PRELIMINARY SITE ASSESSMENT
PARCEL 61, COOPER & BROWN INCORPORATED PROPERTY
3701 US HIGHWAY 1
RICHMOND COUNTY, NORTH CAROLINA
WBS ELEMENT: 34438.1.1; NCDOT PROJECT: R-2502 A

Prepared for:
NC Department of Transportation
Geotechnical Engineering Unit
GeoEnvironmental Section
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Prepared by:
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Solutions-IES Project No. 3260.06A3.NDOT

September 27, 2006

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1.0 INTRODUCTION

The North Carolina Department of Transportation (NCDOT) is widening the existing alignment of US Highway 1 near the towns of Marston and Hoffman, located in Richmond County, North Carolina. Acquisition of properties within the right-of-way is necessary prior to road construction. On July 19, 2006, Solutions-IES submitted a proposal (NC06554P) to conduct Preliminary Site Assessments (PSAs) on ten parcels of land located within the proposed right-of-way that are of concern to the NCDOT. This report summarizes the results of field activities conducted during the PSA for a portion of the property identified by NCDOT as Parcel 61, Cooper & Brown Incorporated Property (**Figure 1**). The right-of-way portion of this parcel and a portion of Parcel 62, the Veola Watkins property, are more clearly identified on **Figure 2.** These two portions comprise the Study Area**.** The scope of work executed at the site was performed in general accordance with Solutions-IES proposal NC06554P and was initiated based on a Notice to Proceed issued by the NCDOT Geotechnical Engineering Unit on July 20, 2006 under contract 7000007053, dated June 5, 2006.

2.0 BACKGROUND AND SITE DESCRIPTION

The subject property is located approximately 250 feet southwest of the intersection of US Highway 1 and Little Road (SR-1004) within the Corporate Limits of Hoffman, Richmond County, North Carolina (site). A one-story cinder block building is situated on the site. Dense brush and trees south and west of the building cover portions of the Study Area. The surface of the site is also covered with a mixture of concrete, asphalt, gravel and grass. Several utilities including buried fiber optic cable and water, and overhead electric lines are present within the right-of-way. Photographs of the Study Area at the site are presented in **Appendix A**.

According to information provided by NCDOT via an S&ME, Inc. report dated January 7, 1999, the site had been the location of a retail store (C.C. Grocery, NCDENR Facility ID # 0-019340) and a gas station. According to this report, a total of nine USTs were located at the site and utilized for the storage of gasoline, diesel fuel and kerosene for retail sale by C.C. Grocery. The USTs were owned by Swink Quality Oil Company of Rockingham, NC. Five of the USTs (three gasoline, one diesel and one kerosene) were reportedly closed by removal on July 1, 1988. Four additional tanks (three gasoline and one kerosene) were reportedly closed on September 20, 1996. Closure information could not be found in the public record for the USTs during the work performed by S&ME, Inc. in 1999.

The outline of a former pump island was observed between the existing building and US Highway 1. (**Appendix A,** Photograph 1). An area of gravel fill was noted southwest of the former pump island location, and is possibly the former location of one or more of the USTs reportedly removed from the site. During the Solutions-IES site visit, numerous discarded 1-gallon paint cans were observed in the brush near the southwestern side of the existing building. A domestic well was noted to exist on Parcel 62, which adjoins the site to the northeast. The operational status of this well is unknown.

If a gas station was operated at the site in the past, petroleum fuels were likely used on the property. Therefore, there is a possibility that these constituents may have been released from one or more of the potential UST systems to the subsurface in the vicinity of the proposed right-of-way.

3.0 FIELD ACTIVITIES

Prior to mobilizing to the site to conduct subsurface sampling, Solutions-IES contacted North Carolina One Call to locate underground utilities in the Study Area. Pyramid Environmental & Engineering, P.C. (Pyramid) was contracted to perform an electromagnetic survey of the subsurface in the proposed right-of-way area within the parcel. Pyramid surveyed the site on July 27 and August 16, 2006. The electromagnetic survey equipment (EM61) identified various magnetic anomalies within the Study Area, and Pyramid returned to the Study Area to perform a ground penetrating radar (GPR) survey utilizing a "Geophysical Survey Systems SIR 2000" instrument. Results of the surveys suggested the presence of buried utility lines or conduits, but did not indicate the presence of buried metallic tanks such as USTs. The EM61 images are included in **Appendix B,** Figures 14 and 15. A GPR image was not included in the geophysical report for the site.

After reviewing the background information and geophysical data, Solutions-IES elected to analyze soil samples collected at designated locations within the Study Area for total petroleum hydrocarbons (TPH). The borings were located so that they might identify contaminants (if present) related to the former UST systems. These activities were conducted on August 21 and 22, 2006. A total of 17 soil borings (borings P61-B1 through P61-B17) were advanced in the locations depicted on **Figure 3**. These borings were labeled with the prefix "P61" to associate their locations with Parcel 61. Borings P61-B1 through P61-B6 were each advanced to a total depth of 8 feet below ground surface (ft bgs), while borings P61-B7 through P61-B17 were advanced to a total depth of 12 ft bgs. Each of these borings was advanced utilizing a truck-mounted Geoprobe®. At the completion of the sampling activities, each boring was

backfilled with native soils and bentonite chips. Four of the borings (P61-B1, P61-B2, P61-B4 and P61-B5) were placed within the planned right-of-way on Parcel 62.

Soil samples were obtained from each boring using a MacroCore® sampler fitted with single-use, disposable polyvinyl chloride (PVC) liners. Each liner was 4 feet in length. Upon retrieval, a portion of each 2-foot interval was placed in separate resealable plastic bags. These bags were sealed and placed at ambient temperature for field screening with a flame ionization detector (FID). The remaining portion of each 2-foot interval was left in the PVC liner, wrapped in plastic and placed on ice for possible laboratory analysis.

Volatile organic compounds (VOCs) were allowed to accumulate in the headspace of each bag for approximately 20 minutes, after which time the headspace of each sealed bag was scanned with the FID. The FID readings were entered on the boring logs along with the soil description and indications of staining or odors, if present. Logs for each boring are presented in **Appendix C.** Soils from the borings at the Parcel 61 Study Area generally consisted of silty sand (SM) or clayey sand (SC). The GPS coordinates for the boring locations are provided in **Appendix D**.

Headspace screening of the soil samples with the FID indicated the presence of volatile vapors in several of the samples. Concentrations ranged from no detection to greater than 10,000 parts per million (ppm) in soil samples P61-B8 (10-12 ft bgs), P61-B9 (10-12 ft bgs), and P61-B10 (10-12 ft bgs). These measurements are presented in **Table 1**. Gasoline odor was noted in several of the soil samples.

Soil samples for laboratory analysis were retained from each boring at the sample intervals identified in **Table 1**. These samples were selected for analysis as they presented the highest FID measurements within the borings, or, if no volatile vapors were present, were obtained from the deepest interval within the boring. All soil samples were placed in laboratory-supplied containers and stored on ice pending shipment to Prism Laboratories, Inc. (Prism) in Charlotte, NC. Sample information was recorded on the chain-of-custody and the samples were submitted for chemical analysis of TPH gasoline range organics (GRO) by Modified EPA Method 5030/8015 and TPH diesel range organics (DRO) by Modified EPA Method 3545/8015.

To determine if groundwater has been impacted by the operation of the gasoline station on Parcel 61, Solutions-IES advanced a stainless steel Geoprobe® Screen Point® sampler to a depth of 16 ft bgs within boring P61-B8. The sleeve of the sampler was retracted, exposing the screen to groundwater. The

groundwater was measured at a depth of 11.6 ft bgs. After development, groundwater within the sampler was purged, and then sampled. Approximately 2.5 gallons of groundwater were extracted during the development and purging process. A groundwater sample (P61-GW1) was collected with a peristaltic pump using 3/8-inch diameter polyethylene tubing. The sample was collected in a laboratory-supplied container, stored on ice pending shipment, and submitted to Prism under chain-of-custody control for chemical analysis of VOCs by EPA Methods 601, 602 and semi-volatile organic compounds (SVOCs) by EPA Method 625 (base-neutral acid extractables with the ten largest non-target peaks identified), as well as the Massachusetts Department of Environmental Protection (MADEP) Volatile Petroleum Hydrocarbon (VPH) and Extractable Petroleum Hydrocarbon (EPH) methods.

4.0 SAMPLING RESULTS

TPH DRO was detected in 11 of 17 soil samples collected within the Study Area at concentrations ranging from 4.5 mg/kg (P61-B15 (6-8 ft bgs)) to 2,800 mg/kg (P61-B10 (10-12 ft bgs)). TPH GRO was detected in 5 of the 17 soil samples at concentrations ranging from 910 mg/kg (P61-B10 (10-12 ft bgs)) to 3,300 mg/kg (P61-B12 (10-12 ft bgs)). These data are summarized in **Table 2**. Laboratory reports associated with these samples are presented in **Appendix E**.

VOCs, SVOCs, VPH and EPH constituents were detected in groundwater sample P61-GW1. These data are presented in **Table 3**. The laboratory report associated with this sample is presented in **Appendix F**.

5.0 DISCUSSION AND CONCLUSIONS

The geophysical survey conducted at the site did not reveal buried metallic objects such as USTs within the Study Area. The survey did suggest metallic anomalies in locations consistent with the presence of buried utilities (e.g., fiber optic telephone, buried water lines).

The outline of a former pump island was observed between the existing building and US Highway 1. An area of gravel fill was noted southwest of the former pump island location, and is possibly the former location of one or more of the USTs reportedly removed from the site.

According to the laboratory analytical results, TPH DRO was detected in the soil samples from borings P61-B1, P61-B3, P61-B7, P61-B8, P61-B9, P61-B10, P61-B11, P61-B12, and P61-B16 at concentrations greater than the action level of 10 milligrams per kilogram described for tank closure (*Guidelines for*

Tank Closure, North Carolina Underground Storage Tank Section (Guidelines), September 2003). Soil samples P61-B15 and P61-B2 contained TPH DRO at concentrations greater than the method detection limit and laboratory reporting limit, respectively. However, these two samples did not exceed the action level of 10 mg/kg. TPH GRO was detected in the soil samples from borings P61-B7, P61-B8, P61-B9, P61-10, and P61-B12 at concentrations exceeding the action level. The presence of TPH DRO or GRO in soil is typically associated with a release of petroleum hydrocarbons.

Two locations of soil impacts were identified within the Study Area: the first is likely near the former UST(s) location, and the second area is near the northern boundary of the Study Area (**Figure 3**). The source of impact for the second area is unknown at this time. Based on TPH concentrations detected at greater than the action level, Solutions-IES estimates the dimensions of the first area of impacted soil to measure approximately 85 feet by 90 feet, roughly centered on the location of boring P61-B7. The second area of impacted soil measures approximately 20 feet by 135 feet. Based on a depth to water of 11.6 feet, the volume of impacted soil is estimated at 3300 cubic yards (cy) for the first area, and 1,200 cy for the second area. Because some of the soil samples may have been collected at depths approaching the water table near the former UST(s) location, it is possible that the volume of impacted soil estimated for the first area is greater than that which will be encountered during excavation activities for road construction. Because elevated TPH has been detected in these soils, proper transportation and disposal practices should be used in handling soil that may be excavated in the vicinity of these borings. However, during roadway construction, the NCDOT transportation/disposal contractor may use different criteria for estimating impacted soil.

Groundwater sample P61-GW contained several VOCs, SVOCs, and MADEP EPH and VPH in concentrations above their respective North Carolina Administrative Code (NCAC) 15A 2L .0202 2L Standards (2L Standards). The constituents that were detected are typically associated with impacts caused by the use of petroleum hydrocarbons. No established regulatory standard is available for 2-methylphenol and 3&4-methylphenol, therefore, the presence of these compounds at any concentration represent a violation of the 2L Standards. Additional assessment would be necessary to determine the vertical and lateral extent of groundwater impacts, and therefore, the potential effects of groundwater impacts to the domestic well located on Parcel 62.

TABLES

TABLE 1
SUMMARY OF FIELD SCREENING RESULTS FOR SOIL
Parcel 61, Richmond County, North Carolina
WBS Element: 34438.1.1; State Project: R-2502A
Sample Collection Dates: 08/21-22-2006

Sample Depth Below Ground Surface	Soil Borings																
	P61-B1	P61-B2	P61-B3	P61-B4	P61-B5	P61-B6	P61-B7	P61-B8	P61-B9	P61-B10	P61-B11	P61-B12	P61-B13	P61-B14	P61-B15	P61-B16	P61-B17
	FID Reading (ppm)																
0 - 2 feet	ND	ND	ND	ND	ND	ND	10	8.9	ND	0.7	2.3	ND	ND	ND	ND	ND	ND
2 - 4 feet	ND	ND	ND	ND	ND	ND	110.3	31.5	ND	1.7	1.8	ND	ND	ND	ND	ND	ND
4 - 6 feet	ND	ND	ND	ND	ND	ND	2,161	429.8	9.6	18.1	1.2	0.9	ND	ND	ND	ND	ND
6 - 8 feet	ND	ND	0.1	ND	ND	0.8	NS	5,700	286.5	222.7	NS	47.3	4.3	19.8	4.5	ND	0.2
8 - 10 feet	NS	NS	NS	NS	NS	NS	1,297	9,640	5,612	3,879	3.4	1,427	6.5	ND	13.2	ND	1.4
10 - 12 feet	NS	NS	NS	NS	NS	NS	>5,730	>10,000	>10,000	>10,000	ND	>5,730	131	ND	64.2	ND	437.3

Notes:

Samples denoted by shaded cells were submitted for laboratory analysis.

NS - Denotes not sampled.

FID readings were obtained with a Photovac MicroFID Flame Ionization Detector.

ND - Not Detected

ppm = parts per million

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
Parcel 61, Richmond County, North Carolina
WBS Element: 34438.1.1; State Project: R-2502A

Sample Information		Total Petroleum Hydrocarbons	
Boring Number	**Depth (ft bgs)**	**Gasoline Range[1] (mg/kg)**	**Diesel Range[2] (mg/kg)**
P61-B1	6 - 8	< 7.7	**50**
P61-B2	6 - 8	< 7.9	**9**
P61-B3	6 - 8	< 7.8	**11**
P61-B4	6 - 8	< 7.8	< 7.8
P61-B5	6 - 8	< 9.3	< 9.3
P61-B6	6 - 8	< 7.7	< 7.7
P61-B7	10 - 12	**3,000[3]**	**63**
P61-B8	10 - 12	**1,300[3]**	**40**
P61-B9	10 - 12	**1,400[3]**	**2,000[3]**
P61-B10	10 - 12	**2,800[3]**	**910[3]**
P61-B11	8 - 10	< 7.6	**33**
P61-B12	10 - 12	**3,300[3]**	**82**
P61-B13	10 - 12	< 7.9	< 7.9
P61-B14	6 - 8	< 7.7	< 7.7
P61-B15	10 - 12	< 8.1	**4.5 J**
P61-B16	8 - 10	< 7.6	**27**
P61-B17	8 - 10	< 7.9	< 7.9[3]

Notes:

1. Total Petroleum Hydrocarbons (TPH) Method 5030/8015MOD - Gasoline Range Hydrocarbons
2. Total Petroleum Hydrocarbons (TPH) Method 3545/8015MOD - Diesel Range Hydrocarbons
3. Laboratory data qualifiers note that the quality control results were outside the QC limits, possibly due to compound being diluted out.

Bold values indicate detected concentrations

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

mg/kg = milligram per kilogram

ft bgs = feet below ground surface

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Parcel 61, Richmond County, North Carolina
WBS Element: 34438.1.1; State Project: R-2502A
Sample ID: P61-GW1
Sample Collection Date: August 22, 2006

Water Sample ID	Concentration Detected (µg/L)	15A NCAC 02L .0202 Groundwater Quality Standards (µg/L)
EPA Method 625/625SF - Semivolatile Organic Compounds		
Naphthalene	**440**	21
2-Methylphenol	**13**	NS
3&4-Methylphenol	**12**	NS
EPA Method 601/602 - Volatile Organic Compounds		
Benzene	**1,100**	1
Ethylenebenzene	**3,200**	550
Naphthalene	**600**	21
Toluene	**16,000**	1000
Xylenes (total)	**15,000**	530
MADEP - VPH AND EPH		
C05 - C08 Aliphatics	**6,900**	420
C09 - C18 Aliphatics	**5,500**	4200
C09 - C22 Aromatics	**5,690**	210

Notes:

Constituents not shown were not detected above laboratory method detection limits.

Shaded cells denote constituents and concentrations that exceed the 15A NCAC 2L Groundwater Standards (2L Standards).

10 TICs (Semi-volatile organics) were also detected by Method 625 in the groundwater sample collected from the Study Area. These TICs are identified in the analytical report included as Appendix D.

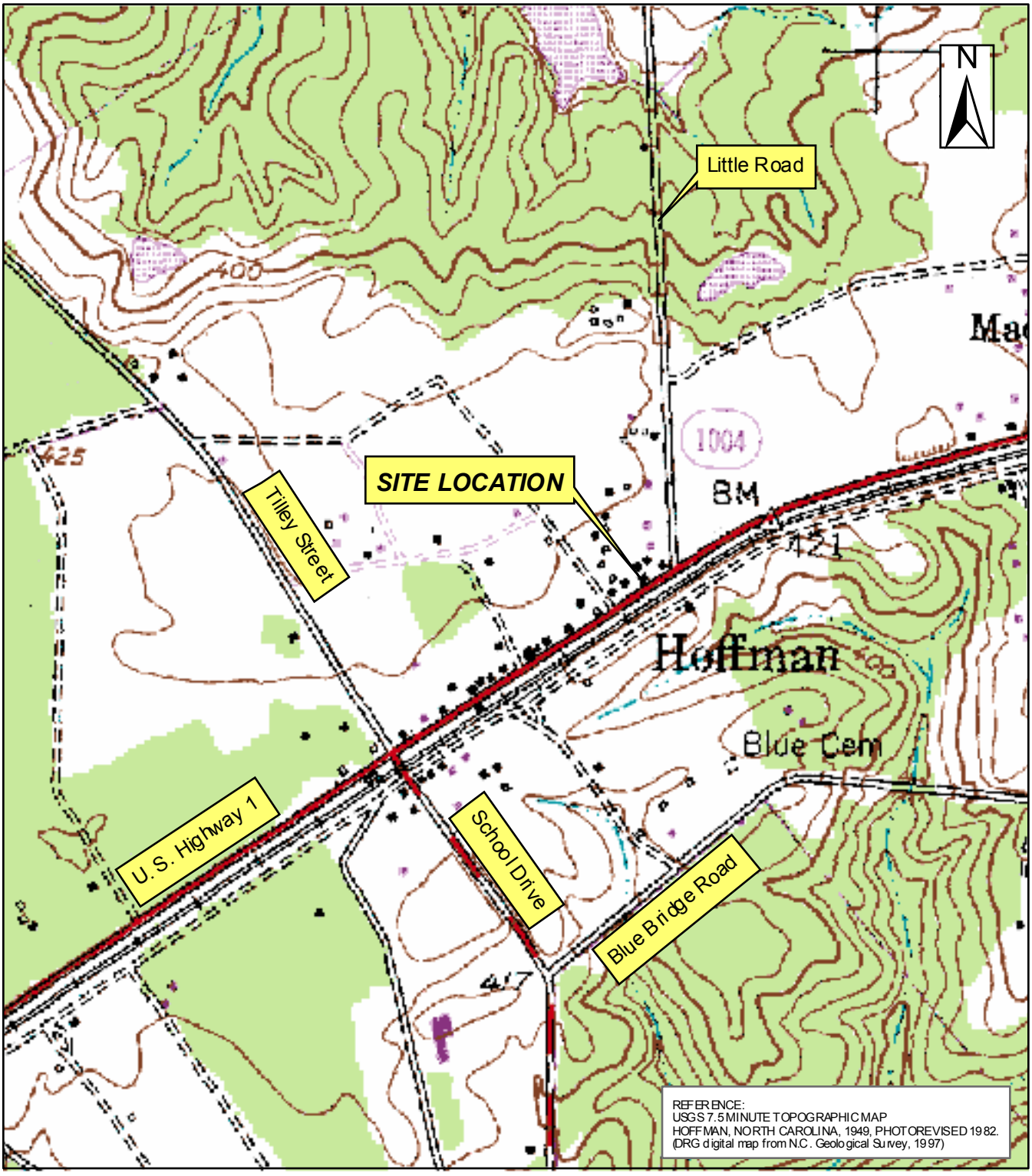
C09 - C18 Aliphatics represent the combined totals of C9-C12 Aliphatics (VPH) and C9-C18 Aliphatics (EPH).

C09 - C22 Aromatics represent the combined totals of C11-C22 Aromatics (VPH) and C9-C10 Aromatics (EPH).

NS denotes that no regulatory standard has been established for the compound under the 2L Standards The presence at any concentration of a compound for which there is no regulatory standard construes a violation of the 2L Standards.

µg/L = micrograms per liter

FIGURES



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SITE LOCATION MAP
PARCEL 61
COOPER & BROWN INCORPORATED PROPERTY
RICHMOND COUNTY, NORTH CAROLINA
STATE PROJECT NO. R-2502 A, WBS ELEMENT# 34438.1.1

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Created by:	RT	Project:	3260.06A3.NDOT
Checked by:	SK	Date:	SEPTEMBER 2006
File:	Figure 1.mxd		
Software:	ESRI ArcMap 9.1	FIGURE	1

PROJECT NUMBER 3260.08A3.NDOT
DRAFTER RT
CHECKED BY SK
PROJECT MANAGER SK
DATE AUGUST 2006
FILE FIG02.DGN

VEOLA WATKINS (62)
DB 398 PG 39

ISFD

B/S

(60)
N. B. WILLIAMS
DB 155 PG 187

MTL CANOPY

DK

50' FEATHER TO EXISTING 110'

BRACEY ST 24' BST

BRACEY ST

(61)

241.00'
S89°28'23"W

COOPER & BROWN INCORPORATED
DB 894 PG 187

315.89'
N42°08'35"W

S

ISFD

STUDY AREA

W/LT

RW

ISFD

ISBLK BUS

(29.5')
N03°48'50"W

20.65'
+14.90

23.63'
+08.46

SOIL

EXISTING R/W

SOIL

CONC

BST

P-K NAIL

EXISTING RAILWAY R/W

BST CB

CB

15" CONC

15" CONC

15" CONC

18" CONC

LITTLE ROAD

US #1

US 1 33' BST

RW

E E E C E E E E E E

351 352 357 358 359 360 361 362 369 370 382 383 332 333

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1101 NOWELL ROAD
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NOTES:

0 40 80
SCALE IN FEET

NOTE: BASEMAP PROVIDED BY NCDOT

PARCEL 61
COOPER & BROWN INCORPORATED PROPERTY
RICHMOND COUNTY, NORTH CAROLINA
STATE PROJECT NO. R-2502 A
WBS ELEMENT: 34438.1.1

SITE MAP

FIGURE:
2

Sample Information		Total Petroleum Hydrocarbons	
Boring Number	Depth (Feet)	Gasoline Range[1] (mg/kg)	Diesel Range[2] (mg/kg)
P61-B1	6 - 8	< 7.7	**50**
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P61-B7	10 - 12	**3,000**	**63**
P61-B8	10 - 12	**1,300**	**40**
P61-B9	10 - 12	**1,400**	**2,000**
P61-B10	10 - 12	**910**	**2,800**
P61-B11	8 - 10	< 7.6	**33**
P61-B12	10 - 12	**3,300**	**82**
P61-B13	10 - 12	< 7.9	< 7.9
P61-B14	6 - 8	< 7.7	< 7.7
P61-B15	10 - 12	< 8.1	**4.5 J**
P61-B16	8 - 10	< 7.6	**27**
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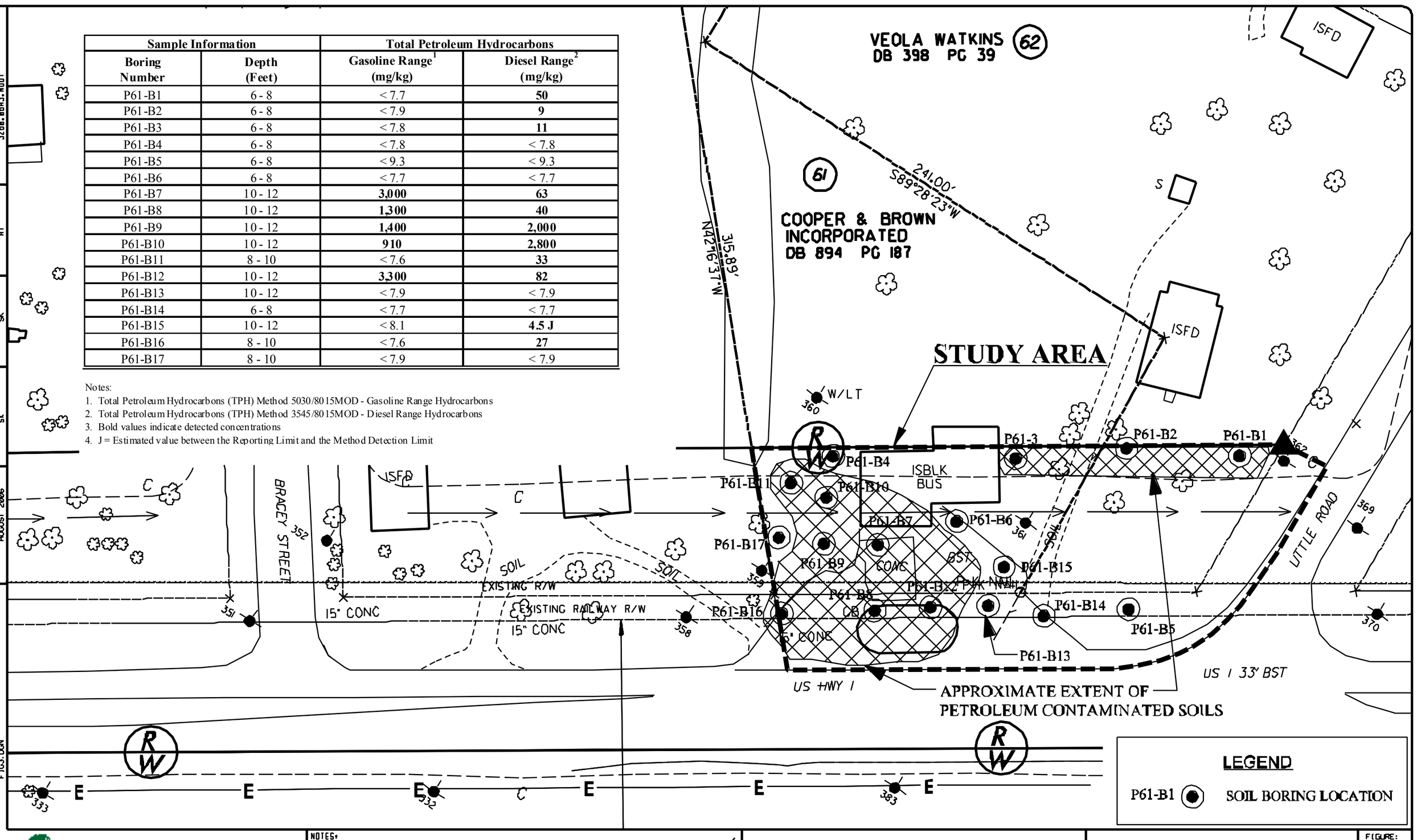
Notes:
1. Total Petroleum Hydrocarbons (TPH) Method 5030/8015MOD - Gasoline Range Hydrocarbons
2. Total Petroleum Hydrocarbons (TPH) Method 3545/8015MOD - Diesel Range Hydrocarbons
3. Bold values indicate detected concentrations
4. J = Estimated value between the Reporting Limit and the Method Detection Limit



PROJECT NUMBER 3260.06A3.NDOT
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PROJECT MANAGER SK
DATE AUGUST 2006
FILE FIG3.DGN

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NOTE: BASEMAP PROVIDED BY NCDOT

PARCEL 61
COOPER & BROWN INCORPORATED PROPERTY
RICHMOND COUNTY, NORTH CAROLINA
STATE PROJECT NO. R-2502 A
WBS ELEMENT: 34438.1.1

SOIL BORING LOCATIONS & EXTENT OF SOIL CONTAMINATION

FIGURE: 3

APPENDIX A

PHOTOGRAPHS

Photograph 1 – View from southwest to northeast along US Highway 1. Former pump island situated between concrete pads in foreground.

Photograph 2 – View from north to south from US Highway 1.

