Ethylbenzene	ND	5	<2.5	μg/kg			Q49229
Hexachlorobutadiene	ND	15	<7.5	μg/kg			Q49229
Isopropyl ether (IPE)	ND	5	<2.5	µg/kg			Q49229
Isopropylbenzene	ND	10	<5	µg/kg			Q49229
m,p-Xylenes	ND	10	<5	μg/kg		•	Q49229
Methyl ethyl ketone (MEK)	ND	20	<10	μg/kg			Q49229
Methyl t-butyl ether (MTBE)	ND	5	<2.5	μg/kg			Q49229
Methylene chloride	ND	10	<5	μg/kg			Q49229
n-Butylbenzene	ND	15	<7.5	μg/kg			Q49229
n-Propylbenzene	ND	10	<5	μg/kg			Q49229
Naphthalene	ND	5	<2.5	µg/kg			Q49229
o-Xylene	ND	5	<2.5	µg/kg			Q49229
p-Isopropyltoluene	ND	15	<7.5	μg/kg			Q49229
sec-Butylbenzene	ND	15	<7.5	µg/kg			Q49229
Styrene	ND	5	<2.5	µg/kg			Q49229
tert-Butylbenzene	ND	20	<10	µg/kg			Q49229
Tetrachloroethene	ND	10	<5	µg/kg			Q49229
Toluene	ND	5	<2.5	μg/kg			Q49229
trans-1,2-Dichloroethene	ND	5	<2.5	μg/kg			Q4922
trans-1,3-Dichloropropene	ND	5	<2.5	µg/kg			Q4922
Trichloroethene	ND	5	<2.5	μg/kg			Q4922
Trichlorofluoromethane	ND	5	<2.5	µg/kg			Q4922
Vinyl chloride	ND	10	<5	μg/kg			Q4922
aboratory Control Sample	Result	Spike Amo	ount	Units	Recovery %	Recovery Ranges %	QC Bat
						70-154	Q4922



## Level II QC Report

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road

**Project** Name:

Project No.:

U-2826-B

COC Group Number: G0410028 Date/Time Submitted:

3/31/10 14:30

Project ID:

NCDOT Forsyth Co. PSA-

Parcel 2

WBS# 34871.2.1

Raleigh, NC 27607			VV DS# 340	7 1.2.1				
Laboratory Control Sample	Result	Spike Amount	Units	Recovery %	Recovery Ranges %			QC Batch ID
Benzene	43.8	50	µg/kg	88	77-128			Q49229
Chlorobenzene	39.71	50	μg/kg	79	78-119			Q49229
Toluene	42.87	50	μg/kg	86	76-131			Q49229
Trichloroethene	44.58	50	µg/kg	89	77-133			Q49229
Matrix Spike Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %			QC Batch ID
275463 1,1-Dichloroethene	45.46	50	µg/kg	91	65-162			Q49229
Benzene	45.81	50	µg/kg	92	73-131			Q49229
Chlorobenzene	40.9	50	μg/kg	82	76-119			Q49229
Toluene	44.51	50	µg/kg	89	72-135			Q49229
Trichloroethene	47.06	50	μg/kg	94	72-133			Q49229
Matrix Spike Duplicate Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
275463 1,1-Dichloroethene	44.18	50	µg/kg	88	65-162	3	0 - 20	Q49229
Benzene	44.56	50	μg/kg	89	73-131	3	0 - 17	Q49229
Chlorobenzene	40.67	50	μg/kg	81	76-119	1	0 - 20	Q49229
Toluene	43.09	50	μg/kg	86	72-135	3	0 - 18	Q49229
Trichloroethene	45.52	50	μg/kg	91	72-133	3	0 - 17	Q49229



## Level II QC Report

Date/Time Submitted: 3/31/10 14:30

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

**Project** Name:

Project ID:

Project No.:

U-2826-B

COC Group Number: G0410028

NCDOT Forsyth Co. PSA-

Parcel 2

WBS# 34871.2.1

#### Semi-volatile Organic Compounds by GC/MS, method 8270C

ethod Blank	Result	RL	Control Limit	Units	QC Bate ID
1,2,4-Trichlorobenzene	ND	330	<165	µg/kg	Q4925
1,2-Dichlorobenzene	ND	330	<165	µg/kg	Q4925
1,3-Dichlorobenzene	ND	330	<165	µg/kg	Q4925
1,4-Dichlorobenzene	ND	330	<165	µg/kg	Q4925
2,4,5-Trichlorophenol	ND	330	<165	µg/kg	Q4925
2,4,6-Trichlorophenol	ND	330	<165	μg/kg	Q4925
2,4-Dichlorophenol	ND	330	<165	µg/kg	Q4925
2,4-Dimethylphenol	ND	330	<165	µg/kg	Q4925
2,4-Dinitrophenol	ND	330	<165	μg/kg	Q4925
2,4-Dinitrotoluene	ND	330	<165	µg/kg	Q4925
2,6-Dinitrotoluene	ND	330	<165	µg/kg	Q4925
2-Chloronaphthalene	ND	330	<165	µg/kg	Q4925
2-Chlorophenol	ND	330	<165	µg/kg	Q4925
2-Methylnaphthalene	ND	330	<165	µg/kg	Q4925
2-Methylphenol	ND	330	<165	µg/kg	Q4925
2-Nitrophenol	ND	330	<165	ha\ka	Q4925
3&4-Methylphenol	ND	330	<165	μg/kg	Q4925
3,3'-Dichlorobenzidine	ND	330	<165	μg/kg	Q4925
4,6-Dinitro-2-methylphenol	ND	330	<165	μg/kg	Q4925
4-Bromophenylphenylether	ND	330	<165	µg/kg	Q4925
4-Chloro-3-methylphenol	ND	330	<165	µg/kg	Q4925
4-Chlorophenylphenylether	ND	330	<165	µg/kg	Q4925
4-Nitrophenol	ND	330	<165	µg/kg	Q4925
Acenaphthene	ND	330	<165	µg/kg	Q4925
Acenaphthylene	ND	330	<165	µg/kg	Q4925
Anthracene	ND	330	<165	µg/kg	Q4925
Benzo(a)anthracene	ND	330	<165	µg/kg	Q4925
Benzo(a)pyrene	ND	330	<165	µg/kg	Q4925
Benzo(b)fluoranthene	ND	330	<165	µg/kg	Q4925
Benzo(g,h,i)perylene	ND	330	<165	µg/kg	Q4925
Benzo(k)fluoranthene	ND	330	<165	µg/kg	Q4925
Bis(2-chloroethoxy)methane	ND	330	<165	µg/kg	Q4925
Bis(2-chloroethyl)ether	ND	330	<165	µg/kg	Q4925
Bis(2-chloroisopropyl)ether	ND	330	<165	μg/kg	Q4925