APPENDIX B

GEOPHYSICAL INVESTIGATION

Pyramid Project # 2006200

GEOPHYSICAL INVESTIGATION REPORT

GEOPHYSICAL SURVEYS FOR THE DETECTION OF METALLIC USTS

US 1 from SR 1001 to the Richmond County Line
Richmond, North Carolina
State Project Number U-3459

September 1, 2006

Report prepared for: Sheri Knox, PE
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Prepared by: _____
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Reviewed by: _____
Tim Leatherman, PG

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Solutions IES
GEOPHYSICAL SURVEYS FOR THE DETECTION OF METALLIC USTS
US 1 from SR 1001 to the Richmond County Line
State Project Number U-3456

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FIGURES

FIGURES (continued)

1.0 INTRODUCTION

Pyramid Environmental & Engineering, PC conducted geophysical investigations for Solutions IES during the period of July 26 through August 28, 2006, within the proposed Right-of-Way (ROW) areas at 10 sites located in Richmond County, North Carolina. The work was done as part of the North Carolina Department of Transportation (NCDOT) road-widening project under State Project number U-3459. The sites are located along the northern or western sides of US 1 from SR 1001 to the Richmond County Line. 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. Sheri Knox, PE provided maps during the week of July 24, 2006 that outlined the geophysical survey area of each site. Ms. Knox also provided project management during the geophysical investigation of the sites. Geophysical surveys were conducted within the proposed ROW areas at the following 10 sites that are listed from the southern-most site to the northern-most site.

Property Owner	Parcel	Present Use of Property
Hillary McKay Property	(Parcel 6)	Grass-covered lot with garage
K.J. Lewis Property	(Parcel 9)	Vacant, wooded lot
James Brigman Property	(Parcel 21)	Vacant, grass-covered Lot
Roy Barry Bostick Property	(Parcel 48)	Grass-covered lot and garage
Pansy Ernest Property	(Parcel 50)	Grass-covered lot with vacant store
Church of Deliverance Prop.	(Parcel 51)	Asphalt lot with active church
Cooper & Brown Inc. Prop.	(Parcel 61)	Vacant lot and commercial building

Delia Lassiter Property	(Parcel 70)	Vacant lot and building
Ivey Little Property	(Parcel 22)	Vacant lot and building
James Pugh Property	(Parcel 68)	Vacant, wooded lot

Photographs of the above sites along with photographs of the geophysical equipment used for this project are presented in **Figure 1**.

2.0 FIELD METHODOLOGY

Prior to conducting the geophysical investigations, a 10-foot by 10-foot or 10-foot by 20-foot survey grid was established across the proposed ROW areas of the 10 sites using water-based marking paint or pin flags. These 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 investigations consisted of electromagnetic (EM) induction-metal detection surveys and ground penetrating radar (GPR) surveys. The EM surveys were performed 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. The EM61 data were digitally collected at each site along parallel northerly-southerly or easterly-westerly trending survey lines spaced five feet apart. The data were downloaded to a computer and reviewed in the filed and office using the Geonics DAT61W and Surfer for Windows Version 7.0 software programs.

Contour plots of the EM61 bottom coil results and the EM61 differential results for each site are included in this report. 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

During the weeks of August 7, August 14, and August 28, preliminary contour plots of the EM61 bottom coil and the differential results were emailed to Ms. Knox.

3.0 DISCUSSION OF RESULTS

3.1 Parcel 6 – Hillary McKay Property

The Hillary McKay Property (Parcel 6) contains a former auto repair garage and a vacant wooden building. The ROW area consists of a flat-lying grass surface. The bottom coil results and the differential results are presented in **Figures 2 and 3**, respectively. GPR surveys conducted around the perimeter of the garage and wooden building, suggest that the EM61 anomalies surrounding the two buildings are in response to the structures and perhaps buried miscellaneous metal debris. The remaining EM61 anomalies are probably in response to buried miscellaneous metal debris. The geophysical results suggest that the proposed ROW area at Parcel 6 does not contain metallic UST's.

3.2 Parcel 9 – K.J. Lewis Property

The K.J. Lewis property (Parcel 9) is located immediately north of the Mercer Road and US 1 intersection, approximately 200 feet northeast of Parcel 6. The property consists of an abandoned building along the edge of US 1, which is surrounded by dense wooded terrain. A former pump island area is located in front of the building. The EM61 bottom coil results and the differential results are presented in **Figures 4 and 5**, respectively. Due to limited access to the site, the geophysical investigation was limited to the front portion of the property that is located along US 1.

The geophysical investigation detected the probable presence of two USTs located adjacent to the pump island area. The first UST is centered near grid coordinates X=84 Y=27, and buried approximately 1.5 feet below surface. The second UST is centered near grid coordinates X=103 Y=27, and is buried approximately 2.0 feet below surface. This latter UST appears to be lie partially beneath the former pump island area. The approximate locations of the USTs are shown as magenta-colored rectangles in Figures 4 and 5. Based on the GPR results, the probable USTs are approximately 10 feet long and 4 feet wide. A photograph showing the approximate locations of the two probable USTs and the image of GPR survey lines Y=27.5, which intersects the probable USTs, are presented in **Figure 6**.

The EM61 differential anomaly centered near grid coordinates X=118 Y=29, may possibly be in response to a UST or large metal object. However, GPR surveys could not be conducted across this EM anomaly due to the limited access caused by the dense wooded terrain. The approximate location of this possible UST is shown as a dashed, magenta-colored rectangle in Figures 4 and 5, and in the site photograph that is presented in Figure 6.

The remaining portion of the geophysical survey area does not appear to contain significant, buried, metal objects.

3.3 Parcel 21 – James Brigman Property

The James Brigman property (Parcel 21) consists of an open, grass and asphalt-covered lot located along the western side of US 1. The EM61 bottom coil results and the differential results are presented in **Figures 7 and 8**, respectively.

GPR surveys conducted across the linear, EM61 bottom coil anomalies that intersect grid coordinates X=62 Y=70, X=66 Y=94, X=84 Y=94, and X=87.5 Y=75, suggest the anomalies are probably in response to buried utility lines or conduits. GPR data also suggest that the high amplitude anomalies centered near grid coordinates X=77 Y=84, and X=93 Y=66, are probably in response to buried miscellaneous metal objects or junction areas for the conduits or utility lines.

GPR surveys conducted across the large, high amplitude anomaly centered near X=45 Y=75, detected the probable presence of four metallic USTs. The four probable USTs are centered near grid coordinates X=43 Y=80, X=50 Y=80, X=42 Y=73, and X=48 Y=73. Based on the GPR data, the USTs appear to be approximately 9 feet long and 3.5 to 4 feet wide and buried approximately 1.5 to 2.0 feet below surface. The approximate locations of the probable USTs are shown as magenta-colored rectangles in Figures 7 and 8. A photograph showing the approximate locations of the four probable USTs and the image of GPR survey lines Y=80, which intersects the two probable USTs centered near X=43 Y=80, and X=50 Y=80, are presented in **Figure 9**.

The remaining EM61 anomalies recorded within the proposed ROW area are probably in response to miscellaneous metal debris.

3.4 Parcel 48 – Roy Barry Bostick Property

The Roy Barry Bostick property (Parcel 48) consists of a red, brick building surrounded by flat-lying grass-covered terrain. The parcel is located along the northwestern side of US 1 approximately 300 feet southwest of the US 1 and Tilley Street intersection. The EM61 bottom coil results and the differential results are presented in **Figure 10**.

GPR surveys conducted across the EM61 anomaly centered near grid coordinates X=295 Y=60, suggest that the anomaly is probably in response to one or more large diameter (12 or more inches) conduits buried approximately 1.0 feet below surface. There is a possibility (although unlikely) that the anomaly may be in response to a very small UST centered near grid coordinates X=290 Y=59. The location of the possible, but unlikely UST is shown as a magenta-colored square in Figure 10.

GPR surveys conducted along the edge of the brick building suggest that the EM61 anomalies recorded in this area are probably in response to the building and/or buried miscellaneous debris. The remaining EM61 anomalies recorded within the proposed ROW area at Parcel 48 are probably in response to known cultural features and/or buried miscellaneous debris.

3.5 Parcel 50 – Pansy Ernest Property

The Pansy Ernest property (Parcel 50) is located on the western corner of the Tilley Street and US1 intersection. The parcel contains the former Little Grace's Variety store surrounded by a flay-lying grass-covered, terrain. An occupied house is located immediately west of the property. The EM61 bottom coil results and the differential results are presented in **Figures 11 and 12**, respectively. Please note that Figures 11 and 12 also contain the EM61 results for Church of Deliverance property (Parcel 51).

GPR surveys conducted across the backyard of Parcel 50 suggest the linear EM61 bottom coil anomalies intersecting grid coordinates X=570 Y=115, X=570 Y=126, X=580 Y=90, and X=586 Y=125, are probable in response to buried conduits or lines. Similarly, the locations of the linear EM61 anomalies intersecting grid coordinates X= 622 Y=80, X=622 Y=120, and X=640 Y=35, suggest these anomalies are probably in response to buried utility lines.

GPR surveys conduct across the high amplitude anomalies centered near grid coordinates X=575 Y=105, and X=590 Y=113, suggest the anomalies are probably in response to the "junction" of conduits and/or other miscellaneous objects. Although not confirmed by the GPR results, the EM61 anomaly located at X=575 Y=105, may be in response to a possible septic tank.

GPR surveys conducted across the EM61 anomaly centered near grid coordinates X=567 Y=55, detected the probably presence of two USTs buried approximately 0.75 feet below surface. The approximate locations of the probably USTs are shown as magenta-colored rectangles in Figures 11 and 12 and each UST appears to be approximately eight feet long and three feet wide. A photograph showing the approximate locations of the two probable USTs and the image of GPR survey line Y=55, which intersects the probable USTs, are presented in **Figure 13**.

The remaining EM61 anomalies recorded within the proposed ROW area at Parcel 50 are probably in response to known cultural features or buried miscellaneous metal debris.

3.6 Parcel 51 – Church of Deliverance Property

The Church of Deliverance property (Parcel 51) contains an active church building surrounded by a grass, gravel or asphalt-covered parking area. The property is located on the northern corner of the Tilley Street and US 1 intersection immediately across the street from the Pansy Ernest property (Parcel 50). The EM61 bottom coil results and the differential results for Parcel 51 are presented in **Figures 11 and 12**, respectively along with the EM61 results for Parcel 50.

The linear EM61 bottom coil anomalies intersecting grid coordinates X=670 Y=50, X=700 Y=30, and X=700 Y=65, are probably in response to buried utility lines or conduits. GPR surveys conducted across the EM61 differential anomaly centered near X=705 Y=105, and along the front edge of the church building suggest the anomalies are probably in response to miscellaneous debris and the building, respectively.

The remaining EM61 anomalies recorded within the proposed ROW area at Parcel 51 are probably in response to know cultural features or miscellaneous buried debris. The geophysical results also suggest that the proposed ROW area does not contain metallic USTs.

3.7 Parcel 61 – Cooper & Brown Inc. Property

The Cooper & Brown Inc. property (Parcel 61) is located on the western side of the US 1 and Little Road intersection. The proposed ROW area of Parcel 61 contains a vacant business building surrounded by flat-lying, grass or asphalt surfaces. A concrete pad is located in front of the building and probably identifies the former pump island area. An occupied house lies to the northwest of the proposed ROW area.

The EM61 bottom coil results and the differential results are presented in **Figures 14 and 15**, respectively. The linear EM61 bottom coil anomalies intersecting grid coordinates X=130 Y=34, X=142 Y=105, X=186 Y=100, X=210 Y=42, and X=213 Y=83, are probably in response to buried utility lines or conduits. The high amplitude anomalies centered near grid coordinates X=75 Y=67, and X=80 Y=50, are probably in response to steel reinforced concrete. GPR surveys conducted across these two areas did not detect the presence of USTs.

GPR surveys conducted across the high amplitude anomaly centered near X=226 Y=116, suggest the anomaly is probably in response to steel reinforced concrete and/or to the metal conduits that are visible at the surface. GPR surveys conducted along the perimeter of the building suggest that the EM61 anomalies are probably in response to the building and/or to miscellaneous debris. The remaining EM61 anomalies are probably in response to known cultural features and/or to buried miscellaneous metal debris.

The geophysical results suggest that the proposed ROW area at Parcel 61 does not contain metallic USTs.

3.8 Parcel 70 – Delia Lassiter Property

The Delia Lassiter Property (Parcel 70) contains a vacant building surrounded primarily by grass yard and an asphalt driveway. An occupied house lies immediately north of the proposed ROW area. The EM61 bottom coil results and the differential results are presented in **Figures 16 and 17**, respectively.

The linear EM61 anomaly intersecting grid coordinates X=90 Y=110, is probably in response to a buried utility line or conduit. The remaining EM anomalies are probably in response to known cultural features or to buried miscellaneous debris. The geophysical results suggest that the proposed ROW area at the Delia Lassiter property does not contain metallic USTs.

3.9 Parcel 22 – Ivey Little Property

The Ivey Little property (Parcel 22) is located along the northwest side of US 1 and consists of a vacant building surrounded by a gravel-covered driveway and grass-covered fields. The EM61 bottom coil results and the differential results are presented in **Figures 18 and 19**, respectively.

The linear EM61 anomaly intersecting grid coordinates X=354 Y=35, is probably in response to a buried utility line or conduit. The remaining EM anomalies are probably in response to known cultural features or to buried miscellaneous debris. The geophysical results suggest that the proposed ROW area at the Ivey Little property does not contain metallic USTs.

3.10 Parcel 68 – James Pugh Property

The James Pugh Property (Parcel 68) is a former gas station site located on the northern side of US 1, approximately 0.25 miles west of the US 1 and Special Forces Way intersection. The site consists primarily of grass, trees and brush with a former pump island pad located near the edge of US 1. The EM61 bottom coil results and the differential results are presented in **Figure 20**.

GPR surveys conducted across the EM61 anomalies centered grid coordinates X=305 Y=35, and X=321 Y=37, suggest the anomalies are probably in response to the pump island pad and to the

buried pump island-related equipment. GPR surveys conducted across the EM61 anomaly centered near grid coordinates X=534 Y=92, suggest the anomaly is probably in response to buried miscellaneous debris or object. The remaining EM61 anomalies are probably in response to known cultural features and miscellaneous metal debris.

The geophysical investigation conducted at Parcel 68 suggests that the proposed ROW area does not contain metallic USTs.

4.0 SUMMARY & CONCLUSIONS

Our evaluation of the EM61 and GPR data collected across the proposed ROW areas at the 10 sites along US 1 in Richmond County, 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 proposed ROW areas of each site.

- GPR surveys were conducted across selected EM61 differential anomalies and across areas containing steel reinforced concrete.

- Linear EM61 anomalies at the 10 sites are probably in response to buried utility lines and/or conduits. The majority of non-linear anomalies are probably in response to known cultural features or miscellaneous metal objects.

- The geophysical results suggest the proposed ROW areas at the following properties do not contain metallic USTs:

Hillary McKay Property	(Parcel 6)
Church of Deliverance Property	(Parcel 51)
Cooper & Brown Inc. Property	(Parcel 61)
Delia Lassiter Property	(Parcel 70)
Ivey Little Property	(Parcel 22)
James Pugh Property	(Parcel 68)

- K.J. Lewis Property (Parcel 9): Geophysical results suggest the probable presence of two USTs located adjacent to the pump island area. The first UST is centered near grid coordinates X=84 Y=27, and buried approximately 1.5 feet below surface. The second UST is centered near grid coordinates X=103 Y=27, and is buried approximately 2.0 feet below surface. The EM61 differential anomaly centered near grid coordinates X=118 Y=29, may possibly be in response to a UST or large metal object. However, GPR surveys could not be conducted across this EM anomaly due to the limited access caused by the dense wooded terrain.

- James Brigman Property (Parcel 21): Geophysical results detected the probable presence of four metallic USTs centered near grid coordinates X=43 Y=80, X=50 Y=80, X=42 Y=73, and X=48 Y=73. Based on the GPR data, the USTs appear to be approximately 9 feet long and 3.5 to 4 feet wide and buried approximately 1.5 to 2.0 feet below surface.

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.

GPR surveys were conducted across selected EM61 differential anomalies and steel-reinforced concrete using a GSSI SIR-2000 unit equipped with a 400 MHz antenna. Surveys were also performed across several areas where parked vehicles that obstructed the EM61 survey had since been removed. GPR data were digitally collected in a continuous mode along X and/or Y survey lines, spaced two to five feet apart using a vertical scan of 512 samples, at a rate of 48 scans per second. An 80 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 five feet, based on an estimated two-way travel time of 9 nanoseconds per foot.

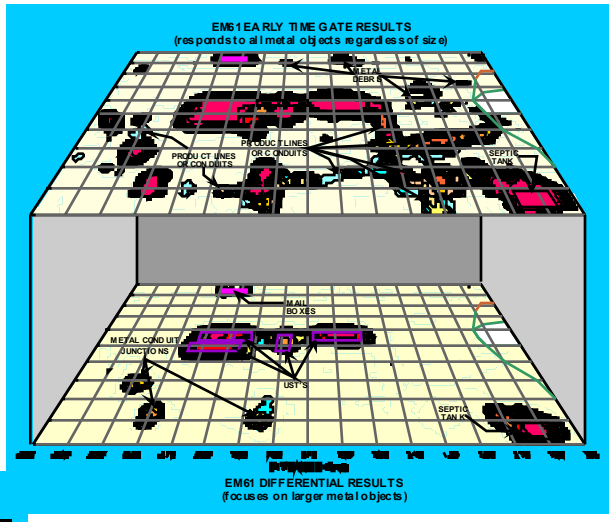
The GPR data were downloaded to a field computer and later reviewed in the office using Radprint and Radan 5.0 software programs. The locations of GPR survey areas or individual GPR survey lines are shown as solid, purple polygons or solid purple lines, respectively, on the EM61 differential contour plots. The approximate perimeters of probable or possible USTs, based on the geophysical results, were marked and labeled in the field using orange, water-based marking paint and pin flags (when possible). The approximate locations of probable or possible USTs are shown as magenta-colored rectangles on the EM61 bottom coil and differential contour plots.

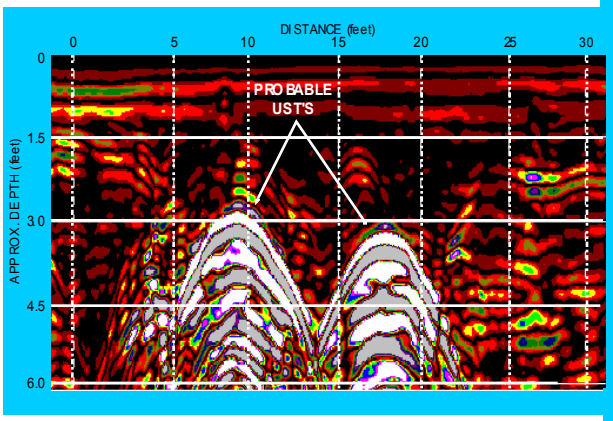
- Roy Barry Bostick Property (Parcel 48): GPR surveys conducted across the EM61 anomaly centered near grid coordinates X=295 Y=60, suggest that the anomaly is probably in response to one or more large diameter (12 or more inches) conduits buried approximately 1.0 feet below surface. There is a possibility (although unlikely) that the anomaly may be in response to a very small UST centered near grid coordinates X=290 Y=59.

- Pansy Ernest Property (Parcel 50): Geophysical results suggest the probable presence of two USTs centered near grid coordinates X=567 Y=55, and buried approximately 0.75 feet below surface. The USTs appear to be approximately eight feet long and three feet wide.

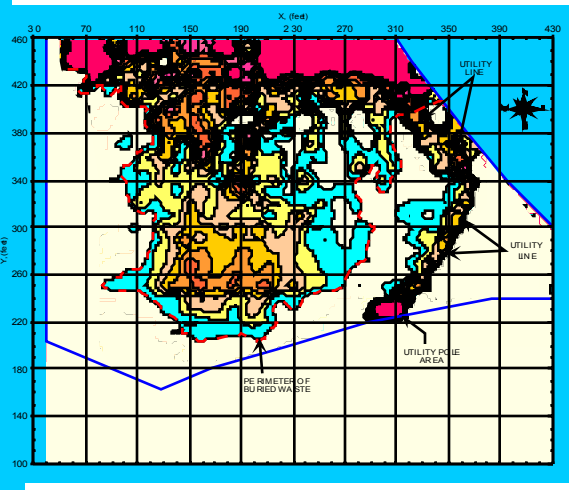
5.0 LIMITATIONS

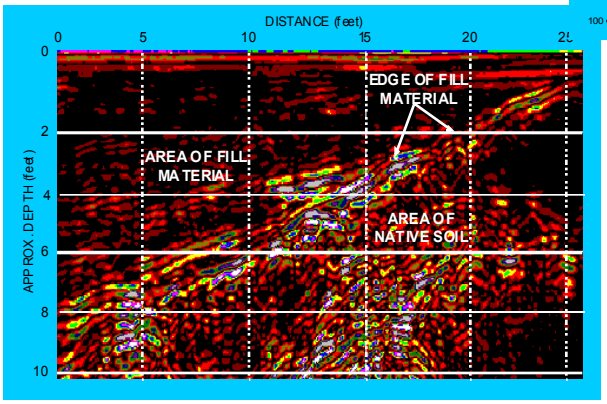
EM61 and GPR surveys have been performed and this report prepared for Solutions IES in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained for this project do not conclusively define the locations of all metallic USTs but only suggest where some of the metallic USTs may be present. The EM61 and GPR anomalies, interpreted as probable or possible USTs or tanks, may be attributed to other surface or subsurface conditions or cultural interference.


EM61 EARLY TIME GATE RESULTS
(responds to all metal objects regardless of size)
METAL DEBRIS
PRODUCT LINES OR CONDUITS
PRODUCT LINES OR CONDUITS
SEPTIC TANK
MAIL BOXES
METAL CONDUIT JUNCTIONS
UST'S
SEPTIC TANKS
EM61 DIFFERENTIAL RESULTS
(focuses on larger metal objects)


DISTANCE (feet)
0
5
10
15
20
25
30
APPROX. DEPTH (feet)
0
1.5
3.0
4.5
6.0
PROBABLE UST'S

FIGURES


X (feet)
30
70
110
150
190
230
270
310
350
390
430
Y (feet)
460
420
380
340
300
260
220
180
140
100
UTILITY LINE
UTILITY LINE
UTILITY POLE AREA
PERIMETER OF BURIED WASTE


DISTANCE (feet)
0
5
10
15
20
APPROX. DEPTH (feet)
0
2
4
6
8
10
EDGE OF FILL MATERIAL
AREA OF FILL MATERIAL
AREA OF NATIVE SOIL

Parcel 6 - Hillary McKay Property

Parcel 9 - K.J. Lewis Property

Parcel 21 - James Brigman Property

Parcel 48 - Roy Barry Bostick Property

Parcel 50 - Pansy Earnest Property

Parcel 51 - Church of Deliverance Property

Parcel 61 - Cooper & Brown Property

Parcel 70 - Delia Lassiter Property

Parcel 22 - Ivey Little Property

Parcel 68 - James Pugh Property

GEOPHYSICAL EQUIPMENT

The photo shows the Geonics EM61 metal detector that was used to conduct the metal detection survey at the sites in Richmond County, North Carolina.

The photos show the SIR-2000 GPR system equipped with a 400 MHz antenna that was used to conduct the ground penetrating radar investigation at the sites in Richmond County, North Carolina.

SITE PHOTOGRAPHS

This figure shows the photographs of the ten sites located near Marston and Hoffman, North Carolina where geophysical investigations were conducted within the ROW areas for the detection of metallic USTs.

SITE PHOTOS

FIGURE 1

GRAPHIC SCALE IN FEET

DRWN	CHK'D		FIGURE
MJD			
DATE	LAY	DWG	J.NO.
08/31/06			2006-200

CLIENT: SOLUTIONS IES

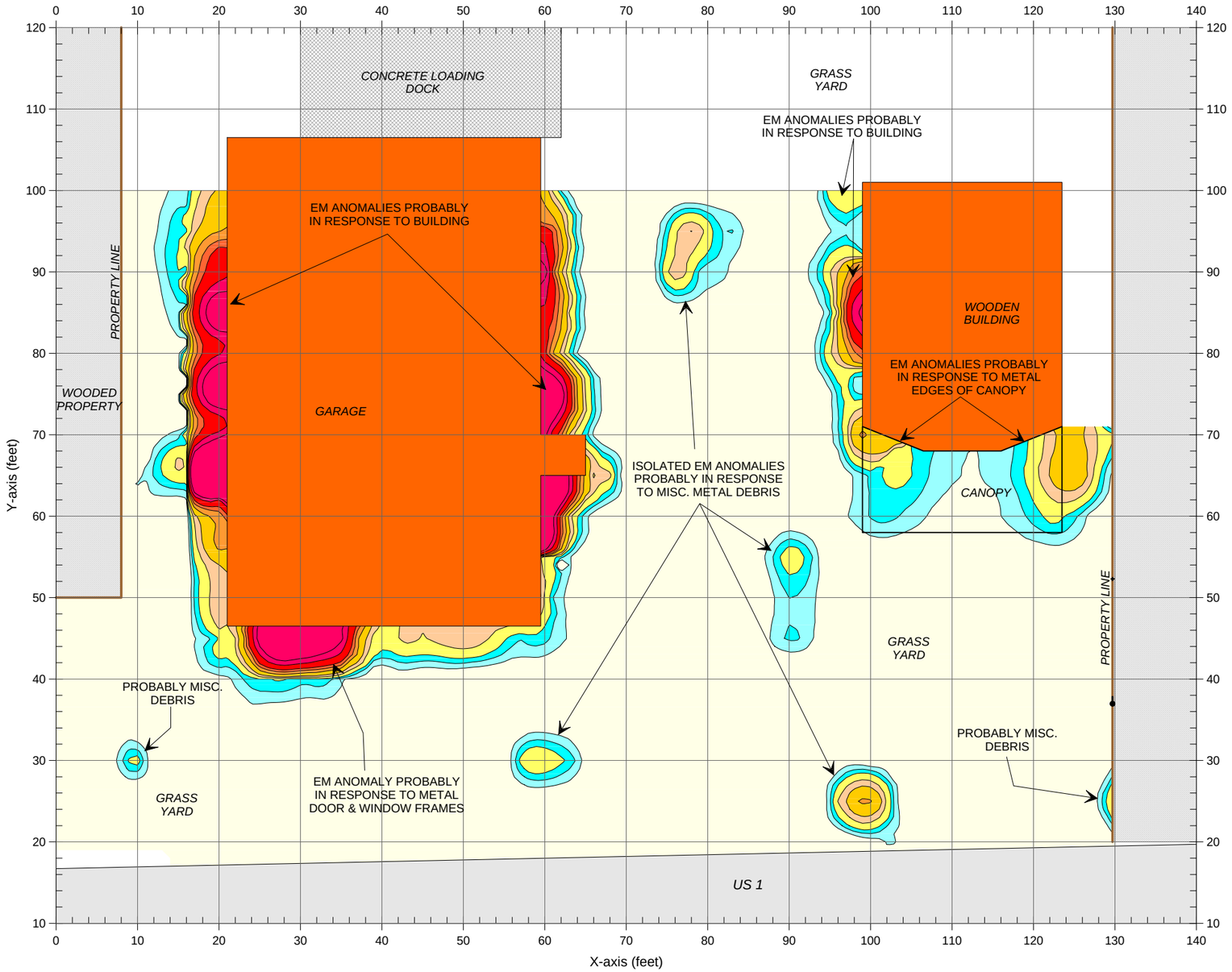
SITE: US 1 - RICHMOND COUNTY SITES

CITY: MARSTON & HOFFMAN

STATE: NORTH CAROLINA

TITLE: GEOPHYSICAL RESULTS

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.



APPROXIMATE NORTH

LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHEAST-SOUTHWEST TRENDING LINES SPACED 5 FEET APART
- PROPERTY LINE (APPROX.)
- GUY WIRE
- UTILITY POLE

EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -80 45 50 75 100 150 200 300 400 500 750 1000

Note: 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 July 27, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 16, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation suggests that the survey area does not contain metallic USTs.

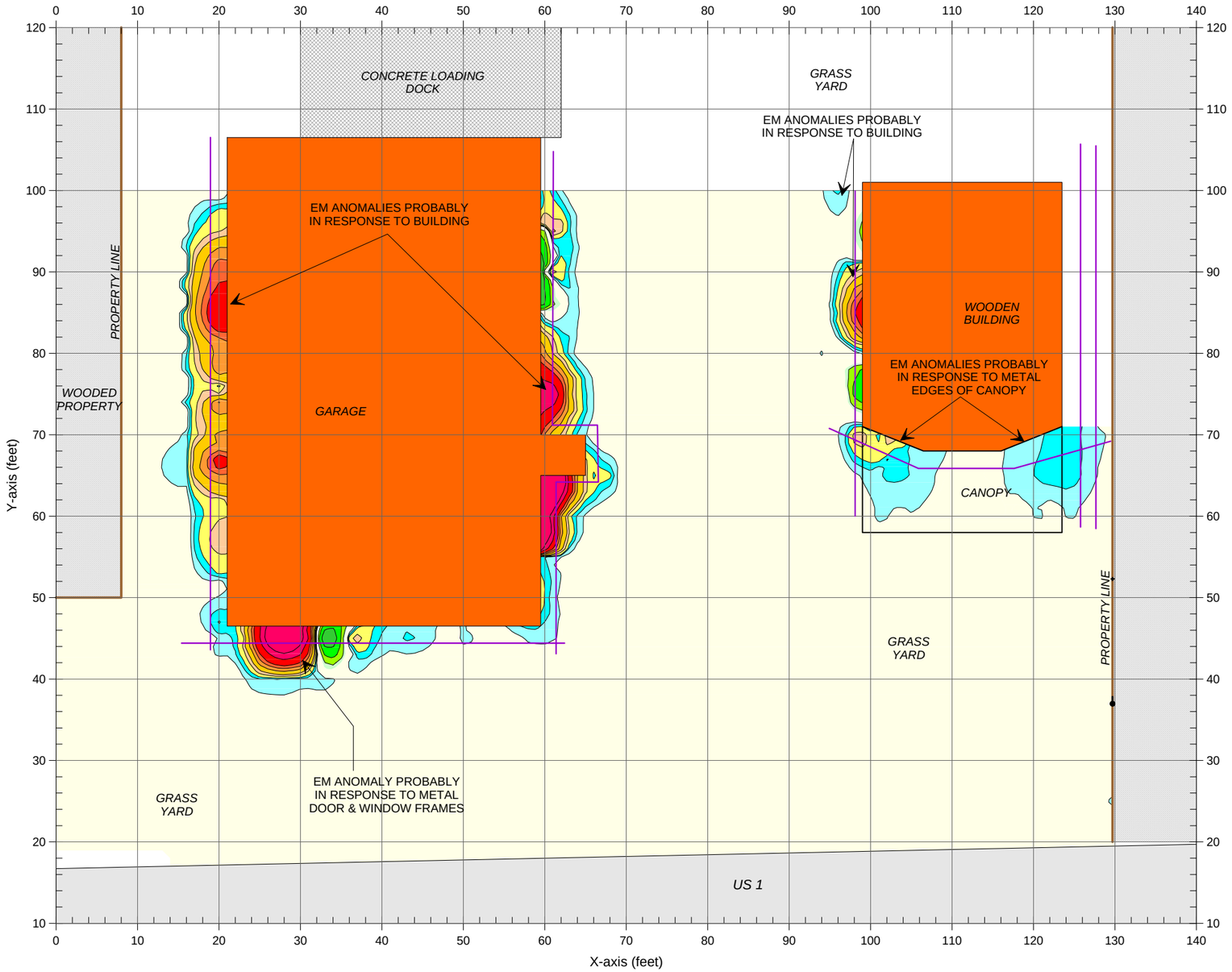
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/01/06	DRWN	MJD
SITE	PARCEL 6 - HILLARY MCKAY PROPERTY	LAY		CHKD	
CITY	MARSTON	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J-NO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 BOTTOM COIL RESULTS

FIGURE 2



APPROXIMATE NORTH

LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHEAST-SOUTHWEST TRENDING LINES SPACED 5 FEET APART
- PROPERTY LINE (APPROX.)
- GUY WIRE
- UTILITY POLE
- APPROX. LOCATION OF GPR SURVEY LINE

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -80 45 50 75 100 150 200 300 400 500 750 1000

Note: The contour plot shows the differential results of the EM61 metal detection survey in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM metal detection data were collected on July 27, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 16, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation suggests that the survey area does not contain metallic USTs.

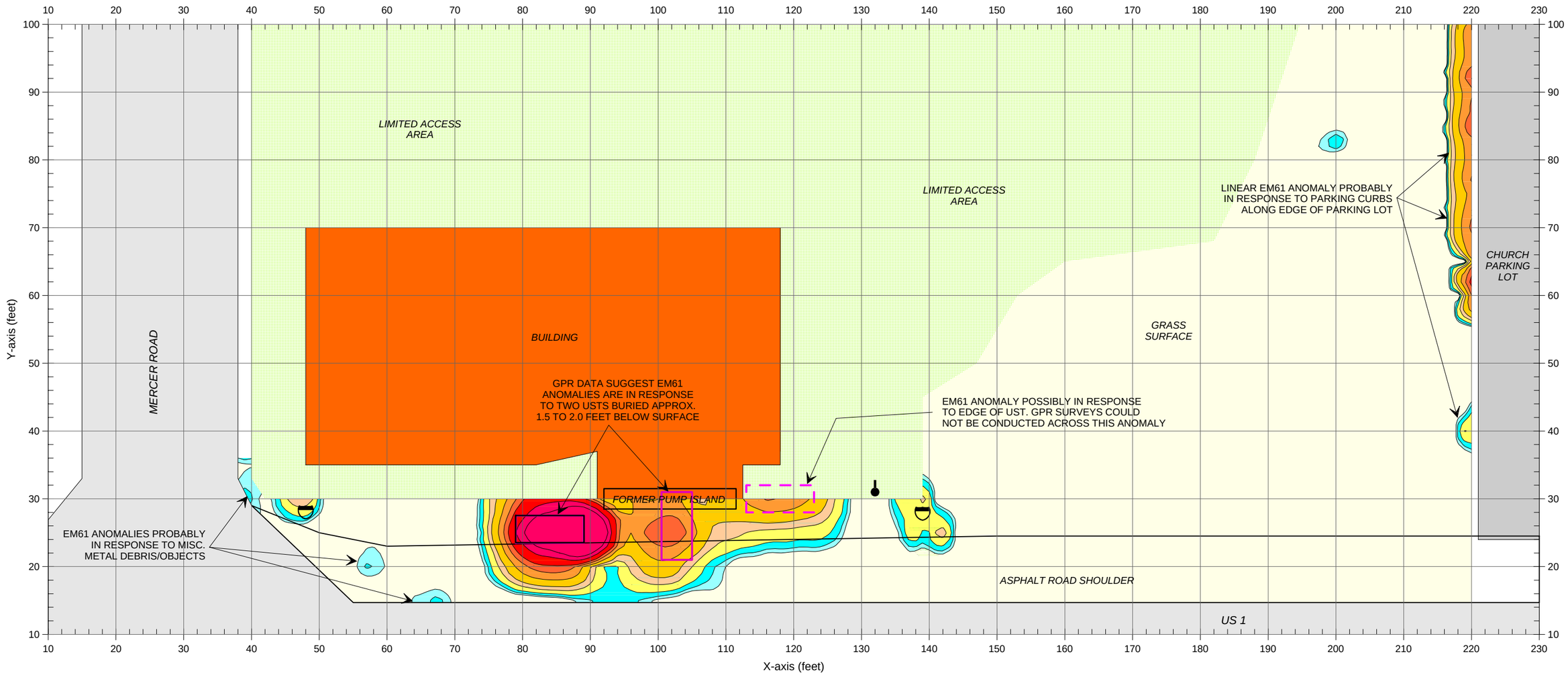
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES		DATE	08/01/06	DRWN MJD
SITE	PARCEL 6 - HILLARY MCKAY PROPERTY		LAY		CHKD
CITY	MARSTON	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		J-NO.	2006-200	FIGURE

GRAPHIC SCALE IN FEET

EM61 DIFFERENTIAL RESULTS

FIGURE 3



EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -90 55 60 75 100 150 200 300 400 500 750 1000

LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG EASTERLY-WESTERLY OR NORTHERLY- SOUTHERLY TRENDING LINES SPACED 5 FEET APART
- UTILITY POLE
- TRAFFIC SIGN
- POSSIBLE UST, AS SUGGESTED BY EM61 ANOMALY
- PROBABLE UST, AS SUGGESTED BY GPR SURVEYS

N W E S

APPROXIMATE NORTH

Note: 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 August 15, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 16, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

GPR surveys suggest that the EM61 anomalies recorded adjacent to the former pump island area are probably in response to metallic USTs.

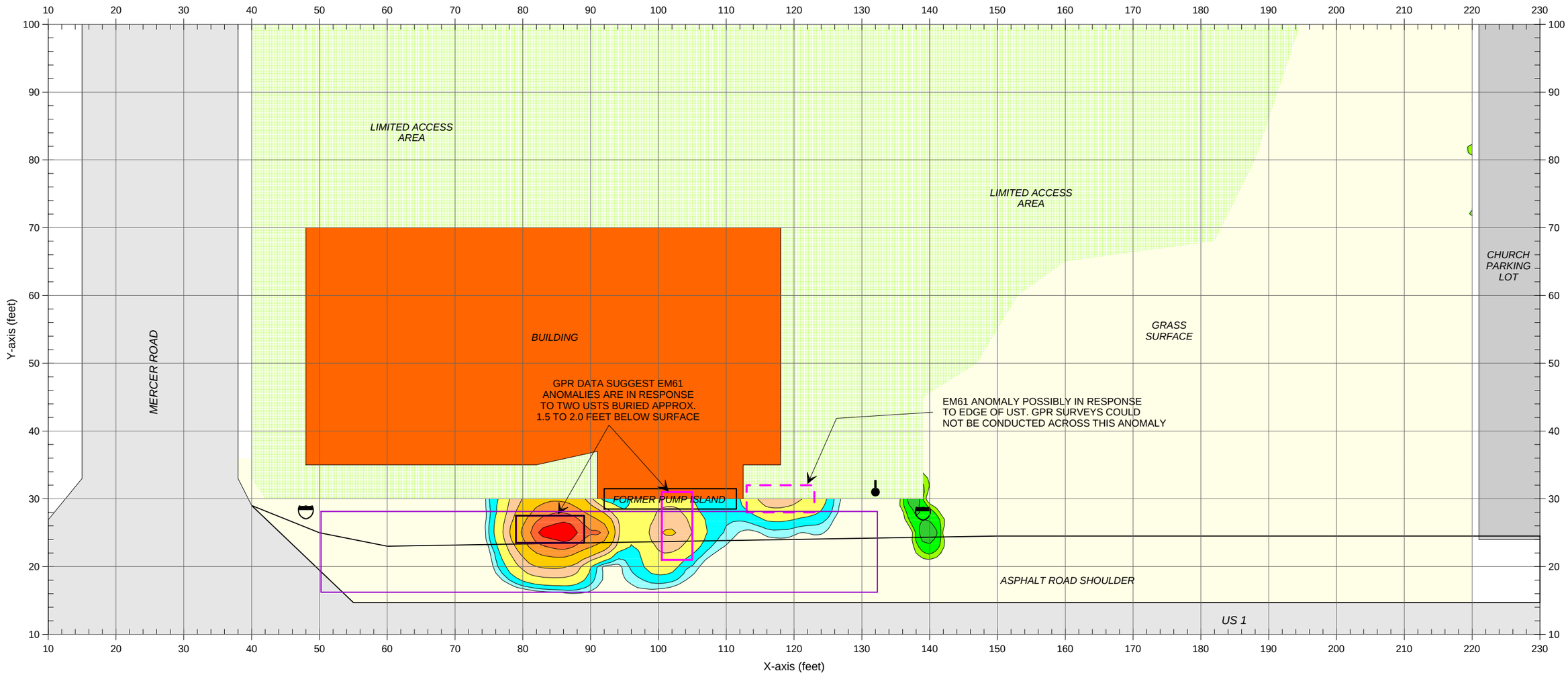
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/17/06	DRWN	MJD
SITE	PARCEL 9 - K. J. LEWIS PROPERTY	LAY		CHKD	
CITY	MARSTON	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J-NO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 BOTTOM COIL RESULTS

FIGURE 4



LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG EASTERLY-WESTERLY OR NORTHERLY- SOUTHERLY TRENDING LINES SPACED 5 FEET APART
- UTILITY POLE
- TRAFFIC SIGN
- GPR SURVEY AREA
- POSSIBLE UST, AS SUGGESTED BY EM61 ANOMALY
- PROBABLE UST, AS SUGGESTED BY GPR SURVEYS

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -90 55 60 75 100 150 200 300 400 500 750 1000

N W E S

APPROXIMATE NORTH

Note: The contour plot shows the differential results of the EM61 metal detection survey in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM metal detection data were collected on August 15, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 16, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

GPR surveys suggest that the EM61 anomalies recorded adjacent to the former pump island area are probably in response to metallic USTs.

PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

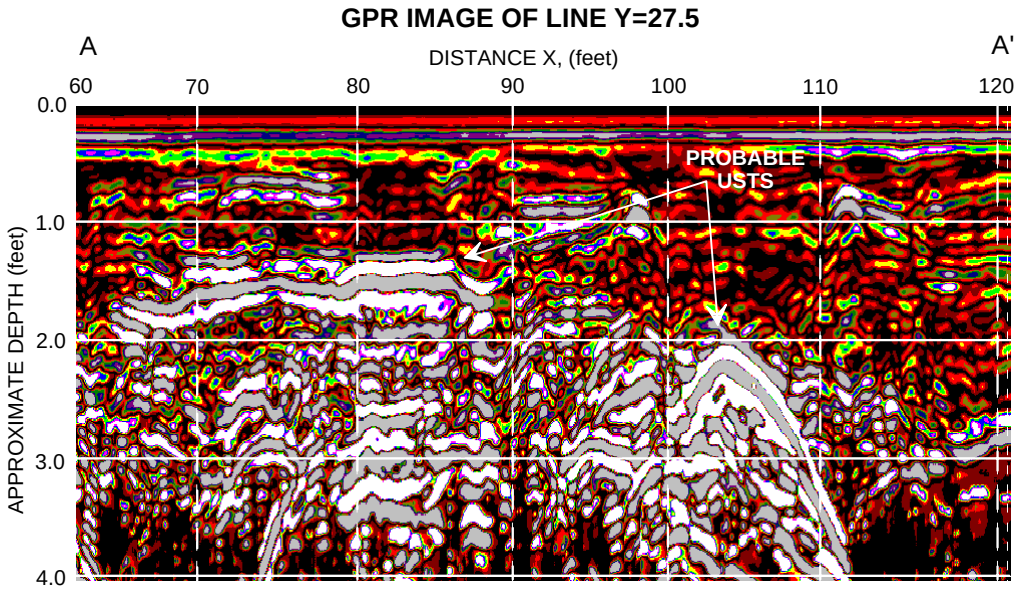
CLIENT	SOLUTIONS IES		DATE	08/17/06	DRWN MJD
SITE	PARCEL 9 - K. J. LEWIS PROPERTY		LAY		CHKD
CITY	MARSTON	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		J-NO.	2006-200	FIGURE

GRAPHIC SCALE IN FEET

EM61 DIFFERENTIAL RESULTS

FIGURE 5

The photograph shows the locations of two probable USTs and one possible UST buried 1.5 to 2.0 feet below surface, as suggested by the geophysical results at Parcel 9.



The GPR image obtained along a portion of survey line Y=27.5, shows the anomalies that are probably in response to USTs near X=84 and X=103, and buried approximately 1.5 and 2.0 feet below surface, respectively. The location of this GPR image is shown with a solid purple line in the above photograph.

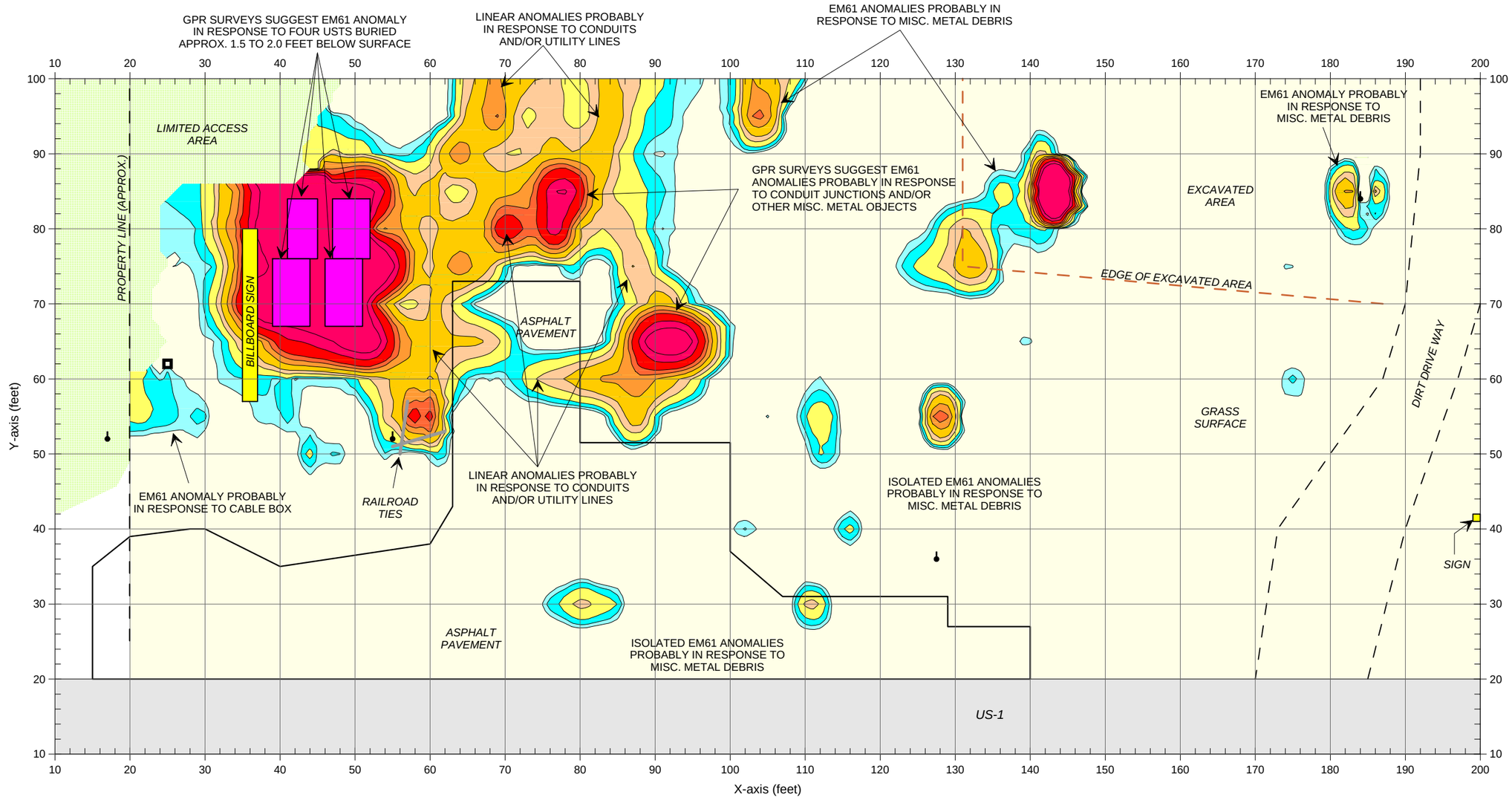
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES		DATE	08/26/05	DRWN
SITE	PARCEL 9 - K. J. LEWIS PROPERTY		LAY		CHKD
CITY	MARSTON	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		JOB	2006-200	FIGURE

GRAPHIC SCALE IN FEET

PHOTO & GPR IMAGE OF UST LOCATIONS (Parcel 9)

FIGURE 6



LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHERLY- SOUTHERLY TRENDING LINES SPACED 5 FEET APART
- UTILITY POLE
- CABLE BOX
- PROBABLE UST, AS SUGGESTED BY GPR SURVEYS

APPROXIMATE NORTH

EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -90 -55 -60 -75 -100 -150 -200 -300 -400 -500 -750 -1000

Note: 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 August 15, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 16, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

GPR surveys suggest that the large, high amplitude, EM61 anomaly in the southwest portion of the survey area is probably in response to four metallic USTs.

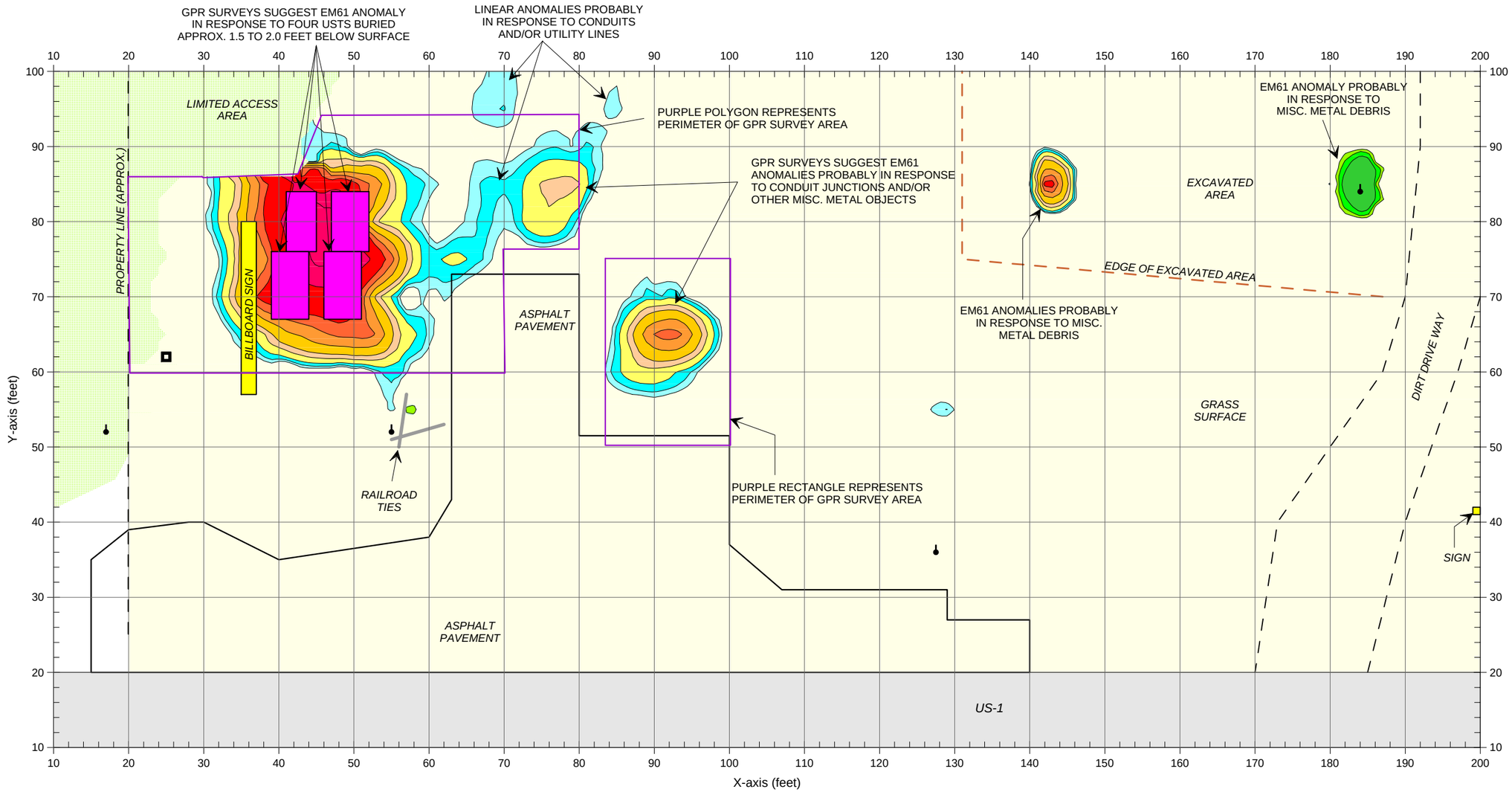
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/17/06	DRWN	MJD
SITE	PARCEL 21 - JAMES BRIGMAN PROPERTY	LAY		CHKD	
CITY	MARSTON	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J-NO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 BOTTOM COIL RESULTS

FIGURE 7



LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHERLY- SOUTHERLY TRENDING LINES SPACED 5 FEET APART
- UTILITY POLE
- CABLE BOX
- PROBABLE UST, AS SUGGESTED BY GPR SURVEYS

APPROXIMATE NORTH

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -90 55 60 75 100 150 200 300 400 500 750 1000

Note: The contour plot shows the differential results of the EM61 metal detection survey in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM metal detection data were collected on August 15, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 16, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

GPR surveys suggest that the large, high amplitude, EM61 anomaly in the southwest portion of the survey area is probably in response to four metallic USTs.

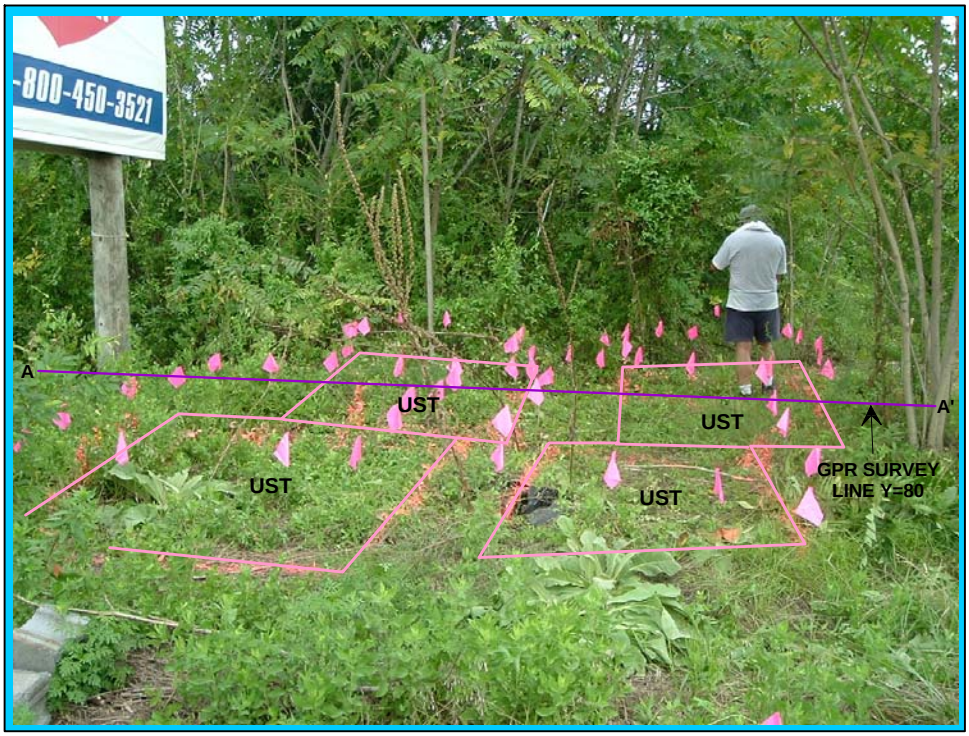
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/17/06	DRWN	MJD
SITE	PARCEL 21 - JAMES BRIGMAN PROPERTY	LAY		CHKD	
CITY	MARSTON	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J.NO.	2006-200	FIGURE	

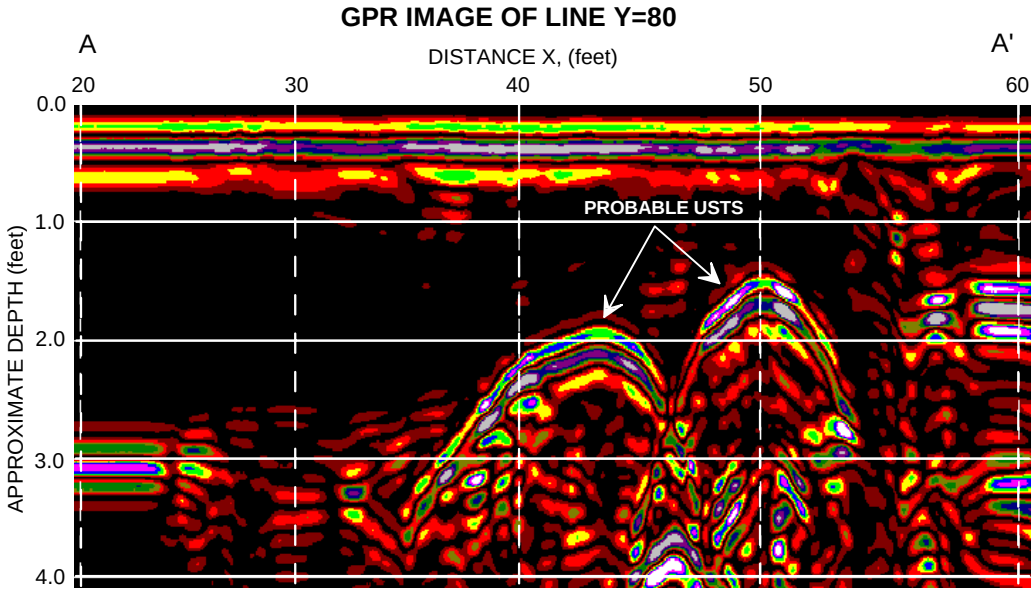
GRAPHIC SCALE IN FEET

EM61 DIFFERENTIAL RESULTS

FIGURE 8



The photograph shows the location of four probable USTs buried 1.75 to 2.0 feet below surface, as suggested by the geophysical results at Parcel 21.