# **Level II QC Report**

Date/Time Submitted: 3/31/10 14:30

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name:

U-2826-B

COC Group Number: G0410028

Project ID: Project No.: NCDOT Forsyth Co. PSA-

Parcel 2

WBS# 34871.2.1

Method Blank	Result	RL	Control Limit	Units			QC Batch ID
Bis(2-ethylhexyl)phthalate	ND	330	<165	µg/kg			Q49259
Butylbenzylphthalate	ND	330	<165	μg/kg			Q49259
Chrysene	ND	330	<165	μg/kg			Q49259
Di-n-butylphthalate	ND	330	<165	μg/kg			Q49259
Di-n-octylphthalate	ND	330	<165	μg/kg			Q49259
Dibenzo(a,h)anthracene	ND	330	<165	μg/kg			Q49259
Dibenzofuran	ND	330	<165	μg/kg			Q49259
Diethylphthalate	ND	330	<165	μg/kg			Q49259
Dimethylphthalate	ND	330	<165	µg/kg			Q49259
Fluoranthene	ND	330	<165	μg/kg			Q49259
Fluorene	ND	330	<165	μg/kg			Q49259
Hexachlorobenzene	ND	330	<165	μg/kg			Q49259
Hexachlorobutadiene	ND	330	<165	μg/kg			Q49259
Hexachlorocyclopentadiene	ND	330	<165	μ <b>g/</b> kg			Q49259
Hexachloroethane	ND	330	<165	µg/kg			Q49259
Indeno(1,2,3-cd)pyrene	ND	330	<165	µg/kg			Q49259
Isophorone	ND.	330	<165	µg/kg			Q49259
N-Nitrosodi-n-propylamine	ND	330	<165	µg/kg			Q49259
N-Nitrosodiphenylamine	ND	330	<165	μg/kg			Q49259
Naphthalene	ND	330	<165	μg/kg			Q49259
Nitrobenzene	ND	330	<165	μg/kg			Q49259
Pentachlorophenol	ND	330	<165	μg/kg			Q49259
Phenanthrene	ND	330	<165	µg/kg			Q49259
Phenol	ND	330	<165	μg/kg			Q49259
Pyrene	ND	330	<165	µg/kg			Q49259
Laboratory Control Sample	Result	Spike Amo	unt	Units	Recovery %	Recovery Ranges %	QC Batch ID
1,2,4-Trichlorobenzene	781.496	1640.	7	µg/kg	48	39-98	Q49259
1,2-Dichlorobenzene	760.498	1640.	7	μg/kg	46	36-96	Q49259
1,3-Dichlorobenzene	751.968	1640.	7	µg/kg	46	37-94	Q49259
1,4-Dichlorobenzene	652.230	1640.	7	µg/kg	40	37-95	Q49259
2,4,5-Trichlorophenol	1025.59	1640.	7	μg/kg	63	45-117	Q49259
2,4,6-Trichlorophenol	968.503	1640.	7	μg/kg	59	45-112	Q49259
2,4-Dichlorophenol	836.614	1640.	7	μg/kg	51	40-104	Q49259
2,4-Dimethylphenol	869.750	1640.	7	μg/kg	53	39-103	Q49259
2,4-Dinitrophenol	706.364	1640.	7	μg/kg	43	25-138	Q49259

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**Level II QC Report** 

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name:

U-2826-B

COC Group Number: G0410028

3/31/10 14:30

Project ID:

Project No.:

Date/Time Submitted: NCDOT Forsyth Co. PSA-

Parcel 2

WBS# 34871.2.1

aleigh, NC 27607						
aboratory Control Sample		0.11-1	***************************************	Recovery	Recovery Ranges	QC Ba
	Result	Spike Amount	Units	%	%	
2,4-Dinitrotoluene	1178.80	1640.7	µg/kg	72	56-128	Q4925
2,6-Dinitrotoluene	1258.85	1640.7	µg/kg	77	52-124	Q4925
2-Chloronaphthalene	877.952	1640.7	µg/kg	54	40-108	Q4925
2-Chlorophenol	812.007	1640.7	µg/kg	49	37-98	Q4925
2-Methylnaphthalene	872.703	1640.7	μg/kg	53	35-113	Q4925
2-Methylphenol	873.687	1640.7	μg/kg	53	38-101	Q4925
2-Nitrophenol	855.643	1640.7	µg/kg	52	38-103	Q492
3&4-Methylphenol	888.451	1640.7	ha/ka <sup>′</sup>	54	35-106	Q492
3,3'-Dichlorobenzidine	1581.03	1640.7	μg/kg	96	45-135	Q492
4,6-Dinitro-2-methylphenol	1059.38	1640.7	μg/kg	65	54-131	Q492
4-Bromophenylphenylether	1265.09	1640.7	μg/kg	77	54-116	Q492
4-Chloro-3-methylphenol	1011.81	1640.7	μg/kg	62	45-111	Q492
4-Chlorophenylphenylether	1167.97	1640.7	μg/kg	71	50-113	Q492
4-Nitrophenol	1278.87	1640.7	µg/kg	78	20-157	Q492
Acenaphthene	1019.02	1640.7	μg/kg	62	44-110	Q492
Acenaphthylene	1034.12	1640.7	μg/kg	63	43-114	Q492
Anthracene	1345.47	1640.7	µg/kg	82	59-120	Q492
Benzo(a)anthracene	1319.55	1640.7	μg/kg	80	46-125	Q492
Benzo(a)pyrene	1426.18	1640.7	μg/kg	87	60-124	Q492
Benzo(b)fluoranthene	1331.69	1640.7	μg/kg	81	55-125	Q492
Benzo(g,h,i)perylene	962.598	1640.7	μg/kg	59	41-133	Q492
Benzo(k)fluoranthene	1203.08	1640.7	μg/kg	73	58-124	Q492
Bis(2-chloroethoxy)methane	897.965	1640.7	µg/kg	55	36-103	Q492
Bis(2-chloroethyl)ether	771.981	1640.7	μg/kg	47	33-97	Q492
Bis(2-chloroisopropyl)ether	871.062	1640.7	μg/kg	53	34-98	Q492
Bis(2-ethylhexyl)phthalate	1570.53	1640.7	μg/kg	96	58-129	Q492
Butylbenzylphthalate	1552.49	1640.7	μg/kg	95	59-128	Q492
Chrysene	1358.59	1640.7	μg/kg	83	44-128	Q492
Di-n-butylphthalate	1443.56	1640.7	µg/kg	88	56-121	Q492
Di-n-octylphthalate	1472.11	1640.7	µg/kg	90	59-125	Q492
Dibenzo(a,h)anthracene	974.081	1640.7	μg/kg	59	46-129	Q492
Dibenzofuran	1077.42	1640.7	μg/kg	66	47-112	Q492
Diethylphthalate	1370.73	1640.7	µg/kg	84	55-118	Q492
Dimethylphthalate	1286.74	1640.7	µg/kg	78	55-114	Q492
Fluoranthene	1317.25	1640.7	μg/kg	80	57-120	Q492
Fluorene	1175.19	1640.7	µg/kg	72	52-113	Q492



# **Level II QC Report**

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road

**Project** Name:

U-2826-B

COC Group Number: G0410028 Date/Time Submitted:

3/31/10 14:30

Project ID: Project No.: NCDOT Forsyth Co. PSA-

Parcel 2

WBS# 34871.2.1

Raleigh, NC 27607			WBS# 346	/ 1.2.1		
Laboratory Control Sample	- 4	0.2		Recovery	Recovery Ranges	QC Batch
	Result	Spike Amount	Units	%	%	10
Hexachlorobenzene	1221.12	1640.7	µg/kg	74	56-117	Q49259
Hexachlorobutadiene	718.503	1640.7	µg/kg	44	36-100	Q49259
Hexachlorocyclopentadiene	563.976	1640.7	μg/kg	34	33-120	Q49259
Hexachloroethane	757.545	1640.7	μg/kg	46	33-97	Q49259
Indeno(1,2,3-cd)pyrene	1450.45	1640.7	μg/kg	88	44-133	Q49259
Isophorone	979.330	1640.7	μg/kg	60	35-111	Q49259
N-Nitrosodi-n-propylamine	882.874	1640.7	μg/kg	54	38-101	Q49259
N-Nitrosodiphenylamine	1334.64	1640.7	μg/kg	81	60-117	Q49259
Naphthalene	869.422	1640.7	μg/kg	53	36-104	Q49259
Nitrobenzene	870.734	1640.7	µg/kg	53	36-100	Q49259
Pentachlorophenol	1107.61	1640.7	µg/kg	68	53-127	Q49259
Phenanthrene	1303.47	1640.7	μg/kg	79	58-117	Q49259
Phenol	847.769	1640.7	µg/kg	52	34-102	Q49259
Pyrene	1408.13	1640.7	µg/kg	86	54-131	Q49259
Matrix Spike Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	QC Bato
275466 1,2,4-Trichlorobenzene	937	1667	µg/kg	56	26-97	Q49259
1,2-Dichlorobenzene	949	1667	μg/kg	57	24-93	Q49259
1,3-Dichlorobenzene	944.666	1667	μg/kg	57	23-92	Q49259
1,4-Dichlorobenzene	819.333	1667	μg/kg	49	23-92	Q49259
2,4,5-Trichlorophenol	1257.66	1667	μg/kg	75	33-118	Q49259
2,4,6-Trichlorophenol	1197.33	1667	μg/kg	72	32-113	Q49259
2,4-Dichlorophenol	1007.33	1667	μg/kg	60	28-103	Q49259
2,4-Dimethylphenol	979	1667	μg/kg	59	26-103	Q49259
2,4-Dinitrophenol	547.333	1667	μg/kg	33	24-146	Q49259
2.4-Dinitrotoluene	1390.33	1667	μg/kg	83	45-127	Q49259
2,6-Dinitrotoluene	1428	1667	μg/kg	86	40-121	Q49259
2-Chloronaphthalene	1088.66	1667	μg/kg	65	30-106	Q49259
2-Chlorophenol	1003	1667	μg/kg	60	25-94	Q4925
2-Methylnaphthalene	1053.33	1667	µg/kg	63	22-114	Q4925
2-Methylphenol	1059	1667	μg/kg	64	25-98	Q4925
2-Nitrophenol	989.666	1667	μg/kg	59	25-102	Q4925
3&4-Methylphenol	1070.33	1667	µg/kg	64	25-102	Q4925
3,3'-Dichlorobenzidine	1781.66	1667	µg/kg	107	45-135	Q4925
3,3 -DIGHOLODGHAIGHE	1701.00	1001	F39		.0 .00	G 1020
4,6-Dinitro-2-methylphenol	889	1667	μg/kg	53	42-139	Q4925