The GPR image obtained along a portion of survey line Y=80, shows the anomalies that are probably in response to USTs near X=43 and X=50, and buried approximately 2.0 and 1.5 feet below surface, respectively. The location of this GPR image is shown with a solid purple line in the above photograph.

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES		DATE	08/26/05	DRWN
SITE	PARCEL 21 - JAMES BRIGMAN PROPERTY		LAY		CHKD
CITY	MARSTON	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		JNO	2006-200	FIGURE

GRAPHIC SCALE IN FEET

PHOTO & GPR IMAGE
OF UST LOCATIONS

FIGURE 9

BOTTOM COIL RESULTS

THICK BRUSH
(AREA NOT SURVEYED)

GRASS SURFACE

EM61 ANOMALY PROBABLY IN RESPONSE TO MISC. DEBRIS

PROPANE TANK

GPR SURVEYS SUGGEST EM61 ANOMALY PROBABLY IN RESPONSE TO BUILDING

BUILDING

GPR SURVEYS SUGGEST EM61 ANOMALIES PROBABLY IN RESPONSE TO BUILDING

EM61 ANOMALY PROBABLY IN RESPONSE TO MISC. OBJECT

GRASS SURFACE

LINEAR EM61 ANOMALY PROBABLY IN RESPONSE TO BURIED CONDUIT OR UTILITY LINE

EM61 ANOMALY PROBABLY IN RESPONSE TO MISC. DEBRIS

GPR SURVEYS SUGGEST EM61 ANOMALY PROBABLY IN RESPONSE TO LARGE-DIAMETER CONDUCT(S) OR POSSIBLY, VERY SMALL UST BURIED APPROX. 1 FOOT BELOW SURFACE

EM61 ANOMALY PROBABLY IN RESPONSE TO MISC. OBJECT

US-1

DIFFERENTIAL RESULTS

THICK BRUSH
(AREA NOT SURVEYED)

GRASS SURFACE

EM61 ANOMALY PROBABLY IN RESPONSE TO MISC. DEBRIS

PROPANE TANK

GPR SURVEYS SUGGEST EM61 ANOMALY PROBABLY IN RESPONSE TO BUILDING

BUILDING

GPR SURVEYS SUGGEST EM61 ANOMALIES PROBABLY IN RESPONSE TO BUILDING

GRASS SURFACE

PURPLE RECTANGLE REPRESENTS PERIMETER OF GPR SURVEY AREA

GPR SURVEY LINE

LINEAR EM61 ANOMALY PROBABLY IN RESPONSE TO BURIED CONDUIT OR UTILITY LINE

GPR SURVEYS SUGGEST EM61 ANOMALY PROBABLY IN RESPONSE TO LARGE-DIAMETER CONDUCT(S) OR POSSIBLY, VERY SMALL UST BURIED APPROX. 1 FOOT BELOW SURFACE

EM61 ANOMALY PROBABLY IN RESPONSE TO MISC. OBJECT

US-1

Y-axis (feet)

X-axis (feet)

LEGEND

- UTILITY CABLE BOX
- GUY WIRE
- UTILITY POLE
- PROBABLE CONDUIT OR POSSIBLE UST

APPROXIMATE NORTH

EM61 METAL DETECTION RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -90 -50 -60 -75 -100 -150 -200 -300 -400 -500 -750 -1000

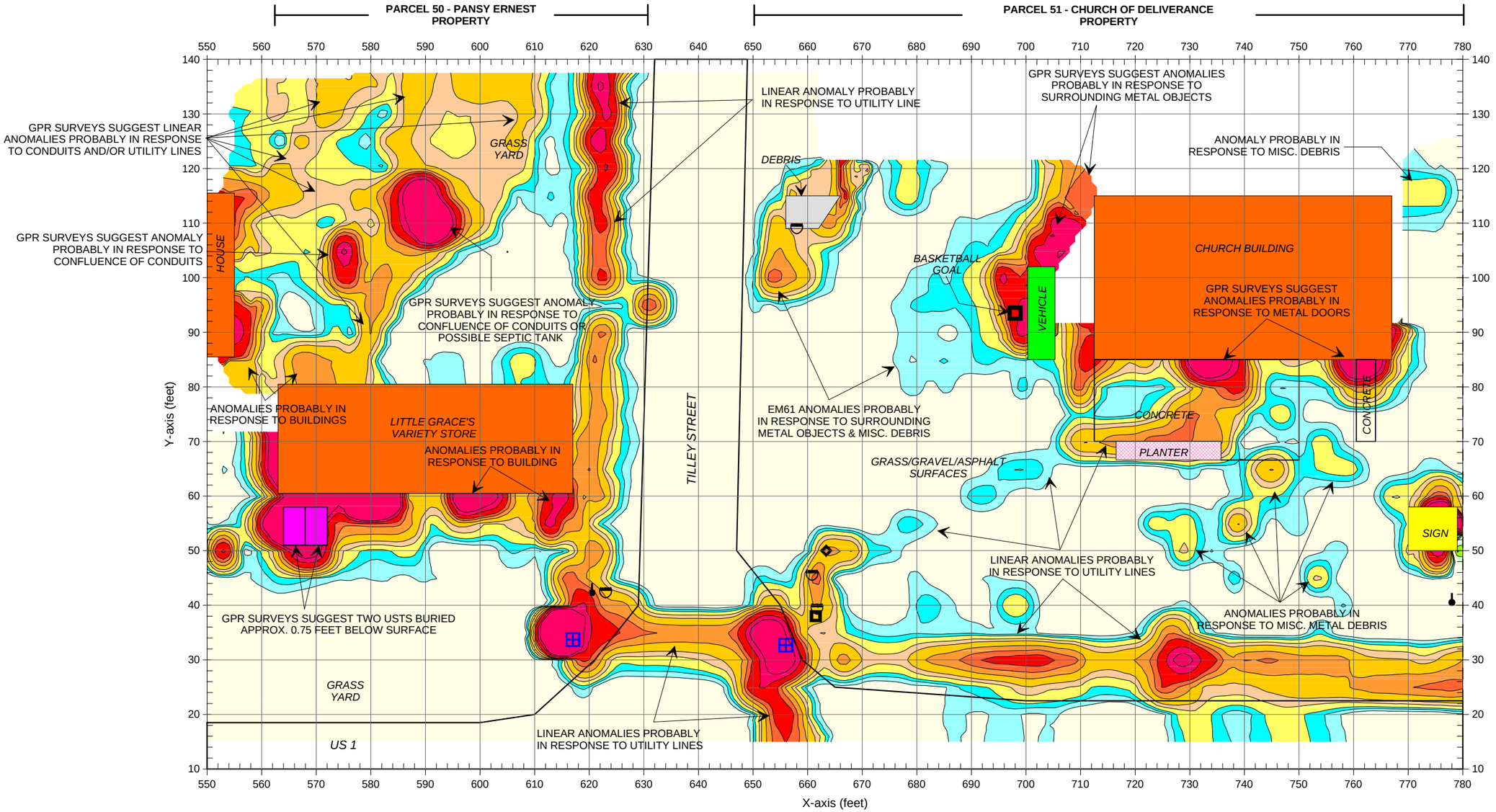
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/17/06	DRWN	MJD
SITE	PARCEL 48 - ROY BARRY BOSTICK PROPERTY	LAY		CHKD	
CITY	HOFFMAN	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	JAO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 METAL DETECTION RESULTS

FIGURE 10



LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHEAST-SOUTHWEST TRENDING LINES SPACED 5 FEET APART
- STORM SEWER GRATE
- PHONE CABLE BOX
- GUY WIRE
- UTILITY POLE
- TRAFFIC SIGN
- STORM SEWER GRATE
- VENT/FILL PORT
- METAL POLE
- PROBABLE UST AS SUGGESTED BY THE GEOPHYSICAL RESULTS

APPROXIMATE NORTH

EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -40 -80 -75 100 150 200 300 400 500 750 1000

Note: 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 July 26, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on July 28, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The majority of linear EM61 bottom coil anomalies shown above, are probably in response to buried utility lines or conduits. Negative EM anomalies (shaded in green) are probably in response to metallic surface objects. The geophysical investigation detected two probable USTs on Parcel 50.

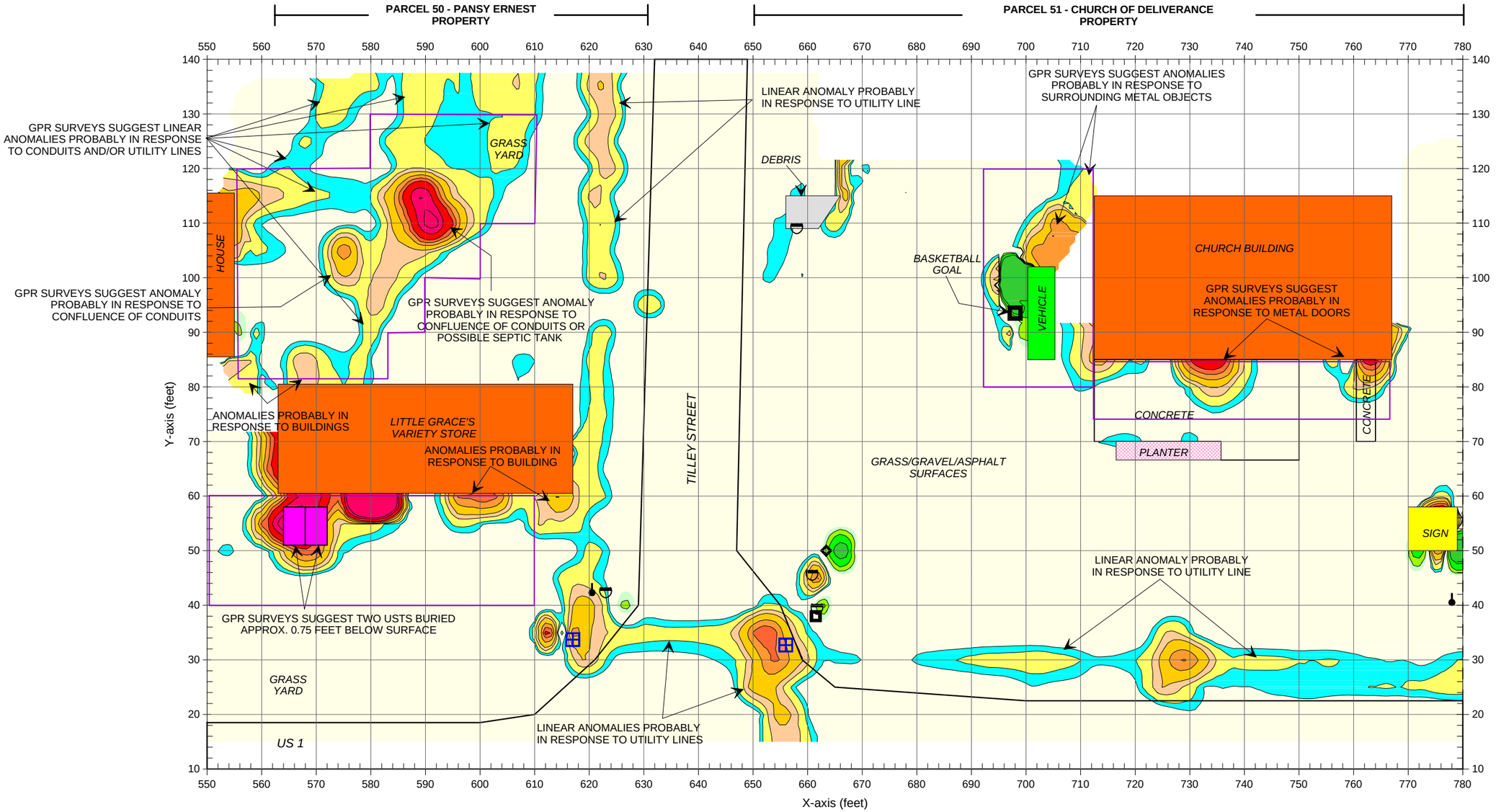
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/01/06	DRWN	MJD
SITE	PARCELS 50 & 51 (ERNEST & CHURCH PROPERTIES)	LAY		CHKD	
CITY	HOFFMAN	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J-NO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 BOTTOM COIL RESULTS

FIGURE 11



LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHEAST-SOUTHWEST TRENDING LINES SPACED 5 FEET APART
- STORM SEWER GRATE
- PHONE CABLE BOX
- GUY WIRE
- UTILITY POLE
- TRAFFIC SIGN
- STORM SEWER GRATE
- VENT/FILL PORT
- METAL POLE
- GPR SURVEY AREA
- PROBABLE UST AS SUGGESTED BY THE GEOPHYSICAL RESULTS

APPROXIMATE NORTH

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -40 60 75 100 150 200 300 400 500 750 1000

Note: The contour plot shows the differential results of the EM61 metal detection survey in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM metal detection data were collected on July 26, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on July 28, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The majority of linear EM61 bottom coil anomalies shown above, are probably in response to buried utility lines or conduits. Negative EM anomalies (shaded in green) are probably in response to metallic surface objects. The geophysical investigation detected two probable USTs on Parcel 50.

PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

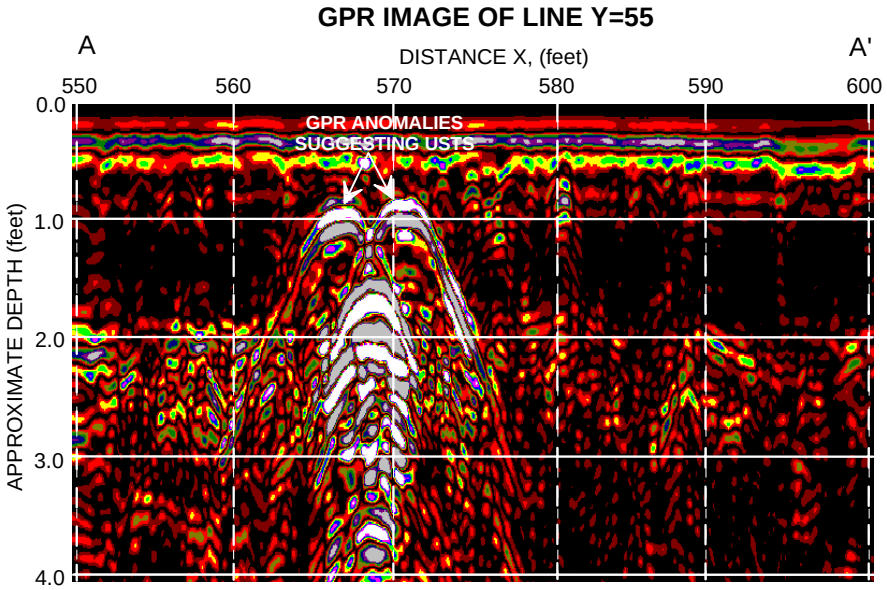
CLIENT	SOLUTIONS IES	DATE	08/01/06	DRWN	MJD
SITE	PARCELS 50 & 51 (ERNEST & CHURCH PROPERTIES)	LAY		CHKD	
CITY	HOFFMAN	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J-NO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 DIFFERENTIAL RESULTS

FIGURE 12

The photograph shows the location of two probable USTs buried approx. 0.75 feet below surface, as suggested by the geophysical results at Parcel 50.



The GPR image obtained along survey line Y=55 shows the anomalies that are probably in response to USTs near X=566 and X=570, and buried approximately 0.75 feet below surface. The location of this GPR image is shown with a solid purple line in the above photograph.

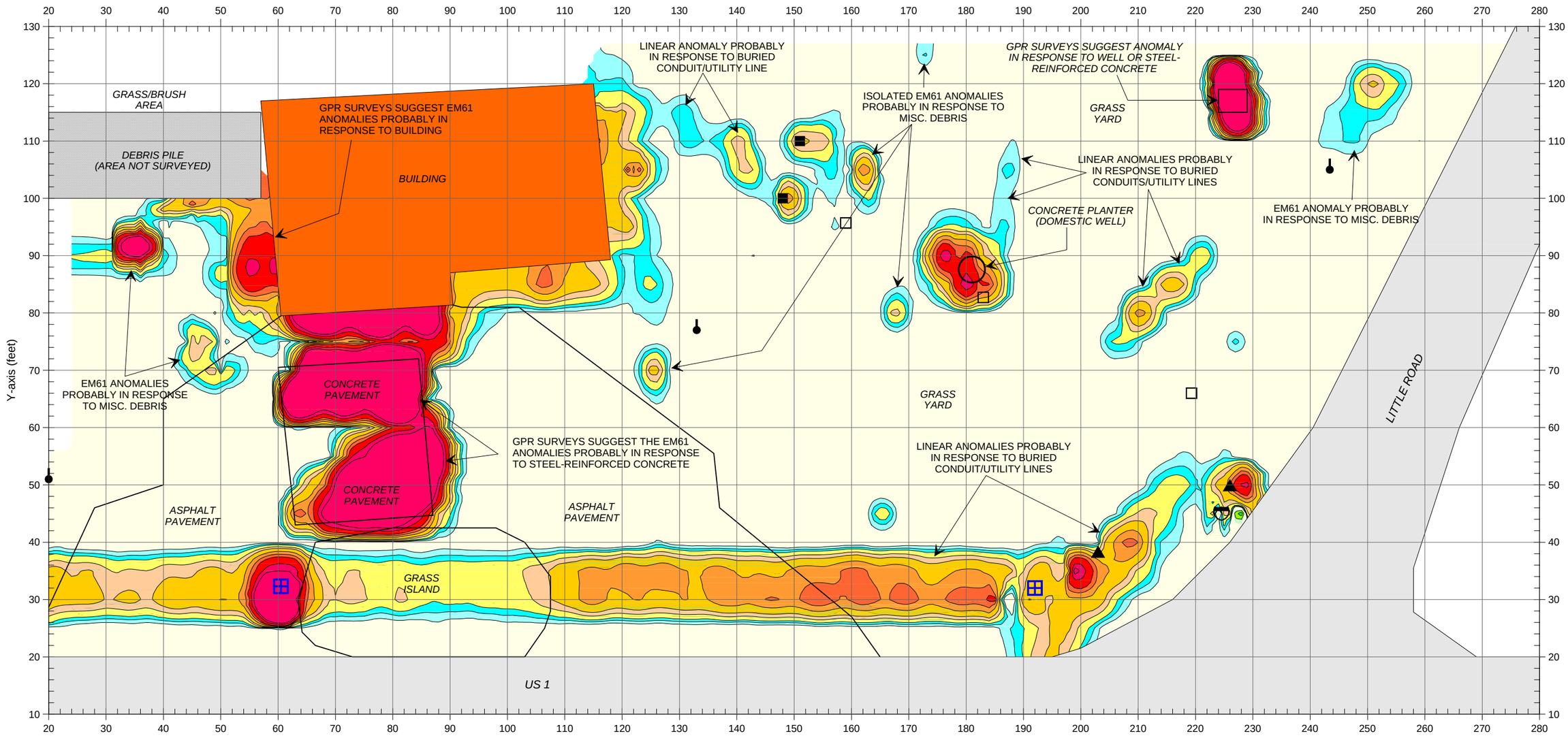
PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES		DATE	08/26/05	DRWN
SITE	PARCEL 50 (PANSY ERNEST PROPERTY)		LAY		CHKD
CITY	MARSTON	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		J.NO.	2006-200	FIGURE

GRAPHIC SCALE IN FEET

PHOTO & GPR IMAGE
OF UST LOCATIONS

FIGURE 13



EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -80 -45 -90 -75 -100 -150 -200 -300 -400 -500 -750 -1000

Note: 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 July 27, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 16, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical results suggest that the proposed ROW area does not contain metallic USTs.

LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHEAST-SOUTHWEST TRENDING LINES SPACED 5 FEET APART
- STORM SEWER GRATE
- CONCRETE BLOCK
- GUY WIRE
- UTILITY POLE
- TRAFFIC SIGN
- EDGE OF CULVERT
- CONCRETE ABUTMENT

APPROXIMATE NORTH

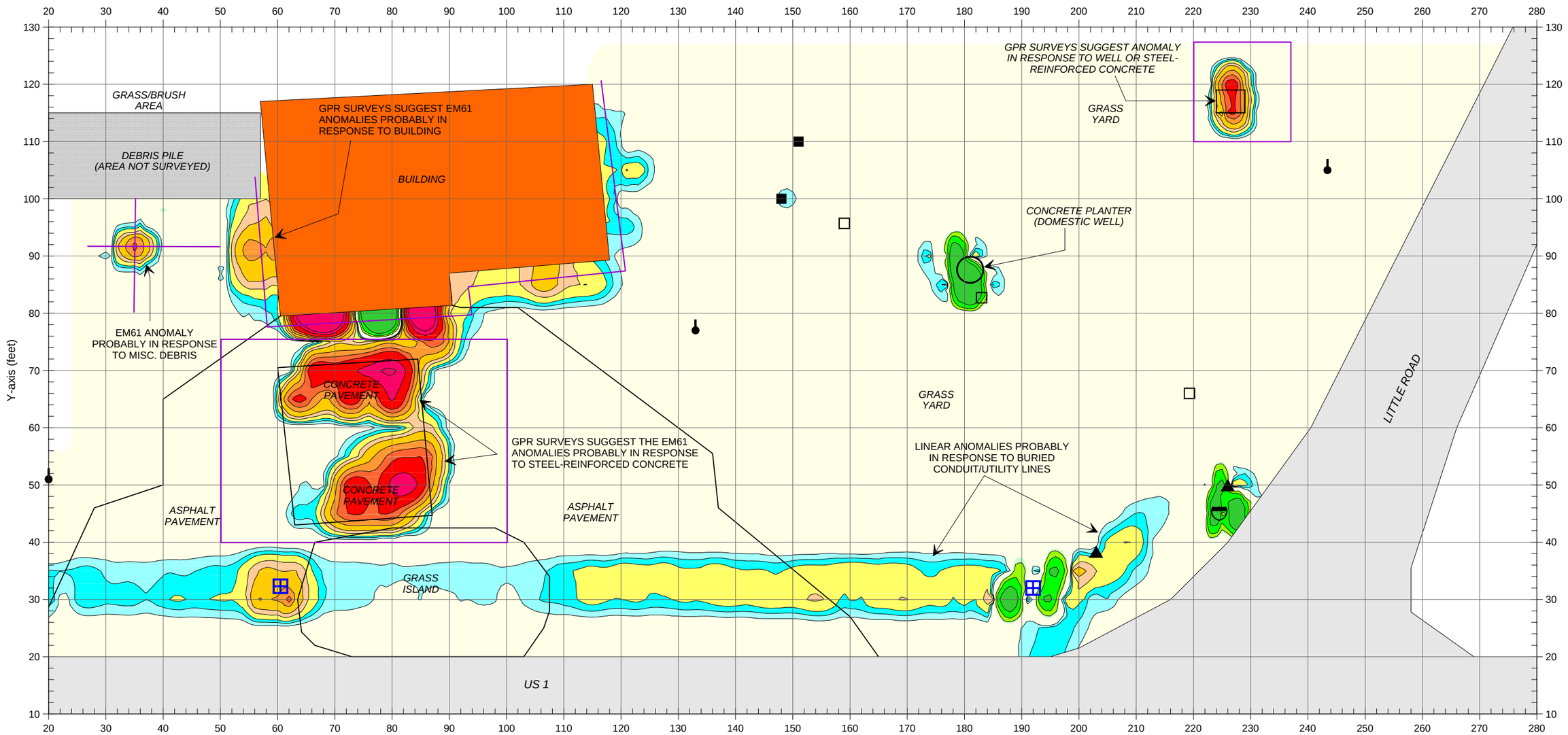
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/01/06	DRWN	MJD
SITE	PARCEL 61 - COOPER & BROWN INC. PROPERTY	LAY		CHKD	
CITY	HOFFMAN	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J.NO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 BOTTOM COIL RESULTS

FIGURE 14



LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHEAST-SOUTHWEST TRENDING LINES SPACED 5 FEET APART
- STORM SEWER GRATE
- CONCRETE BLOCK
- GUY WIRE
- UTILITY POLE
- TRAFFIC SIGN
- EDGE OF CULVERT
- CONCRETE ABUTMENT
- GPR SURVEY LINE
- GPR SURVEY AREA

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -50 -45 -50 75 100 150 200 300 400 500 750 1000

APPROXIMATE NORTH

Note: The contour plot shows the differential results of the EM61 metal detection survey in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM metal detection data were collected on July 27, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 16, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical results suggest the proposed ROW area does not contain metallic USTs.

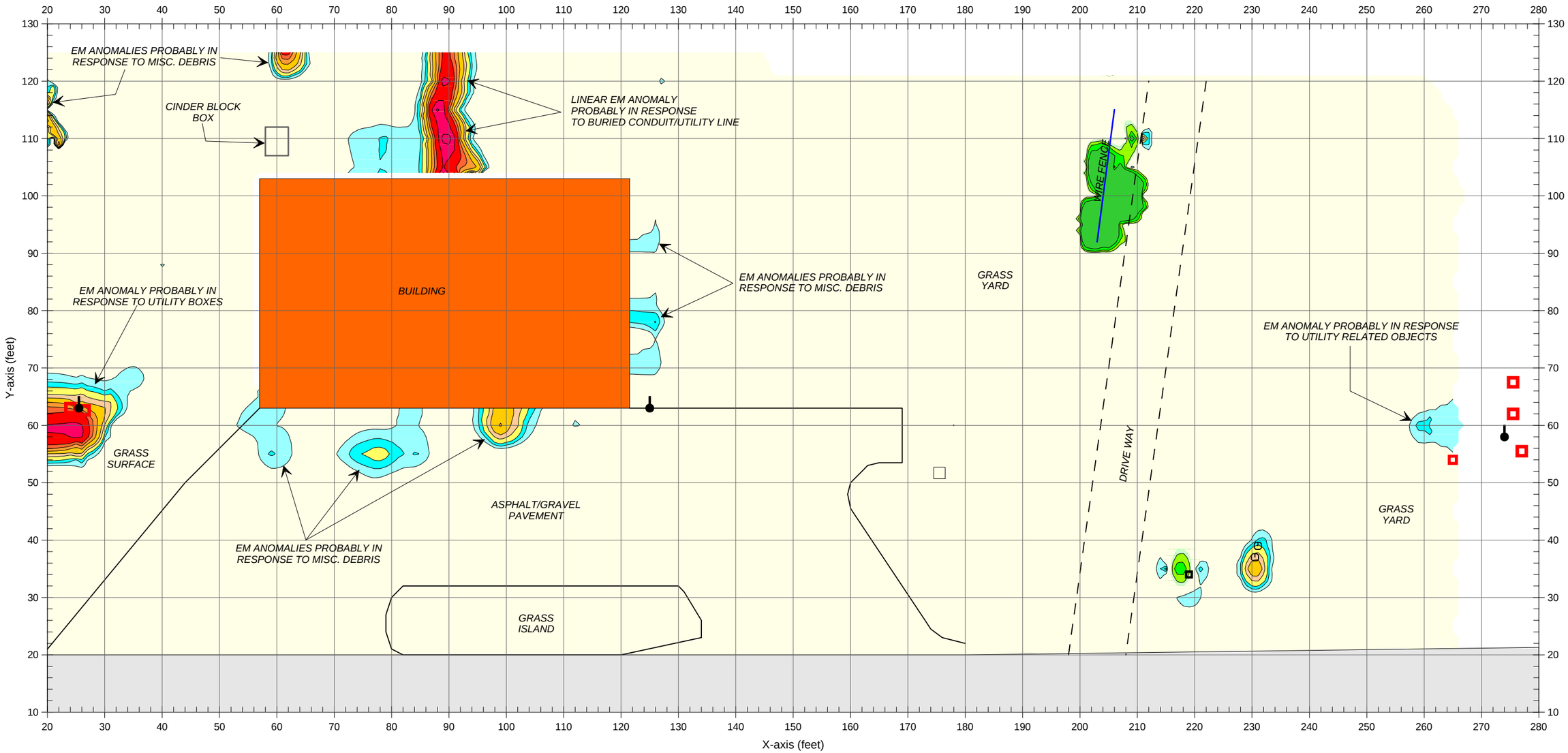
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/01/06	DRWN	MJD
SITE	PARCEL 61 - COOPER & BROWN INC. PROPERTY	LAY		CHKD	
CITY	HOFFMAN	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J-NO.	2006-200	FIGURE	

GRAPHIC SCALE IN METERS

EM61 DIFFERENTIAL RESULTS

FIGURE 15



LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHERLY-SOUTHERLY TRENDING LINES SPACED 5 FEET APART
- ELECTRICAL OR UTILITY BOX
- WATER METER OR VALVE COVER
- GUY WIRE
- UTILITY POLE
- TRAFFIC SIGN
- MAIL BOX

N W E S

APPROXIMATE NORTH

EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -50 -45 50 75 100 150 200 300 400 500 750 1000

Note: 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 July 27 and August 14, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on July 28, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation suggests that the survey area does not contain metallic USTs.

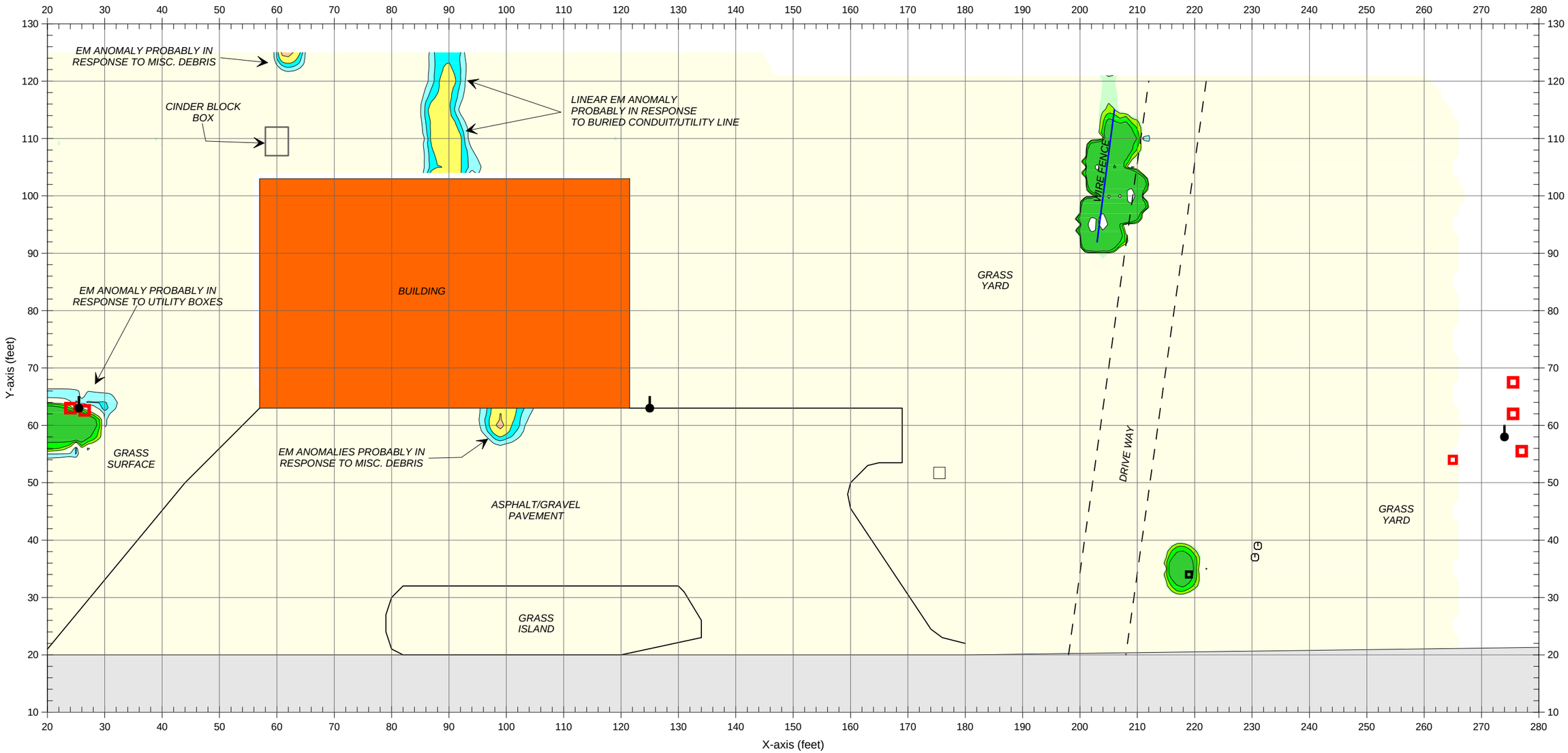
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/17/06	DRWN	MJD
SITE	PARCEL 70 - DELIA LASSITER PROPERTY	LAY		CHKD	
CITY	HOFFMAN	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J-NO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 BOTTOM COIL RESULTS

FIGURE 16



LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHERLY-SOUTHERLY TRENDING LINES SPACED 5 FEET APART
- ELECTRICAL OR UTILITY BOX
- WATER METER OR VALVE COVER
- GUY WIRE
- UTILITY POLE
- TRAFFIC SIGN
- MAIL BOX

APPROXIMATE NORTH

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -50 45 50 75 100 150 200 300 400 500 750 1000

Note: The contour plot shows the differential results of the EM61 metal detection survey in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM metal detection data were collected on July 27 and August 14, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on July 28, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation suggests that the survey area does not contain metallic USTs.

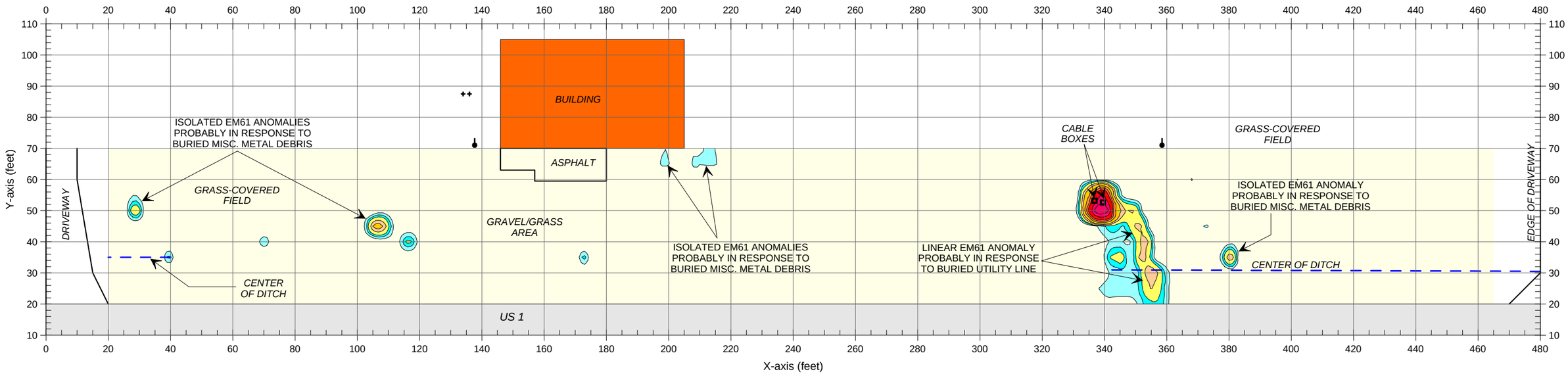
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/17/06	DRWN	MJD
SITE	PARCEL 70 - DELIA LASSITER PROPERTY	LAY		CHKD	
CITY	HOFFMAN	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J-NO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 DIFFERENTIAL RESULTS

FIGURE 17



LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHEAST-SOUTHWEST TRENDING LINES SPACED 5 FEET APART
- PHONE CABLE BOX
- GUY WIRE
- UTILITY POLE

APPROXIMATE NORTH

EM61 BOTTOM COIL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -80 -45 -50 -75 -100 -150 -200 -300 -400 -500 -750 -1000

Note: 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 July 27, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on July 28, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation suggests that the survey area does not contain metallic USTs.

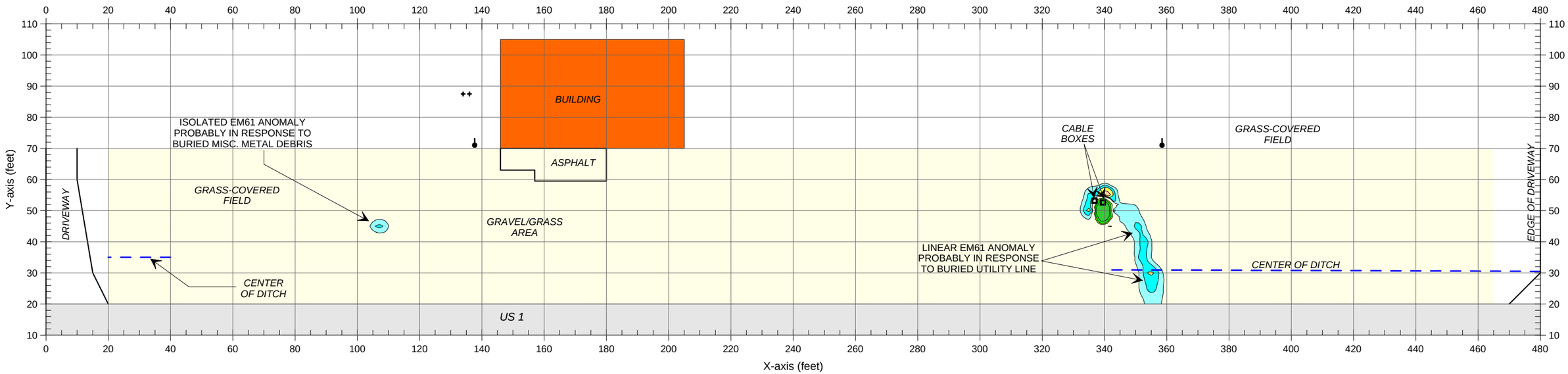
PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/01/06	DRWN	MJD
SITE	PARCEL 22 - IVEY LITTLE PROPERTY	LAY		CHKD	
CITY	HOFFMAN	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J-NO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 BOTTOM COIL RESULTS

FIGURE 18



LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG NORTHEAST-SOUTHWEST TRENDING LINES SPACED 5 FEET APART
- PHONE CABLE BOX
- GUY WIRE
- UTILITY POLE

APPROXIMATE NORTH

EM61 DIFFERENTIAL RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -80 -45 -50 -75 -100 -150 -200 -300 -400 -500 -750 -1000

Note: The contour plot shows the differential results of the EM61 metal detection survey in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM metal detection data were collected on July 27, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on July 28, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation suggests that the survey area does not contain metallic USTs.

PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

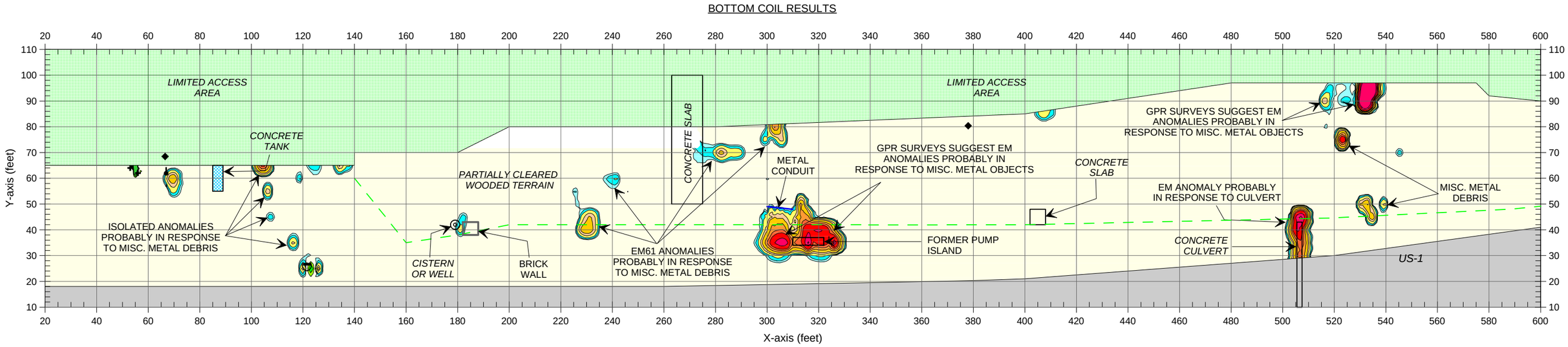
CLIENT	SOLUTIONS IES		DATE	08/01/06	DRWN MJD
SITE	PARCEL 22 - IVEY LITTLE PROPERTY		LAY		CHKD
CITY	HOFFMAN	STATE NORTH CAROLINA	DWG		
TITLE	GEOPHYSICAL RESULTS		J-NO.	2006-200	FIGURE

GRAPHIC SCALE IN METERS

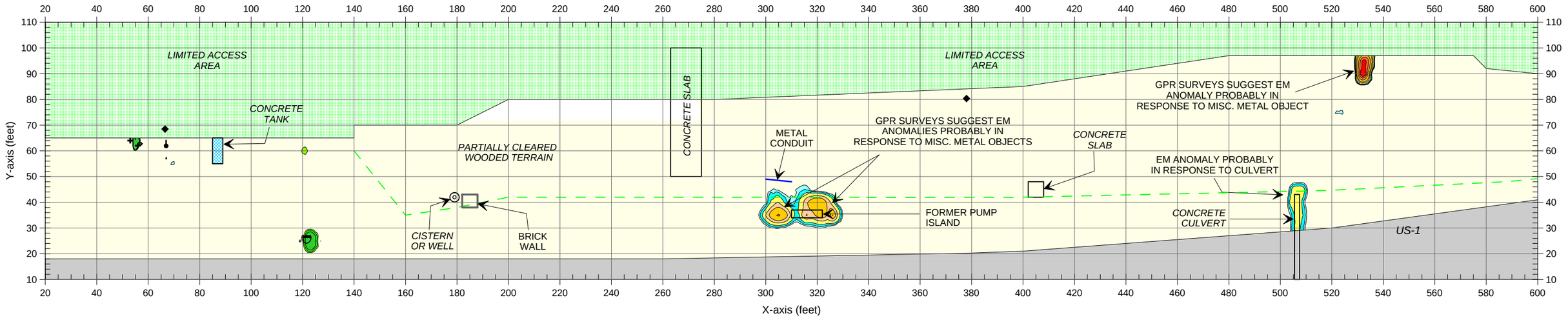
EM61 DIFFERENTIAL RESULTS

FIGURE 19

BOTTOM COIL RESULTS



DIFFERENTIAL RESULTS



Note: The contour plots show the bottom coil (most sensitive) response of the EM61 instrument and the differential response 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 EM metal detection data were collected on August 14 & 28, 2006 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired on August 15 & 28, 2006 using a Geophysical Survey Systems SIR 2000 instrument with a 400 MHz antenna.

The geophysical investigation suggests that the survey area does not contain metallic USTs.

LEGEND

- EM61 SURVEY AREA: EM DATA ACQUIRED ALONG EASTERLY-WESTERLY TRENDING LINES SPACED 5 FEET APART
- RIGHT-OF-WAY MARKER
- GUY WIRE
- UTILITY POLE
- TRAFFIC SIGN

EM61 METAL DETECTION RESPONSE (MILLIVOLTS)

-5000 -400 -200 -100 -90 -55 -60 -75 -100 -150 -200 -300 -400 -500 -750 -1000

N W E S

APPROXIMATE NORTH

PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.

CLIENT	SOLUTIONS IES	DATE	08/17/06	DRWN	MJD
SITE	PARCEL 68 - JAMES PUGH PROPERTY	LAY		CHKD	
CITY	HOFFMAN	STATE	NORTH CAROLINA	DWG	
TITLE	GEOPHYSICAL RESULTS	J.NO.	2006-200	FIGURE	

GRAPHIC SCALE IN FEET

EM61 METAL DETECTION RESULTS

FIGURE 20

APPENDIX C

BORING LOGS

Log of Soil Boring: P61-B1

Project: Richmond County PSA's | *Solutions-IES Project No.:* 3260.06A3.NDOT | *Boring Number:* 1

Client: NCDOT

WBS # 34438.1.1 | *Initial Water Level:* NA

State Project # R-2502A | *County:* Richmond | *Stabilized Water Level:* NA

Drilling Method: Direct Push | *Boring Date:* 08/21/06 | *Cave In Depth:* NA

Sampler Type: Macro Core | *Site:* Parcel 61

Logged By: K.B | *Checked By:* JP | *Total Depth of Boring:* 8' bgs

SUBSURFACE PROFILE			SAMPLE				
Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen ppm 250 500 750 / FID Field Screen ppm 250 500 750	Lab Sample Depth	Well Data
0		Ground Surface					
1	SM	Dry, dark brown, fine silty sand (Loam)			0		
2	SM	Dry, tan and brown, fine silty sand					
3					0		
4	SM	Dry, tan and orange, fine silty sand					
5	SM	Moist, tan and orange, fine to medium silty sand			0		
6							
7	SM	Moist, tan and orange, medium silty sand			0		
8							
9							
10							
11							
12							
13							
14							
15							
16							

Solutions-IES, Inc.
1101 Nowell Road
Raleigh, NC 27607
(919) 873-1060

Solutions-IES
Industrial & Environmental Services

Log of Soil Boring: P61-B2

Project: Richmond County PSA's | *Solutions-IES Project No.:* 3260.06A3.NDOT | *Boring Number:* 2

Client: NCDOT

WBS # 34438.1.1 | *Initial Water Level:* NA

State Project # R-2502A | *County:* Richmond | *Stabilized Water Level:* NA

Drilling Method: Direct Push | *Boring Date:* 08/21/06 | *Cave In Depth:* NA

Sampler Type: Macro Core | *Site:* Parcel 61

Logged By: K.B | *Checked By:* JJD | *Total Depth of Boring:* 8' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen ppm 250 500 750 / FID Field Screen ppm 250 500 750	Lab Sample Depth	Well Data
0		Ground Surface					
1	SM	Dry, dark brown, fine silty sand (Loam)		100	0		
2	SM	Moist, light brown, fine silty sand					
3	SM - SC	Moist, tan and orange, medium clayey, silty sand		100	0		
4		No Recovery					
5	SM - SC	Dry, tan and orange, medium clayey, silty sand		75	0		
6	SM - SC	Moist, orange and tan, fine clayey, silty sand					
7	SM	Moist, orange and white, medium silty sand		100	0		
8							
9							
10							
11							
12							
13							
14							
15							
16							

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Log of Soil Boring: P61-B3

Project: Richmond County PSA's | *Solutions-IES Project No.:* 3260.06A3.NDOT | *Boring Number:* 3

Client: NCDOT

WBS # 34438.1.1 | *Initial Water Level:* NA

State Project # R-2502A | *County:* Richmond | *Stabilized Water Level:* NA

Drilling Method: Direct Push | *Boring Date:* 08/21/06 | *Cave In Depth:* NA

Sampler Type: Macro Core | *Site:* Parcel 61

Logged By: K.B | *Checked By:* JW | *Total Depth of Boring:* 8' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen (ppm 250 500 750) / FID Field Screen (ppm 250 500 750)	Lab Sample Depth	Well Data
0		Ground Surface					
0–1	SM	Moist, dark brown, fine silty sand (Loam)		100	0		
1–2	SM	Moist, light brown, fine silty sand					
2–3	SM	Moist, orange, fine silty sand		100	0		
3–4	SM	Moist, orange and white, medium silty sand					
4–5	SM	Moist, orange and white, medium silty sand		100	0		
5–6	SM	Moist, orange and white, medium silty sand					
6–7	SC	Moist, orange and white, medium clayey sand		100	0		
7–8	SC	Moist, orange and white, medium clayey sand					
8–16							

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Log of Soil Boring: P61-B4

Project: Richmond County PSA's | *Solutions-IES Project No.:* 3260.06A3.NDOT | *Boring Number:* 4

Client: NCDOT

WBS # 34438.1.1 | *Initial Water Level:* NA

State Project # R-2502A | *County:* Richmond | *Stabilized Water Level:* NA

Drilling Method: Direct Push | *Boring Date:* 08/21/06 | *Cave In Depth:* NA

Sampler Type: Macro Core | *Site:* Parcel 61

Logged By: K.B | *Checked By:* JuO | *Total Depth of Boring:* 8' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen ppm 250 500 750 / FID Field Screen ppm 250 500 750	Lab Sample Depth	Well Data
0		Ground Surface					
0	SM	Moist, tan, fine silty sand					
1				100	0		
1	SM	Moist, black, fine silty sand					
2							
2	SM	Moist, tan, fine silty sand					
3				100	0		
4							
4							
5				100	0		
5	SM	Moist, orange, fine to medium silty sand					
6							
6	SM - SC	Moist, orange and tan, fine to medium clayey, silty sand					
7				100	0		
7	SC	Moist, tan and orange, medium clayey sand					
8							
9							
10							
11							
12							
13							
14							
15							
16							

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Log of Soil Boring: P61-B5

Project: Richmond County PSA's
Solutions-IES Project No.: 3260.06A3.NDOT
Boring Number: 5
Client: NCDOT
WBS # 34438.1.1
Initial Water Level: NA
State Project # R-2502A
County: Richmond
Stabilized Water Level: NA
Drilling Method: Direct Push
Boring Date: 08/21/06
Cave In Depth: NA
Sampler Type: Macro Core
Site: Parcel 61
Logged By: K.B
Checked By: JLD
Total Depth of Boring: 8' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen ppm 250 500 750 / FID Field Screen ppm 250 500 750	Lab Sample Depth	Well Data
0		Ground Surface					
1		No Recovery		25	0		
2	SM	Dry, dark brown, fine silty sand					
3	SM	Moist, tan and orange, fine silty sand		100	0		
4							
5	SC	Moist, tan, orange and brown, medium clayey sand		100	0		
6							
7				100	0		
8							
9							
10							
11							
12							
13							
14							
15							
16							

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Log of Soil Boring: P61-B6

Project: Richmond County PSA's | *Solutions-IES Project No.:* 3260.06A3.NDOT | *Boring Number:* 6

Client: NCDOT

WBS # 34438.1.1 | *Initial Water Level:* NA

State Project # R-2502A | *County:* Richmond | *Stabilized Water Level:* NA

Drilling Method: Direct Push | *Boring Date:* 08/21/06 | *Cave In Depth:* 8.07

Sampler Type: Macro Core | *Site:* Parcel 61

Logged By: K.B | *Checked By:* JD | *Total Depth of Boring:* 8' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen (ppm 250 500 750) / FID Field Screen (ppm 250 500 750)	Lab Sample Depth	Well Data
0		Ground Surface					
0–2	SM	Moist, dark brown and tan, fine silty sand		100	0		
2–4	SM	Moist, orange and tan, fine silty sand		100	0		
4–6	SC	Moist, tan and orange, medium clayey sand		100	0		
6–8	SC	Moist, tan, orange and red, medium clayey sand		100	1		

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Log of Soil Boring: P61-B7

Project: Richmond County PSA's
Solutions-IES Project No.: 3260.06A3.NDOT
Boring Number: 7
Client: NCDOT
WBS # 34438.1.1
Initial Water Level: NA
State Project # R-2502A
County: Richmond
Stabilized Water Level: NA
Drilling Method: Direct Push
Boring Date: 08/21/06
Cave In Depth: NA
Sampler Type: Macro Core
Site: Parcel 61
Logged By: K.B
Checked By: JJD
Total Depth of Boring: 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen (ppm 250 500 750) / FID Field Screen (ppm 250 500 750)	Lab Sample Depth	Well Data
0		Ground Surface					
0		Asphalt					
1		No Recovery		25	0		
2							
3	*SM*	Moist, tan, fine silty sand		75	10		
4							
5				100	110		
6	*SC*	Moist, tan and orange, medium clayey sand					
7				100	>1000		
8	*SC*	Moist, tan and brown, medium clayey sand					
9				100	>1000		
10	*SC*	Moist to damp, tan and grey, fine to medium clayey sand					
11				100	>1		
12		Petroleum odor at base of boring.					
13							
14							
15							
16							

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Log of Soil Boring: P61-B8

Project: Richmond County PSA's
Solutions-IES Project No.: 3260.06A3.NDOT
Boring Number: 8
Client: NCDOT
WBS # 34438.1.1
Initial Water Level: NA
State Project # R-2502A
County: Richmond
Stabilized Water Level: 11.6' bgs
Drilling Method: Direct Push
Boring Date: 08/21/06
Cave In Depth: NA
Sampler Type: Macro Core
Site: Parcel 61
Logged By: K.B
Checked By: JJO
Total Depth of Boring: 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen ppm 250 500 750 / FID Field Screen ppm 250 500 750	Lab Sample Depth	Well Data
0		Ground Surface					
0		Asphalt					
1		No Recovery		25	9		
2	SM	Moist, tan and brown, fine silty sand		100	32		
4	SC	Moist, orange and brown, medium clayey sand		100	430		
6	SC	Moist, orange, tan and grey, fine to medium clayey sand		100	>1000		
7	SC	Damp, red and orange, medium clayey sand		100	>1000		
9	SM	Damp, red and tan, medium silty sand		100	>1000		
11	SM	Damp, orange and tan, medium to coarse silty sand		100	>1000		
12							

Pushed Screen Point Sampler to obtain water sample. Extended screen from 11.5' bgs to 15' bgs. Current water level approximately 11.60' bgs.