# **Level II QC Report**

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

**Project** Name:

U-2826-B

COC Group Number: G0410028 Date/Time Submitted:

3/31/10 14:30

Project ID: Project No.: NCDOT Forsyth Co. PSA-

Parcel 2

WBS# 34871.2.1

Matrix Spike	Result	Spike Amount	Units	Recovery %	Recovery Ranges	N	QC Batch ID
Sample ID:	resuit		OTRIS		%%		
275466 4-Chloro-3-methylphenol	- 1278	1667	μg/kg	77	31-113		Q49259
4-Chlorophenylphenylether	1390.33	1667	µg/kg	83	36-112		Q49259
4-Nitrophenol	1449.33	1667	µg/kg	87	17-150		Q49259
Acenaphthene	1254.66	1667	µg/kg	75	36-107		Q49259
Acenaphthylene	1280.66	1667	µg/kg	77	33-110		Q49259
Anthracene	1480.33	1667	μg/kg	89	48-120		Q49259
Benzo(a)anthracene	1474.66	1667	µg/kg	88	31-128		Q49259
Benzo(a)pyrene	1578.33	1667	µg/kg	95	50-123		Q49259
Benzo(b)fluoranthene	1726.33	1667	μg/kg	104	45-125		Q49259
Benzo(g,h,i)perylene	800.666	1667	μg/kg	48	38-124		Q49259
Benzo(k)fluoranthene	1793.33	1667	μg/kg	108	48-121		Q49259
Bis(2-chloroethoxy)methane	1097	1667	µg/kg	66	25-100		Q49259
Bis(2-chloroethyl)ether	949.333	1667	µg/kg	57	17-101		Q49259
Bis(2-chloroisopropyl)ether	1133.66	1667	µg/kg	68	20-96		Q49259
Bis(2-ethylhexyl)phthalate	1832.33	1667	µg/kg	110	48-131		Q49259
Butylbenzylphthalate	1788.66	1667	µg/kg	107	46-133		Q49259
Chrysene	1485.33	1667	µg/kg	89	29-129		Q49259
Di-n-butylphthalate	1626.66	1667	µg/kg	98	45-123		Q49259
Di-n-octylphthalate	2519	1667	µg/kg	151 #	¢ 43-132		Q49259
Dibenzo(a,h)anthracene	947	1667	μg/kg	57	34-130		Q49259
Dibenzofuran	1325	1667	μg/kg	79	34-114		Q49259
Diethylphthalate	1522.66	1667	μg/kg	91	39-121		Q49259
Dimethylphthalate	1457	1667	μg/kg	87	41-114		Q49259
Fluoranthene	1437.66	1667	µg/kg	86	47-121		Q49259
Fluorene	1389.66	1667	µg/kg	83	38-117		Q49259
Hexachlorobenzene	1366.33	1667	µg/kg	82	44-119		Q49259
Hexachlorobutadiene	867	1667	μg/kg	52	25-96		Q49259
Hexachlorocyclopentadiene	538.666	1667	μg/kg	32	21-116		Q49259
Hexachloroethane	954.333	1667	μg/kg	57	22-92		Q49259
Indeno(1,2,3-cd)pyrene	1355	1667	μg/kg	81	34-131		Q49259
Isophorone	1231.66	1667	μg/kg	74	25-108		Q49259
N-Nitrosodi-n-propylamine	1128	1667	μg/kg	68	22-105		Q49259
N-Nitrosodiphenylamine	1516	1667	µg/kg	91	43-127		Q49259
Naphthalene	1030.33	1667	µg/kg	62	25-101		Q49259
Nitrobenzene	1053.33	1667	μg/kg	63	23-100		Q49259
Pentachlorophenol	1198.33	1667	μg/kg	72	39-137		Q49259



# Level II QC Report

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project

U-2826-B

COC Group Number: G0410028

Name: Project ID:

Project No.:

Date/Time Submitted: 3/31/10 14:30

NCDOT Forsyth Co. PSA-Parcel 2

WBS# 34871.2.1

Raleigh, NC 27607								
Matrix Spike				Recovery	Recovery Ranges			QC Batch
Sample ID:	Result	Spike Amount	Units	%	%			ID .
275466 Phenanthrene	1473	1667	μg/kg	88	47-121			Q49259
Phenol	1009.66	1667	μg/kg	61	23-97			Q49259
Pyrene	1496.33	1667	µg/kg	90	45-133			Q49259
Matrix Spike Duplicate			***************************************	Recovery	Recovery Ranges	RPD	RPD Range	QC Batch
Sample ID:	Result	Spike Amount	Units	%	% - %	%	%	1D
275466 1,2,4-Trichlorobenzene	926.578	1661.4	μg/kg	56	26-97	1	0 - 37	Q49259
1,2-Dichlorobenzene	939.202	1661.4	μg/kg	57	24-93	1	0 - 35	Q49259
1,3-Dichlorobenzene	934.551	1661.4	μg/kg	56	23-92	1	0 - 36	Q49259
1,4-Dichlorobenzene	929.900	1661.4	µg/kg	56	23-92	13	0 - 36	Q49259
2,4,5-Trichlorophenol	1219.26	1661.4	μg/kg	73	33-118	3	0 - 28	Q49259
2,4,6-Trichlorophenol	1126.24	1661.4	µg/kg	68	32-113	6	0 - 34	Q49259
2,4-Dichlorophenol	1005.64	1661.4	μg/kg	61	28-103	0	0 - 36	Q49259
2,4-Dimethylphenol	974.086	1661.4	μg/kg	59	26-103	1	0 - 35	Q49259
2,4-Dinitrophenol	610.631	1661.4	μg/kg	37	24-146	11	0 - 33	Q49259
2,4-Dinitrotoluene	1330.56	1661.4	μg/kg	80	45-127	4	0 - 29	Q49259
2,6-Dinitrotoluene	1392.02	1661.4	μg/kg	84	40-121	3	0 - 30	Q49259
2-Chloronaphthalene	1034.21	1661.4	µg/kg	62	30-106	5	0 - 38	Q49259
2-Chlorophenol	988.704	1661.4	μg/kg	60	25-94	1	0 - 37	Q49259
2-Methylnaphthalene	1021.26	1661.4	μg/kg	61	22-114	3	0 - 40	Q49259
2-Methylphenol	1037.87	1661.4	μg/kg	62	25-98	2	0 - 36	Q49259
2-Nitrophenol	972.425	1661.4	μg/kg	59	25-102	2	0 - 39	Q49259
3&4-Methylphenol	1055.48	1661.4	μg/kg	64	25-102	1,	0 - 39	Q49259
3,3'-Dichlorobenzidine	1683.38	1661.4	μg/kg	101	45-135	6	0 - 60	Q49259
4,6-Dinitro-2-methylphenol	909.966	1661.4	μg/kg	55	42-139	2	0 - 28	Q49259
4-Bromophenylphenylether	1431.89	1661.4	μg/kg	86	42-115	2	0 - 23	Q49259
4-Chloro-3-methylphenol	1195.68	1661.4	μg/kg	72	31-113	7	0 - 32	Q49259
4-Chlorophenylphenylether	1307.97	1661.4	µg/kg	79	36-112	6	0 - 32	Q49259
4-Nitrophenol	1461.12	1661.4	μg/kg	88	17-150	1	0 - 32	Q49259
Acenaphthene	1179.73	1661.4	μg/kg	71	36-107	6	0 - 32	Q49259
Acenaphthylene	1181.06	1661.4	μg/kg	71	33-110	8	0 - 32	Q49259
Anthracene	1459.80	1661.4	µg/kg	88	48-120	1	0 - 25	Q49259
Benzo(a)anthracene	1452.15	1661.4	μg/kg	87	31-128	2	0 - 31	Q49259
Benzo(a)pyrene	1540.19	1661.4	μg/kg	93	50-123	2	0 - 23	Q49259
Benzo(b)fluoranthene	1711.29	1661.4	μg/kg	103	45-125	1	0 - 25	Q49259
Benzo(g,h,i)perylene	807.308	1661.4	μg/kg	49	38-124	1	0 - 25	Q49259
Benzo(k)fluoranthene	1777.74	1661.4	μg/kg	107	48-121	1	0 - 27	Q49259



**Level II QC Report** 

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road

Project

U-2826-B

COC Group Number: G0410028

3/31/10 14:30

Name: Project ID:

Project No.:

Date/Time Submitted: NCDOT Forsyth Co. PSA-

Parcel 2

WBS# 34871.2.1

Raleigh, NC 27607			VV DO# 340	07 1.2.1				
Matrix Spike Duplicate Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
275466 Bis(2-chloroethoxy)meth	ane 1092.35	1661.4	µg/kg	66	25-100	0	0 - 38	Q49259
Bis(2-chloroethyl)ether	938.205	1661.4	μg/kg	56	17-101	1	0 - 38	Q49259
Bis(2-chloroisopropyl)eth	ner 1104.65	1661.4	μg/kg	66	20-96	3	0 - 36	Q49259
Bis(2-ethylhexyl)phthalat	te 1821.26	1661.4	μg/kg	110	48-131	1	0 - 23	Q49259
Butylbenzylphthalate	1775.41	1661.4	µg/kg	107	46-133	1	0 - 25	Q49259
Chrysene	1468.43	1661.4	µg/kg	88	29-129	1	0 - 32	Q49259
Di-n-butylphthalate	1620.93	1661.4	μg/kg	98	45-123	0	0 - 24	Q49259
Di-n-octylphthalate	2530.89	1661.4	μg/kg	152 #	43-132	0	0 - 24	Q49259
Dibenzo(a,h)anthracene	973.421	1661.4	μg/kg	59	34-130	3	0 - 25	Q49259
Dibenzofuran	1228.23	1661.4	μg/kg	74	34-114	8	0 - 30	Q49259
Diethylphthalate	1509.30	1661.4	μg/kg	91	39-121	1	0 - 23	Q49259
Dimethylphthalate	1404.98	1661.4	µg/kg	85	41-114	4	0 - 27	Q49259
Fluoranthene	1431.22	1661.4	μg/kg	86	47-121	0	0 - 23	Q49259
Fluorene	1340.86	1661.4	μg/kg	81	38-117	4	0 - 30	Q49259
Hexachlorobenzene	1341.52	1661.4	µg/kg	81	44-119	2	0 - 24	Q49259
Hexachlorobutadiene	873.089	1661.4	μg/kg	53	25-96	1	0 - 34	Q49259
Hexachlorocyclopentadie	ene 545.514	1661.4	μg/kg	33	21-116	1	0 - 39	Q49259
Hexachloroethane	922.923	1661.4	μg/kg	56	22-92	3	0 - 36	Q49259
Indeno(1,2,3-cd)pyrene	1378.73	1661.4	µg/kg	83	34-131	2	0 - 28	Q49259
Isophorone	1138.20	1661.4	μg/kg	69	25-108	8	0 - 38	Q49259
N-Nitrosodi-n-propylamir	ne 1089.03	1661.4	μg/kg	66	22-105	4	0 - 37	Q49259
N-Nitrosodiphenylamine	1463.45	1661.4	µg/kg	88	43-127	4	0 - 24	Q49259
Naphthalene	1024.91	1661.4	µg/kg	62	25-101	1	0 - 38	Q49259
Nitrobenzene	1035.54	1661.4	μg/kg	62	23-100	2	0 - 37	Q49259
Pentachlorophenol	1195.34	1661.4	μg/kg	72	39-137	0	0 - 27	Q49259
Phenanthrene	1464.11	1661.4	μg/kg	88	47-121	1	0 - 23	Q49259
Phenol	1016.94	1661.4	μg/kg	61	23-97	1	0 - 42	Q49259
Pyrene	1464.11	1661.4	µg/kg	88	45-133	2	0 - 27	Q49259



# Level II QC Report

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project

U-2826-B

COC Group Number: G0410028 Date/Time Submitted:

3/31/10 14:30

Name: Project ID:

Project No.:

NCDOT Forsyth Co. PSA-

Parcel 2

WBS# 34871.2.1

#### Metals by ICP, method 6010B

Method Blank	Result	RL	Control Limit	Units					QC Batch ID
Arsenic	-0.01	0.5	<0.25	mg/kg					Q49277
Barium	1.4049	# 0.5	<0.25	mg/kg					Q49277
Cadmium	0.0005	0.25	<0.125	mg/kg					Q49277
Chromium	0.0596	0.25	<0.125	mg/kg					Q49277
Lead	0.07	0.25	<0.125	mg/kg					Q49277
Selenium	0.074	0.5	<0.25	mg/kg					Q49277
Silver	-0.0021	0.25	<0.125	mg/kg					Q49277
Laboratory Control Sample	Result	Spike Amou	ınt	Units	Recovery %	Recovery Ranges %			QC Batch ID
Arsenic	24.1306	25		mg/kg	97	80-120			Q49277
Barium	25.434	25		mg/kg	102	80-120			Q49277
Cadmium	24.1839	25		mg/kg	97	80-120			Q49277
Chromium	24.8344	25		mg/kg	99	80-120			Q49277
Lead	24.0297	25		mg/kg	96	80-120			Q49277
Selenium	23.7693	25		mg/kg	95	80-120			Q49277
Silver	23.9171	25		mg/kg	96	80-120			Q49277
Matrix Spike Sample ID:	Result	Spike Amou	unt	Units	Recovery	, Recovery Ranges %		-	QC Batch ID
275456 Arsenic	23.097	24.87	5	mg/kg	77	75-125			Q49277
Barium	156	25	J	mg/kg	76	75-125			Q49277
Cadmium	20.2282	24.87	5	mg/kg	72	# 75-125			Q49277
Chromium	41.2579	24.87		mg/kg	59				Q49277
Lead	471	25	•	mg/kg	32	# 75-125			Q49277
Selenium	25.2	25		mg/kg	97	75-125			Q49277
Silver	20.799	24.87	5	mg/kg	87	75-125			Q49277
Matrix Spike Duplicate	Result	Spike Amo		Units	Recovery	Ranges	RPD %	RPD Range %	QC Batch ID
Sample ID:	23.2116	24.63		mg/kg	79	% 75-125	0		Q49277
275456 Arsenic	161	24.03 25	U	mg/kg	96	75-125	3		Q49277
Barium	19.9773	25 24.63	n	mg/kg	71	# 75-125	1		Q49277
Cadmium	43.2972	24.63		mg/kg		# 75-125 # 75-125	5		Q49277
Chromium	43.2972	24.63 25	v	mg/kg	-100		7		Q49277
Lead	456 25	25 25		mg/kg	96	75-125 75-125	1		Q49277
Selenium			0	mg/kg	90 87	75-125 75-125	1		Q49277
Silver	20.598	24.63	U	шулку	01	70-120	1	0-20	W+321



# Level II QC Report

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

**Project** 

U-2826-B

COC Group Number: G0410028

3/31/10 14:30

Name: Project ID:

Project No.:

Date/Time Submitted: NCDOT Forsyth Co. PSA-

Parcel 2

WBS# 34871.2.1

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

Method Blank	Result	RL	Control Limit	Units					QC Batch ID
	Result		COMMON EMILL	Office					
Diesel Range Organics (DRO)	ND	7	<3.5	mg/kg					Q49287
Laboratory Control Sample	Result	Spike Amount	t .	Units	Recovery %	Recovery Ranges %			QC Batch ID
Diesel Range Organics (DRO)	57.3	80		mg/kg	72	55-109			Q49287
Matrix Spike Sample ID:	Result	Spike Amoun	t	Units	Recovery %	Recovery Ranges %	,		QC Batch ID
275461 Diesel Range Organics (DRO)	60.4	80		mg/kg	76	50-117			Q49287
Matrix Spike Duplicate Sample ID:	Result	Spike Amoun	t	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
275461 Diesel Range Organics (DRO)	55.8	80		mg/kg	70	50-117	8	0 - 24	Q49287
Gasoline Range Organics (GRO) by G	C-FID, me	ethod 8015	3						
Method Blank	Result	RL	Control Limit	Units					QC Batch

Method Blank	_ "	51	On wheat I imit						QC Batch ID
	Result	RL	Control Limit	Units					
Gasoline Range Organics (GRO)	ND	5	<2.5	mg/kg					Q49290
Laboratory Control Sample	Result	Spike Amou	unt	Units	Recovery %	Recovery Ranges %			QC Batch ID
Gasoline Range Organics (GRO)	51.10	50		mg/kg	102	67-116			Q49290
Matrix Spike					Recovery	Recovery Ranges			QC Batch
Sample ID:	Result	Spike Amou	unt	Units	%	%			ID
275480 Gasoline Range Organics (GRO)	45.75	50		mg/kg	92	57-113			Q49290
Matrix Spike Duplicate					Recovery	Recovery	RPD	RPD Range	QC Batch
Sample ID:	Result	Spike Amo	unt	Units	%	Ranges %	%	%	ID
275480 Gasoline Range Organics (GRO)	45.20	50		mg/kg	90	57-113	1	0 - 23	Q49290



## Level II QC Report

4/19/10

N. C. Department of Transportation

275538 Diesel Range Organics (DRO) 55.8

Attn Jodi Overmyer c/o Solution - IES

1101 Nowell Road Raleigh, NC 27607 **Project** 

U-2826-B

COC Group Number: G0410028

3/31/10 14:30

Name: Project ID:

Date/Time Submitted: NCDOT Forsyth Co. PSA-

Project No.:

Parcel 2

WBS# 34871.2.1

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

Method Blank	Result	RL	Control Limit	Units					QC Batch ID
Gasoline Range Organics (GRO)	ND	5	<2.5	mg/kg			- N. V-73		Q49295
Laboratory Control Sample	Result	Spike Amour	nt	Units	Recovery %	Recovery Ranges %			QC Batch ID
Gasoline Range Organics (GRO)	50.20	50		mg/kg	100	67-116			Q49295
Matrix Spike Sample ID:	Result	Spike Amour	nt	Units	Recovery %	Recovery Ranges %			QC Batch ID
275461 Gasoline Range Organics (GRO)	41.90	50		mg/kg	84	57-113			Q49295
Matrix Spike Duplicate Sample ID:	Result	Spike Amou	nt	Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	QC Batch ID
275461 Gasoline Range Organics (GRO)	44.10	50		mg/kg	88	57-113	5	0 - 23	Q49295
Diesel Range Organics (DRO) by GC-	FID, meth	od 8015B							
Method Blank	Result	RL	Control Limit	Units					QC Batch ID
Diesel Range Organics (DRO)	ND	7	<3.5	mg/kg					Q49322
I I					Recovery	Recovery	***************************************		
Laboratory Control Sample	Result	Spike Amou	nt	Units	%	Ranges %			QC Batch ID
Diesel Range Organics (DRO)	Result	Spike Amou	nt	Units mg/kg	•	•			
					%	%			ID
Diesel Range Organics (DRO)  Matrix Spike	65.6 Result	80		mg/kg	% 82 Recovery	% 55-109 Recovery Ranges			Q49322 QC Batch

80

mg/kg

70

50-117

19

0 - 24 Q49322



# **Level II QC Report**

Date/Time Submitted: 3/31/10 14:30

4/19/10

N. C. Department of Transportation

Attn Jodi Overmyer c/o Solution - IES 1101 Nowell Road Raleigh, NC 27607

Project Name:

Project ID:

Project No.:

U-2826-B

COC Group Number: G0410028

NCDOT Forsyth Co. PSA-

Parcel 2

WBS# 34871.2.1

#### Mercury by CVAA, method 7471A

Method Blank									QC Batch ID
	Result	RL	Control Limit	Units		*******			U
Mercury	0.00534	0.02	<0.01	mg/kg					Q49336
Laboratory Control Sample	Result	Spike Amour	nt	Units	Recovery %	Recovery Ranges %			QC Batch ID
Mercury	0.41037	0.417		mg/kg	98	80-120			Q49336
Matrix Spike			#4.7 · · · · · · · · · · · · · · · · · · ·		Recovery	Recovery Ranges			QC Batch
Sample ID:	Result	Spike Amour	nt	Units	%	%			ID
276160 Mercury	0.38922	0.3985	i	mg/kg	96	80-120			Q49336
Matrix Spike Duplicate	The second secon				Recovery	Recovery Ranges	RPD	RPD Range	QC Batch
Sample ID:	Result	Spike Amou	nt	Units	%	%	%	% ————————————————————————————————————	ID
276160 Mercury	0.40538	0.4047	•	mg/kg	99	80-120	4	0 - 20	Q49336

#-See Case Narrative

Page 14 of 14



Full Service Analytical & Environmental Solutions

449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543 Jaleigh MC 37607 Solutions. IES Tody overnyer 101 WOWCH Phone: 704/529-6364 • Fax: 704/525-0409 Report To/Contact Name: . Client Company Name: ... Reporting Address: \_\_

Site Location Physical Address: Windton Salon, N.C. 2 Phone: 9/4-873-/060 Fax (Yes) (No): Other. Parcel Excel Site Location Name: EDD Type: X PDFX

# CHAIN OF CUSTODY RECORD

LAB USE ONLY

PAGE \_\_ OF Z\_ QUOTE # TO ENSURE PROPER BILLING: \_ 5.84 \$ FUCATA Project Name: .

\*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements Still Project U- 2826provisions and/or QC Requirements
Invoice To: NCPOT UBS 3494/2. Invoice To:\_

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VOLATILES rec'd W/OUT HEADSPACE?

PROPER PRESERVATIVES Indicated?

Samples INTACT upon arrival?

Received WITHIN HOLDING TIMES?

CUSTODY SEALS INTACT?

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) Email (Yes) (No) Email Address 30 Ver my L. ( Solutions Producted Due Date 11 Day 12 Days 14 Days 15 Days Samples received after 15:00 will be processed next business day. ☐ 6-9 Days XStandard 10 days Purchase Order No./Billing Reference "Working Days" Address: \_

1	TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL	ONNEL
	Certification: NELAC USACE FL	X SN
	SCOTHERN/A	
	Water Chlorinated: YES NO	
	Sample Iced Upon Collection: YES 🔏 NO	
₹	NALYSES REQUESTED 15*	PRISM

PRISM USE ONLY	PRISM	Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be	es as requested a	d with the analys	Prism to procee	horization for	ody is your aut	s Chain of Cust	Upon relinquishing, thi
SCOPIE	PRESS DOWN FIRMLY - 3 COPIES	Affiliation Sulsten - 25	Ž	Sampled By (Print Name) 3 (047) だんだん	y (Print Name) _	Sampled B	The same	A	Sampler's Signature
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PRISM		ANALYSES HEQUESIED CAN	PRESERVA-	CONTAINER	SAMPLE	MATRIX (SOIL.	TIME	ATE	INSI C

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the Prism Project Manager. There will be charges for any changes after analyses have been i	Received E	7
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Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINGT (	SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTOD SELLS FOR TRANSPORTATION TO THE LABORATORY. ARE NOT ACCEPTED AND VERIFIED AGAINST GOC UNTIL RECEIVED AT THE LABORATORY.	Log in Group No.
		(404100AB

G0410028	SOLID WASTE: RCRA: CERCLA LANDFILL OTHER:	(Zero Head Space)
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# SEE REVERSE FOR TERMS & CONDITIONS Site Departure Time: Field Tech Fee: Mileage:

Site Arrival Time:

ORIGINAL



Full Service Analytical & Environmental Solutions

449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543 Phone: 704/529-6364 • Fax: 704/525-0409 Jody Overnyer Solutions IES Report To/Contact Name: \_ Client Company Name: \_\_

20912 101 Nove1 Email (Yes) (No) Email Address Jove ö Phone: 4/9 - 8 75 - 1060 Fax (Yes) Raletah Site Location Physical Address: EDD Type: KPDF K Excel Reporting Address: \_\_

# CHAIN OF CUSTODY RECORD

LAB USE ONL

<u>8</u> Please ATTACH any project specific reporting (QC LEVEL I II III IV) UST Project: (Yes) Stule project U-2826-13 PAGE Z. OF Z. QUOTE # TO ENSURE PROPER BILLING. provisions and/or QC Requirements Short Hold Analysis: (Yes) (No) Project Name: TOC/V+ Address: \_\_

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PROPER PRESERVATIVES indicated?

Samples INTACT upon arrival? Received ON WET IGE? Temp

ANALYSES REQUESTED 1/54	INNA	SAMPLE CONTAINER	TIME MATRIX	TIME
Sample Iced Upon Collection: YES_	ONS REGARDING SERVICES 3, INC. TO CLIENT)	(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)		-
Water Chlorinated: YES NO	ssed next business day. s, excluding weekends and holidays.	Turna		1, 1
SC OTHER	dard 10 days	"Working Days"   © 6-9 Days A Standard 10 days	(J. 1) / 1100 1 16.12)	m/\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Certification: NELAC USACE	□3 Days □4 Days □5 Days	Requested Due Date G 1 Day G 2 Days G 3 Days G 4 Days G 5 Days	S.Con	165.600
TO BE FILLED IN BY CLIENT/SAMI	JC6	Purchase Order No./Billing Reference		No):

	TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL	JANNE	
	Certification: NELAC USACE FL	Y SY	
	SCOTHERN/A		
	Water Chlorinated: YES NO		
. ;	Sample Iced Upon Collection: YES NO		
ANA/	ANALYSES REQUESTED 1/54	Wolad	

PRISM USE ONLY	PRISM U	,		ust be	iges m	ny chan	cove. A	with the analyses as requested above. Any changes must be notes after analyses have been initialized.	ses as r	the analys	seed with	Prism to proc	orization for	dy is your auth	Chain of Custo	Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. An authorization of the prism Project Manager. There will be charges for any changes after analyses have been initialized.
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	_	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1	01 	7	100	_	PRESERVA-	ă.				(SOIL,	COLLECTED	DATE	CLIENT

SEE REVERSE FOR TERMS & CONDITIONS

Site Departure Time: Site Arrival Time:

Additional Comments:

Fleid Tech Fee:

Mileage:

F 33

Date | 3/31/10

Log-In Group No

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTSONS EALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST, COC UNTIL RECEIVED AT THE LABORATORY.

aboratories By

↑ CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic: TL = Teffon-I ined Can VOA = Volatile Ornanics Analysis (7 aro Head Snace)

SOLID WASTE:

DRINKING WATER: ONC OSC

A Prism Field Service GRÓUNDWATER:

□ Hand-delivered

☐ Fed Ex ☐ UPS NPDES:

ONC OSC ONC OSC ONC

RCRA: CERCLA LANDFILL OTHER:

G-0410033