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Log of Soil Boring: P61-B9

Project: Richmond County PSA's | *Solutions-IES Project No.:* 3260.06A3.NDOT | *Boring Number:* 9

Client: NCDOT

WBS # 34438.1.1 | *Initial Water Level:* NA

State Project # R-2502A | *County:* Richmond | *Stabilized Water Level:* NA

Drilling Method: Direct Push | *Boring Date:* 08/21/06 | *Cave In Depth:* NA

Sampler Type: Macro Core | *Site:* Parcel 61

Logged By: K.B | *Checked By:* JJD | *Total Depth of Boring:* 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen • ppm 250 500 750 / FID Field Screen ■ ppm 250 500 750	Lab Sample Depth	Well Data
0		Ground Surface					
0		Asphalt					
1		No Recovery		75	0		
2	SM	Moist, tan and orange, medium silty sand					
3				100	0		
4	SM	Moist, tan, orange and brown, medium silty sand					
5				100	10		
6	SC	Moist, orange, and tan, medium clayey sand					
7				100	287		
8	SC	Moist, tan, orange and grey, fine clayey sand					
9	SC	Moist, grey and brown, medium clayey sand (petroleum odor)		100	>1000		
10	SC	Damp, grey, medium clayey sand					
11				100	>10		
12	SC	Damp, orange and grey, medium to coarse clayey sand					
13							
14							
15							
16							

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Log of Soil Boring: P61-B10

Project: Richmond County PSA's
Solutions-IES Project No.: 3260.06A3.NDOT
Boring Number: 10
Client: NCDOT
WBS # 34438.1.1
Initial Water Level: NA
State Project # R-2502A
County: Richmond
Stabilized Water Level: NA
Drilling Method: Direct Push
Boring Date: 08/21/06
Cave In Depth: NA
Sampler Type: Macro Core
Site: Parcel 61
Logged By: K.B
Checked By: JLD
Total Depth of Boring: 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen (ppm 250 500 750) / FID Field Screen (ppm 250 500 750)	Lab Sample Depth	Well Data
0		Ground Surface					
0–1	SM	Dry, brown and tan, medium silty sand		100	1		
1–2	SM	Moist, brown and tan, medium silty sand					
2–4	SC	Moist, brown and orange, medium clayey sand		100	2		
4–8	SC	Moist, orange and tan, medium clayey sand		100	18; 223		
8–10	SC	Moist, tan, orange and grey, medium clayey sand		100	>1000		
10–12	SC	Moist, grey, medium to coarse clayey sand (stained)		100	>10		
12–16		Petroleum odor from 4.0' bgs to 12.0' bgs					

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Log of Soil Boring: P61-B11

Project: Richmond County PSA's
Solutions-IES Project No.: 3260.06A3.NDOT
Boring Number: 11
Client: NCDOT
WBS # 34438.1.1
Initial Water Level: NA
State Project # R-2502A
County: Richmond
Stabilized Water Level: NA
Drilling Method: Direct Push
Boring Date: 08/21/06
Cave In Depth: NA
Sampler Type: Macro Core
Site: Parcel 61
Logged By: K.B
Checked By: JJD
Total Depth of Boring: 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen (ppm 250 500 750) / FID Field Screen (ppm 250 500 750)	Lab Sample Depth	Well Data
0		Ground Surface					
0–1	SM	Dry, light brown, fine silty sand		100	2		
1–2	SM	Dry, tan and orange, fine silty sand					
2–3	SM	Dry, dark brown, fine silty sand		100	2		
3–4	SM	Dry, tan, fine silty sand					
4–5	SM	Moist, orange and brown, medium silty sand		100	0		
5–6	SM	Moist, brown and tan, medium silty sand					
6–7				100	1		
7–8	SM	Dry, orange and tan, medium silty sand					
8–9				100	3		
9–10							
10–11				100	0		
11–12							
12–16							

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Log of Soil Boring: P61-B12

Project: Richmond County PSA's
Solutions-IES Project No.: 3260.06A3.NDOT
Boring Number: 12
Client: NCDOT
WBS # 34438.1.1
Initial Water Level: NA
State Project # R-2502A
County: Richmond
Stabilized Water Level: 11.44' bgs
Drilling Method: Direct Push
Boring Date: 08/21/06
Cave In Depth: NA
Sampler Type: Macro Core
Site: Parcel 61
Logged By: K.B
Checked By: JD
Total Depth of Boring: 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen (ppm 250 500 750) / FID Field Screen (ppm 250 500 750)	Lab Sample Depth	Well Data
0		Ground Surface					
0		Asphalt					
1		No Recovery		25	0		
2	SC	Moist, orange, fine clayey sand					
3	SM	Moist, dark brown, medium silty sand		100	0		
4	SC	Moist, tan and brown, medium clayey sand					
5	SC	Moist, tan and orange, medium clayey sand		100	1		
6							
7				100	47		
8							
9				100		>1000	
10	SC	Moist, tan, white and orange, medium clayey sand					
11				100	>10		▼
12							
13							
14							
15							
16							

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Log of Soil Boring: P61-B13

Project: Richmond County PSA's | *Solutions-IES Project No.:* 3260.06A3.NDOT | *Boring Number:* 13

Client: NCDOT

WBS # 34438.1.1 | *Initial Water Level:* NA

State Project # R-2502A | *County:* Richmond | *Stabilized Water Level:* 11.11' bgs

Drilling Method: Direct Push | *Boring Date:* 08/21/06 | *Cave In Depth:* NA

Sampler Type: Macro Core | *Site:* Parcel 61

Logged By: K.B | *Checked By:* JJD | *Total Depth of Boring:* 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen (ppm, 250 500 750) / FID Field Screen (ppm, 250 500 750)	Lab Sample Depth	Well Data
0		Ground Surface					
0		Asphalt					
1		No Recovery		25	0		
2	SM	Moist, brown and black, fine silty sand					
3	SM	Moist, light brown, fine silty sand		100	0		
4	SC	Moist, brown and orange, medium clayey sand					
5				100	0		
6	SC	Moist, tan, orange and white, medium clayey sand					
7				100	4		
8							
9				100	7		
10	SC	Moist, tan, white and grey, medium clayey sand					
11				100	131		▼
12							
13							
14							
15							
16							

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Log of Soil Boring: P61-B14

Project: Richmond County PSA's | *Solutions-IES Project No.:* 3260.06A3.NDOT | *Boring Number:* 14

Client: NCDOT

WBS # 34438.1.1 | *Initial Water Level:* NA

State Project # R-2502A | *County:* Richmond | *Stabilized Water Level:* 10.87' bgs

Drilling Method: Direct Push | *Boring Date:* 08/21/06 | *Cave In Depth:* NA

Sampler Type: Macro Core | *Site:* Parcel 61

Logged By: K.B | *Checked By:* JW | *Total Depth of Boring:* 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen ppm 250 500 750 / FID Field Screen ppm 250 500 750	Lab Sample Depth	Well Data
0		Ground Surface					
1		No Recovery		10	0		
2	SM	Dry, grey, fine silty sand					
3	SM	Moist, black, fine silty sand		100	0		
4	SM	Moist, tan, fine silty sand					
5	SC	Moist, tan and orange, medium clayey sand		100	0		
6	SC	Moist, tan and white, medium clayey sand					
7				100	20		
8	SC	Moist, tan, orange and grey, medium clayey sand					
9				100	0		
10	SC	Moist, grey and tan, medium clayey sand					
11				100	0		▼
12							
13							
14							
15							
16							

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Log of Soil Boring: P61-B15

Project: Richmond County PSA's
Solutions-IES Project No.: 3260.06A3.NDOT
Boring Number: 15
Client: NCDOT
WBS # 34438.1.1
Initial Water Level: NA
State Project # R-2502A
County: Richmond
Stabilized Water Level: NA
Drilling Method: Direct Push
Boring Date: 08/21/06
Cave In Depth: NA
Sampler Type: Macro Core
Site: Parcel 61
Logged By: K.B
Checked By: JJD
Total Depth of Boring: 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen ppm 250 500 750 / FID Field Screen ppm 250 500 750	Lab Sample Depth	Well Data
0		Ground Surface					
0		Asphalt					
1		No Recovery		15	0		
2	SM	Moist, dark brown, fine silty sand					
3	SC	Moist, orange and tan, medium clayey sand		100	0		
4							
5				100	0		
6							
7	SC	Moist, tan and white, medium clayey sand		100	5		
8							
9				100	13		
10	SC	Moist, tan, orange and red, medium clayey sand					
11				100	64		
12							
13							
14							
15							
16							

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Log of Soil Boring: P61-B16

Project: Richmond County PSA's
Solutions-IES Project No.: 3260.06A3.NDOT
Boring Number: 16
Client: NCDOT
WBS # 34438.1.1
Initial Water Level: NA
State Project # R-2502A
County: Richmond
Stabilized Water Level: 11.58
Drilling Method: Direct Push
Boring Date: 08/21/06
Cave In Depth: NA
Sampler Type: Macro Core
Site: Parcel 61
Logged By: K.B
Checked By: JD
Total Depth of Boring: 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen ppm 250 500 750 / FID Field Screen ppm 250 500 750	Lab Sample Depth	Well Data
0		Ground Surface					
0		Asphalt					
1	SM	Moist, orange, fine silty sand		100	0		
2							
3				100	0		
4							
5				100	0		
6							
7				100	0		
8							
9				100	0		
10							
11				100	0		
11	SM	Moist, tan and brown, fine silty sand					
12							
13							
14							
15							
16							

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Log of Soil Boring: P61-B17

Project: Richmond County PSA's | *Solutions-IES Project No.:* 3260.06A3.NDOT | *Boring Number:* 17

Client: NCDOT

WBS # 34438.1.1 | *Initial Water Level:* NA

State Project # R-2502A | *County:* Richmond | *Stabilized Water Level:* NA

Drilling Method: Direct Push | *Boring Date:* 08/22/06 | *Cave In Depth:* NA

Sampler Type: Macro Core | *Site:* Parcel 61

Logged By: K.B | *Checked By:* JJD | *Total Depth of Boring:* 12' bgs

Depth ft. bgs	USCS Symbol	Description	Sample Interval	% Recovery	PID Field Screen (• ppm 250 500 750) / FID Field Screen (■ ppm 250 500 750)	Lab Sample Depth	Well Data
0		Ground Surface					
0		***Fill*** Dry, tan, fine silty sand					
1		Asphalt		100	0		
2		***SM*** Dry, tan and orange, medium silty sand					
3				100	0		
4		***SC*** Dry, tan and orange, medium clayey sand					
		No Recovery					
5		***SM*** Dry, brown, fine silty sand		100	0		
6		***SC*** Moist, orange and tan, medium clayey sand					
7		***SC*** Moist to damp, orange and tan, medium clayey sand		100	0		
8							
9		***SC*** Damp, orange and tan, medium clayey sand		100	1		
10		***SC*** Damp, orange and grey, medium clayey sand					
11				100	437		
12							
13							
14							
15							
16							

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APPENDIX D

GPS COORDINATES OF BORING LOCATIONS

Appendix D
GPS Coordinates of Boring Locations
Parcel 61, Cooper Brown, Inc. Property
3701 U.S. Highway 1
Richmond County, North Carolina
WBS Element: 34438.1.1; NCDOT Project R-2502A

Boring Identification	Northing	Easting
P61-B1	35.03374044	-79.54568460
P61-B10	35.03360482	-79.54585601
P61-B11	35.03372560	-79.54586305
P61-B12	35.03374304	-79.54593731
P61-B13	35.03369350	-79.54558544
P61-B14	35.03372108	-79.54554261
P61-B15	35.03376517	-79.54547547
P61-B16	35.03378101	-79.54552324
P61-B17	35.03359518	-79.54578258
P61-B2	35.03405007	-79.54544563
P61-B3	35.03403020	-79.54547019
P61-B4	35.03397555	-79.54554965
P61-B5	35.03377925	-79.54582675
P61-B6	35.03386089	-79.54538310
P61-B7	35.03383867	-79.54565878
P61-B8	35.03373675	-79.54572793
P61-B9	35.03366685	-79.54570765

Notes:

Coordinates referenced to North American Datum, 1983.

APPENDIX E

LABORATORY ANALYTICAL REPORTS – SOIL SAMPLES

PRISM
LABORATORIES,INC.

Case Narrative

Date: 08/30/06
Company: N. C. Department of Transportation
Contact: Sheri Knox
Address: c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Client Project ID: NCDOT Parcel 61
Prism COC Group No: G0806703
Collection Date(s): 08/21/06 thru 08/22/06
Lab Submittal Date(s): 08/23/06

Client Project Name Or No: Richmond Co. WBS# 34438.1.1

This data package contains the analytical results for the project identified above and includes a Case Narrative, Laboratory Report and Quality Control Data totaling 20 pages. A chain-of-custody is also attached for the samples submitted to Prism for this project.

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

Semi Volatile Analysis

Analysis Note for Q17317 MS Diesel Range Organics (DRO): Recovery was outside of the control limits.

Analysis Note for Q17317 MSD Diesel Range Organics (DRO): Recovery was outside of the control limits.

Volatile Analysis

No Anomalies Reported

Metals Analysis

N/A

Wet Lab and Micro Analysis

N/A

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

Date Reviewed by: Robbi A. Jones
Signature: Robbi A. Jones
Review Date: 08/30/06

Project Manager: Angela D. Overcash
Signature:
Approval Date: 08/30/06

Data Qualifiers Key Reference:

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

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Laboratory Report

08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B1 6-8
Prism Sample ID: 159204
COC Group: G0806703
Time Collected: 08/21/06 11:40
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**90.5**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**50**	mg/kg	7.7	2.2	1	8015B	08/27/06 8:58	jvogel	Q17317
Sample Preparation:			25 g / 1 mL			3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	72	49 - 124

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Sample Weight Determination									
Weight 1	**6.82**	g			1	GRO	08/25/06 0:00	lbrown	
Weight 2	**6.53**	g			1	GRO	08/25/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	7.7	3.0	50	8015B	08/25/06 14:22	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	124	55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J = Estimated value between the Reporting Limit and the MDL

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All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543

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

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Laboratory Report

08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B2 6-8
Prism Sample ID: 159205
COC Group: G0806703
Time Collected: 08/21/06 11:50
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**89.1**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**9.0**	mg/kg	7.9	2.2	1	8015B	08/26/06 13:53	jvogel	Q17317
Sample Preparation:			25.08 g	/	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	77	49 - 124

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Sample Weight Determination									
Weight 1	**4.93**	g			1	GRO	08/28/06 0:00	lbrown	
Weight 2	**4.08**	g			1	GRO	08/28/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	7.9	3.1	50	8015B	08/25/06 15:26	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	111	55 - 129

Sample Comment(s):

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Laboratory Report

08/30/06

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Attn: Sheri Knox
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Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B3 6-8
Prism Sample ID: 159206
COC Group: G0806703
Time Collected: 08/21/06 12:00
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**89.6**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**11**	mg/kg	7.8	2.2	1	8015B	08/26/06 14:31	jvogel	Q17317
Sample Preparation:			25.26	g /	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	86	49 - 124

Sample Weight Determination									
Weight 1	**5.88**	g			1	GRO	08/28/06 0:00	lbrown	
Weight 2	**4.95**	g			1	GRO	08/28/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	7.8	3.0	50	8015B	08/25/06 16:08	grappaccioli	Q17278

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

Sample Comment(s):

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08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
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1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B4 6-8
Prism Sample ID: 159207
COC Group: G0806703
Time Collected: 08/21/06 14:05
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**89.5**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**BRL**	mg/kg	7.8	2.2	1	8015B	08/26/06 15:09	jvogel	Q17317
Sample Preparation:			25.18	g /	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	83	49 - 124

Sample Weight Determination									
Weight 1	**6.03**	g			1	GRO	08/25/06 0:00	lbrown	
Weight 2	**6.68**	g			1	GRO	08/25/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	7.8	3.0	50	8015B	08/25/06 16:51	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	127	55 - 129

Sample Comment(s):

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1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B5 6-8
Prism Sample ID: 159208
COC Group: G0806703
Time Collected: 08/21/06 14:40
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**75.3**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**BRL**	mg/kg	9.3	2.7	1	8015B	08/26/06 15:47	jvogel	Q17317
Sample Preparation:			25.15 g	/	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	89	49 - 124

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Sample Weight Determination									
Weight 1	**6.33**	g			1	GRO	08/28/06 0:00	lbrown	
Weight 2	**6.36**	g			1	GRO	08/28/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	9.3	3.6	50	8015B	08/25/06 17:35	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	125	55 - 129

Sample Comment(s):

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Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B6 6-8
Prism Sample ID: 159209
COC Group: G0806703
Time Collected: 08/21/06 14:50
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**90.6**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**BRL**	mg/kg	7.7	2.2	1	8015B	08/26/06 16:26	jvogel	Q17317
Sample Preparation:			25.1 g	/	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	76	49 - 124

Sample Weight Determination									
Weight 1	**6.32**	g			1	GRO	08/25/06 0:00	lbrown	
Weight 2	**6.32**	g			1	GRO	08/25/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	7.7	3.0	50	8015B	08/25/06 18:21	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	127	55 - 129

Sample Comment(s):

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Laboratory Report

08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
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1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B7 10-12
Prism Sample ID: 159210
COC Group: G0806703
Time Collected: 08/21/06 15:20
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**89.9**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**63**	mg/kg	7.8	2.2	1	8015B	08/26/06 17:05	jvogel	Q17317
Sample Preparation:			25.19	g /	1 mL	3545	08/25/06 13:00	wconder	P16198
Sample Weight Determination									
Weight 1	**6.86**	g			1	GRO	08/28/06 0:00	lbrown	
Weight 2	**6.34**	g			1	GRO	08/28/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**3000**	mg/kg	160	61	1000	8015B	08/26/06 18:37	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	DO #	55 - 129

Sample Comment(s):

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Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B8 10-12
Prism Sample ID: 159211
COC Group: G0806703
Time Collected: 08/21/06 15:35
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**88.9**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**40**	mg/kg	7.9	2.2	1	8015B	08/26/06 17:43	jvogel	Q17317
Sample Preparation:			25.11 g	/	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	72	49 - 124

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Sample Weight Determination									
Weight 1	**4.46**	g			1	GRO	08/25/06 0:00	lbrown	
Weight 2	**5.07**	g			1	GRO	08/25/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**1300**	mg/kg	79	31	500	8015B	08/26/06 16:37	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	DO #	55 - 129

Sample Comment(s):

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Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B9 10-12
Prism Sample ID: 159212
COC Group: G0806703
Time Collected: 08/21/06 15:55
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**90.8**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**2000**	mg/kg	150	44	20	8015B	08/27/06 10:09	jvogel	Q17317
Sample Preparation:			25.19 g / 1 mL			3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	DO #	49 - 124

Sample Weight Determination									
Weight 1	**6.38**	g			1	GRO	08/25/06 0:00	lbrown	
Weight 2	**6.01**	g			1	GRO	08/25/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**1400**	mg/kg	77	30	500	8015B	08/26/06 17:16	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	DO #	55 - 129

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Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B10 10-12
Prism Sample ID: 159213
COC Group: G0806703
Time Collected: 08/21/06 16:25
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**91.4**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**2800**	mg/kg	380	110	50	8015B	08/27/06 10:47	jvogel	Q17317
Sample Preparation:			25.38	g /	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	DO #	49 - 124

Sample Weight Determination									
Weight 1	**6.46**	g			1	GRO	08/28/06 0:00	lbrown	
Weight 2	**5.28**	g			1	GRO	08/28/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**910**	mg/kg	77	30	500	8015B	08/26/06 17:56	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	DO #	55 - 129

Sample Comment(s):

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Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B11 8-10
Prism Sample ID: 159214
COC Group: G0806703
Time Collected: 08/21/06 17:10
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**92.6**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**33**	mg/kg	7.6	2.2	1	8015B	08/26/06 19:39	jvogel	Q17317
Sample Preparation:			25.11 g	/	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	88	49 - 124

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Sample Weight Determination									
Weight 1	**6.07**	g			1	GRO	08/25/06 0:00	lbrown	
Weight 2	**5.52**	g			1	GRO	08/25/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	7.6	2.9	50	8015B	08/25/06 21:58	grappaccioli	Q17278

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

Sample Comment(s):

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NC Drinking Water Cert. No. 37735

Laboratory Report

08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B12 10-12
Prism Sample ID: 159215
COC Group: G0806703
Time Collected: 08/21/06 17:40
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**87.3**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**82**	mg/kg	8.0	2.3	1	8015B	08/26/06 20:17	jvogel	Q17317
Sample Preparation:			25.11 g / 1 mL			3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	91	49 - 124

Sample Weight Determination									
Weight 1	**3.75**	g			1	GRO	08/25/06 0:00	lbrown	
Weight 2	**6.63**	g			1	GRO	08/25/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**3300**	mg/kg	80	3.1	500	8015B	08/26/06 15:57	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	DO #	55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J = Estimated value between the Reporting Limit and the MDL

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

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543

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

PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Laboratory Report

08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B13 10-12
Prism Sample ID: 159216
COC Group: G0806703
Time Collected: 08/21/06 18:00
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**88.5**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**BRL**	mg/kg	7.9	2.3	1	8015B	08/26/06 20:55	jvogel	Q17317
Sample Preparation:			25.3	g /	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	81	49 - 124

Sample Weight Determination									
Weight 1	**5.90**	g			1	GRO	08/28/06 0:00	lbrown	
Weight 2	**6.08**	g			1	GRO	08/28/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	7.9	3.1	50	8015B	08/25/06 22:41	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	111	55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J = Estimated value between the Reporting Limit and the MDL

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All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

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PRISM LABORATORIES, INC.
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NC Certification No. 402
SC Certification No. 99012
NC Drinking Water Cert. No. 37735

Laboratory Report

08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B14 6-8
Prism Sample ID: 159217
COC Group: G0806703
Time Collected: 08/21/06 18:30
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**91.5**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**BRL**	mg/kg	7.7	2.2	1	8015B	08/27/06 9:36	jvogel	Q17317
Sample Preparation:			25.37	g /	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	82	49 - 124

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Sample Weight Determination									
Weight 1	**6.36**	g			1	GRO	08/25/06 0:00	lbrown	
Weight 2	**6.46**	g			1	GRO	08/25/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	7.7	3.0	50	8015B	08/25/06 23:24	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	117	55 - 129

Sample Comment(s):

BRL = Below Reporting Limit

J = Estimated value between the Reporting Limit and the MDL

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All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543

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

PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Laboratory Report

08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B15 10-12
Prism Sample ID: 159218
COC Group: G0806703
Time Collected: 08/21/06 18:45
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**86.5**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**4.5 J**	mg/kg	8.1	2.3	1	8015B	08/26/06 22:02	jvogel	Q17317
Sample Preparation:			25.04 g	/	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	61	49 - 124

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Sample Weight Determination									
Weight 1	**6.21**	g			1	GRO	08/28/06 0:00	lbrown	
Weight 2	**5.65**	g			1	GRO	08/28/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	8.1	3.1	50	8015B	08/26/06 14:39	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	94	55 - 129

Sample Comment(s):

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J = Estimated value between the Reporting Limit and the MDL

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Full Service Analytical & Environmental Solutions

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

Laboratory Report

08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B16 8-10
Prism Sample ID: 159219
COC Group: G0806703
Time Collected: 08/21/06 19:00
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**92.3**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**27**	mg/kg	7.6	2.2	1	8015B	08/27/06 0:46	jvogel	Q17317
Sample Preparation:			25.3	g /	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	85	49 - 124

Sample Weight Determination									
Weight 1	**5.80**	g			1	GRO	08/25/06 0:00	lbrown	
Weight 2	**5.22**	g			1	GRO	08/25/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	7.6	2.9	50	8015B	08/26/06 0:45	grappaccioli	Q17278

Surrogate	% Recovery	Control Limits
aaa-TFT	112	55 - 129

Sample Comment(s):

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All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543

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

PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Laboratory Report

08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B17 8-10
Prism Sample ID: 159220
COC Group: G0806703
Time Collected: 08/22/06 9:00
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	**88.9**	%			1	SM2540 G	08/24/06 14:10	lbrown	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	**BRL**	mg/kg	7.9	2.2	1	8015B	08/27/06 2:02	jvogel	Q17317
Sample Preparation:			25.13	g /	1 mL	3545	08/25/06 13:00	wconder	P16198

Surrogate	% Recovery	Control Limits
o-Terphenyl	50	49 - 124

Sample Weight Determination									
Weight 1	**5.28**	g			1	GRO	08/28/06 0:00	lbrown	
Weight 2	**6.28**	g			1	GRO	08/28/06 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GR	**BRL**	mg/kg	7.9	3.1	50	8015B	08/26/06 15:18	grappaccioli	Q17278

One surrogate recovery was outside the control limits. Sample analysis was repeated with no improvement in recovery. No target compounds were detected in this sample. No further action was taken.

Surrogate	% Recovery	Control Limits
aaa-TFT	155 #	55 - 129

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
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PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Laboratory Report

08/30/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: P61.B17 8-10
Prism Sample ID: 159220
COC Group: G0806703
Time Collected: 08/22/06 9:00
Time Submitted: 08/23/06 15:10

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

Sample Comment(s):

BRL = Below Reporting Limit

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PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Level II QC Report

8/30/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1

COC Group Number: G0806703
Date/Time Submitted: 8/23/06 15:10

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

Method Blank

	Result	RL	Control Limit	Units	QC Batch ID
Gasoline Range Organics (GRO)	ND	7	<3.5	mg/kg	Q17278

Laboratory Control Sample

	Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
Gasoline Range Organics (GRO)	45.85	50	mg/kg	92	67 - 116	Q17278

Matrix Spike

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
159204	Gasoline Range Organics (GRO)	55.65	50	mg/kg	111	57 - 113	Q17278

Matrix Spike Duplicate

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	RPD %	RPD Range %	QC Batch ID
159204	Gasoline Range Organics (GRO)	56.1	50	mg/kg	112	57 - 113	1	0 - 23	Q17278

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

Method Blank

	Result	RL	Control Limit	Units	QC Batch ID
Diesel Range Organics (DRO)	ND	7	<3.5	mg/kg	Q17317

Laboratory Control Sample

	Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
Diesel Range Organics (DRO)	54.73	80	mg/kg	68	55 - 109	Q17317

Matrix Spike

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
159204	Diesel Range Organics (DRO)	66.96	80	mg/kg	27 #	50 - 117	Q17317

Matrix Spike Duplicate

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	RPD %	RPD Range %	QC Batch ID
159204	Diesel Range Organics (DRO)	73.85	80	mg/kg	36 #	50 - 117	10	0 - 24	Q17317

#-See Case Narrative

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2 QUOTE # TO ENSURE PROPER BILLING: _____

PRISM LABORATORIES, INC.

Full Service Analytical & Environmental Solutions

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

Client Company Name: SOLUTIONS-IES
Report To/Contact Name: SHERI KNOX
Reporting Address: 1107 NOWELL ROAD
RALEIGH, NC 27607
Phone: 9198731060 Fax (Yes) (No): 9198731074
Email (Yes) (No) Email Address SKNOX@SOLUTIONS-IES.COM
EDD Type: PDF____ Excel____ Other_____
Site Location Name: NCDOT PARCEL 61
Site Location Physical Address: RICHMOND CO, NC

Project Name: NCDOT - PARCEL 61 - RICHMOND CO.
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
Invoice To: NCDOT - WBS #34438.1.1
Address: STATE PROJECT U-2502A & B

Purchase Order No./Billing Reference 3260.06A3.NDOT
Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☑ 5 Days
"Working Days" ☐ 6-9 Days ☐ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 15:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival? Temp 3.2	✓		
Received ON WET ICE?	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?			✓
VOLATILES rec'd W/OUT HEADSPACE?			✓
PROPER CONTAINERS used?	✓		

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
Certification: NELAC____ USACE____ FL____ NC____
SC____ OTHER_____ N/A_____
Water Chlorinated: YES___ NO___
Sample Iced Upon Collection: YES___ NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	NO.	SIZE	PRESERVATIVES	ANALYSES REQUESTED GRO	DRO	REMARKS	PRISM LAB ID NO.
P61-B1-6-8	8/21/06	1140	SOIL	G	3	40 ML 8OZ.	METHANOL NONE	X	X		159204
P61-B2-6-8	8/21/06	1150		G	3			X	X		159205
P61-B3-6-8	8/21/06	1200		G	3			X	X		159206
P61-B4-6-8	8/21/06	1405		G	3			X	X		159207
P61-B5-6-8	8/21/06	1440		G	3			X	X		159208
P61-B6-6-8	8/21/06	1450		G	3			X	X		159209
P61-B7-10-12	8/21/06	1520		G	3			X	X		159210
P61-B8-10-12	8/21/06	1535		G	3			X	X		159211
P61-B9-10-12	8/21/06	1555		G	3			X	X		159212
P61-B10-10-12	8/21/06	1625		G	3			X	X		159213

Sampler's Signature _____ Sampled By (Print Name) KEVIN BUCHANAN Affiliation SOLUTIONS-IES

PRESS DOWN FIRMLY - 3 COPIES

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

		Date	Military/Hours
Relinquished By: (Signature)	Received By: (Signature)	8/22/06	1200
Relinquished By: (Signature)	Received By: (Signature)	Date	
Relinquished By: (Signature)	Received For Prism Laboratories By:	Date 8/23/06	1510

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

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☐ Prism Field Service ☐ Other _____

COC Group No. G080703

Additional Comments:

PRISM USE ONLY
Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____

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

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC.

Full Service Analytical & Environmental Solutions

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

PAGE 2 OF 2 QUOTE # TO ENSURE PROPER BILLING: _____

Project Name: NCDOT - PARCEL 61 - RICHMOND CO.
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
Invoice To: NCDOT - WBS# 34438.1.1
Address: STATE PROJECT # U-2502 A&B

Client Company Name: SOLUTIONS-IES
Report To/Contact Name: SHERI KNOX
Reporting Address: 1101 Nowell Rd
RALEIGH NC 27607
Phone: 919 873 1060 Fax (Yes) (No): 919 873 1074
Email (Yes) (No) Email Address SKNOX@SOLUTIONS-IES.COM
EDD Type: PDF____ Excel____ Other_____
Site Location Name: NCDOT PARCEL 61
Site Location Physical Address: RICHMOND CO, NC

Purchase Order No./Billing Reference 3260.06A3.NDOT
Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days (X) 5 Days
"Working Days" ☐ 6-9 Days ☐ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 15:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	✓		
Received ON WET ICE? Temp 3.2	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?			✓
VOLATILES rec'd W/OUT HEADSPACE?			
PROPER CONTAINERS used?	✓		

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
Certification: NELAC____ USACE____ FL____ NC ✓
SC____ OTHER _____ N/A _____
Water Chlorinated: YES___ NO___
Sample Iced Upon Collection: YES___ NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	SAMPLE CONTAINER NO.	SAMPLE CONTAINER SIZE	PRESERVATIVES	ANALYSES REQUESTED GRO	ANALYSES REQUESTED DRO					REMARKS	PRISM LAB ID NO.
P61-B11-8-10	8/21/06	1710	SOIL	9	3	40ml 8oz	METHANOL NONE	X	X						159214
P61-B12-10-12	8/21/06	1740		9	3			X	X						159215
P61-B13-10-12	8/21/06	1800		9	3			X	X						159216
P61-B14-6-8	8/21/06	1830		9	3			X	X						159217
P61-B15-10-12	8/21/06	1845		9	3			X	X						159218
P61-B16-8-10	8/21/06	1900		9	3			X	X						159219
P61-B17-8-10	8/22/06	0900		9	3			X	X						159220

Sampler's Signature _____ Sampled By (Print Name) KEVIN BUCHANAN Affiliation SOLUTIONS-IES

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Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

Relinquished By: (Signature)	Received By: (Signature)	Date	Military/Hours
Relinquished By: (Signature)	Received By: (Signature)	Date	
Relinquished By: (Signature)	Received For Prism Laboratories By:	Date	
Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.		COC Group No.	

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☐ Prism Field Service ☐ Other _____

Additional Comments:

PRISM USE ONLY
Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____

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

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

APPENDIX F

LABORATORY ANALYTICAL REPORT – GROUNDWATER SAMPLE

PRISM
LABORATORIES, INC.

Case Narrative

Date: 09/01/06
Company: N. C. Department of Transportation
Contact: Sheri Knox
Address: c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Client Project ID: NCDOT Parcel 61
Prism COC Group No: G0806710
Collection Date(s): 08/22/06
Lab Submittal Date(s): 08/23/06

Client Project Name Or No: Richmond Co. WBS# 34438.1.1

This data package contains the analytical results for the project identified above and includes a Case Narrative, Laboratory Report and Quality Control Data totaling 18 pages. A chain-of-custody is also attached for the samples submitted to Prism for this project.

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

Semi Volatile Analysis

Analysis Note for Q17381 MSD Benzo(k)fluoranthene: Recovery and RPD was outside the control limits. This compound was not detected in samples associated with this batch. No further action was taken.

Volatile Analysis

Analysis Note for Q17267 MSD C5-C8 Aliphatics: Matrix interference is suspected.

Metals Analysis

N/A

Wet Lab and Micro Analysis

N/A

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

Date Reviewed by: Robbi A. Jones
Signature: Robbi A. Jones
Review Date: 09/01/06

Project Manager: Angela D. Overcash
Signature:
Approval Date: 09/01/06

Data Qualifiers Key Reference:

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

449 Springbrook Road, P.O. Box 240543, Charlotte NC 28224-0403
Phone: 704/529-6364 Toll Free: 800/529-6364 Fax: 704/529-0409

PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Laboratory Report

08/31/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Water

Client Sample ID: P61.GW-1
Prism Sample ID: 159264
COC Group: G0806710
Time Collected: 08/22/06 8:45
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Purgeable Halocarbons and Aromatics by GC-PID/ELCD									
1,1,1-Trichloroethane	BRL	µg/L	40	4.0	40	601/602	08/26/06 10:58	erussell	Q17284
1,1,2,2-Tetrachloroethane	BRL	µg/L	40	3.2	40	601/602	08/26/06 10:58	erussell	Q17284
1,1,2-Trichloroethane	BRL	µg/L	40	2.0	40	601/602	08/26/06 10:58	erussell	Q17284
1,1-Dichloroethane	BRL	µg/L	40	2.0	40	601/602	08/26/06 10:58	erussell	Q17284
1,1-Dichloroethene	BRL	µg/L	40	6.4	40	601/602	08/26/06 10:58	erussell	Q17284
1,2-Dibromoethane (EDB)	BRL	µg/L	40	2.4	40	601/602	08/26/06 10:58	erussell	Q17284
1,2-Dichlorobenzene	BRL	µg/L	40	6.8	40	601/602	08/26/06 10:58	erussell	Q17284
1,2-Dichloroethane	BRL	µg/L	40	3.6	40	601/602	08/26/06 10:58	erussell	Q17284
1,2-Dichloropropane	BRL	µg/L	40	2.4	40	601/602	08/26/06 10:58	erussell	Q17284
1,3-Dichlorobenzene	BRL	µg/L	40	6.8	40	601/602	08/26/06 10:58	erussell	Q17284
1,4-Dichlorobenzene	BRL	µg/L	40	6.8	40	601/602	08/26/06 10:58	erussell	Q17284
Benzene	1100	µg/L	20	3.6	40	601/602	08/26/06 10:58	erussell	Q17284
Bromodichloromethane	BRL	µg/L	40	2.8	40	601/602	08/26/06 10:58	erussell	Q17284
Bromoform	BRL	µg/L	40	1.6	40	601/602	08/26/06 10:58	erussell	Q17284
Bromomethane	BRL	µg/L	200	4.8	40	601/602	08/26/06 10:58	erussell	Q17284
Carbon tetrachloride	BRL	µg/L	40	6.0	40	601/602	08/26/06 10:58	erussell	Q17284
Chlorobenzene	BRL	µg/L	40	4.0	40	601/602	08/26/06 10:58	erussell	Q17284
Chloroethane	BRL	µg/L	200	4.4	40	601/602	08/26/06 10:58	erussell	Q17284
Chloroform	BRL	µg/L	40	2.4	40	601/602	08/26/06 10:58	erussell	Q17284
Chloromethane	BRL	µg/L	200	4.4	40	601/602	08/26/06 10:58	erussell	Q17284
cis-1,2-Dichloroethene	BRL	µg/L	40	10	40	601/602	08/26/06 10:58	erussell	Q17284
cis-1,3-Dichloropropene	BRL	µg/L	40	3.6	40	601/602	08/26/06 10:58	erussell	Q17284
Dibromochloromethane	BRL	µg/L	40	2.0	40	601/602	08/26/06 10:58	erussell	Q17284
Dichlorodifluoromethane	BRL	µg/L	200	9.2	40	601/602	08/26/06 10:58	erussell	Q17284
Ethylbenzene	3200	µg/L	40	5.2	40	601/602	08/26/06 10:58	erussell	Q17284
Isopropyl ether (IPE)	BRL	µg/L	200	1.6	40	601/602	08/26/06 10:58	erussell	Q17284
m,p-Xylenes	8100	µg/L	80	17	40	601/602	08/26/06 10:58	erussell	Q17284

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PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Laboratory Report

08/31/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Water

Client Sample ID: P61.GW-1
Prism Sample ID: 159264
COC Group: G0806710
Time Collected: 08/22/06 8:45
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methyl t-butyl ether (MTBE)	**BRL**	µg/L	200	11	40	601/602	08/26/06 10:58	erussell	Q17284
Methylene Chloride	**BRL**	µg/L	200	7.6	40	601/602	08/26/06 10:58	erussell	Q17284
Naphthalene	**600**	µg/L	40	11	40	601/602	08/26/06 10:58	erussell	Q17284
o-Xylene	**6900**	µg/L	400	120	400	601/602	08/26/06 11:42	erussell	Q17284
Tetrachloroethene	**BRL**	µg/L	40	5.6	40	601/602	08/26/06 10:58	erussell	Q17284
Toluene	**16000**	µg/L	400	52	400	601/602	08/26/06 11:42	erussell	Q17284
trans-1,2-Dichloroethene	**BRL**	µg/L	40	4.0	40	601/602	08/26/06 10:58	erussell	Q17284
trans-1,3-Dichloropropene	**BRL**	µg/L	40	3.6	40	601/602	08/26/06 10:58	erussell	Q17284
Trichloroethene	**BRL**	µg/L	40	3.6	40	601/602	08/26/06 10:58	erussell	Q17284
Trichlorofluoromethane	**BRL**	µg/L	200	12	40	601/602	08/26/06 10:58	erussell	Q17284
Vinyl chloride	**BRL**	µg/L	40	6.4	40	601/602	08/26/06 10:58	erussell	Q17284

Surrogate	% Recovery	Control Limits
Bromochlorobenzene-ELCD	118	56 - 148
1,4-Difluorobenzene-PID	108	69 - 140

Semivolatile Organic Compounds by GC/MS

1,2,4-Trichlorobenzene	**BRL**	µg/L	9.8	2.5	1	625	08/30/06 4:20	kelliot	Q17381
1,2-Dichlorobenzene	**BRL**	µg/L	9.8	2.6	1	625	08/30/06 4:20	kelliot	Q17381
1,3-Dichlorobenzene	**BRL**	µg/L	9.8	1.9	1	625	08/30/06 4:20	kelliot	Q17381
1,4-Dichlorobenzene	**BRL**	µg/L	9.8	2.4	1	625	08/30/06 4:20	kelliot	Q17381
2,4,5-Trichlorophenol	**BRL**	µg/L	9.8	2.5	1	625	08/30/06 4:20	kelliot	Q17381
2,4,6-Trichlorophenol	**BRL**	µg/L	9.8	1.8	1	625	08/30/06 4:20	kelliot	Q17381
2,4-Dichlorophenol	**BRL**	µg/L	9.8	1.9	1	625	08/30/06 4:20	kelliot	Q17381
2,4-Dimethylphenol	**BRL**	µg/L	9.8	0.66	1	625	08/30/06 4:20	kelliot	Q17381
2,4-Dinitrophenol	**BRL**	µg/L	49	0.66	1	625	08/30/06 4:20	kelliot	Q17381
2,4-Dinitrotoluene	**BRL**	µg/L	9.8	0.82	1	625	08/30/06 4:20	kelliot	Q17381
2,6-Dinitrotoluene	**BRL**	µg/L	9.8	1.6	1	625	08/30/06 4:20	kelliot	Q17381

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Laboratory Report

08/31/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Water

Client Sample ID: P61.GW-1
Prism Sample ID: 159264
COC Group: G0806710
Time Collected: 08/22/06 8:45
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2-Chloronaphthalene	BRL	µg/L	9.8	2.2	1	625	08/30/06 4:20	kelliot	Q17381
2-Chlorophenol	BRL	µg/L	9.8	2.2	1	625	08/30/06 4:20	kelliot	Q17381
2-Methylphenol	13	µg/L	9.8	2.7	1	625	08/30/06 4:20	kelliot	Q17381
2-Nitrophenol	BRL	µg/L	9.8	2.3	1	625	08/30/06 4:20	kelliot	Q17381
3&4-Methylphenol	12	µg/L	9.8	3.6	1	625	08/30/06 4:20	kelliot	Q17381
3,3'-Dichlorobenzidine	BRL	µg/L	49	9.2	1	625	08/30/06 4:20	kelliot	Q17381
4,6-Dinitro-2-methylphenol	BRL	µg/L	49	0.86	1	625	08/30/06 4:20	kelliot	Q17381
4-Bromophenylphenylether	BRL	µg/L	9.8	2.0	1	625	08/30/06 4:20	kelliot	Q17381
4-Chloro-3-methylphenol	BRL	µg/L	9.8	1.7	1	625	08/30/06 4:20	kelliot	Q17381
4-Chlorophenylphenylether	BRL	µg/L	9.8	1.6	1	625	08/30/06 4:20	kelliot	Q17381
4-Nitrophenol	BRL	µg/L	49	0.59	1	625	08/30/06 4:20	kelliot	Q17381
Acenaphthene	BRL	µg/L	9.8	1.9	1	625	08/30/06 4:20	kelliot	Q17381
Acenaphthylene	BRL	µg/L	9.8	2.1	1	625	08/30/06 4:20	kelliot	Q17381
Anthracene	BRL	µg/L	9.8	0.96	1	625	08/30/06 4:20	kelliot	Q17381
Benzo(a)anthracene	BRL	µg/L	9.8	0.92	1	625	08/30/06 4:20	kelliot	Q17381
Benzo(a)pyrene	BRL	µg/L	9.8	0.98	1	625	08/30/06 4:20	kelliot	Q17381
Benzo(b)fluoranthene	BRL	µg/L	9.8	1.7	1	625	08/30/06 4:20	kelliot	Q17381
Benzo(g,h,i)perylene	BRL	µg/L	9.8	2.1	1	625	08/30/06 4:20	kelliot	Q17381
Benzo(k)fluoranthene	BRL	µg/L	9.8	1.9	1	625	08/30/06 4:20	kelliot	Q17381
Bis(2-chloroethoxy)methane	BRL	µg/L	9.8	2.2	1	625	08/30/06 4:20	kelliot	Q17381
Bis(2-chloroethyl)ether	BRL	µg/L	9.8	2.1	1	625	08/30/06 4:20	kelliot	Q17381
Bis(2-chloroisopropyl)ether	BRL	µg/L	9.8	2.4	1	625	08/30/06 4:20	kelliot	Q17381
Bis(2-ethylhexyl)phthalate	BRL	µg/L	9.8	0.70	1	625	08/30/06 4:20	kelliot	Q17381
Butylbenzylphthalate	BRL	µg/L	9.8	0.69	1	625	08/30/06 4:20	kelliot	Q17381
Chrysene	BRL	µg/L	9.8	0.56	1	625	08/30/06 4:20	kelliot	Q17381
Di-n-butylphthalate	BRL	µg/L	9.8	1.4	1	625	08/30/06 4:20	kelliot	Q17381
Di-n-octylphthalate	BRL	µg/L	9.8	2.2	1	625	08/30/06 4:20	kelliot	Q17381
Dibenzo(a,h)anthracene	BRL	µg/L	9.8	1.1	1	625	08/30/06 4:20	kelliot	Q17381

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

Laboratory Report

08/31/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Water

Client Sample ID: P61.GW-1
Prism Sample ID: 159264
COC Group: G0806710
Time Collected: 08/22/06 8:45
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibenzofuran	**BRL**	µg/L	9.8	2.2	1	625	08/30/06 4:20	kelliot	Q17381
Diethylphthalate	**BRL**	µg/L	9.8	1.1	1	625	08/30/06 4:20	kelliot	Q17381
Dimethylphthalate	**BRL**	µg/L	9.8	1.4	1	625	08/30/06 4:20	kelliot	Q17381
Fluoranthene	**BRL**	µg/L	9.8	0.92	1	625	08/30/06 4:20	kelliot	Q17381
Fluorene	**BRL**	µg/L	9.8	1.4	1	625	08/30/06 4:20	kelliot	Q17381
Hexachlorobenzene	**BRL**	µg/L	9.8	1.3	1	625	08/30/06 4:20	kelliot	Q17381
Hexachlorobutadiene	**BRL**	µg/L	9.8	2.2	1	625	08/30/06 4:20	kelliot	Q17381
Hexachlorocyclopentadiene	**BRL**	µg/L	9.8	2.4	1	625	08/30/06 4:20	kelliot	Q17381
Hexachloroethane	**BRL**	µg/L	9.8	1.8	1	625	08/30/06 4:20	kelliot	Q17381
Indeno(1,2,3-cd)pyrene	**BRL**	µg/L	9.8	1.7	1	625	08/30/06 4:20	kelliot	Q17381
Isophorone	**BRL**	µg/L	9.8	1.6	1	625	08/30/06 4:20	kelliot	Q17381
N-Nitrosodi-n-propylamine	**BRL**	µg/L	9.8	2.2	1	625	08/30/06 4:20	kelliot	Q17381
Naphthalene	**440**	µg/L	49	11	5	625	08/30/06 5:10	kelliot	Q17381
Nitrobenzene	**BRL**	µg/L	9.8	1.9	1	625	08/30/06 4:20	kelliot	Q17381
Pentachlorophenol	**BRL**	µg/L	9.8	1.7	1	625	08/30/06 4:20	kelliot	Q17381
Phenanthrene	**BRL**	µg/L	9.8	0.88	1	625	08/30/06 4:20	kelliot	Q17381
Phenol	**BRL**	µg/L	9.8	0.88	1	625	08/30/06 4:20	kelliot	Q17381
Pyrene	**BRL**	µg/L	9.8	0.89	1	625	08/30/06 4:20	kelliot	Q17381

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08/31/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Water

Client Sample ID: P61.GW-1
Prism Sample ID: 159264
COC Group: G0806710
Time Collected: 08/22/06 8:45
Time Submitted: 08/23/06 15:10

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

Surrogate recovery was outside of the control limits. Matrix interference is suspected.
Severe emulsions were noted during sample extraction.

Sample Preparation:			1020 mL /	1 mL		625	08/28/06 10:00	smanivanh	P16220

Surrogate	% Recovery	Control Limits
Terphenyl-d14	103	10 - 154
Phenol-d5	11	10 - 48
Nitrobenzene-d5	5 #	22 - 103
2-Fluorophenol	39	10 - 59
2-Fluorobiphenyl	98	29 - 112
2,4,6-Tribromophenol	100	27 - 125

TIC's By 625	Est.Conc	Units
Unknown	460	µg/L
Unknown	2900	µg/L
p-Xylene	2300	µg/L
Ethylbenzene	1700	µg/L
Benzene, Trimethyl	460	µg/L
Benzene, Trimethyl	440	µg/L
Benzene, Trimethyl	1200	µg/L
Benzene, propyl-	290	µg/L
Benzene, 1-ethyl-2-methyl	500	µg/L
Benzene, 1,3-dimethyl	3800	µg/L

Extractable Petroleum Hydrocarbons by GC-FID

C11-C22 Aromatics	**290**	µg/L	100	71	1	MADEP EPH	08/30/06 10:44	grappaccioli	Q17398
C19-C36 Aliphatics	**BRL**	µg/L	100	31	1	MADEP EPH	08/30/06 9:52	grappaccioli	Q17398
C9-C18 Aliphatics	**3900**	µg/L	200	150	2	MADEP EPH	08/30/06 9:52	grappaccioli	Q17398

PRISM LABORATORIES, INC.
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Laboratory Report

08/31/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1
Sample Matrix: Water

Client Sample ID: P61.GW-1
Prism Sample ID: 159264
COC Group: G0806710
Time Collected: 08/22/06 8:45
Time Submitted: 08/23/06 15:10

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
* Analysis Note for C11-C22 Aromatics: Adjusted value.									
Sample Preparation:			1000 mL /	2 mL		EPH	08/28/06 7:00	smanivanh	P16211

Surrogate	% Recovery	Control Limits
o-Terphenyl	118	40 - 140
2-Fluorobiphenyl	103	40 - 140
2-Bromonaphthalene	62	40 - 140
1-Chloro-octadecane	118	40 - 140

Volatile Petroleum Hydrocarbons by GC-PID/FID

C5-C8 Aliphatics	**6900**	µg/L	4000	2000	40	MADEP VPH	08/25/06 7:28	erussell	Q17267
C9-C10 Aromatics	**5400**	µg/L	4000	1400	40	MADEP VPH	08/25/06 7:28	erussell	Q17267
C9-C12 Aliphatics	**1600 J**	µg/L	4000	1400	40	MADEP VPH	08/25/06 7:28	erussell	Q17267

* Analysis Note for C5-C8 Aliphatics: Adjusted value.
* Analysis Note for C9-C12 Aliphatics: Adjusted value.

Surrogate	% Recovery	Control Limits
2,5-Dibromotoluene-PID	89	70 - 130
2,5-Dibromotoluene-FID	94	70 - 130

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.

Angela D. Overcash, V.P. Laboratory Services

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543

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

PRISM LABORATORIES, INC.
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Level II QC Report

9/1/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1

COC Group Number: G0806710
Date/Time Submitted: 8/23/06 15:10

Volatile Petroleum Hydrocarbons by GC-PID/FID, method MADEP VPH

Method Blank

	Result	RL	Control Limit	Units	QC Batch ID
C5-C8 Aliphatics	ND	100	<50	µg/L	Q17267
C9-C10 Aromatics	ND	100	<50	µg/L	Q17267
C9-C12 Aliphatics	ND	100	<50	µg/L	Q17267

Laboratory Control Sample

	Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
C5-C8 Aliphatics	164.24	150	µg/L	109	70 - 130	Q17267
C9-C10 Aromatics	48.93	50	µg/L	98	70 - 130	Q17267
C9-C12 Aliphatics	97.92	100	µg/L	98	70 - 130	Q17267

Matrix Spike

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
158646	C5-C8 Aliphatics	6847	6000	µg/L	70	70 - 130	Q17267
	C9-C10 Aromatics	1880	2000	µg/L	91	70 - 130	Q17267
	C9-C12 Aliphatics	4096	4000	µg/L	100	70 - 130	Q17267

Matrix Spike Duplicate

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	RPD %	RPD Range %	QC Batch ID
158646	C5-C8 Aliphatics	6502	6000	µg/L	65 #	70 - 130	5	0 - 25	Q17267
	C9-C10 Aromatics	1913	2000	µg/L	93	70 - 130	2	0 - 25	Q17267
	C9-C12 Aliphatics	4163	4000	µg/L	102	70 - 130	2	0 - 25	Q17267

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

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

Level II QC Report

9/1/06

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

Method Blank

	Result	RL	Control Limit	Units	QC Batch ID
1,1,1-Trichloroethane	ND	1	<0.5	µg/L	Q17284
1,1,2,2-Tetrachloroethane	ND	1	<0.5	µg/L	Q17284
1,1,2-Trichloroethane	ND	1	<0.5	µg/L	Q17284
1,1-Dichloroethane	ND	1	<0.5	µg/L	Q17284
1,1-Dichloroethene	ND	1	<0.5	µg/L	Q17284
1,2-Dibromoethane (EDB)	ND	1	<0.5	µg/L	Q17284
1,2-Dichlorobenzene	ND	1	<0.5	µg/L	Q17284
1,2-Dichloroethane	ND	1	<0.5	µg/L	Q17284
1,2-Dichloropropane	ND	1	<0.5	µg/L	Q17284
1,3-Dichlorobenzene	ND	1	<0.5	µg/L	Q17284
1,4-Dichlorobenzene	ND	1	<0.5	µg/L	Q17284
Benzene	ND	0.5	<0.25	µg/L	Q17284
Bromodichloromethane	ND	1	<0.5	µg/L	Q17284
Bromoform	ND	1	<0.5	µg/L	Q17284
Bromomethane	ND	5	<2.5	µg/L	Q17284
Carbon tetrachloride	ND	1	<0.5	µg/L	Q17284
Chlorobenzene	ND	1	<0.5	µg/L	Q17284
Chloroethane	ND	5	<2.5	µg/L	Q17284
Chloroform	ND	1	<0.5	µg/L	Q17284
Chloromethane	ND	5	<2.5	µg/L	Q17284
cis-1,2-Dichloroethene	ND	1	<0.5	µg/L	Q17284
cis-1,3-Dichloropropene	ND	1	<0.5	µg/L	Q17284
Dibromochloromethane	ND	1	<0.5	µg/L	Q17284
Dichlorodifluoromethane	ND	5	<2.5	µg/L	Q17284
Ethylbenzene	ND	1	<0.5	µg/L	Q17284
Isopropyl ether (IPE)	ND	5	<2.5	µg/L	Q17284
m,p-Xylenes	ND	2	<1	µg/L	Q17284
Methyl t-butyl ether (MTBE)	ND	5	<2.5	µg/L	Q17284
Methylene Chloride	ND	5	<2.5	µg/L	Q17284
Naphthalene	ND	1	<0.5	µg/L	Q17284
o-Xylene	ND	1	<0.5	µg/L	Q17284
Tetrachloroethene	ND	1	<0.5	µg/L	Q17284
Toluene	ND	1	<0.5	µg/L	Q17284
trans-1,2-Dichloroethene	ND	1	<0.5	µg/L	Q17284
trans-1,3-Dichloropropene	ND	1	<0.5	µg/L	Q17284
Trichloroethene	ND	1	<0.5	µg/L	Q17284
Trichlorofluoromethane	ND	5	<2.5	µg/L	Q17284
Vinyl chloride	ND	1	<0.5	µg/L	Q17284

Laboratory Control Sample

	Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
1,1,1-Trichloroethane	21.368	20	µg/L	107	41 - 138	Q17284

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COC Group Number: G0806710
Date/Time Submitted: 8/23/06 15:10

Laboratory Control Sample

	Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
1,1,2,2-Tetrachloroethane	19.029	20	µg/L	95	10 - 184	Q17284
1,1,2-Trichloroethane	20.728	20	µg/L	104	39 - 136	Q17284
1,1-Dichloroethane	20.407	20	µg/L	102	47 - 132	Q17284
1,1-Dichloroethene	19.802	20	µg/L	99	28 - 167	Q17284
1,2-Dibromoethane (EDB)	16.787	20	µg/L	84	78 - 131	Q17284
1,2-Dichlorobenzene	20.957	20	µg/L	105	37 - 154	Q17284
1,2-Dichloroethane	22.61	20	µg/L	113	51 - 147	Q17284
1,2-Dichloropropane	21.946	20	µg/L	110	44 - 156	Q17284
1,3-Dichlorobenzene	20.579	20	µg/L	103	50 - 141	Q17284
1,4-Dichlorobenzene	22.418	20	µg/L	112	42 - 143	Q17284
Benzene	19.956	20	µg/L	100	39 - 150	Q17284
Bromodichloromethane	20.11	20	µg/L	101	42 - 172	Q17284
Bromoform	14.534	20	µg/L	73	13 - 159	Q17284
Bromomethane	12.315	20	µg/L	62	10 - 144	Q17284
Carbon tetrachloride	21.418	20	µg/L	107	43 - 143	Q17284
Chlorobenzene	19.643	20	µg/L	98	38 - 150	Q17284
Chloroethane	14.886	20	µg/L	74	46 - 137	Q17284
Chloroform	22.336	20	µg/L	112	49 - 133	Q17284
Chloromethane	16.949	20	µg/L	85	10 - 193	Q17284
cis-1,2-Dichloroethene	20.739	20	µg/L	104	62 - 145	Q17284
cis-1,3-Dichloropropene	20.749	20	µg/L	104	22 - 178	Q17284
Dibromochloromethane	18.794	20	µg/L	94	24 - 191	Q17284
Dichlorodifluoromethane	13.856	20	µg/L	69	48 - 148	Q17284
Ethylbenzene	20.591	20	µg/L	103	32 - 160	Q17284
Isopropyl ether (IPE)	19.935	20	µg/L	100	61 - 134	Q17284
m,p-Xylenes	39.481	40	µg/L	99	69 - 130	Q17284
Methyl t-butyl ether (MTBE)	20.428	20	µg/L	102	74 - 130	Q17284
Methylene Chloride	25.827	20	µg/L	129	25 - 162	Q17284
Naphthalene	21.253	20	µg/L	106	60 - 136	Q17284
o-Xylene	22.037	20	µg/L	110	66 - 129	Q17284
Tetrachloroethene	19.336	20	µg/L	97	26 - 162	Q17284
Toluene	20.427	20	µg/L	102	46 - 148	Q17284
trans-1,2-Dichloroethene	23.641	20	µg/L	118	38 - 155	Q17284
trans-1,3-Dichloropropene	19.904	20	µg/L	100	22 - 178	Q17284
Trichloroethene	19.284	20	µg/L	96	35 - 146	Q17284
Trichlorofluoromethane	15.012	20	µg/L	75	21 - 156	Q17284
Vinyl chloride	11.667	20	µg/L	58	28 - 163	Q17284

Matrix Spike

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
158647	1,1,1-Trichloroethane	878.16	800	µg/L	110	41 - 138	Q17284
	1,1,2,2-Tetrachloroethane	786.44	800	µg/L	98	10 - 184	Q17284
	1,1,2-Trichloroethane	821.6	800	µg/L	103	39 - 136	Q17284
	1,1-Dichloroethane	903.84	800	µg/L	113	47 - 132	Q17284

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Level II QC Report

9/1/06

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COC Group Number: G0806710
Date/Time Submitted: 8/23/06 15:10

Matrix Spike

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
	1,1-Dichloroethene	806.04	800	µg/L	101	28 - 167	Q17284
	1,2-Dibromoethane (EDB)	727.8	800	µg/L	91	78 - 131	Q17284
	1,2-Dichlorobenzene	853	800	µg/L	107	37 - 154	Q17284
	1,2-Dichloroethane	939.4	800	µg/L	117	51 - 147	Q17284
	1,2-Dichloropropane	872.12	800	µg/L	109	44 - 156	Q17284
	1,3-Dichlorobenzene	854.36	800	µg/L	107	50 - 141	Q17284
	1,4-Dichlorobenzene	876.36	800	µg/L	110	42 - 143	Q17284
	Benzene	801.16	800	µg/L	100	39 - 150	Q17284
	Bromodichloromethane	806.8	800	µg/L	101	42 - 172	Q17284
	Bromoform	593	800	µg/L	74	13 - 159	Q17284
	Bromomethane	532	800	µg/L	67	10 - 144	Q17284
	Carbon tetrachloride	883.44	800	µg/L	110	43 - 143	Q17284
	Chlorobenzene	792.12	800	µg/L	99	38 - 150	Q17284
	Chloroethane	662.96	800	µg/L	83	46 - 137	Q17284
	Chloroform	890.04	800	µg/L	111	49 - 133	Q17284
	Chloromethane	641.2	800	µg/L	80	10 - 193	Q17284
	cis-1,2-Dichloroethene	893	800	µg/L	112	57 - 137	Q17284
	cis-1,3-Dichloropropene	859.88	800	µg/L	107	22 - 178	Q17284
	Dibromochloromethane	830.96	800	µg/L	104	24 - 191	Q17284
	Dichlorodifluoromethane	560.12	800	µg/L	70	47 - 143	Q17284
	Ethylbenzene	827.52	800	µg/L	103	32 - 160	Q17284
	Isopropyl ether (IPE)	838.44	800	µg/L	105	60 - 132	Q17284
	m,p-Xylenes	1584.88	1600	µg/L	99	59 - 126	Q17284
	Methyl t-butyl ether (MTBE)	819.32	800	µg/L	102	73 - 130	Q17284
	Methylene Chloride	1046.64	800	µg/L	131	25 - 162	Q17284
	Naphthalene	857.52	800	µg/L	107	58 - 132	Q17284
	o-Xylene	817.96	800	µg/L	102	62 - 125	Q17284
	Tetrachloroethene	2963.16	800	µg/L	48	26 - 162	Q17284
	Toluene	817.08	800	µg/L	102	46 - 148	Q17284
	trans-1,2-Dichloroethene	1041.72	800	µg/L	130	38 - 155	Q17284
	trans-1,3-Dichloropropene	819.56	800	µg/L	102	22 - 178	Q17284
	Trichloroethene	858.16	800	µg/L	107	35 - 146	Q17284
	Trichlorofluoromethane	647.36	800	µg/L	81	21 - 156	Q17284
	Vinyl chloride	528.16	800	µg/L	66	28 - 163	Q17284

Matrix Spike Duplicate

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	RPD %	RPD Range %	QC Batch ID
158647	1,1,1-Trichloroethane	873.2	800	µg/L	109	41 - 138	1	0 - 16	Q17284
	1,1,2,2-Tetrachloroethane	804.08	800	µg/L	101	10 - 184	2	0 - 14	Q17284
	1,1,2-Trichloroethane	861.64	800	µg/L	108	39 - 136	5	0 - 13	Q17284
	1,1-Dichloroethane	890	800	µg/L	111	47 - 132	2	0 - 14	Q17284
	1,1-Dichloroethene	758.32	800	µg/L	95	28 - 167	6	0 - 17	Q17284
	1,2-Dibromoethane (EDB)	750.56	800	µg/L	94	78 - 131	3	0 - 13	Q17284
	1,2-Dichlorobenzene	871.64	800	µg/L	109	37 - 154	2	0 - 15	Q17284

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Matrix Spike Duplicate

Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Range %	RPD %	RPD Range %	QC Batch ID
1,2-Dichloroethane	946	800	µg/L	118	51 - 147	1	0 - 15	Q17284
1,2-Dichloropropane	890.96	800	µg/L	111	44 - 156	2	0 - 12	Q17284
1,3-Dichlorobenzene	856.56	800	µg/L	107	50 - 141	0	0 - 13	Q17284
1,4-Dichlorobenzene	926.48	800	µg/L	116	42 - 143	6	0 - 14	Q17284
Benzene	768.76	800	µg/L	96	39 - 150	4	0 - 12	Q17284
Bromodichloromethane	802.12	800	µg/L	100	42 - 172	1	0 - 11	Q17284
Bromoform	603.12	800	µg/L	75	13 - 159	2	0 - 10	Q17284
Bromomethane	514.76	800	µg/L	64	10 - 144	3	0 - 21	Q17284
Carbon tetrachloride	894.44	800	µg/L	112	43 - 143	1	0 - 14	Q17284
Chlorobenzene	758.24	800	µg/L	95	38 - 150	4	0 - 12	Q17284
Chloroethane	687.96	800	µg/L	86	46 - 137	4	0 - 18	Q17284
Chloroform	945.44	800	µg/L	118	49 - 133	6	0 - 13	Q17284
Chloromethane	697.12	800	µg/L	87	10 - 193	8	0 - 21	Q17284
cis-1,2-Dichloroethene	837.96	800	µg/L	105	57 - 137	6	0 - 15	Q17284
cis-1,3-Dichloropropene	885.52	800	µg/L	111	22 - 178	3	0 - 13	Q17284
Dibromochloromethane	797.56	800	µg/L	100	24 - 191	4	0 - 10	Q17284
Dichlorodifluoromethane	555.16	800	µg/L	69	47 - 143	1	0 - 21	Q17284
Ethylbenzene	794.56	800	µg/L	99	32 - 160	4	0 - 10	Q17284
Isopropyl ether (IPE)	814.72	800	µg/L	102	60 - 132	3	0 - 15	Q17284
m,p-Xylenes	1511.1	1600	µg/L	94	59 - 126	5	0 - 11	Q17284
Methyl t-butyl ether (MTBE)	805.16	800	µg/L	101	73 - 130	2	0 - 16	Q17284
Methylene Chloride	1111.6	800	µg/L	139	25 - 162	6	0 - 16	Q17284
Naphthalene	868.56	800	µg/L	109	58 - 132	1	0 - 17	Q17284
o-Xylene	781.2	800	µg/L	98	62 - 125	5	0 - 13	Q17284
Tetrachloroethene	2812.4	800	µg/L	29	26 - 162	5	0 - 14	Q17284
Toluene	781.12	800	µg/L	98	46 - 148	5	0 - 11	Q17284
trans-1,2-Dichloroethene	993.28	800	µg/L	124	38 - 155	5	0 - 17	Q17284
trans-1,3-Dichloropropene	844.92	800	µg/L	106	22 - 178	3	0 - 10	Q17284
Trichloroethene	817	800	µg/L	102	35 - 146	5	0 - 14	Q17284
Trichlorofluoromethane	639.36	800	µg/L	80	21 - 156	1	0 - 19	Q17284
Vinyl chloride	479.88	800	µg/L	60	28 - 163	10	0 - 20	Q17284

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Semivolatile Organic Compounds by GC/MS, method 625

Method Blank

	Result	RL	Control Limit	Units	QC Batch ID
1,2,4-Trichlorobenzene	ND	10	<5	µg/L	Q17381
1,2-Dichlorobenzene	ND	10	<5	µg/L	Q17381
1,3-Dichlorobenzene	ND	10	<5	µg/L	Q17381
1,4-Dichlorobenzene	ND	10	<5	µg/L	Q17381
2,4,5-Trichlorophenol	ND	10	<5	µg/L	Q17381
2,4,6-Trichlorophenol	ND	10	<5	µg/L	Q17381
2,4-Dichlorophenol	ND	10	<5	µg/L	Q17381
2,4-Dimethylphenol	ND	10	<5	µg/L	Q17381
2,4-Dinitrophenol	ND	50	<25	µg/L	Q17381
2,4-Dinitrotoluene	ND	10	<5	µg/L	Q17381
2,6-Dinitrotoluene	ND	10	<5	µg/L	Q17381
2-Chloronaphthalene	ND	10	<5	µg/L	Q17381
2-Chlorophenol	ND	10	<5	µg/L	Q17381
2-Methylphenol	ND	10	<5	µg/L	Q17381
2-Nitrophenol	ND	10	<5	µg/L	Q17381
3&4-Methylphenol	ND	10	<5	µg/L	Q17381
3,3´-Dichlorobenzidine	ND	50	<25	µg/L	Q17381
4,6-Dinitro-2-methylphenol	ND	50	<25	µg/L	Q17381
4-Bromophenylphenylether	ND	10	<5	µg/L	Q17381
4-Chloro-3-methylphenol	ND	10	<5	µg/L	Q17381
4-Chlorophenylphenylether	ND	10	<5	µg/L	Q17381
4-Nitrophenol	ND	50	<25	µg/L	Q17381
Acenaphthene	ND	10	<5	µg/L	Q17381
Acenaphthylene	ND	10	<5	µg/L	Q17381
Anthracene	ND	10	<5	µg/L	Q17381
Benzo(a)anthracene	ND	10	<5	µg/L	Q17381
Benzo(a)pyrene	ND	10	<5	µg/L	Q17381
Benzo(b)fluoranthene	ND	10	<5	µg/L	Q17381
Benzo(g,h,i)perylene	ND	10	<5	µg/L	Q17381
Benzo(k)fluoranthene	ND	10	<5	µg/L	Q17381
Bis(2-chloroethoxy)methane	ND	10	<5	µg/L	Q17381
Bis(2-chloroethyl)ether	ND	10	<5	µg/L	Q17381
Bis(2-chloroisopropyl)ether	ND	10	<5	µg/L	Q17381
Bis(2-ethylhexyl)phthalate	ND	10	<5	µg/L	Q17381
Butylbenzylphthalate	ND	10	<5	µg/L	Q17381
Chrysene	ND	10	<5	µg/L	Q17381
Di-n-butylphthalate	ND	10	<5	µg/L	Q17381
Di-n-octylphthalate	ND	10	<5	µg/L	Q17381
Dibenzo(a,h)anthracene	ND	10	<5	µg/L	Q17381
Dibenzofuran	ND	10	<5	µg/L	Q17381
Diethylphthalate	ND	10	<5	µg/L	Q17381
Dimethylphthalate	ND	10	<5	µg/L	Q17381

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Method Blank

	Result	RL	Control Limit	Units	QC Batch ID
Fluoranthene	ND	10	<5	µg/L	Q17381
Fluorene	ND	10	<5	µg/L	Q17381
Hexachlorobenzene	ND	10	<5	µg/L	Q17381
Hexachlorobutadiene	ND	10	<5	µg/L	Q17381
Hexachlorocyclopentadiene	ND	10	<5	µg/L	Q17381
Hexachloroethane	ND	10	<5	µg/L	Q17381
Indeno(1,2,3-cd)pyrene	ND	10	<5	µg/L	Q17381
Isophorone	ND	10	<5	µg/L	Q17381
N-Nitrosodi-n-propylamine	ND	10	<5	µg/L	Q17381
Naphthalene	ND	10	<5	µg/L	Q17381
Nitrobenzene	ND	10	<5	µg/L	Q17381
Pentachlorophenol	ND	10	<5	µg/L	Q17381
Phenanthrene	ND	10	<5	µg/L	Q17381
Phenol	ND	10	<5	µg/L	Q17381
Pyrene	ND	10	<5	µg/L	Q17381

Laboratory Control Sample

	Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
1,2,4-Trichlorobenzene	73.81	100	µg/L	74	44 - 142	Q17381
1,2-Dichlorobenzene	72.78	100	µg/L	73	32 - 129	Q17381
1,3-Dichlorobenzene	72.32	100	µg/L	72	20 - 124	Q17381
1,4-Dichlorobenzene	71.26	100	µg/L	71	20 - 124	Q17381
2,4,6-Trichlorophenol	76.67	100	µg/L	77	37 - 144	Q17381
2,4-Dichlorophenol	73.13	100	µg/L	73	39 - 135	Q17381
2,4-Dimethylphenol	72.73	100	µg/L	73	32 - 119	Q17381
2,4-Dinitrophenol	88.49	100	µg/L	88	10 - 191	Q17381
2,4-Dinitrotoluene	98.57	100	µg/L	99	39 - 139	Q17381
2,6-Dinitrotoluene	109.6	100	µg/L	110	50 - 158	Q17381
2-Chloronaphthalene	81.43	100	µg/L	81	60 - 118	Q17381
2-Chlorophenol	66.36	100	µg/L	66	23 - 134	Q17381
2-Nitrophenol	78.21	100	µg/L	78	29 - 182	Q17381
3,3'-Dichlorobenzidine	142.75	100	µg/L	143	10 - 262	Q17381
4,6-Dinitro-2-methylphenol	93.14	100	µg/L	93	10 - 181	Q17381
4-Bromophenylphenylether	87.94	100	µg/L	88	53 - 127	Q17381
4-Chloro-3-methylphenol	74.76	100	µg/L	75	22 - 147	Q17381
4-Chlorophenylphenylether	87	100	µg/L	87	25 - 158	Q17381
4-Nitrophenol	25.3	100	µg/L	25	10 - 132	Q17381
Acenaphthene	84.06	100	µg/L	84	47 - 145	Q17381
Acenaphthylene	91.88	100	µg/L	92	33 - 145	Q17381
Anthracene	76.23	100	µg/L	76	27 - 133	Q17381
Benzo(a)anthracene	98.89	100	µg/L	99	33 - 143	Q17381
Benzo(a)pyrene	98.65	100	µg/L	99	17 - 163	Q17381
Benzo(b)fluoranthene	106.46	100	µg/L	106	24 - 159	Q17381
Benzo(g,h,i)perylene	100.66	100	µg/L	101	10 - 219	Q17381

PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Level II QC Report

9/1/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1

COC Group Number: G0806710
Date/Time Submitted: 8/23/06 15:10

Laboratory Control Sample

	Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
Benzo(k)fluoranthene	74.35	100	µg/L	74	11 - 162	Q17381
Bis(2-chloroethoxy)methane	79.94	100	µg/L	80	33 - 184	Q17381
Bis(2-chloroethyl)ether	80.96	100	µg/L	81	12 - 158	Q17381
Bis(2-chloroisopropyl)ether	80.79	100	µg/L	81	36 - 166	Q17381
Bis(2-ethylhexyl)phthalate	95.82	100	µg/L	96	10 - 158	Q17381
Butylbenzylphthalate	95.47	100	µg/L	95	10 - 152	Q17381
Chrysene	91.25	100	µg/L	91	17 - 168	Q17381
Di-n-butylphthalate	86.41	100	µg/L	86	10 - 118	Q17381
Di-n-octylphthalate	96.32	100	µg/L	96	10 - 146	Q17381
Dibenzo(a,h)anthracene	102.13	100	µg/L	102	10 - 227	Q17381
Diethylphthalate	92.56	100	µg/L	93	10 - 114	Q17381
Dimethylphthalate	78.07	100	µg/L	78	10 - 112	Q17381
Fluoranthene	93.81	100	µg/L	94	26 - 137	Q17381
Fluorene	89.65	100	µg/L	90	59 - 121	Q17381
Hexachlorobenzene	90.08	100	µg/L	90	10 - 152	Q17381
Hexachlorobutadiene	77.63	100	µg/L	78	24 - 116	Q17381
Hexachlorocyclopentadiene	83.87	100	µg/L	84	32 - 103	Q17381
Hexachloroethane	68.25	100	µg/L	68	40 - 113	Q17381
Indeno(1,2,3-cd)pyrene	111.79	100	µg/L	112	10 - 171	Q17381
Isophorone	90.3	100	µg/L	90	21 - 196	Q17381
N-Nitrosodi-n-propylamine	93.5	100	µg/L	94	10 - 230	Q17381
Naphthalene	81.47	100	µg/L	81	21 - 133	Q17381
Nitrobenzene	68.94	100	µg/L	69	35 - 180	Q17381
Pentachlorophenol	122.16	100	µg/L	122	14 - 176	Q17381
Phenanthrene	89.77	100	µg/L	90	54 - 120	Q17381
Phenol	23.54	100	µg/L	24	10 - 112	Q17381
Pyrene	98.84	100	µg/L	99	52 - 115	Q17381

Matrix Spike

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
159411	1,2,4-Trichlorobenzene	154.7058	196.08	µg/L	79	44 - 142	Q17381
	1,2-Dichlorobenzene	147.5294	196.08	µg/L	75	32 - 129	Q17381
	1,3-Dichlorobenzene	151.8235	196.08	µg/L	77	20 - 124	Q17381
	1,4-Dichlorobenzene	144.7254	196.08	µg/L	74	20 - 124	Q17381
	2,4,6-Trichlorophenol	150.3137	196.08	µg/L	77	37 - 144	Q17381
	2,4-Dichlorophenol	153.3529	196.08	µg/L	78	39 - 135	Q17381
	2,4-Dimethylphenol	148.9019	196.08	µg/L	76	32 - 119	Q17381
	2,4-Dinitrophenol	147.4509	196.08	µg/L	75	10 - 191	Q17381
	2,4-Dinitrotoluene	189.5294	196.08	µg/L	97	39 - 139	Q17381
	2,6-Dinitrotoluene	229.6666	196.08	µg/L	117	50 - 158	Q17381
	2-Chloronaphthalene	165.5098	196.08	µg/L	84	60 - 118	Q17381
	2-Chlorophenol	140.0196	196.08	µg/L	71	23 - 134	Q17381
	2-Nitrophenol	161.5490	196.08	µg/L	82	29 - 182	Q17381
	3,3'-Dichlorobenzidine	280.2156	196.08	µg/L	143	10 - 262	Q17381

PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Level II QC Report

9/1/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1

COC Group Number: G0806710
Date/Time Submitted: 8/23/06 15:10

Matrix Spike

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
	4,6-Dinitro-2-methylphenol	178.3725	196.08	µg/L	91	10 - 181	Q17381
	4-Bromophenylphenylether	181.7843	196.08	µg/L	93	53 - 127	Q17381
	4-Chloro-3-methylphenol	159.4313	196.08	µg/L	81	22 - 147	Q17381
	4-Chlorophenylphenylether	173.3921	196.08	µg/L	88	25 - 158	Q17381
	4-Nitrophenol	78.19607	196.08	µg/L	40	10 - 132	Q17381
	Acenaphthene	168.8823	196.08	µg/L	86	47 - 145	Q17381
	Acenaphthylene	185.3921	196.08	µg/L	95	33 - 145	Q17381
	Anthracene	155.0980	196.08	µg/L	79	27 - 133	Q17381
	Benzo(a)anthracene	202.5490	196.08	µg/L	103	33 - 143	Q17381
	Benzo(a)pyrene	197.9607	196.08	µg/L	101	17 - 163	Q17381
	Benzo(b)fluoranthene	195.6666	196.08	µg/L	100	24 - 159	Q17381
	Benzo(g,h,i)perylene	201.6078	196.08	µg/L	103	10 - 219	Q17381
	Benzo(k)fluoranthene	178.1568	196.08	µg/L	91	11 - 162	Q17381
	Bis(2-chloroethoxy)methane	160.0196	196.08	µg/L	82	33 - 184	Q17381
	Bis(2-chloroethyl)ether	154.9803	196.08	µg/L	79	12 - 158	Q17381
	Bis(2-chloroisopropyl)ether	159.2941	196.08	µg/L	81	36 - 166	Q17381
	Bis(2-ethylhexyl)phthalate	196.5098	196.08	µg/L	100	10 - 158	Q17381
	Butylbenzylphthalate	197.1568	196.08	µg/L	101	10 - 152	Q17381
	Chrysene	188.6470	196.08	µg/L	96	17 - 168	Q17381
	Di-n-butylphthalate	179.7058	196.08	µg/L	92	10 - 118	Q17381
	Di-n-octylphthalate	199.0392	196.08	µg/L	102	10 - 146	Q17381
	Dibenzo(a,h)anthracene	209.5490	196.08	µg/L	107	10 - 227	Q17381
	Diethylphthalate	186.0784	196.08	µg/L	95	10 - 114	Q17381
	Dimethylphthalate	165.0588	196.08	µg/L	84	10 - 112	Q17381
	Fluoranthene	192.1176	196.08	µg/L	98	26 - 137	Q17381
	Fluorene	183.2745	196.08	µg/L	93	59 - 121	Q17381
	Hexachlorobenzene	182.6862	196.08	µg/L	93	10 - 152	Q17381
	Hexachlorobutadiene	162.3921	196.08	µg/L	83	24 - 116	Q17381
	Hexachlorocyclopentadiene	163.4509	196.08	µg/L	83	48 - 94	Q17381
	Hexachloroethane	133.5882	196.08	µg/L	68	40 - 113	Q17381
	Indeno(1,2,3-cd)pyrene	229.9411	196.08	µg/L	117	10 - 171	Q17381
	Isophorone	183.3137	196.08	µg/L	93	21 - 196	Q17381
	N-Nitrosodi-n-propylamine	189.8627	196.08	µg/L	97	10 - 230	Q17381
	Naphthalene	170.8039	196.08	µg/L	87	21 - 133	Q17381
	Nitrobenzene	148.4509	196.08	µg/L	76	35 - 180	Q17381
	Pentachlorophenol	235.3333	196.08	µg/L	120	14 - 176	Q17381
	Phenanthrene	182.9215	196.08	µg/L	93	54 - 120	Q17381
	Phenol	73.17647	196.08	µg/L	37	10 - 112	Q17381
	Pyrene	200.2941	196.08	µg/L	102	52 - 115	Q17381

Matrix Spike Duplicate

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	RPD %	RPD Range %	QC Batch ID
159411	1,2,4-Trichlorobenzene	147.82	196.08	µg/L	75	44 - 142	5	0 - 36	Q17381
	1,2-Dichlorobenzene	141.25	196.08	µg/L	72	32 - 129	4	0 - 38	Q17381

PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Level II QC Report

9/1/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1

COC Group Number: G0806710
Date/Time Submitted: 8/23/06 15:10

Matrix Spike Duplicate

Sample ID:	Result	Spike Amount	Units	Recovery %	Recovery Range %	RPD %	RPD Range %	QC Batch ID
1,3-Dichlorobenzene	145.17	196.08	µg/L	74	20 - 124	4	0 - 41	Q17381
1,4-Dichlorobenzene	140.41	196.08	µg/L	72	20 - 124	3	0 - 36	Q17381
2,4,6-Trichlorophenol	149.64	196.08	µg/L	76	37 - 144	0	0 - 30	Q17381
2,4-Dichlorophenol	147.05	196.08	µg/L	75	39 - 135	4	0 - 31	Q17381
2,4-Dimethylphenol	150.76	196.08	µg/L	77	32 - 119	1	0 - 26	Q17381
2,4-Dinitrophenol	164.92	196.08	µg/L	84	10 - 191	11	0 - 30	Q17381
2,4-Dinitrotoluene	184.43	196.08	µg/L	94	39 - 139	3	0 - 29	Q17381
2,6-Dinitrotoluene	220.07	196.08	µg/L	112	50 - 158	4	0 - 15	Q17381
2-Chloronaphthalene	155.68	196.08	µg/L	79	60 - 118	6	0 - 21	Q17381
2-Chlorophenol	138.50	196.08	µg/L	71	23 - 134	1	0 - 35	Q17381
2-Nitrophenol	164.58	196.08	µg/L	84	29 - 182	2	0 - 34	Q17381
3,3'-Dichlorobenzidine	281.23	196.08	µg/L	143	10 - 262	0	0 - 50	Q17381
4,6-Dinitro-2-methylphenol	185.01	196.08	µg/L	94	10 - 181	4	0 - 19	Q17381
4-Bromophenylphenylether	179.76	196.08	µg/L	92	53 - 127	1	0 - 18	Q17381
4-Chloro-3-methylphenol	154.05	196.08	µg/L	79	22 - 147	3	0 - 33	Q17381
4-Chlorophenylphenylether	161.64	196.08	µg/L	82	25 - 158	7	0 - 19	Q17381
4-Nitrophenol	72.333	196.08	µg/L	37	10 - 132	8	0 - 50	Q17381
Acenaphthene	165.41	196.08	µg/L	84	47 - 145	2	0 - 20	Q17381
Acenaphthylene	180.96	196.08	µg/L	92	33 - 145	2	0 - 24	Q17381
Anthracene	149.72	196.08	µg/L	76	27 - 133	4	0 - 30	Q17381
Benzo(a)anthracene	195.82	196.08	µg/L	100	33 - 143	3	0 - 26	Q17381
Benzo(a)pyrene	194.82	196.08	µg/L	99	17 - 163	2	0 - 25	Q17381
Benzo(b)fluoranthene	200.80	196.08	µg/L	102	24 - 159	3	0 - 29	Q17381
Benzo(g,h,i)perylene	194.74	196.08	µg/L	99	10 - 219	3	0 - 27	Q17381
Benzo(k)fluoranthene	146.33	196.08	µg/L	75	11 - 162	20 #	0 - 11	Q17381
Bis(2-chloroethoxy)methane	166.19	196.08	µg/L	85	33 - 184	4	0 - 31	Q17381
Bis(2-chloroethyl)ether	156.33	196.08	µg/L	80	12 - 158	1	0 - 36	Q17381
Bis(2-chloroisopropyl)ether	148.54	196.08	µg/L	76	36 - 166	7	0 - 40	Q17381
Bis(2-ethylhexyl)phthalate	183.70	196.08	µg/L	94	10 - 158	7	0 - 17	Q17381
Butylbenzylphthalate	185.94	196.08	µg/L	95	10 - 152	6	0 - 15	Q17381
Chrysene	182.15	196.08	µg/L	93	17 - 168	4	0 - 25	Q17381
Di-n-butylphthalate	170.98	196.08	µg/L	87	10 - 118	5	0 - 27	Q17381
Di-n-octylphthalate	186.54	196.08	µg/L	95	10 - 146	6	0 - 17	Q17381
Dibenzo(a,h)anthracene	191.78	196.08	µg/L	98	10 - 227	9	0 - 28	Q17381
Diethylphthalate	176.90	196.08	µg/L	90	10 - 114	5	0 - 16	Q17381
Dimethylphthalate	164.29	196.08	µg/L	84	10 - 112	0	0 - 15	Q17381
Fluoranthene	185.98	196.08	µg/L	95	26 - 137	3	0 - 24	Q17381
Fluorene	166.74	196.08	µg/L	85	59 - 121	9	0 - 15	Q17381
Hexachlorobenzene	172.50	196.08	µg/L	88	10 - 152	6	0 - 18	Q17381
Hexachlorobutadiene	156.37	196.08	µg/L	80	24 - 116	4	0 - 34	Q17381
Hexachlorocyclopentadiene	161.72	196.08	µg/L	82	48 - 94	1	0 - 30	Q17381
Hexachloroethane	131.13	196.08	µg/L	67	40 - 113	2	0 - 38	Q17381
Indeno(1,2,3-cd)pyrene	223.23	196.08	µg/L	114	10 - 171	3	0 - 29	Q17381
Isophorone	179.76	196.08	µg/L	92	21 - 196	2	0 - 32	Q17381

PRISM LABORATORIES, INC.
Full Service Analytical & Environmental Solutions

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

Level II QC Report

9/1/06

N. C. Department of Transportation
Attn: Sheri Knox
c/o Solution - IES
1101 Nowell Road
Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 61
Project No.: WBS# 34438.1.1

COC Group Number: G0806710
Date/Time Submitted: 8/23/06 15:10

Matrix Spike Duplicate

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	RPD %	RPD Range %	QC Batch ID
	N-Nitrosodi-n-propylamine	173.90	196.08	µg/L	89	10 - 230	9	0 - 36	Q17381
	Naphthalene	165.47	196.08	µg/L	84	21 - 133	3	0 - 42	Q17381
	Nitrobenzene	140.90	196.08	µg/L	72	35 - 180	5	0 - 25	Q17381
	Pentachlorophenol	243.58	196.08	µg/L	124	14 - 176	3	0 - 21	Q17381
	Phenanthrene	182.84	196.08	µg/L	93	54 - 120	0	0 - 29	Q17381
	Phenol	68.196	196.08	µg/L	35	10 - 112	7	0 - 39	Q17381
	Pyrene	183.64	196.08	µg/L	94	52 - 115	9	0 - 15	Q17381

Extractable Petroleum Hydrocarbons by GC-FID, method MADEP EPH

Method Blank

	Result	RL	Control Limit	Units	QC Batch ID
C11-C22 Aromatics	ND	100	<50	µg/L	Q17398
C19-C36 Aliphatics	ND	100	<50	µg/L	Q17398
C9-C18 Aliphatics	ND	100	<50	µg/L	Q17398

Laboratory Control Sample

	Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
C11-C22 Aromatics	1422	1700	µg/L	84	40 - 140	Q17398
C19-C36 Aliphatics	705.8	800	µg/L	88	40 - 140	Q17398
C9-C18 Aliphatics	380	600	µg/L	63	40 - 140	Q17398

Matrix Spike

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	QC Batch ID
158646	C11-C22 Aromatics	2181.4	1700	µg/L	128	40 - 140	Q17398
	C19-C36 Aliphatics	933	800	µg/L	117	40 - 140	Q17398
	C9-C18 Aliphatics	641.8	600	µg/L	107	40 - 140	Q17398

Matrix Spike Duplicate

Sample ID:		Result	Spike Amount	Units	Recovery %	Recovery Range %	RPD %	RPD Range %	QC Batch ID
158646	C11-C22 Aromatics	2076.2	1700	µg/L	122	40 - 140	5	0 - 50	Q17398
	C19-C36 Aliphatics	824.6	800	µg/L	103	40 - 140	12	0 - 50	Q17398
	C9-C18 Aliphatics	496	600	µg/L	83	40 - 140	26	0 - 50	Q17398

#-See Case Narrative

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC.

Full Service Analytical & Environmental Solutions

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

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING: _____

Project Name: NCDOT - PARCEL 61 - RICHMOND CO.
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
Invoice To: NCDOT WBS # 34438.1.1
Address: STATE PROJECT U-2502 A & B

Client Company Name: SOLUTIONS-IES
Report To/Contact Name: Sheri KNOX
Reporting Address: 1101 Nowell Rd.
RALEIGH, NC 27607
Phone: 919 873 1060 Fax (Yes) (No): 919 873 1074
Email (Yes) (No) Email Address SKNOX@SOLUTIONS-IES.COM
EDD Type: PDF____ Excel____ Other____
Site Location Name: NCDOT PARCEL 61
Site Location Physical Address: RICHMOND CO. NC

Purchase Order No./Billing Reference 3260.06A3.NDOT
Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☑ 5 Days
"Working Days" ☐ 6-9 Days ☐ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 15:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	✓		
Received ON WET ICE? Temp 4.4	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?			✓
VOLATILES rec'd W/OUT HEADSPACE?	✓		
PROPER CONTAINERS used?	✓		

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC____ USACE____ FL____ NC ✓
SC____ OTHER____ N/A____
Water Chlorinated: YES____ NO ✓
Sample Iced Upon Collection: YES ✓ NO____

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	SAMPLE CONTAINER NO.	SAMPLE CONTAINER SIZE	PRESERVATIVES	ANALYSES REQUESTED EPA-601	EPA-602 + IPE, EDC, MTBE	VOLATILES 624 + 10 PEAKS	VPH	EPH		REMARKS	PRISM LAB ID NO.
P61-GW-1	8/22/06	0845	H2O	G	10	Liter VOA's	None, HCl	X	X	X	X	X			159264

Sampler's Signature _____ Sampled By (Print Name) KEVIN BUCHANAN Affiliation SOLUTIONS-IES

PRESS DOWN FIRMLY - 3 COPIES

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

		Date	Military/Hours
Relinquished By: (Signature)	Received By: (Signature)	8/23/06	1210
Relinquished By: (Signature)	Received By: (Signature)	Date	
Relinquished By: (Signature)	Received For Prism Laboratories By:	Date 8/23/06	1570

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

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☐ Prism Field Service ☐ Other _____

COC Group No. G080671G

Additional Comments:

PRISM USE ONLY

Site Arrival Time:
Site Departure Time:
Field Tech Fees:
Mileage:

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____	☐ NC ☐ SC ☐ _____

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

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL