

Pyramid Environmental & Engineering, P.C. Project # 2014-008
Preliminary Site Assessment (PSA) – Parcel 008, S.C. Rankin, Est.

PRELIMINARY SITE ASSESSMENT
PARCEL 008, S.C. RANKIN, EST.
539/542 BRAGG BLVD.
FAYETTEVILLE, CUMBERLAND COUNTY, NORTH CAROLINA
STATE PROJECT: B-4490
WBS ELEMENT: 33727.1.1
MARCH 14, 2014

Report prepared for:

Mr. Gordon Box, LG
GeoEnvironmental Project Manager
GeoEnvironmental Section
Geotechnical Engineering Unit
North Carolina Department of Transportation
1020 Birch Ridge Drive
Raleigh, NC 27610

Report prepared by:

Eric C. Cross, LG
NC License #2181



PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.
P.O. BOX 16265
GREENSBORO, NC 27416-0265
(336) 335-3174

C-257 –Geology
C-1251 - Engineering

Report reviewed by:

Michael G. Jones, LG
NC License #1168



TABLE OF CONTENTS

Executive Summary of Results	1
1.0 Introduction.....	4
1.1 BACKGROUND INFORMATION	4
1.2 PROJECT INFORMATION	4
2.0 Site History	5
3.0 Geophysical Investigation	7
4.0 Soil Sampling Activities & Results	7
4.1 SOIL ASSESSMENT FIELD ACTIVITIES	7
4.2 SOIL SAMPLE ANALYTICAL RESULTS	8
4.3 TEMPORARY MONITORING WELL INSTALLATION	9
4.4 GROUNDWATER ANALYTICAL RESULTS	9
5.0 Conclusions and Recommendations.....	10
5.1 GEOPHYSICAL INVESTIGATION	10
5.2 LIMITED SOIL ASSESSMENT.....	10
5.3 LIMITED GROUNDWATER ASSESSMENT	10
5.4 RECOMMENDATIONS.....	11
6.0 Limitations.....	11
7.0 Closure	12

TABLE OF CONTENTS (Continued)

FIGURES

- Figure 1 : Topographic Map
- Figure 2 : Soil Boring Locations and Estimated Area of Contamination
- Figure 3 : Site Map of Parcel and Surrounding Area

TABLES

- Table 1 : Summary of Soil Field Screening Results
- Table 2 : Summary of Soil Sample QED Analytical Results for DRO/GRO
- Table 3 : Summary of Volatile/Semi-Volatile Laboratory Results of Soil
- Table 4 : Summary of Groundwater Analytical Results

APPENDICES

- Appendix A : Historical Aerial Photographs
- Appendix B : Geophysical Investigation Report
- Appendix C : Soil Boring Logs
- Appendix D : QROS QED HC-1 Hydrocarbon Analyzer
- Appendix E : Laboratory Report & Chain-of-Custody Form
- Appendix F : Personnel Logs

PRELIMINARY SITE ASSESSMENT
PARCEL 008, S.C. RANKIN, EST.
539/542 BRAGG BLVD.
FAYETTEVILLE, CUMBERLAND COUNTY, NORTH CAROLINA

EXECUTIVE SUMMARY OF RESULTS

Pyramid Environmental & Engineering P.C. (Pyramid) has prepared this Preliminary Site Assessment (PSA) report documenting background information, field activities, assessment activities, findings, conclusions, and recommendations for Parcel 008, S.C. Rankin, Est. The purpose of this assessment was to determine the presence or absence of underground storage tanks (USTs) and impacted soils at the subject property within the proposed right-of-way (ROW) and/or easement and edge of pavement (State Project B-4490). The PSA was conducted with particular attention to the areas to be cut as indicated by slope stake lines and cross sections or to be excavated for the installation of drainage features. This preliminary site assessment was conducted on behalf of the North Carolina Department of Transportation (NCDOT) in accordance with Pyramid's December 20, 2013, technical proposal.

The following statements summarize the results of the PSA:

- **Site History:** A review of the North Carolina Department of Environment and Natural Resources (DENR) registered UST database and incident database indicated no environmental incidents were on file for the S.C. Rankin, Est. property (Parcel 008). On January 23, 2014, Pyramid emailed the Cumberland County B-4490 parcel addresses to Mr. James Brown, the Fayetteville Region Incident Manager for the DENR UST Section, with a request to investigate any environmental incidents associated with the parcels. On January 24, 2014, Mr. Brown responded to the email and stated that site address 539/542 Bragg Blvd. (Parcel 008) does not have any environmental incidents in the DENR database. Review of city directories and Sanborn maps indicates that a service station used to be present near the northeast corner of the property, and was removed sometime prior to 1966.

On January 20, 2014, Pyramid Project Manager Eric Cross performed a site visit at the property. The facility was an active automobile repair shop at the time of our investigation. It should be noted that the December 13, 2013, RFP provided to Pyramid by the NCDOT indicated that the facility was inactive in 2009. Mr. Cross interviewed Mr. Fred Prosperi, the current tenant who operated the repair facility. Mr. Prosperi indicated that he had been leasing the property for approximately 2 years, and that prior to his occupation, he believed the property

had been used as a used car dealership and repair shop since at least the 1940's. He indicated that a hydraulic lift was present inside the structure, and that he was not aware of any USTs on the property.

The hazard placard that was mentioned in the NCDOT RFP was observed on the outer wall of the building during our site visit. Mr. Prosperi indicated that the placard was present prior to his lease of the property, and that he was not aware of any chemicals or hazardous materials that were currently stored on-site to which the placard applied. He indicated that the placard applied to past uses of the property. Our research suggests that the placard was likely associated with the property when it was operating as the Stewart Body Shop. This facility was listed in the Environmental Protection Agency (EPA) online enforcement and compliance history database as a Conditionally Exempt Small Quantity Generator. Our research did not provide any clear indication as to the exact materials that had been stored on the property that would necessitate the placard; however, the nature of the body shop would suggest that the materials were likely solvents, paints, and other hazardous materials typically used with auto body repair work.

- **Geophysical Survey:** The geophysical investigation provided no evidence of metallic USTs within the existing and proposed ROW and/or easement.
- **Limited Soil Assessment:** A total of five borings were performed across the property. The QED results for soil samples at boring locations 8-3 and 8-5 did not detect TPH-GRO or TPH-DRO concentrations above 10 milligrams per kilogram (mg/kg). The QED results did detect DRO concentrations above 10 mg/kg at the locations of borings 8-1, 8-2, and 8-4. Specifically, a DRO concentration of 30.4 mg/kg was detected in sample 8-1(6-8), a DRO concentration of 52.4 mg/kg was detected in sample 8-2(4-6), and a DRO concentration of 25.2 mg/kg was detected in sample 8-4(4-6).

One soil sample from a depth of 4 to 6 feet in each boring was sent to the laboratory for analysis of soils using EPA Methods 8260/8270 for volatile and semi-volatile organic compounds based on the site usage history. The laboratory results did not detect any volatile or semi-volatile organic compounds above detection limits.

- **Limited Groundwater Assessment:** Soil boring 8-3 was converted into a 1-inch diameter temporary monitoring well to a total depth of 13 feet below land surface (BLS). The depth-to-groundwater was measured at 6.3 feet BLS. The laboratory analysis did not detect any semi-volatile organic compounds above laboratory detection limits in the groundwater sample. It should be noted that EPA Method 6200B for volatile organic compounds was not performed due to the lab

misplacing the samples. This issue was discussed with NCDOT Project Manager Gordon Box immediately upon realization of the error, and it was agreed that the other data obtained from the property would suffice.

Review of the NCDOT engineering plans indicates that the NCDOT may encounter groundwater at the property during construction activities. However, no evidence of contamination was observed in the groundwater sample collected by Pyramid. Even though the sample was not analyzed using EPA Method 6200B, it was concluded that: 1) The lack of contamination evident in the Method 625 analysis of the groundwater, as well as 2) The lack of contamination in the soils below the water table measured by the QED at the location of the well, and 3) The absence of any contamination in the Method 8260/8270 analysis of soils across the site allows for the assertion that the groundwater is likely not contaminated.

- **Contaminated Soil Volumes:** Pyramid's PSA investigation resulted in an estimated area of **8,238 square feet of impacted soil in the vicinity of borings 8-1, 8-2, and 8-4**. The deepest soil sample exhibiting contamination was observed to be at the sample depth 6-8 feet in boring 8-1. For this reason, a maximum depth of 8 feet will be used to approximate total volumes of contaminated soil. It should be noted that this is a gross estimate based on the data available. Using a total thickness of 8 feet of contaminated soil, Pyramid estimates approximately 65,904 cubic feet, or **2,441 cubic yards of impacted soils between 0 and 8 feet BLS** at the location of borings 8-1, 8-2, and 8-4. The north and west boundaries of this area of contamination are approximate due to limited soil data.

1.0 Introduction

Pyramid Environmental & Engineering P.C. (Pyramid) has prepared this Preliminary Site Assessment (PSA) report documenting background information, field activities, assessment activities, findings, conclusions, and recommendations for Parcel 008, S.C. Rankin, Est. The S.C. Rankin, Est. property is currently an active automobile repair facility and large parking lot located at 539/542 Bragg Blvd., Fayetteville, NC. This preliminary site assessment was conducted on behalf of the North Carolina Department of Transportation (NCDOT) in accordance with Pyramid's December 20, 2013, technical proposal.

The purpose of this assessment was to determine the presence or absence of underground storage tanks (USTs) and the potential for impacted soils at the subject properties within the proposed ROW and/or easement and edge of pavement (State Project B-4490). The location of the subject site is shown on **Figure 1**.

1.1 Background Information

Based on the NCDOT's December 13, 2013, *Request for Technical and Cost Proposal*, the PSA was conducted in the proposed easement/proposed right of way (ROW) and the area between the existing NCDOT right of way and the edge of pavement, with emphasis on the areas to be cut as indicated by slope stake lines and cross sections or to be excavated for the installation of drainage features and/or other utilities, in accordance with the CADD files provided to Pyramid by the NCDOT. The PSA included the following:

- Research the properties for past uses and possible releases.
- Conduct a preliminary geophysical site assessment and limited soil assessment in the proposed easement and the area between the existing ROW and the edge of pavement with emphasis on the areas to be cut as indicated by slope stake lines and cross sections or to be excavated for the installation of drainage features and/or other utilities.
- Should groundwater be encountered at a depth that might impact the NCDOT construction activities, report the depth to groundwater for that site and attempt to obtain one groundwater sample for laboratory analysis by installing a temporary monitoring well.

1.2 Project Information

Prior to field activities, a Health and Safety Plan was prepared. Prior to drilling activities, the public underground utilities were located and marked by the North Carolina One-Call Service. A private utility locator, Northstate Utility Locating Incorporated of Colfax, North Carolina was used to mark the on-site private, buried utilities.

2.0 Site History

The NCDOT description of the parcel in the RFP provided to Pyramid on December 13, 2013, provided the following background information related to the site:

“This parcel is on the western side of Bragg Blvd south of Rowan St. It operated as a car dealership and repair shop and currently has a vacant building. No known NCDENR’s UST Section Facility Identification Numbers or Groundwater Incidents Identification Numbers associated with the western portion. According to the EPA database the western portion of the parcel is listed as a conditionally exempt small quantity generator. A hazard placard was observed posted on the side of that building in Google Street view.”

Pyramid completed a records review of the parcel, interviewed DENR personnel, interviewed property tenants, and reviewed aerial photographs, city directories, and Sanborn maps to assess past uses of the property. Pyramid reviewed historical aerial photographs dating back to 1960 available from the Cumberland County Soil and Water Conservation office in Fayetteville and on Google Earth for past uses. The 1960, 1966, 1972, 1993, 2003, 2009, 2010, and 2011 aerial photographs are included in **Appendix A**. Historical information reviewed as part of the PSA indicated that the property was developed for commercial use between 1937 and 1951, and the building currently present at the property has been there since at least 1960. Additionally, a second smaller structure was observed in the 1960 aerial photograph to the north of the existing building near the intersection of Bragg Blvd. and Rowan St. This structure was not present in the 1966 aerial, indicating its removal sometime between 1960 and 1966.

City directories dated 1937, 1951, 1957, 1963, 1968, 1973, 1980, 1985, 1990, 1995, to 2000 were reviewed at the Cumberland County Public Library in Fayetteville, North Carolina. The table below includes a list of the building or subject property occupants from 1937 to 2000 based on the city directory review.

Year	Occupant History
1937	No listing (No Address)
1951	539 Bragg Blvd. -No listing; 541 Bragg Blvd. – Ladley’s Pure Oil Service
1957	539 Bragg Blvd.-Wheatley Motors Inc. Auto; 545 Bragg Blvd. – Pure Oil
1963	Purvis Geo Motors
1968	Perkins Motors Inc.
1973	Perkins Motors Inc.
1980	Reliance Transmissions Inc.
1985	Stewart Used Cars
1990	Stewart Olds Nissan Auto Repair
1995	Stewart Olds Nissan Auto Repair
2000	Stewart Body Shop, Stewart Nissan Oldsmobile, & Stewart Peter Enterprises

As indicated above, the property was occupied by various commercial businesses from 1951 to the present. The city directories indicate that two (2) businesses or commercial buildings were located on the subject property in the past. The 1951 City Directory indicated a service station was located on the property, and the 1957 City Directory indicated an automotive dealership and service station were both located on Parcel 008. A review of Sanborn maps (1930) for this location indicated that the former structure observed near the northeast corner of the property near the intersection was classified as a “filling station,” verifying that the property was utilized as a gas station. This Sanborn map is also included in **Appendix A**.

On January 23, 2014, Pyramid emailed the Cumberland County B-4490 parcel addresses to Mr. James Brown, the Fayetteville Region Incident Manager for the DENR UST Section, with a request to investigate any environmental incidents associated with the parcels. On January 24, 2014, Mr. Brown responded to the email and stated that site address 539/542 Bragg Blvd. (Parcel 008) does not have any environmental incidents in the DENR database.

On January 20, 2014, Pyramid Project Manager Eric Cross performed a site visit at the property. The facility was an active automobile repair shop at the time of our investigation. It should be noted that the December 13, 2013, RFP provided to Pyramid by the NCDOT indicated that the facility was inactive in 2009. Mr. Cross interviewed Mr. Fred Prosperi, the current tenant who operated the repair facility. Mr. Prosperi indicated that he had been leasing the property for approximately 2 years, and that prior to his occupation, he believed the property had been used as a car dealership and repair shop since at least the 1940’s. He indicated that a working hydraulic lift was present inside the structure, and that he was not aware of any USTs on the property.

The hazard placard that was mentioned in the NCDOT RFP was observed on the outer wall of the building during our site visit. Mr. Prosperi indicated that the placard was present prior to his lease of the property, and that he was not aware of any chemicals or

hazardous materials that were currently stored on-site to which the placard applied. He indicated that the placard applied to past uses of the property. Our research suggests that the placard was likely associated with the property when it was operating as the Stewart Body Shop. This facility was listed in the Environmental Protection Agency (EPA) online enforcement and compliance history database as a Conditionally Exempt Small Quantity Generator. Our research did not provide any clear indication as to the exact materials that had been stored on the property that would necessitate the placard; however, the nature of the body shop would suggest that the materials were likely solvents, paints, and other hazardous materials typically used with auto body repair work.

3.0 Geophysical Investigation

Pyramid performed electromagnetic (EM) and ground penetrating radar (GPR) surveys across the accessible portions of the parcel. The majority of the EM features at the property were suspected to be associated with metallic reinforcement beneath the asphalt surface. The remaining features were associated with cultural features such as signs and manhole covers. Large areas of reinforced concrete were verified by the GPR. No structures were observed beneath the reinforcement that were indicative of USTs.

The geophysical investigation did not record evidence of any metallic USTs at the property. However, it should be noted that the metallic wire reinforcement underlying the asphalt can impede geophysical results.

The full details of the geophysical investigation are included in the Geophysical Investigation Report as **Appendix B**.

4.0 Soil Sampling Activities & Results

4.1 Soil Assessment Field Activities

On February 14, 2014, Pyramid mobilized to the site and drilled soil borings, installed one temporary monitoring well, and collected some of the proposed soil samples for the PSA. The soil borings and temporary well (TW) were completed using a track mounted Geoprobe® Direct-Push rig. Four (4) soil borings (8-1, 8-2, 8-3, and 8-4) were advanced on the subject property between the NCDOT proposed ROW and easements, and edge of pavement. The selected locations were chosen to avoid public utilities along the adjacent roads and private utilities associated with the business while remaining in the proposed right of way and/or easement. The soil borings were installed at or adjacent to proposed drainage piping, as indicated by the NCDOT engineering plans, or within the proposed ROW and/or easement to obtain additional information. Subsequent to the initial contaminant analysis (see below), an additional boring (8-5) was performed on February 18, 2014, to further delineate potential soil contamination at the parcel. The locations of

the borings are shown on **Figure 2**. A larger view of the parcel and the surrounding area is presented in **Figure 3**.

Soil samples were continuously collected in four-foot long disposable sleeves from each boring for geologic description, and visual examination for signs of contamination. Soil recovered from each sleeve was screened in the field using a Photo-Ionization Detector (PID) approximately every 2 feet depending on the amount of soil recovery in each sleeve. In general, the soil sample with the highest PID reading was selected from each boring for laboratory analysis. If field screening detected an elevated reading, then additional soil samples from each boring were selectively analyzed with the QED UVF HC-1 Analyzer. The soil boring logs with the soil descriptions, visual examination, and PID screening results are included in **Appendix C**. The PID field screening results are summarized in **Table 1**. To prevent cross contamination, new disposable nitrile gloves were worn by the sampling technician during the sampling activities, and were changed between samples. Possible to strong petroleum odors were detected in borings 8-2 and 8-5 during the field screening.

The soil samples selected for Total Petroleum Hydrocarbon (TPH) analyses were analyzed utilizing the QED UVF HC-1 Analyzer system from QROS-US. The NCDOT has indicated that this instrument is an acceptable method to provide total petroleum hydrocarbon (TPH) results for soil analysis for the PSA projects. Pyramid's QED-certified technician performed the soil analyses. The soil samples selected for analysis using the QED Analyzer were analyzed for TPH as diesel range organics (DRO) and TPH as gasoline range organics (GRO). The soil samples selected for analysis using the QED were preserved in the field with methanol and were analyzed at the end of each day using the QED.

In addition to the QED analysis, select samples were collected for more comprehensive laboratory analysis using EPA Methods 8260 and 8270 for volatile and semi-volatile organic compounds. These additional analyses were performed based on the site history of the property, which suggested that other potential contaminants such as solvents may have been utilized in the past in association with automobile repair. In general, soils that exhibited the highest PID readings and were above the water table were selected for the additional laboratory analyses. Specifically, samples 8-1(4-6), 8-2(4-6), 8-3(4-6), 8-4(4-6), and 8-5(4-6) were placed in laboratory prepared containers and shipped to Pace Analytical in Huntersville, NC for analysis of volatile and semi-volatile organic compounds.

4.2 Soil Sample Analytical Results

QED Results

The DENR action levels for both TPH-GRO and TPH-DRO are 10 mg/kg. The QED results for soil samples at boring locations 8-3 and 8-5 did not detect TPH-GRO or TPH-DRO concentrations above 10 mg/kg. The QED results did detect DRO concentrations

above 10 mg/kg at the locations of borings 8-1, 8-2, and 8-4. Specifically, a DRO concentration of 30.4 mg/kg was detected in sample 8-1(6-8), a DRO concentration of 52.4 mg/kg was detected in sample 8-2(4-6), and a DRO concentration of 25.2 mg/kg was detected in sample 8-4(4-6). The soil sample QED results are summarized in **Table 2**. A copy of the QED analysis report is included in **Appendix D**.

Laboratory Analysis for Methods 8260/8270

One soil sample from a depth of 4 to 6 feet in each boring was sent to the laboratory for analysis of soils using EPA Methods 8260/8270 for volatile and semi-volatile organic compounds based on the site usage history. The laboratory results did not detect any volatile or semi-volatile organic compounds above detection limits. The soil sample laboratory results are summarized in **Table 3**. A copy of the laboratory report and chain-of-custody is included in **Appendix E**.

4.3 Temporary Monitoring Well Installation

On February 14, 2014, Pyramid converted soil boring 8-3 into a 1-inch diameter temporary monitoring well (TW). Soil boring 8-3(TW) was completed to a total depth of 13 feet below land surface (BLS). The temporary well was constructed with 3 feet of 1-inch diameter of schedule 80 PVC casing and 10 feet of 1-inch diameter of schedule 80 PVC slotted screen. The temporary well was set in the boring with 10 feet of slotted screen at the bottom of the well.

On February 14, 2014, the temporary monitoring well 8-3(TW) was gauged using a properly decontaminated electric water level probe. The depth-to-groundwater was measured at 6.3 feet BLS. The temporary monitoring well was sampled using a new 0.5-inch diameter disposable bailer. Upon completion of the gauging and sampling, the temporary monitoring well was properly abandoned by the drillers by removing the casing, and filling the borehole with bentonite chips and portland cement.

4.4 Groundwater Analytical Results

The groundwater sample 8-3(TW) was placed in laboratory prepared containers for analysis of volatile organic compounds (VOCs) using EPA Method 6200B and semi-volatile organic compounds (SVOCs) using EPA Method 625. The sample was shipped to Pace Analytical in Huntersville, NC. It should be noted that the sample vials for EPA Method 6200B were misplaced by Pace Analytical, and therefore these analyses were not completed. The EPA Method 625 analyses were performed, and this issue was discussed with NCDOT Project Manager Gordon Box immediately upon realization of the error. The 625 laboratory analysis did not detect any semi-volatile organic compounds above laboratory detection limits in the groundwater sample. The groundwater results for sample 8-3(TW) are summarized in **Table 4**. A copy of the laboratory report and chain-of-custody is included in **Appendix E**.

5.0 Conclusions and Recommendations

As requested by NCDOT, Pyramid has completed a PSA at the S.C. Rankin, Est. property located 539/542 Bragg Blvd., Fayetteville, NC (Parcel 008). The following is a summary of the assessment activities and results. Personnel logs for all field work are included in **Appendix F**.

5.1 Geophysical Investigation

The geophysical investigation provided no evidence of metallic USTs within the existing and proposed ROW and/or easement. However, it should be noted that the metallic wire reinforcement underlying the asphalt can impede geophysical results.

5.2 Limited Soil Assessment

The DENR action levels for both TPH-GRO and TPH-DRO are 10 mg/kg. The QED results for soil samples at boring locations 8-3 and 8-5 did not detect TPH-GRO or TPH-DRO concentrations above 10 mg/kg. The QED results did detect DRO concentrations above 10 mg/kg at the locations of borings 8-1, 8-2, and 8-4. Specifically, a DRO concentration of 30.4 mg/kg was detected in sample 8-1(6-8), a DRO concentration of 52.4 mg/kg was detected in sample 8-2(4-6), and a DRO concentration of 25.2 mg/kg was detected in sample 8-4(4-6).

One soil sample from a depth of 4 to 6 feet in each boring was sent to the laboratory for analysis of soils using EPA Methods 8260/8270 for volatile and semi-volatile organic compounds based on the site usage history. The laboratory results did not detect any volatile or semi-volatile organic compounds above detection limits.

5.3 Limited Groundwater Assessment

Soil boring 8-3 was converted into a 1-inch diameter temporary monitoring well to a total depth of 13 feet BLS. The depth-to-groundwater was measured at 6.3 feet BLS. The laboratory analysis did not detect any semi-volatile organic compounds above laboratory detection limits in the groundwater sample. It should be noted that EPA Method 6200B for volatile organic compounds was not performed due to the lab misplacing the samples.

Review of the NCDOT engineering plans indicates that the NCDOT may encounter groundwater at the property during construction activities. However, no evidence of contamination was observed in the groundwater sample collected by Pyramid. Even though the sample was not analyzed using EPA Method 6200B, it was concluded that: 1) The lack of contamination evident in the Method 625 analysis of the groundwater, as well as 2) The lack of contamination in the soils below the water table measured by the QED at the location of the well, and 3) The absence of any contamination in the Method 8260/8270 analysis of soils across the site allows for the assertion that the groundwater is likely not contaminated.

5.4 Recommendations

Petroleum-Impacted Soils

During road construction activities, it is possible the NCDOT may encounter petroleum impacted soil near soil borings 8-1, 8-2, and 8-4. The direct source of this petroleum was not evident in the field; however, research of the site indicated that a small gas station was present near the location of these borings in the past. Additionally, the NCDOT may also encounter shallow groundwater during construction.

Soils with DRO above 10 mg/kg were observed at the location of borings 8-1, 8-2, and 8-3. The NCDOT Microstation slope stake information does not indicate any cuts to be made in this area, however, there are drainage features proposed to be constructed at the parcel that will require soil excavation.

Estimating the Area of Contamination

The estimated area of contamination is depicted on **Figure 2**. The boundaries of the area of contamination are generally estimated by applying a circular area of contamination around a boring exhibiting DRO/GRO levels above 10 mg/kg with a radius equal to half the distance between that boring and the nearest “clean” boring. In cases where this approach is not feasible, such as near property boundaries or where data does not exist to provide a definitive boundary, the area of contamination is terminated using the distance to the property boundary as a radius, or an educated approximation is applied.

Pyramid’s PSA investigation resulted in an estimated area of **8,238 square feet of impacted soil in the vicinity of borings 8-1, 8-2, and 8-4**. The deepest soil sample exhibiting contamination was observed to be at the sample depth 6-8 feet in boring 8-1. For this reason, a maximum depth of 8 feet will be used to approximate total volumes of contaminated soil. It should be noted that this is a gross estimate based on the data available. Using a total thickness of 8 feet of contaminated soil, Pyramid estimates approximately 65,904 cubic feet, or **2,441 cubic yards of impacted soils between 0 and 8 feet BLS** at the location of borings 8-1, 8-2, and 8-4. The north and west boundaries of this area of contamination are approximate due to limited soil data.

It should be noted that, if impacted soil is encountered during road construction outside of the area analyzed by this investigation, the impacted soil should be managed according to NC DENR Division of Waste Management (DWM) UST Section Guidelines and disposed of at a permitted facility.

6.0 Limitations

The results of this preliminary investigation are limited to the boring locations completed during this limited assessment and presented in this report. The laboratory results only reflect the current conditions at the locations sampled on the date this PSA was performed.

7.0 Closure

This report was prepared for, and is available solely for use by NCDOT and their designees. The contents thereof may not be used or relied upon by any other person without the express written consent and authorization of Pyramid Environmental & Engineering, P.C. (Pyramid). The observations, conclusions, and recommendations documented in this report are based on site conditions and information reviewed at the time of Pyramid's investigation. Pyramid appreciates the opportunity to provide this environmental service.

FIGURES

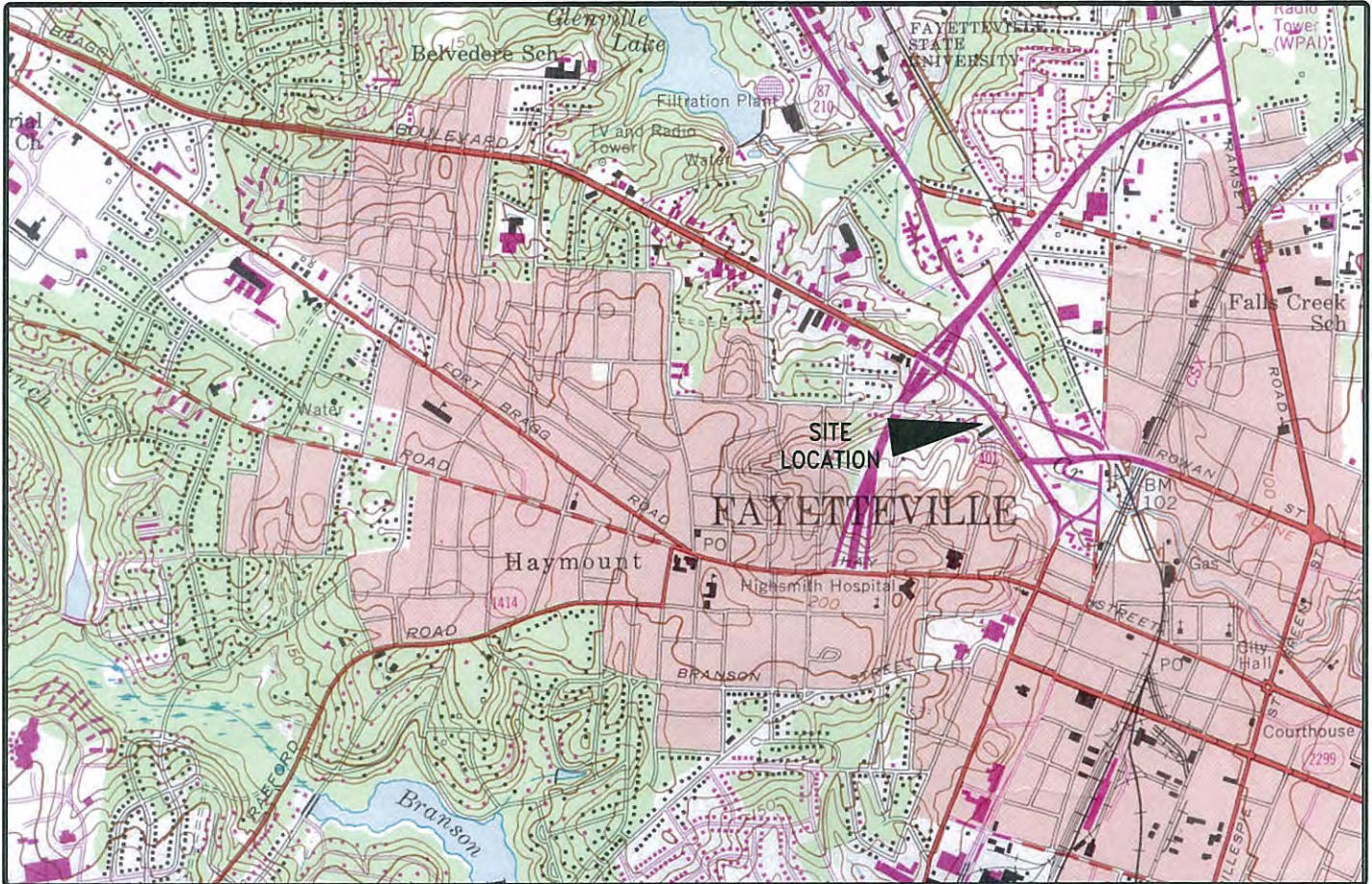
USGS TOPOGRAPHIC MAP

SITE:

539 BRAGG BLVD.

LOCATION:

FAYETTEVILLE, NORTH CAROLINA



USGS IDENTIFICATION

SCALES

USGS 7.5

MINUTE MAP

ORIGINAL DATE:

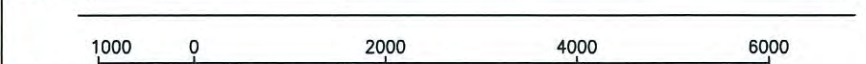
1957

PHOTOREVISION

DATE:

1987

FAYETTEVILLE, N.C.



1" = 2000'

	PRIMARY HIGHWAY, HARD SURFACE
	SECONDARY HIGHWAY, HARD SURFACE
	LIGHT-DUTY ROAD HARD OR IMPROVED SURFACE
	UNIMPROVED ROAD
	STATE ROAD
	U.S. ROUTE
	INTERSTATE ROUTE

NOTES: TOPOGRAPHICAL CONTOUR INTERVAL = 10 FEET
 PHOTOREVISIONS DENOTED IN PURPLE

MAGNETIC NORTH



COUNTY MAP OF:
NORTH CAROLINA



COUNTY: CUMBERLAND

APPROXIMATE SITE LOCATION



CLIENT: NC DOT B-4490

PROPERTY NAME: PARCEL 008, RANKIN, S.C. EST.

CITY: FAYETTEVILLE

STATE: NORTH CAROLINA

TITLE: TOPOGRAPHIC MAP

SCALE:
1"=2000'

DATE:
2/5/14

DRAWING NAME:
USGSTOPO

DRAWN BY: KAM

CHECK BY: TDL

JOB NO.: 2014-008

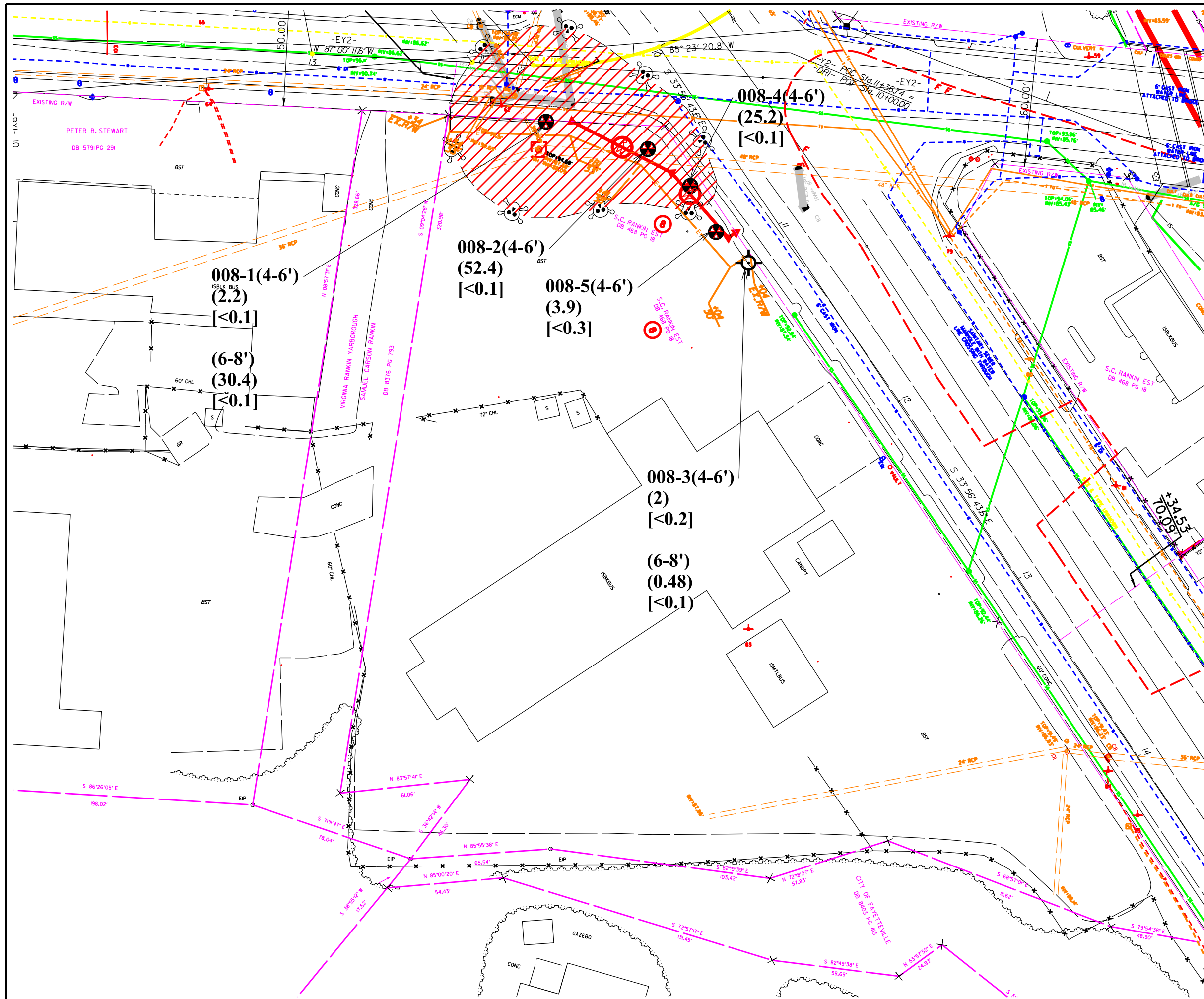
TYPE: PSA

FIGURE NUMBER:
1

NOTES

TOPOGRAPHIC MAP USED IN THIS GRAPHIC IS MAPPED, EDITED, AND PUBLISHED BY THE UNITED STATES GEOLOGIC SURVEY, DEPARTMENT OF THE INTERIOR, RESTON VIRGINIA.

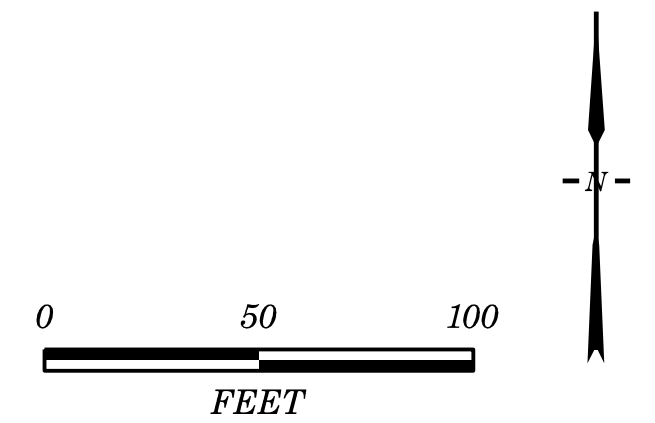
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS.



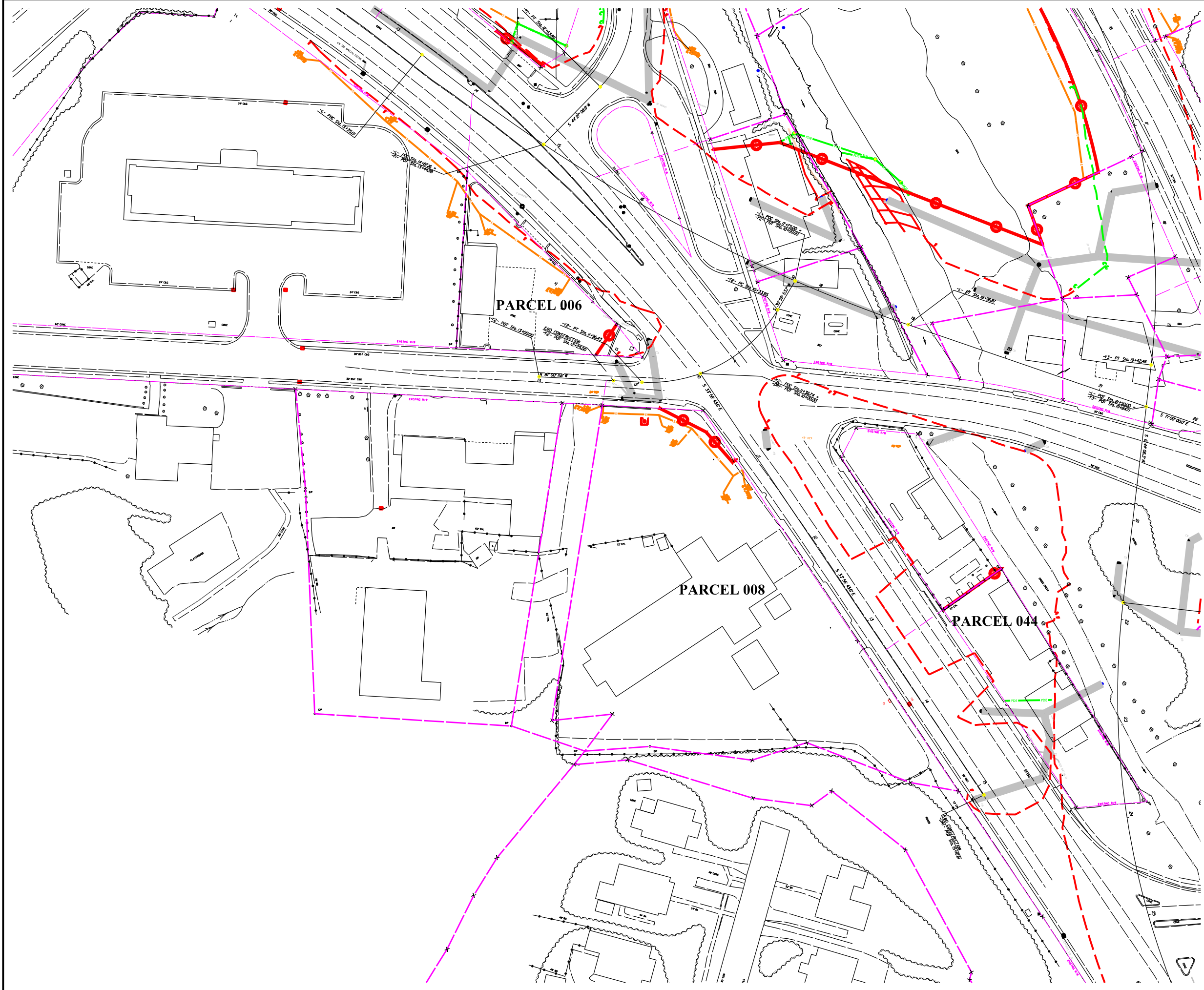
LEGEND

- PUE - PROPOSED UTILITY EASEMENT
- EXISTING ROW
- EXISTING PROPERTY BOUNDARY
- PROPOSED ROW
- PROPOSED CONST. EASEMENT
- PROP. DRAINAGE UTIL. EASEMENT
- PROPOSED SS CUT LINE
- PROPOSED SS FILL LINE
- PROPOSED SS TRANSITION LINE
- PROPOSED DRAINAGE PIPING
- PROPOSED DRAINAGE EASEMENT
- SOIL SAMPLE BORING LOCATION
- BORING CONVERTED TO MW (LAB DATA IN TABLE 4 OF REPORT)
- AREA OF CONTAMINATION (>10 PPM)

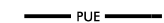










(<6.1) TPH-DRO concentration (mg/kg)
 [<6.1] TPH-GRO concentration (mg/kg)
 * DRO/GRO Analytical data collected by the method of QROS, QED Analyzer

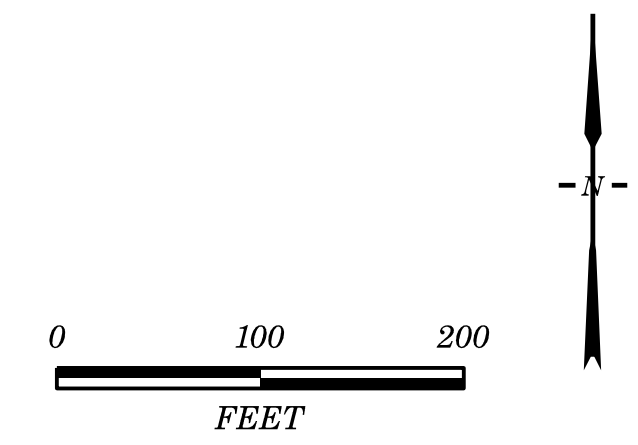



TITLE SOIL BORING LOCATIONS AND ESTIMATED AREA OF CONTAMINATION	
PROJECT NCDOT ROW PROJECT B-4490 (33727.1.1) S.C RANKIN, EST. - PARCEL 008 FAYETTEVILLE, CUMBERLAND COUNTY, NC	
503 INDUSTRIAL AVENUE GREENSBORO, NC 27406 336.335.3174 (p) 336.691.0648 (f) License # C1251 Eng. / #C257 Geology	
DATE: 2-21-14	REVISION NO. 0
PYRAMID PROJECT NO. 2014-008	FIGURE NO. 2



LEGEND

-  PROPOSED UTILITY EASEMENT
-  EXISTING ROW
-  EXISTING PROPERTY BOUNDARY
-  PROPOSED ROW
-  PROPOSED CONST. EASEMENT
-  PROP. DRAINAGE UTIL. EASEMENT
-  PROPOSED SS CUT LINE
-  PROPOSED SS FILL LINE
-  PROPOSED SS TRANSITION LINE
-  PROPOSED DRAINAGE PIPING
-  PROPOSED DRAINAGE EASEMENT



TITLE SITE MAP OF PARCEL AND SURROUNDING AREA	
PROJECT NCDOT ROW PROJECT B-4490 (33727.1.1) RANKIN, S.C., EST - PARCEL 008 FAYETTEVILLE, CUMBERLAND COUNTY, NC	
 PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.	503 INDUSTRIAL AVENUE GREENSBORO, NC 27406 336.335.3174 (p) 336.691.0648 (f) License # C1251 Eng. / #C257 Geology
DATE: 2-21-14	REVISION NO. 0
PYRAMID PROJECT NO. 2014-008	FIGURE NO. 3

TABLES

TABLE 1
Summary of Soil Field Screening Results
NCDOT Project B-4490
539/542 Bragg Blvd. - Parcel 008
Fayetteville, Cumberland County, North Carolina

SOIL BORING	SAMPLE ID	DEPTH (feet bgs)	PID READINGS (PPM)
8-1	8-1(2-4)	2 to 4	15.0
	8-1(4-6)	4 to 6	60.0
	8-1(6-8)	6 to 8	115.0
8-2	8-2(2-4)	2 to 4	20.0
	8-2(4-6)	4 to 6	25.0
	8-2(6-8)	6 to 8	45.0
8-3	8-3(2-4)	2 to 4	365.0
	8-3(4-6)	4 to 6	530.0
	8-3(6-8)	6 to 8	640.0
8-4	8-4(2-4)	2 to 4	110.0
	8-4(4-6)	4 to 6	190.0
	8-4(6-8)	6 to 8	130.0
8-5	8-5(1-2)	1 to 2	0.0
	8-5(2-4)	2 to 4	160.0
	8-5(4-6)	4 to 6	280.0
	8-5(6-8)	6 to 8	340.0

bgs= below ground surface

PID= photo-ionization detector

PPM= parts-per-million

☐ = sampled for lab analysis &/or QROS-QED analysis

OVA= Organic Vapor Analyzer

TABLE 2
Summary of Soil Sample QED Analytical Results for GRO/DRO
 NCDOT State Project B-4490
 539/542 Bragg Blvd. - Parcel 008
 Fayetteville, Cumberland County, North Carolina

SAMPLE ID	DATE	DEPTH (feet)	PID (ppm)	QROS - QED Analysis			Laboratory Analysis (Pace)	
				GRO (mg/kg) (C5-C10)	DRO (mg/kg) (C10-C35)	TPH (mg/kg) (C5-C35)	EPA Method 3550 DRO (mg/kg)	EPA Method 5035 GRO (mg/kg)
8-1(4-6)	2/14/2014	4 to 6	60.0	<0.1	2.2	2.2	-----	-----
8-1(6-8)	2/14/2014	6 to 8	115.0	<0.1	30.4	30.4	-----	-----
8-2(4-6)	2/14/2014	4 to 6	25.0	<0.1	52.4	52.4	-----	-----
8-3(4-6)	2/14/2014	4 to 6	530.0	<0.2	2	2	-----	-----
8-3(6-8)	2/14/2014	6 to 8	640	<0.1	0.48	0.48	-----	-----
8-4(4-6)	2/14/2014	4 to 6	190	<0.1	25.2	25.2	-----	-----
8-5(4-6)	2/18/2014	4 to 6	280	<0.3	3.9	3.9	-----	-----
NC Initial Action Level - UST Section for 5035/5030-GRO; 3550-DRO				10	10	NA	10	10

PID= photo-ionization detector
 PPM= parts-per-million

GRO= Gasoline Range Organics
 DRO= Diesel Range Organics
 mg/kg= milligrams-per-kilogram

TPH= Total Petroleum Hydrocarbons (GRO + DRO)

NA= Not Applicable
 "-----" = No Laboratory Analysis

* Bold values indicate concentrations above initial action levels

TABLE 3
Summary of Volatile/Semi-Volatile Laboratory Results of Soil Samples
Parcel 008 - S.C. Rankin, Est.
539/542 Bragg Blvd., Cumberland County, NC

Analytical Parameter	Analytical Method	SAMPLE ID NUMBER					Residential MSCC (mg/kg)	Soil to Groundwater MSCC (mg/kg)
		8-1(4-6)	8-2(4-6)	8-3(4-6)	8-4(4-6)	8-5(4-6)		
	Sample Date:	2/14/2014	2/14/2014	2/14/2014	2/14/2014	2/18/2014		
	Depth (feet):	4 to 6	4 to 6	4 to 6	4 to 6	4 to 6		
	Location	NW parcel	at intersection	SE corner	along Bragg	along Bragg		
Acetone	8260	ND	ND	ND	ND	ND	14000	24
Benzene	8260	ND	ND	ND	ND	ND	18	0.0056
Bromobenzene	8260	ND	ND	ND	ND	ND	NMSCC	NMSCC
Bromoform	8260	ND	ND	ND	ND	ND	81	0.026
2-Butanone (MEK)	8260	ND	ND	ND	ND	ND	9385	16
n-Butylbenzene	8260	ND	ND	ND	ND	ND	626	4.3
sec-Butylbenzene	8260	ND	ND	ND	ND	ND	626	3.3
Styrene	8260	ND	ND	ND	ND	ND	3128	1.5
tert-Butylbenzene	8260	ND	ND	ND	ND	ND	626	3.4
4-Chlorotoluene	8260	ND	ND	ND	ND	ND	1000	0.1
Ethylbenzene	8260	ND	ND	ND	ND	ND	1560	4.9
1,2-Dichloroethane	8260	ND	ND	ND	ND	ND	7	0.0019
Isopropyl ether (IPE)	8260	ND	ND	ND	ND	ND	156	0.37
Isopropylbenzene	8260	ND	ND	ND	ND	ND	1564	1.7
P-Isopropyltoluene	8260	ND	ND	ND	ND	ND	NMSCC	NMSCC
Naphthalene	8260	ND	ND	ND	ND	ND	313	0.16
n-Propylbenzene	8260	ND	ND	ND	ND	ND	626	1.7
Toluene	8260	ND	ND	ND	ND	ND	1200	4.3
1,2,4-Trimethylbenzene	8260	ND	ND	ND	ND	ND	782	8.5
1,3,5-Trimethylbenzene	8260	ND	ND	ND	ND	ND	782	8.3
Total Xylenes	8260	ND	ND	ND	ND	ND	3129	4.6
MTBE	8260	ND	ND	ND	ND	ND	350	0.091
2-Hexanone	8260	ND	ND	ND	ND	ND	70	0.1
Methylene chloride	8260	ND	ND	ND	ND	ND	85	0.02
All Other 8260 Parameters	8260	ND	ND	ND	ND	ND	NA	NA
Acenaphthene	8270	ND	ND	ND	ND	ND	940	8.2
bis(2-Ethylhexyl)phthalate	8270	ND	ND	ND	ND	ND	46	6.6
1-Methylnaphthalene	8270	ND	ND	ND	ND	ND	20	0.004
2-Methylnaphthalene	8270	ND	ND	ND	ND	ND	63	3.6
Naphthalene	8270	ND	ND	ND	ND	ND	313	0.16
All Other 8270 Parameters	8270	ND	ND	ND	ND	ND	NA	NA
PID Field Screening (ppm)	PID	60	25.0	530.0	190.0	280.0	NA	NA

mg/kg = parts per million (ppm).
BOLD values are above MSCC levels.
NS=Not Sampled for Parameter

MSCC = Maximum Soil Contaminant Concentrations
ND = Not Detected.
J= Estimated Concentration

NMSCC= No MSCC
NA Not Applicable
CI= Considered Immobile

TABLE 4
Summary of Groundwater Analytical Results
 NCDOT State Project B-4490
 539/542 Bragg Blvd. - Parcel 008
 Fayetteville, Cumberland County, North Carolina

PARAMETER	UNITS	SAMPLE ID	NCAC 2L GROUNDWATER STANDARD
		8-3(TW)	
EPA Method 625 Semi-Volatile Organic Compounds			
Acenaphthene	ug/L	ND	80
Diethylphthalate	ug/L	ND	6000
bis(2-Ethylhexyl)phthalate	ug/L	ND	3
Naphthalene	ug/L	ND	6
Phenanthrene	ug/L	ND	200
Phenol	ug/L	ND	30
Pyrene	ug/L	ND	200
All Other Parameters	ug/L	ND	NA

ug/L= micrograms-per-liter

ND= Not Detected at or above adjusted reporting limit.

NA= Not Applicable

APPENDIX A



Image © 2014 DigitalGlobe

Google earth
2011

Google earth





Image © 2014 DigitalGlobe

Google earth
2010

Google earth





Image © 2014 DigitalGlobe

Google earth
2009

Google earth

feet
meters



300



100





Image © 2014 DigitalGlobe

Google earth
2003

Google earth





Image U.S. Geological Survey

Google earth
24 1993

Google earth

feet 300
meters 100



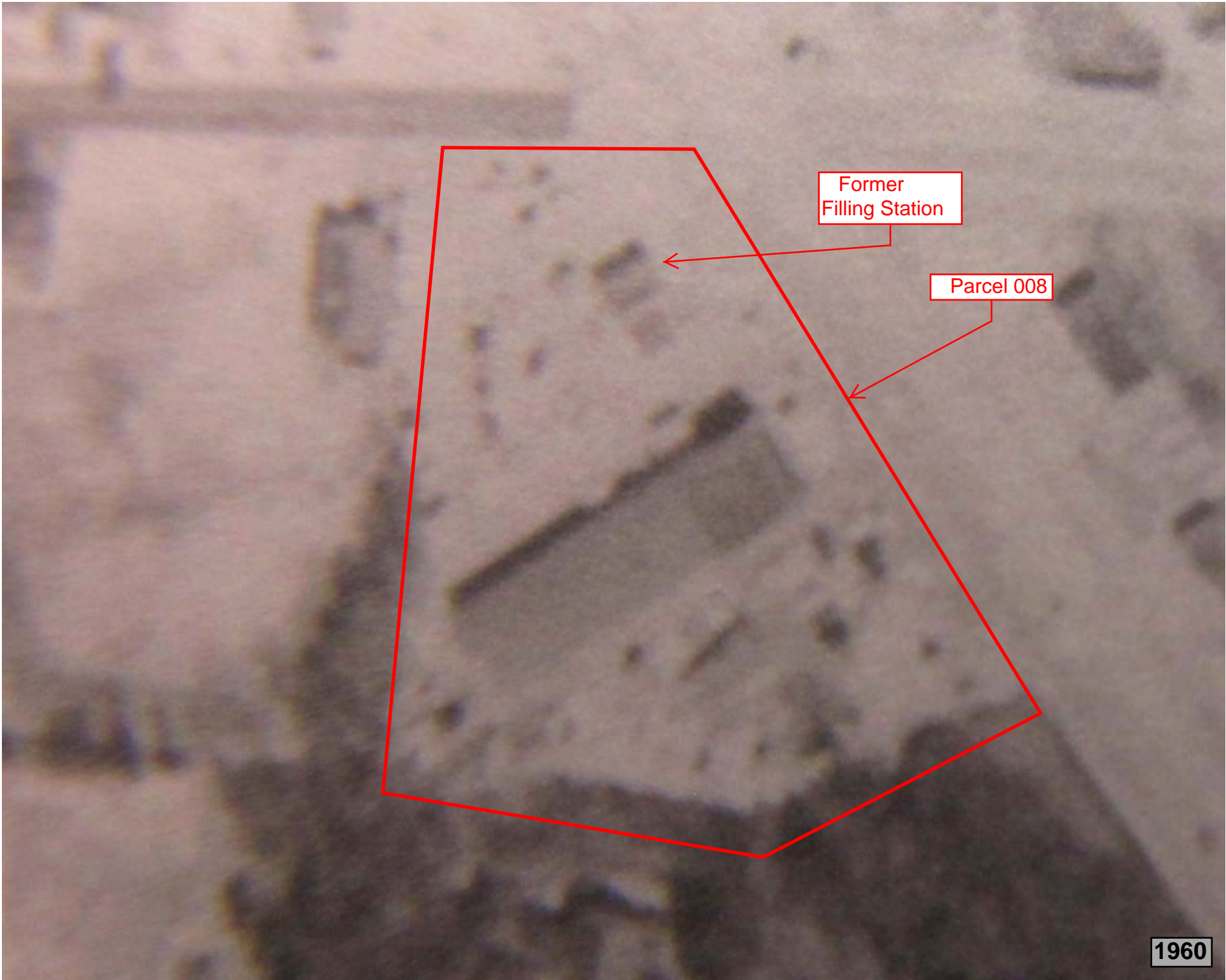


Parcel 008

1972

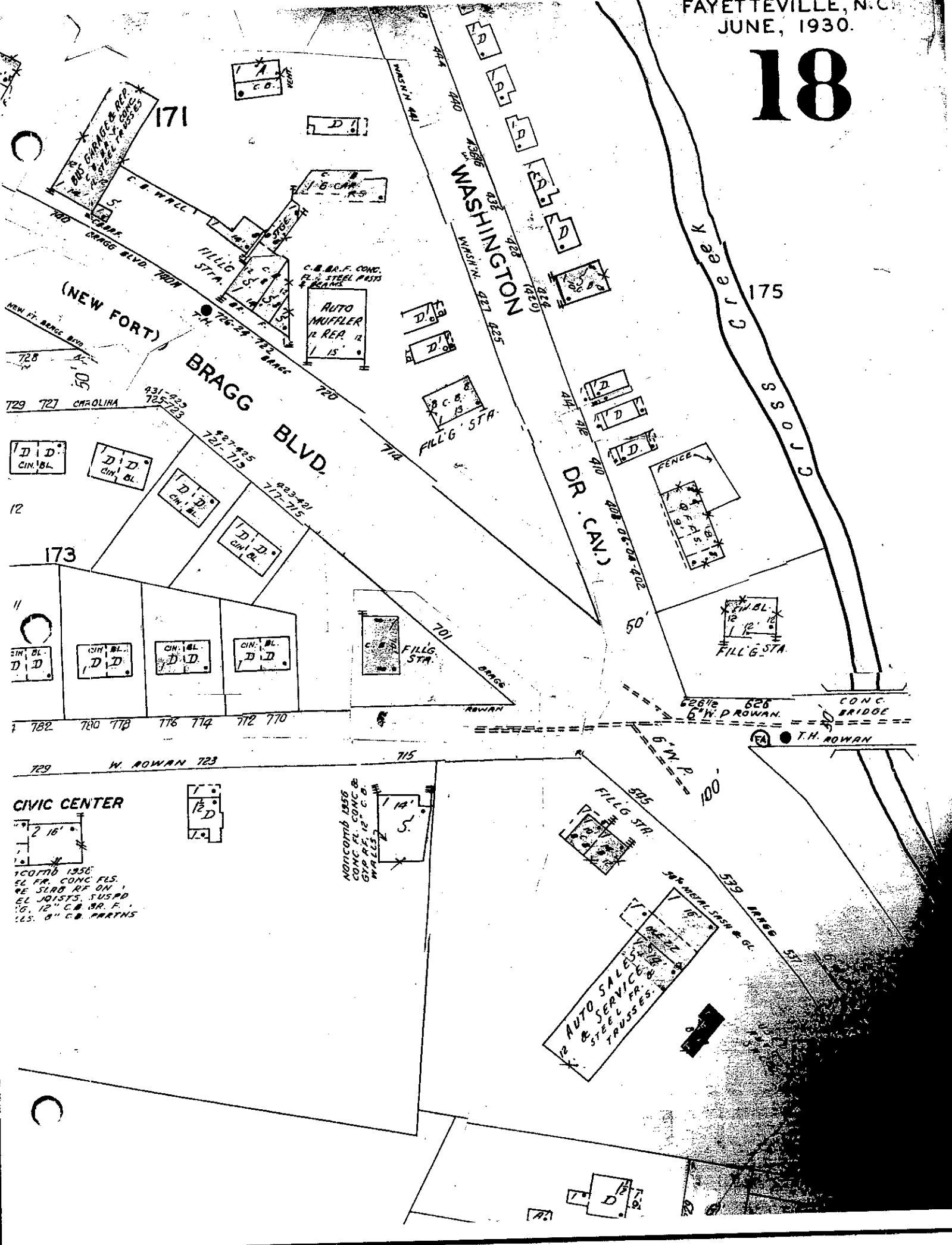


Parcel 008



Former
Filling Station

Parcel 008



APPENDIX B



PYRAMID ENVIRONMENTAL & ENGINEERING
(PROJECT 2014-008)

GEOPHYSICAL SURVEY

PARCEL 008 – S.C. RANKIN, EST.
539/542 BRAGG BLVD.
NCDOT PROJECT B-4490 (33727.1.1)

FAYETTEVILL, CUMBERLAND COUNTY, NC

FEBRUARY 12, 2014

Report prepared for: Mr. Gordon Box
GeoEnvironmental Project Manager
Geotechnical Engineering Unit
1020 Birch Ridge Drive
Raleigh, NC 27610

Prepared by: _____

Eric C. Cross, P.G.
NC License #2181

Reviewed by: _____

Douglas A. Canavello, P.G.
NC License #1066

503 INDUSTRIAL AVENUE, GREENSBORO, NC 27406

P: 336.335.3174 F: 336.691.0648

C257: GEOLOGY C1251: ENGINEERING

GEOPHYSICAL INVESTIGATION REPORT
Parcel 008, 539/542 Bragg Blvd.
Fayetteville, Cumberland County, North Carolina

Table of Contents

Executive Summary	1
Introduction.....	2
Field Methodology.....	2
Discussion of Results.....	3
Summary and Conclusions	5
Limitations	5

Figures

- Figure 1 – Parcel 008 – Geophysical Survey Boundaries and Site Photographs
- Figure 2 – Parcel 008 – North Survey Grid EM61 Bottom Coil & Differential Results
Contour Maps
- Figure 3 – Parcel 008 – East Survey Grid EM61 Bottom Coil & Differential Results
Contour Maps
- Figure 4 – Parcel 008 – Overlay of EM61 Contour Map On Engineering Plans
- Figure 5 – Parcel 008 – GPR Transect Locations and Select Images

Appendices

- Appendix A – GPR Transect Images

EXECUTIVE SUMMARY

Project Description: Pyramid Environmental conducted a geophysical investigation for the North Carolina Department of Transportation (NCDOT), at the S.C. Rankin, Est. property, Parcel 008, 539/542 Bragg Blvd., Fayetteville, Cumberland County, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project B-4490). The geophysical survey boundaries at the project site were designed to include the portions of the property between the existing edge of pavement and the proposed ROW and easements, whichever distance was greater. The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys.

Geophysical Results: The majority of the EM features at the property were suspected to be associated with metallic reinforcement beneath the asphalt surface. The remaining features were associated with cultural features such as signs and manhole covers. Large areas of reinforced concrete were verified by the GPR. No structures were observed beneath the reinforcement that were indicative of USTs. The geophysical investigation did not record evidence of any metallic USTs at the property. However, it should be noted that extensive metallic reinforcement can impede geophysical results.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for the North Carolina Department of Transportation (NCDOT), at the S.C. Rankin, Est. property, Parcel 008, 539/542 Bragg Blvd., Fayetteville, Cumberland County, NC. The survey was part of an NCDOT Right-of-Way (ROW) investigation (NCDOT Project B-4490). The geophysical survey boundaries at the project site were designed to include the portions of the property between the existing edge of pavement and the proposed ROW and easements, whichever distance was greater. The survey area extended around an intersection, and this shape resulted in the area being divided into two separate survey grids (north and east). The north survey grid spanned approximately 100 feet from west to east and approximately 30 feet from north to south. The east survey grid spanned approximately 30 feet from west to east and approximately 100 feet from north to south. Conducted on January 28, 30, and February 4, 2014, the geophysical investigation was performed to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

The site contained an active automobile repair facility to the south of the survey area, and otherwise consisted primarily of open asphalt parking space. Aerial photographs showing the survey area boundaries and ground-level photographs are shown in **Figure 1**.

FIELD METHODOLOGY

Prior to conducting the geophysical investigation, a 20-foot by 10-foot survey grid was established across the geophysical survey areas using measuring tapes and water-based marking paint. These grid marks were used as X-Y coordinates for location control when collecting the geophysical data and establishing base maps for the geophysical results.

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. The EM survey was performed on January 28, 2014, using a Geonics EM61 metal detection instrument. According to the instrument specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. Smaller objects (1-foot or less in size) can be detected to a maximum depth of 4 to 5 feet. The EM61 data

were digitally collected at approximately 0.8 foot intervals along north-south trending or east-west trending, parallel survey lines spaced five feet apart. The data were downloaded to a computer and reviewed in the field and office using the Geonics DAT61 and Surfer for Windows Version 11.0 software programs.

GPR data were acquired across select EM differential anomalies and areas of reinforced concrete on January 30 and February 4, 2014, using a Geophysical Survey Systems, Inc. (GSSI) SIR-2000 unit equipped with a 400 MHz antenna. Data were collected generally from east to west and north to south across the property. The GPR data were viewed in real time using a vertical scan of 512 samples, at a rate of 48 scans per second. GPR data were viewed down to a maximum depth of approximately 8 feet, based on an estimated two-way travel time of 8 nanoseconds per foot. GPR transects across specific anomalies were saved to the hard drive of the SIR unit for post-processing and figure generation.

DISCUSSION OF RESULTS

Contour plots of the EM61 bottom coil and differential results obtained across north and east survey areas at the property are presented in **Figures 2 and 3**, respectively. The bottom coil results represent the most sensitive component of the EM61 instrument and detect metal objects regardless of size. The bottom coil response can be used to delineate metal conduits or utility lines; small, isolated metal objects, and areas containing insignificant metal debris. The differential results are obtained from the difference between the top and bottom coils of the EM61 instrument. The differential results focus on the larger metal objects such as drum and UST-size objects and ignore the smaller insignificant metal objects.

Discussion of EM Anomalies – North Survey Grid: Parked vehicles were present on the west and east sides of the survey area, and these inaccessible areas are denoted on the figure. The EM response immediately surrounding these areas is the result of the metal vehicles. Reinforced concrete was present across the majority of the north boundary of the survey area, resulting in the observed high amplitude EM response across this location. The EM response at X=70, Y=35 was the result of a manhole cover, and the EM feature extending to the west of the manhole cover was interpreted to be associated with the storm drain pipe extending away from the location of the

manhole. The high amplitude EM response on the east side of the survey area, to the east of the vehicle block, was suspected to be the result of a combination of reinforcement below the asphalt, utilities, and/or debris. GPR transects were performed across this area, as well as between the two blocks of vehicles, to further investigate the EM features.

Discussion of EM Anomalies – East Survey Grid: The entire east survey area exhibited a significant differential EM response that was indicative of reinforcement under the asphalt. It was suspected that the asphalt had been overlain on top of reinforced concrete. Additionally, the EM feature at X=35, Y=73 was the result of a sign post, and the feature at X=35, Y=103 was the result of a light post. The feature at X=25, Y=120 was associated with the block of vehicles discussed in the previous section. GPR Transects were performed across the entire survey area due to the suspected reinforcement in the subsurface.

Discussion of GPR Survey: **Figure 5** presents the locations of the formal GPR transects performed at the property, as well as images of some of the transects. **Appendix A** includes images of all GPR transects performed at the site. GPR Transects 1-5 were performed in the north survey grid area. Transects 1 and 2 were performed to the east of the eastern block of vehicles, and recorded distinct reflectors that were suggestive of possible reinforcement under the asphalt or isolated metallic debris. Transect 3 recorded disrupted reflectors that were suspected to be associated with a storm drain pipe. None of the transects performed in the north survey area provided evidence of large structures such as USTs.

GPR Transects 6-14 were performed in the east survey grid area. These transects were set up in a grid-like fashion to investigate the entire area due to the EM interference caused by suspected reinforcement. The east survey transects verified the presence of metallic reinforcement beneath the asphalt across the majority of the survey area. None of the transects performed in the east survey area provided evidence of large structures such as USTs.

The geophysical investigation did not record any evidence of metallic USTs at the property within the survey area limits. However, it should be noted that metallic reinforcement can impede GPR depth penetration and can generate strong reflectors in the shallow subsurface associated with the reinforcement that result in less definition of deeper objects and geology.

SUMMARY & CONCLUSIONS

Our evaluation of the EM61 and GPR data collected across Parcel 008 in Fayetteville, North Carolina, provides the following summary and conclusions:

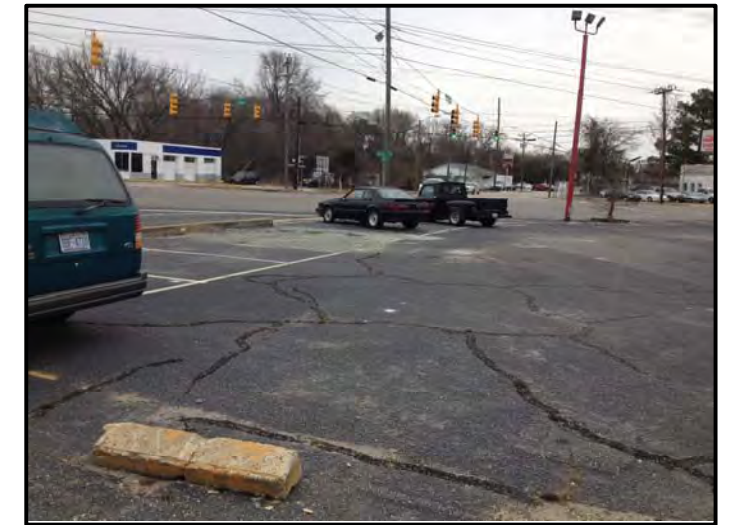
- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the accessible portions of the geophysical survey area.
- The majority of the EM features at the property were suspected to be associated with metallic reinforcement beneath the asphalt surface. The remaining features were associated with cultural features such as signs and manhole covers.
- Large areas of reinforced concrete were verified by the GPR. No structures were observed beneath the reinforcement that were indicative of USTs.
- The geophysical investigation did not record evidence of any metallic USTs at the property. However, it should be noted that extensive metallic reinforcement can impede geophysical results.

LIMITATIONS

Geophysical surveys have been performed and this report prepared for the NCDOT in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR surveys are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained for this project have not conclusively determined the definitive presence or absence of metallic USTs, but that the evidence collected is sufficient to result in the conclusions made in this report. Additionally, it should be understood that areas containing extensive vegetation, reinforced concrete, or other restrictions to the accessibility of the geophysical instruments could not be fully investigated.




Approximate Boundaries of the Geophysical Survey Area



View of North Survey Area
(Facing Approximately East)

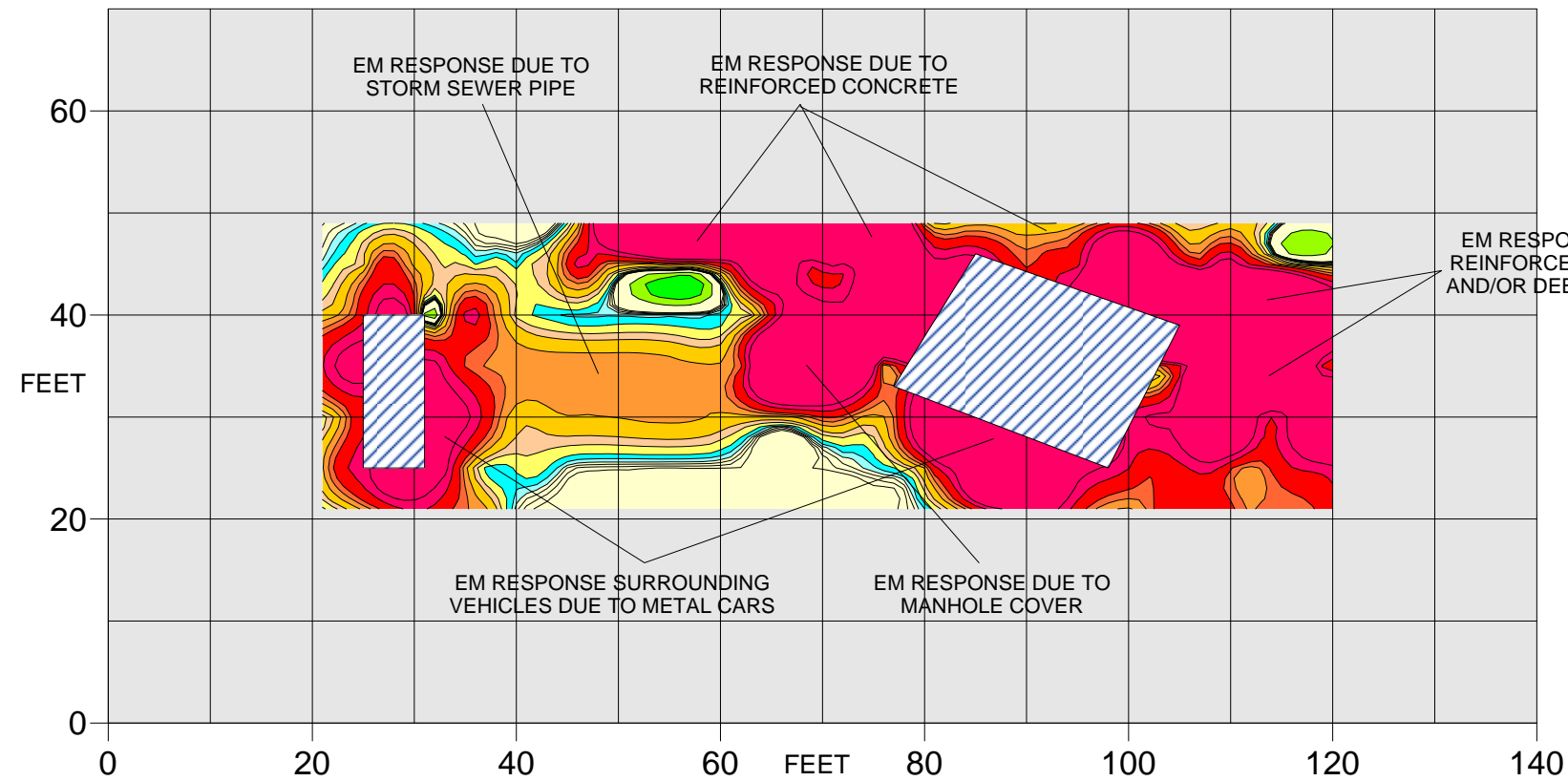


View of East Survey Area
(Facing Approximately South)

TITLE		PARCEL 008: GEOPHYSICAL SURVEY BOUNDARIES AND SITE PHOTOGRAPHS	
PROJECT		NCDOT PROJECT B-4490 (33727.1.1) FAYETTEVILLE, CUMBERLAND COUNTY, NC	
		503 INDUSTRIAL AVENUE GREENSBORO, NC 27460 (336) 335-3174 (p) (336) 691-0648 (f) License # C1251 Eng. / License # C257 Geology	
DATE	2/7/2014	CLIENT	NCDOT
PYRAMID PROJECT #:	2014-008	FIGURE 1	



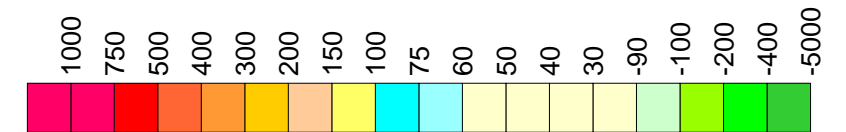
EM61 Bottom Coil Results



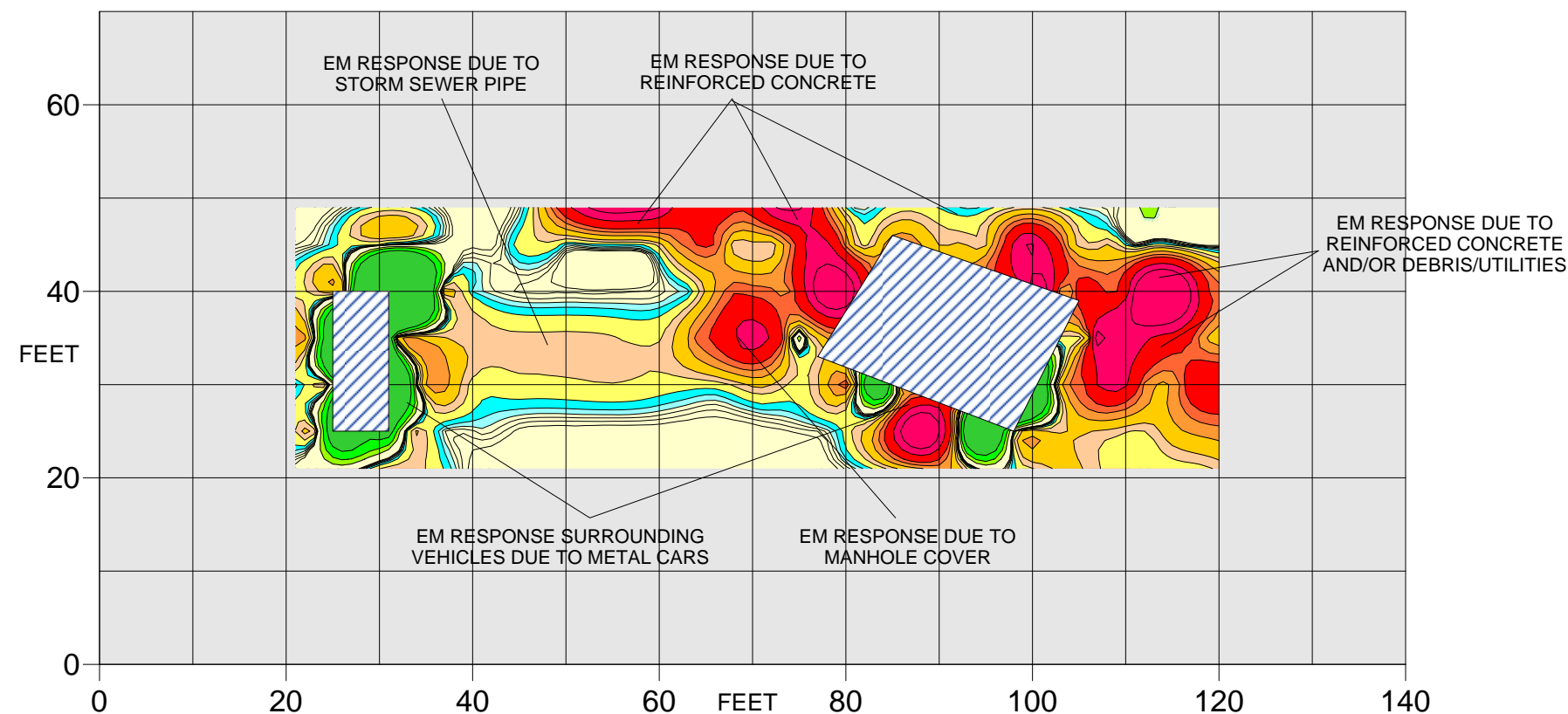
NO EVIDENCE OF METALLIC USTs OBSERVED

The contour plots show the bottom coil (most sensitive) and differential results of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous buried, metal debris. The EM61 data were collected on January 28, 2013 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were collected on January 30 & February 4, 2013, using a GSSI SIR 2000 unit coupled to a 400 MHz antennae.

EM61 Metal Detection Response (millivolts)



EM61 Differential Results

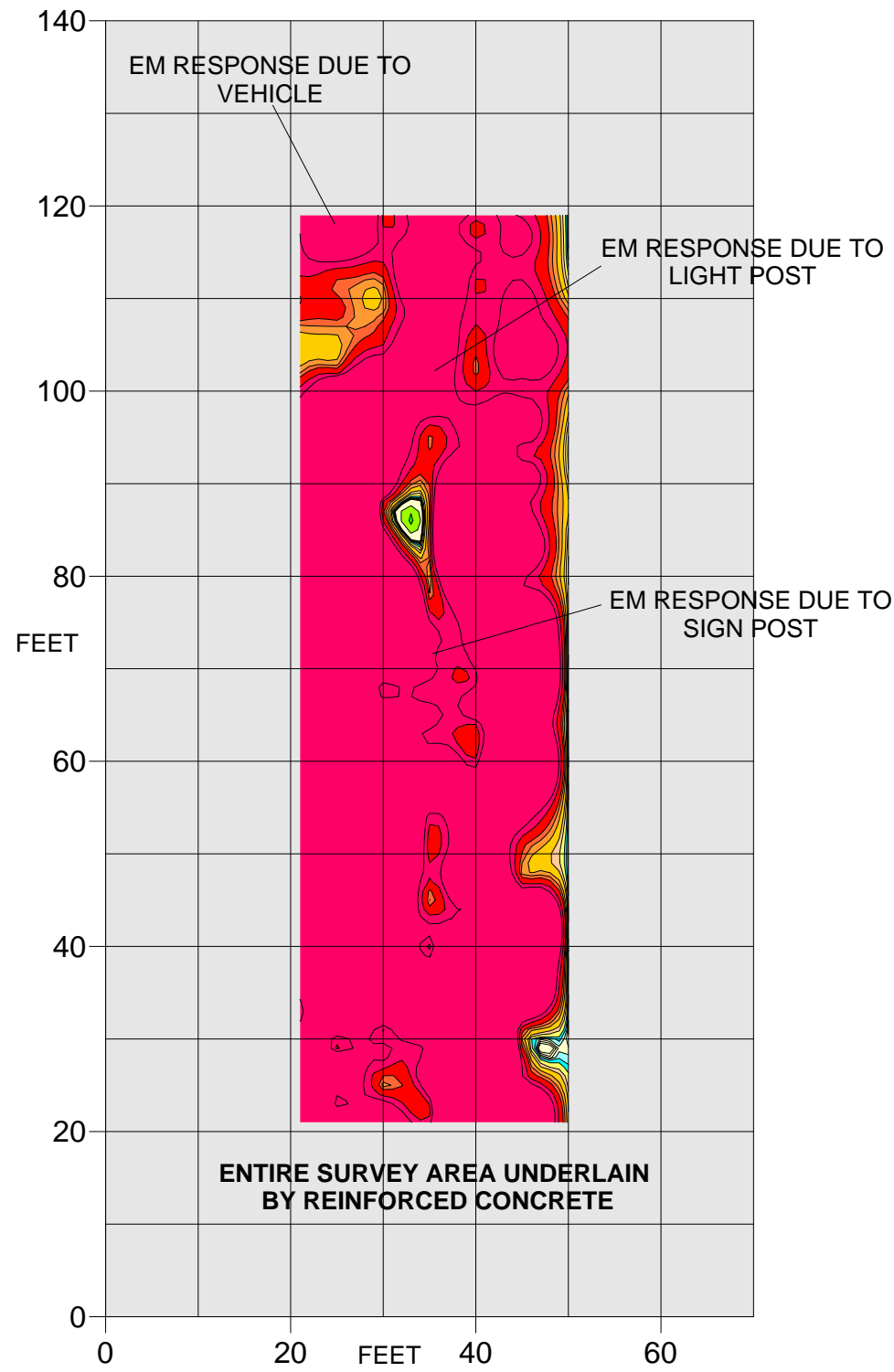


TITLE		PARCEL 008 - NORTH SURVEY GRID: EM61 BOTTOM COIL & DIFFERENTIAL RESULTS CONTOUR MAPS	
PROJECT		NCDOT PROJECT B-4490 (34437.1.1) FAYETTEVILLE, CUMBERLAND COUNTY, NC	
		503 INDUSTRIAL AVENUE GREENSBORO, NC 27460 (336) 335-3174 (p) (336) 691-0648 (f) License # C1251 Eng. / License # C257 Geology	
DATE	2/7/2014	CLIENT	NCDOT
PYRAMID PROJECT #:	2014-008	FIGURE 2	

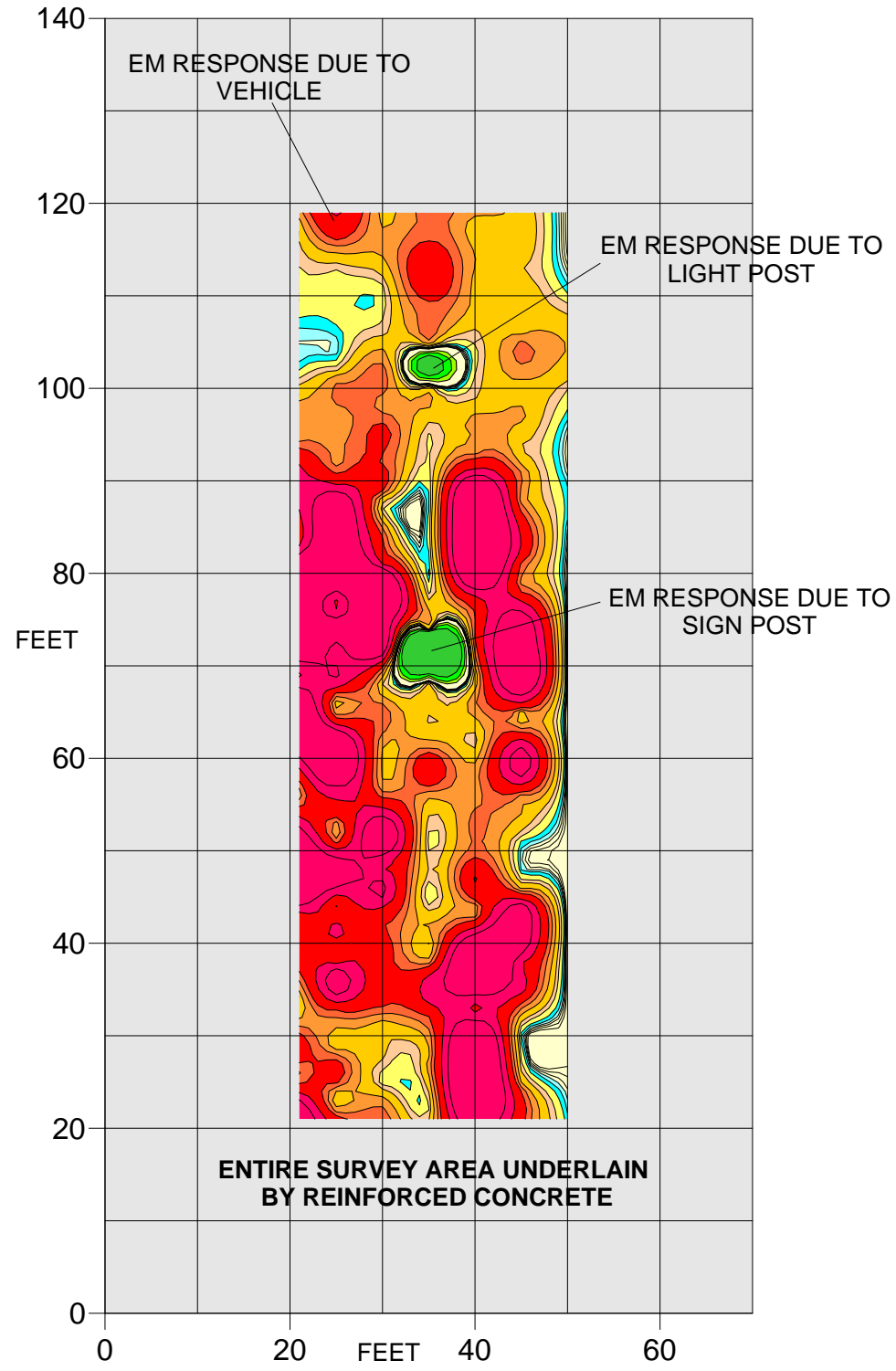


NO EVIDENCE OF METALLIC USTs OBSERVED

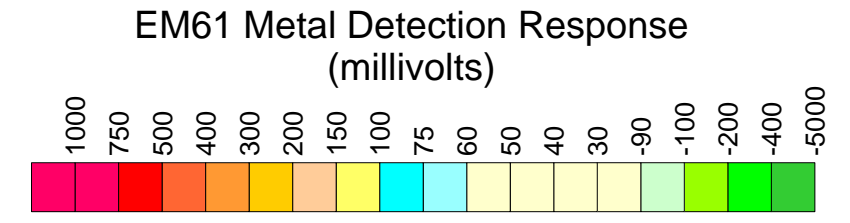
EM61 Bottom Coil Results




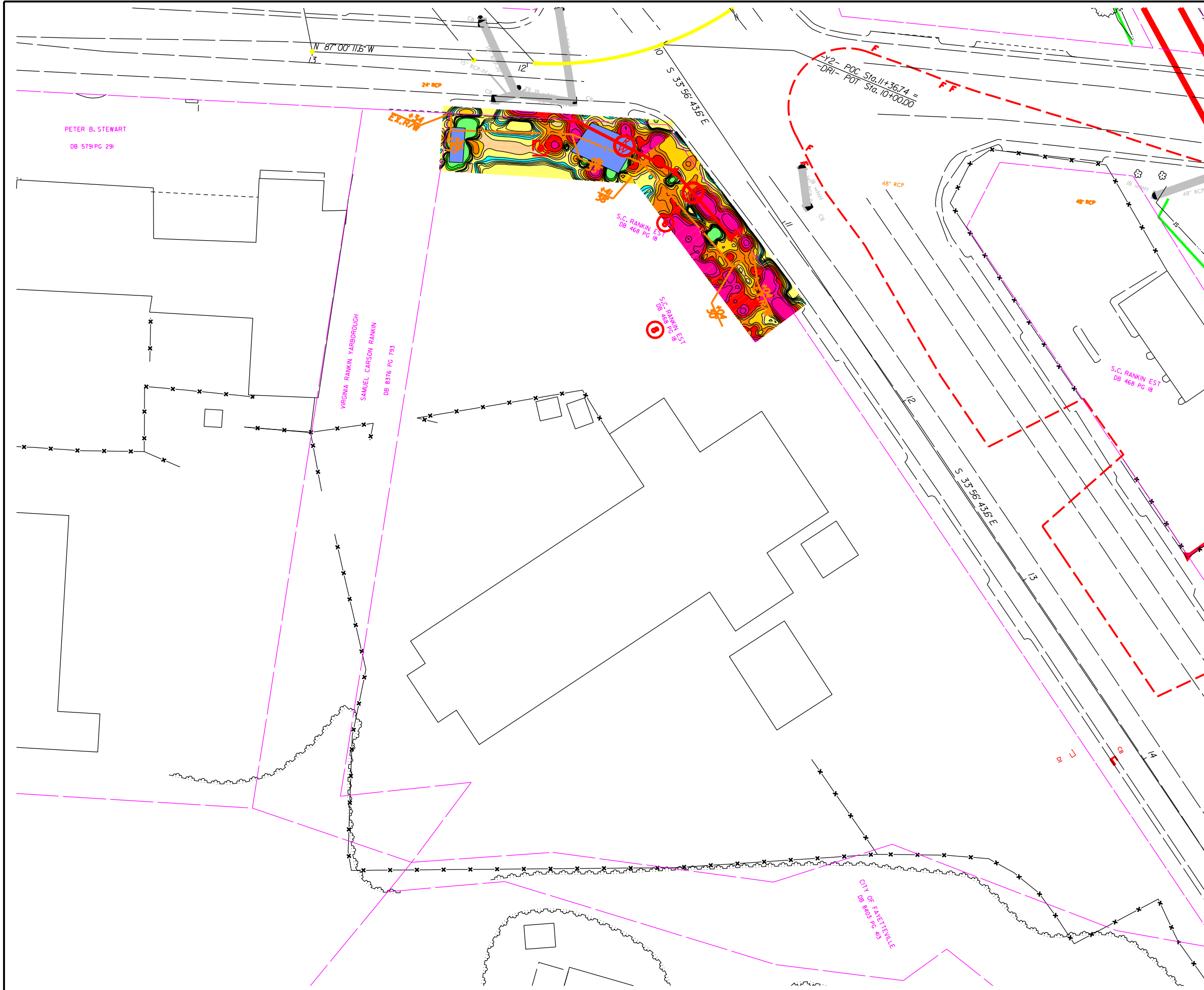
EM61 Differential Results















The contour plots show the bottom coil (most sensitive) and differential results of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous buried, metal debris. The EM61 data were collected on January 28, 2013 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were collected on January 30 & February 4, 2013, using a GSSI SIR 2000 unit coupled to a 400 MHz antennae.

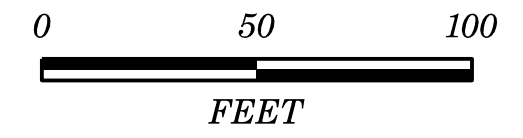



TITLE		PARCEL 008 - EAST SURVEY GRID: EM61 BOTTOM COIL & DIFFERENTIAL RESULTS CONTOUR MAPS	
PROJECT		NCDOT PROJECT B-4490 (34437.1.1) FAYETTEVILLE, CUMBERLAND COUNTY, NC	
		503 INDUSTRIAL AVENUE GREENSBORO, NC 27460 (336) 335-3174 (p) (336) 691-0648 (f) License # C1251 Eng. / License # C257 Geology	
DATE	2/7/2014	CLIENT	NCDOT
PYRAMID PROJECT #:	2014-008	FIGURE 3	

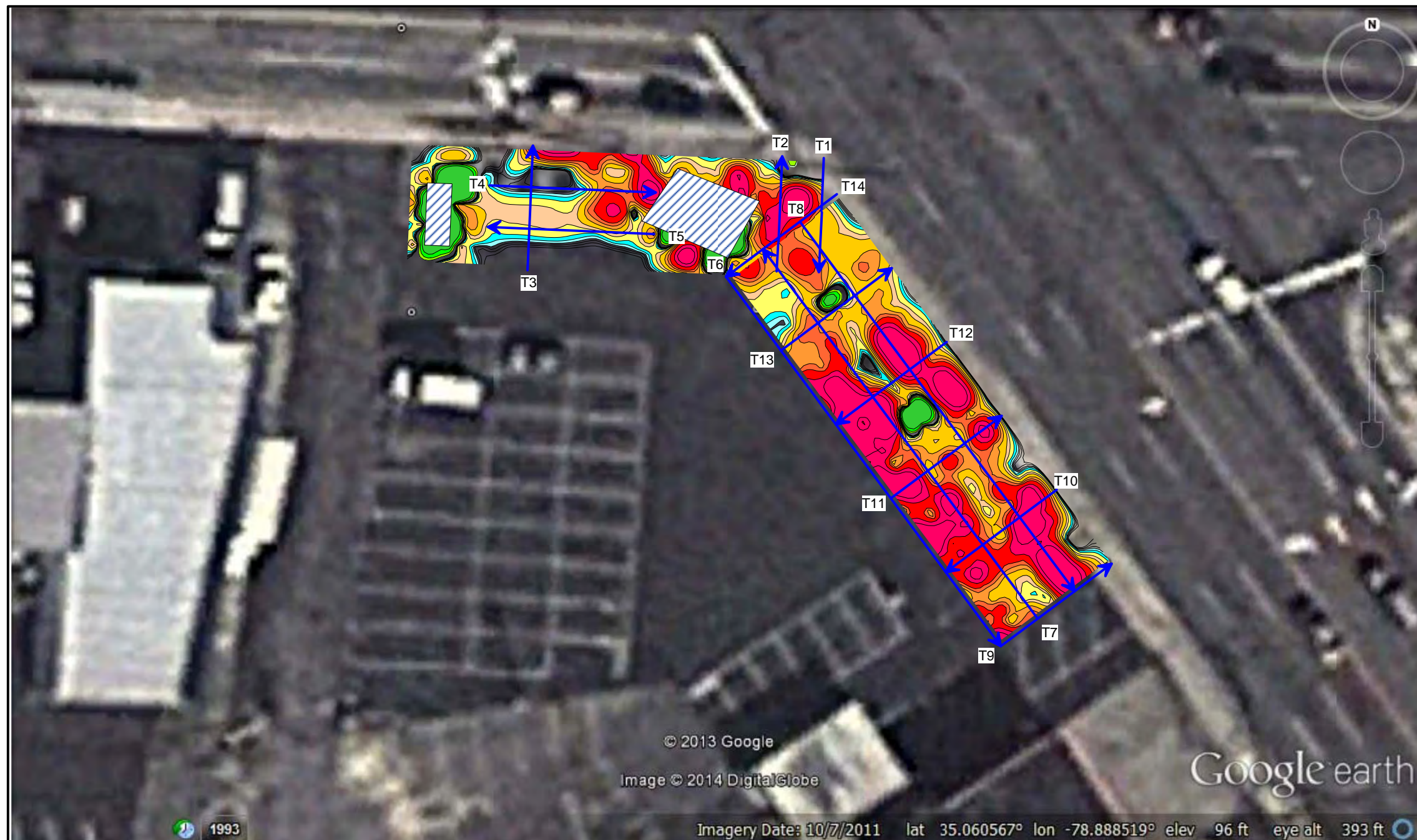


LEGEND

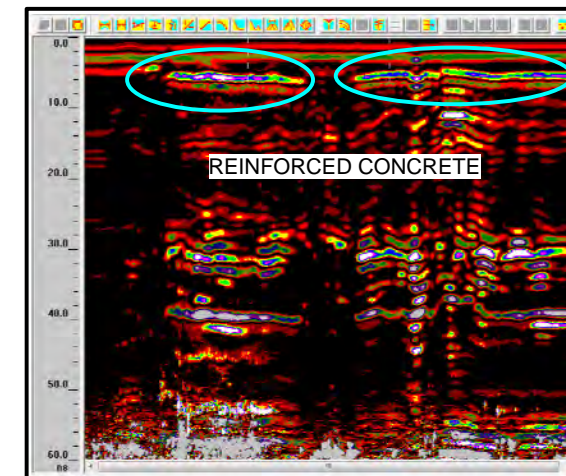
-  PUE PROPOSED UTILITY EASEMENT
-  EXISTING ROW
-  EXISTING PROPERTY BOUNDARY
-  PROPOSED ROW
-  PROPOSED CONST. EASEMENT
-  PROP. DRAINAGE UTIL. EASEMENT
-  PROPOSED SS CUT LINE
-  PROPOSED SS FILL LINE
-  PROPOSED SS TRANSITION LINE
-  PROPOSED DRAINAGE PIPING
-  PDE PROPOSED DRAINAGE EASEMENT
-  YELLOW ZONE REPRESENTS GEOPHYSICAL SURVEY AREA, CONTOURS ARE EM61 RESULTS (METALLIC RESPONSES)



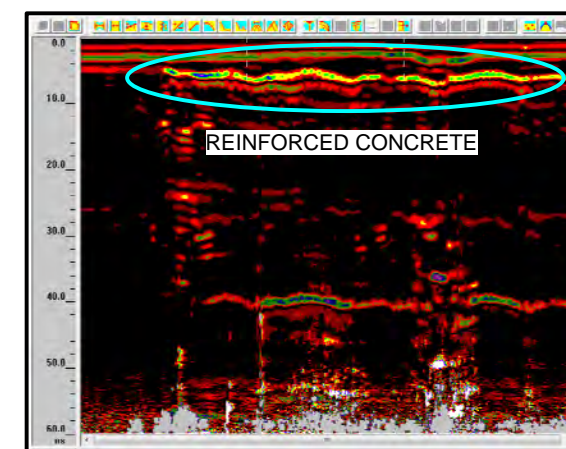
<small>TITLE</small>	OVERLAY OF EM61 CONTOUR MAP ON ENGINEERING PLANS	
<small>PROJECT</small>	NCDOT ROW PROJECT B-4490 (33727.1.1) S.C. RANKIN EST - PARCEL 008 FAYETTEVILLE, CUMBERLAND COUNTY, NC	
	503 INDUSTRIAL AVENUE GREENSBORO, NC 27406 336.335.3174 (p) 336.691.0648 (f) License # C1251 Eng. / #C257 Geology	
<small>DATE:</small> 2-21-14	<small>REVISION NO.</small> 0	
<small>PYRAMID PROJECT NO.</small> 2014-008	<small>FIGURE NO.</small> 4	



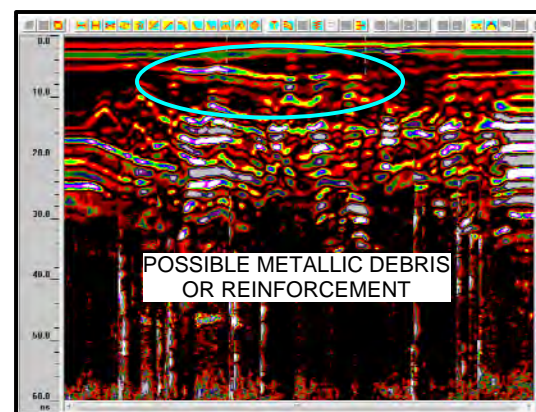
Approximate Locations of GPR Transects



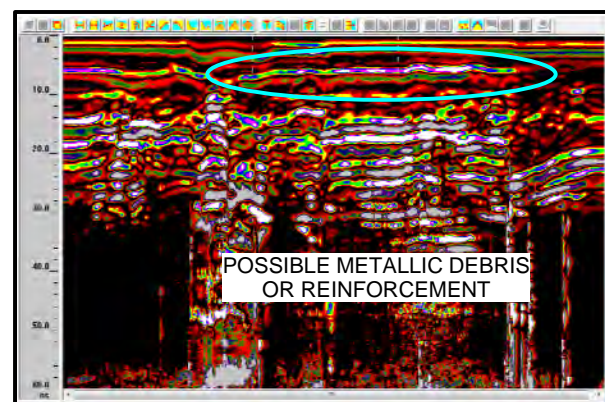
GPR Transect 12



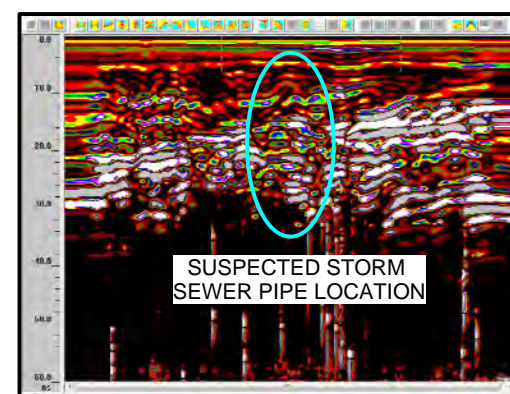
GPR Transect 14



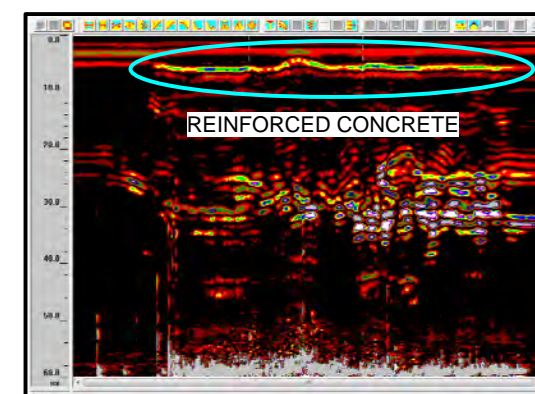
GPR Transect 1



GPR Transect 2



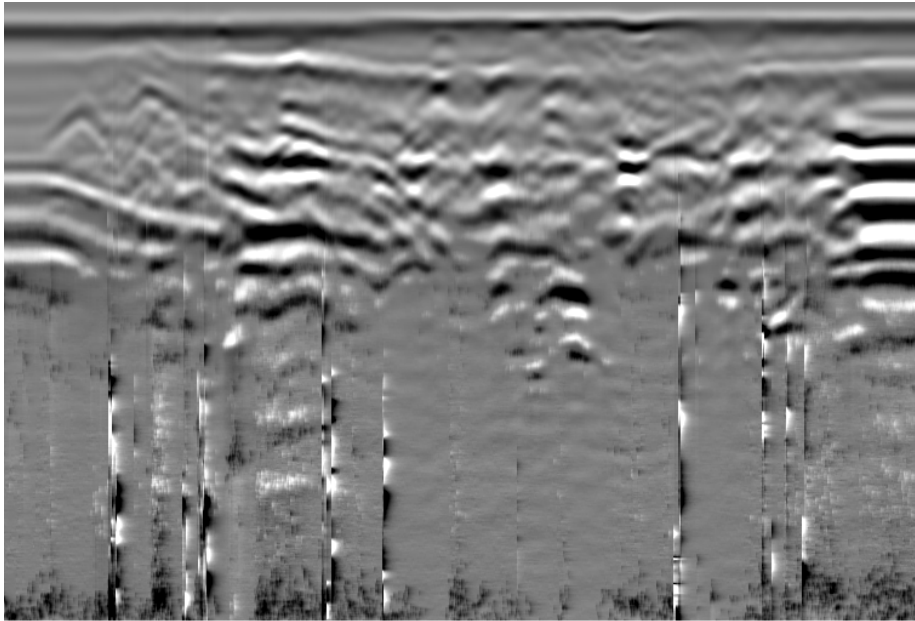
GPR Transect 3



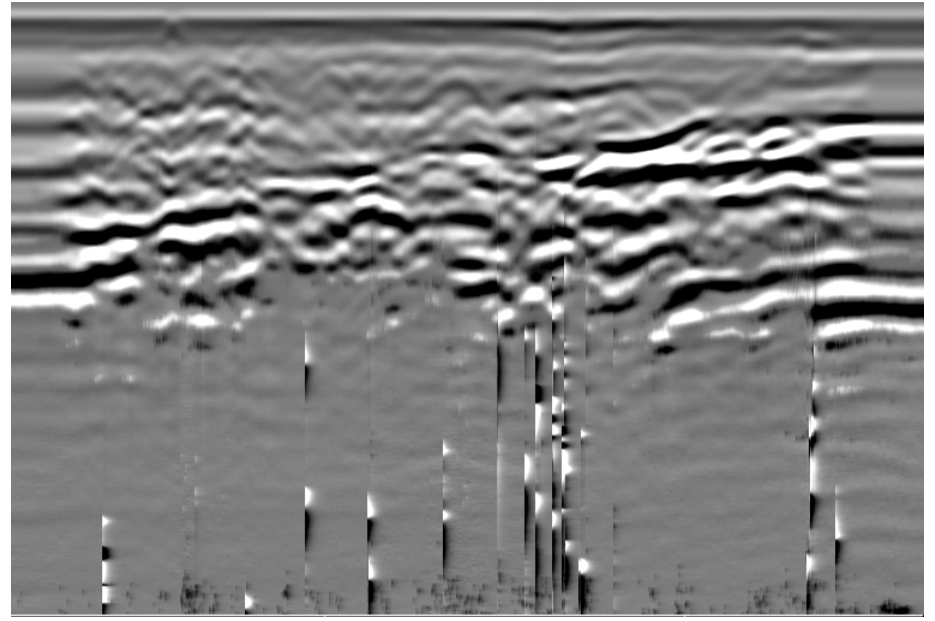
GPR Transect 10

TITLE		PARCEL 008: GPR TRANSECT LOCATIONS AND SELECT IMAGES	
PROJECT		NCDOT PROJECT B-4490 (33727.1.1) FAYETTEVILLE, CUMBERLAND COUNTY, NC	
		503 INDUSTRIAL AVENUE GREENSBORO, NC 27460 (336) 335-3174 (p) (336) 691-0648 (f) License # C1251 Eng. / License # C257 Geology	
DATE	2/7/2014	CLIENT	NCDOT
PYRAMID PROJECT #:	2014-008	FIGURE 5	

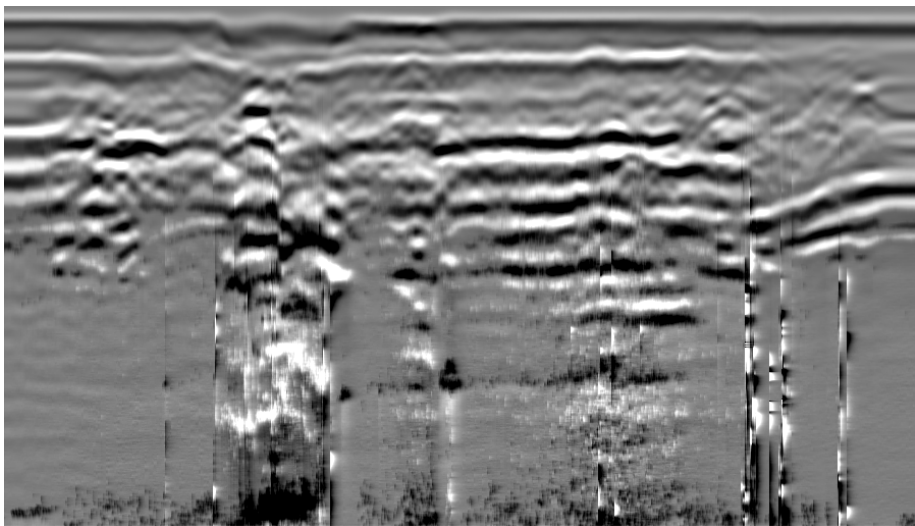
Appendix A – GPR Transect Images



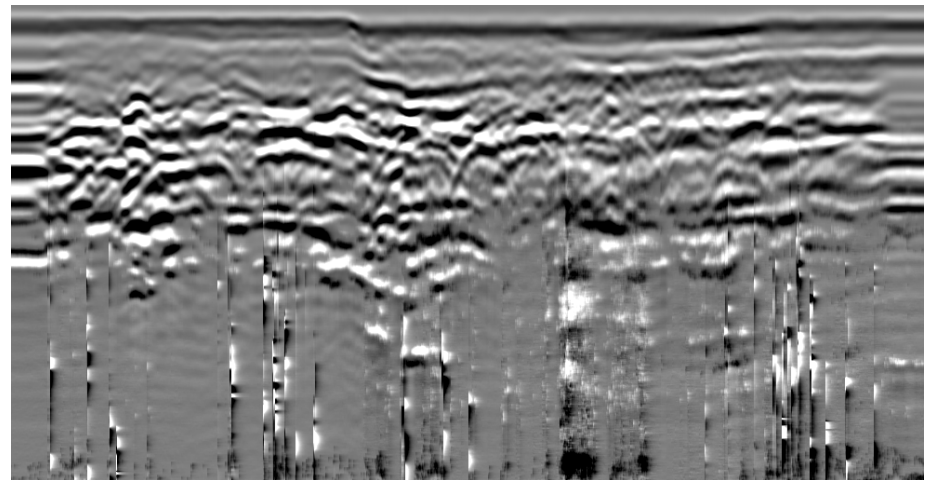
Transect 1



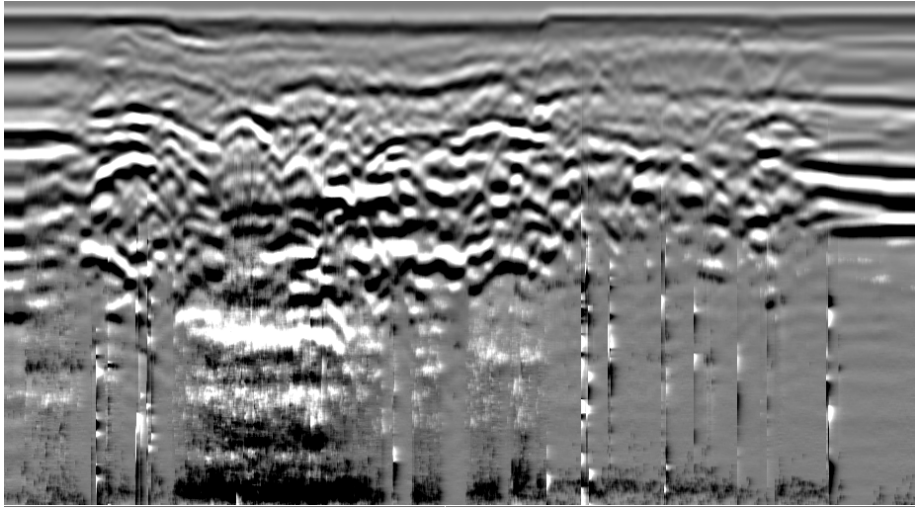
Transect 3



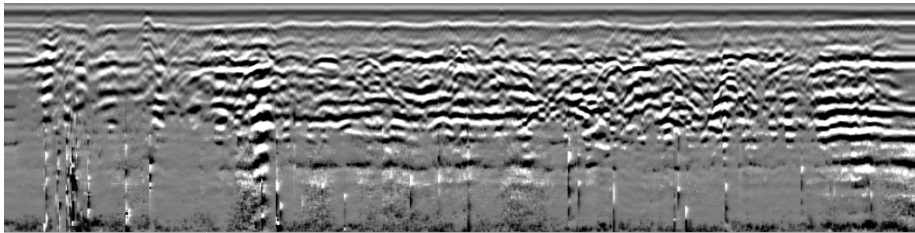
Transect 2



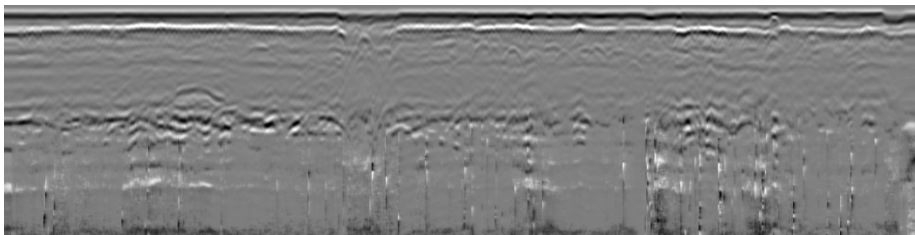
Transect 4



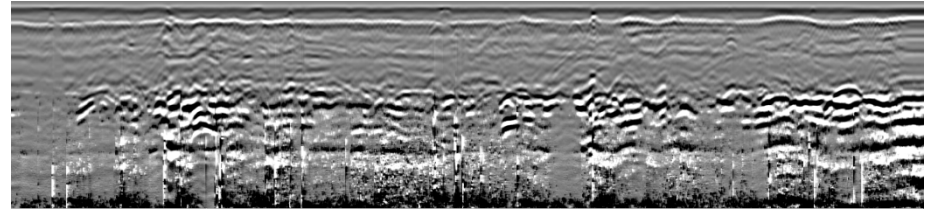
Transect 5



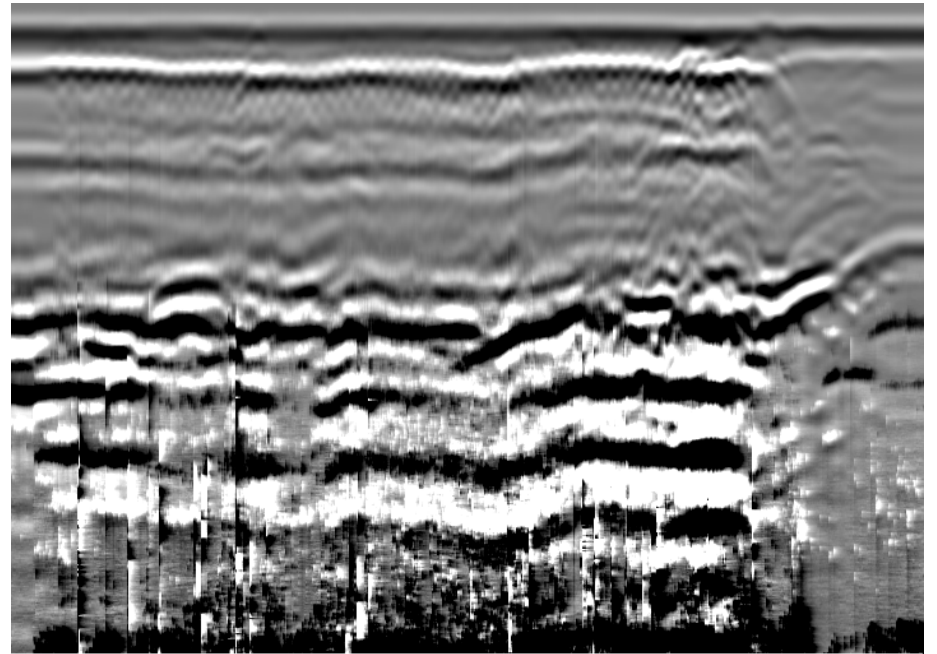
Transect 6



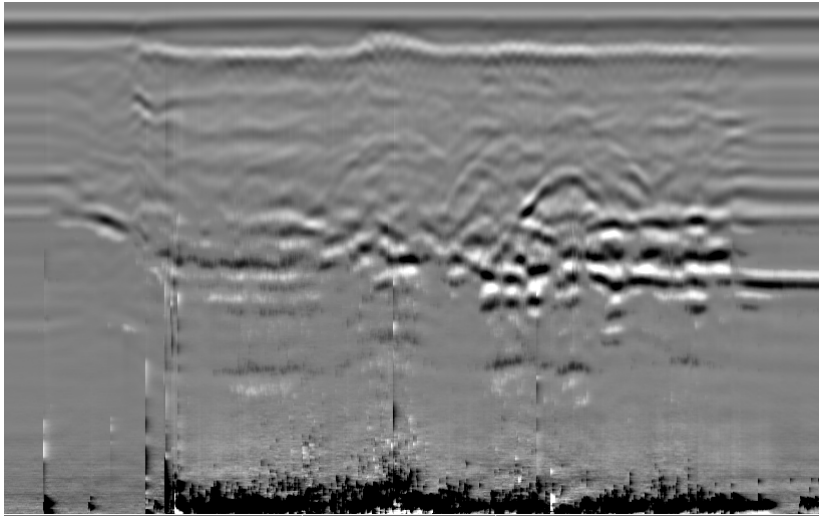
Transect 7



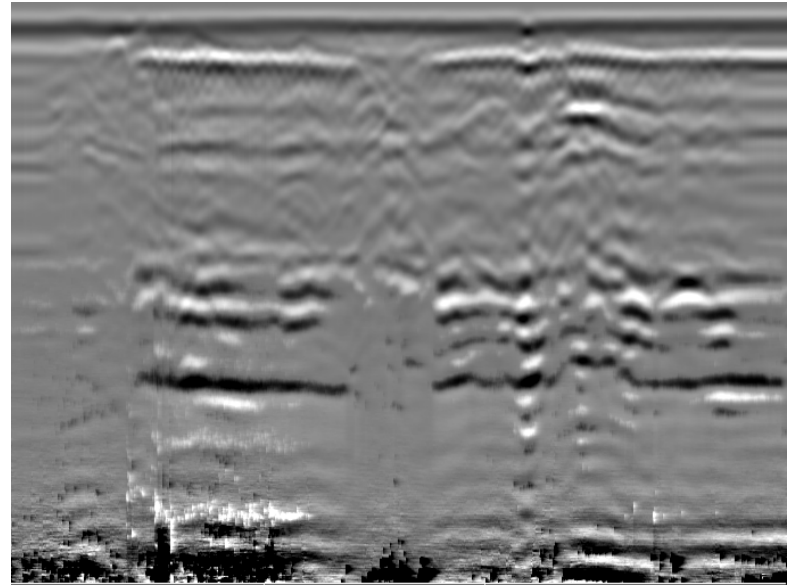
Transect 8



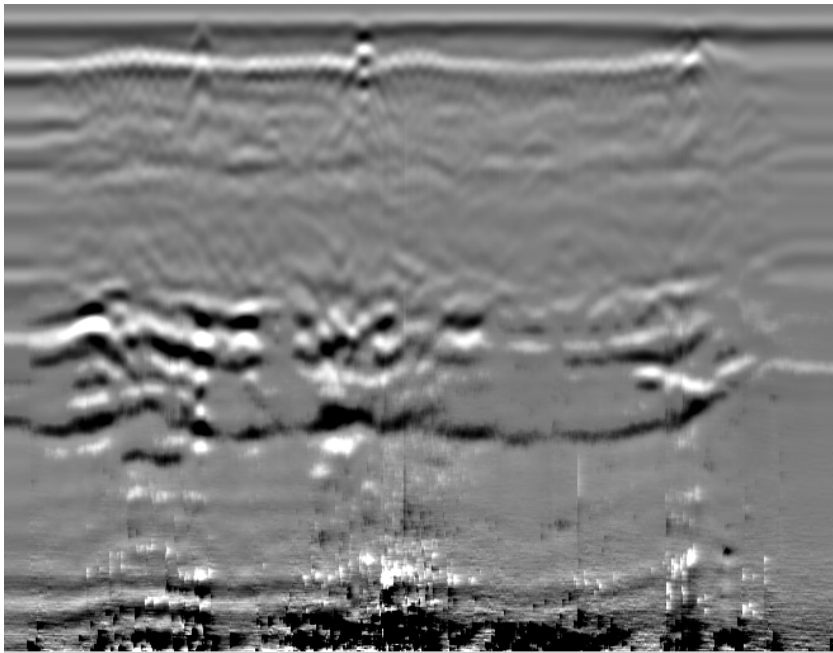
Transect 9



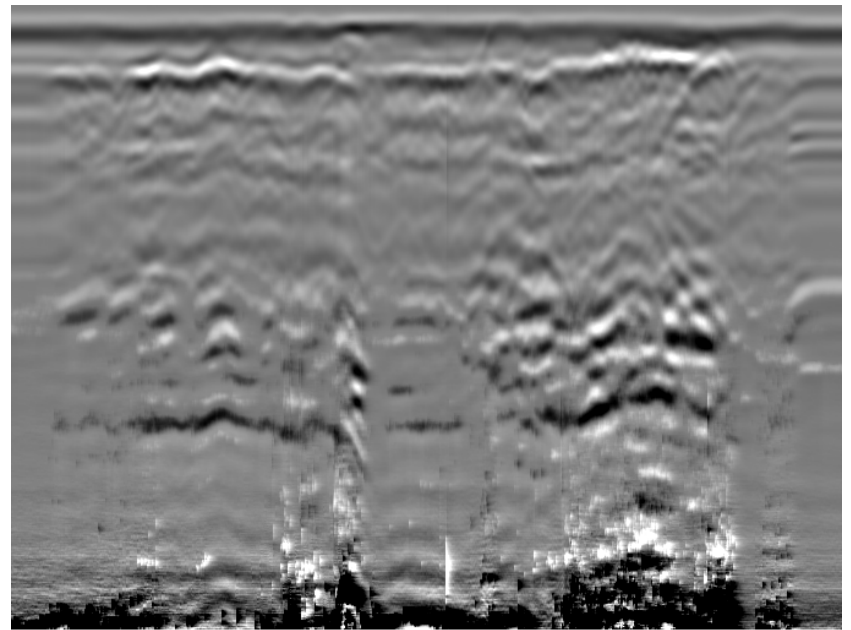
Transect 10



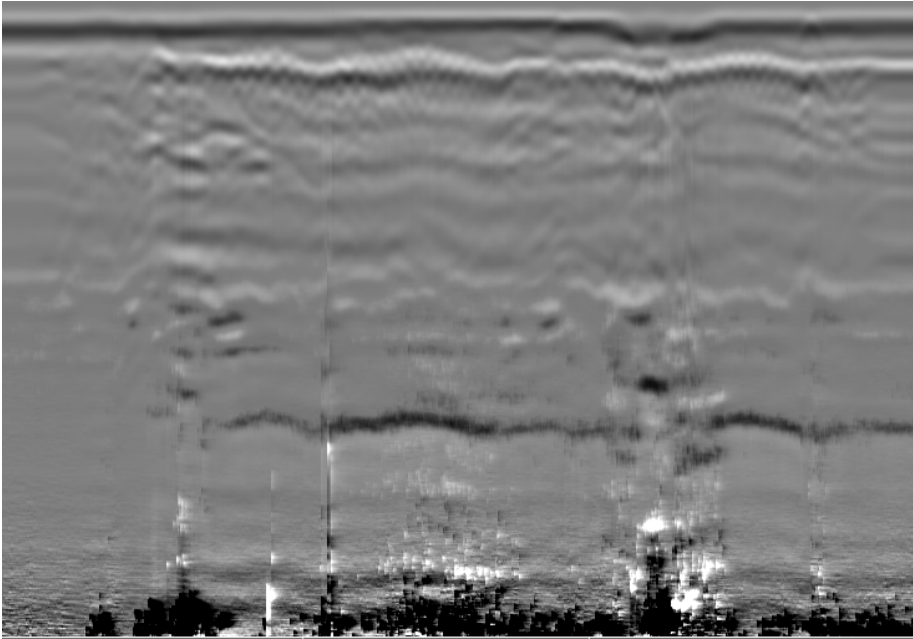
Transect 12



Transect 11



Transect 13



Transect 14

APPENDIX C

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: PROJECT NUMBER:	NC DOT B-4490, Parcel 8, S.C. Rankin, Est., Fayetteville, NC / 2014-008	BORING/WELL NO:	8-1
SITE LOCATION:	Cumberland County, NC	BORING/WELL LOCATION:	Parcel 8, S.C. Rankin, Est. NW lot along Rowan St.
START DATE:	2/14/14	COMPLETED:	2/14/14
GEOLOGIST:	Tim Leatherman	DRILLER:	Solutions-IES
DRILL METHOD:	Geoprobe	SAMPLE METHOD:	Macro-core
BORING DIA:	2-inch	CASING DIA:	N/A
TOTAL DEPTH:	8 feet	CASING DEPTH:	N/A

DEPTH (ft.)	VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.	OVA RESULTS PERCENT RECOVERY BLOW COUNTS
----------------	---	--

DEPTH (ft.)	VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.	OVA RESULTS PERCENT RECOVERY BLOW COUNTS
		Core Sample Depths
2-4'	sandy clay (CL) to clayey sand (SC); brown, firm, moist to very moist, no odor	OVA=8-1(2-4): 15 PPM
4-6'	sandy silty clay (CL); brown to gray, firm to hard, no odor	OVA=8-1(4-6): 60 PPM
6-8'	sandy silty clay (CL); brown to gray, firm to hard, no odor	OVA=8-1(6-8): 115 PPM

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ____	DEPTH (ft) ____	DIAMETER (in) ____	MATERIAL ____.
SCREEN LENGTH (ft) ____	DEPTH (ft) ____	DIAMETER (in) ____	MATERIAL ____.
DEPTH TO TOP OF SAND ____		BAGS OF SAND ____.	
DEPTH TO TOP SEAL ____	BENTONITE USED ____		BAGS OF CEMENT USED <u>0</u> .

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: PROJECT NUMBER:	NC DOT B-4490, Parcel 8, S.C. Rankin, Est., Fayetteville, NC / 2014-008	BORING/WELL NO:	8-2
SITE LOCATION:	Cumberland County, NC	BORING/WELL LOCATION:	Parcel 8, S.C. Rankin, Est. intersection of Rowan & Bragg
START DATE:	2/14/14	COMPLETED:	2/14/14
GEOLOGIST:	Tim Leatherman	DRILLER:	Solutions-IES
DRILL METHOD:	Geoprobe	SAMPLE METHOD:	Macro-core
BORING DIA:	2-inch	CASING DIA:	N/A
TOTAL DEPTH:	8 feet	CASING DEPTH:	N/A

DEPTH (ft.)	VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.	OVA RESULTS PERCENT RECOVERY BLOW COUNTS
----------------	---	--

		Core Sample Depths
2-4'	sandy silty clay (CL); tan to gray, moist, possible odor	OVA=8-2(2-4): 20 PPM
4-6'	clayey silty sand (SP-SM); tan to gray/brown, moist to very moist, possible odor	OVA=8-2(4-6): 25 PPM
6-8'	silty sandy clay (CL); brown to reddish brown, firm to hard, moist, no odor	OVA=8-2(6-8): 45 PPM

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ____	DEPTH (ft) ____	DIAMETER (in) ____	MATERIAL ____.
SCREEN LENGTH (ft) ____	DEPTH (ft) ____	DIAMETER (in) ____	MATERIAL ____.
DEPTH TO TOP OF SAND ____		BAGS OF SAND ____.	
DEPTH TO TOP SEAL ____	BENTONITE USED ____		BAGS OF CEMENT USED <u>0</u> .

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: PROJECT NUMBER:	NC DOT B-4490, Parcel 8, S.C. Rankin, Est., Fayetteville, NC / 2014-008	BORING/WELL NO:	8-3(TW)
SITE LOCATION:	Cumberland County, NC	BORING/WELL LOCATION:	Parcel 8, S.C. Rankin, Est. SE corner of investigation area
START DATE:	2/14/14	COMPLETED:	2/14/14
GEOLOGIST:	Tim Leatherman	DRILLER:	Solutions-IES
DRILL METHOD:	Geoprobe	SAMPLE METHOD:	Macro-core
BORING DIA:	2-inch	CASING DIA:	1-inch
TOTAL DEPTH:	13 feet	CASING DEPTH:	13

DEPTH (ft.)	VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.	OVA RESULTS PERCENT RECOVERY BLOW COUNTS
-------------	---	--

DEPTH (ft.)	VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.	OVA RESULTS PERCENT RECOVERY BLOW COUNTS
		Core Sample Depths
2-4'	clayey silty sand (SP-SC); tan to gray, moist, no odor	OVA=8-3(2-4): 365 PPM
4-6'	clayey sand (SC); tan to gray, firm, moist, no odor	OVA=8-3(4-6): 530 PPM
6-8'	sand (SP); light brown, very moist to saturated, no odor	OVA=8-3(6-8): 640 PPM
	Set 1-inch diameter temporary well at 13 feet due to refusal with bottom 10 feet of screen	
	Depth of groundwater = 6.3 feet below land surface	

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) 3 DEPTH (ft) 0-3 DIAMETER (in) 1 MATERIAL PVC
 SCREEN LENGTH (ft) 10 DEPTH (ft) 3-13 DIAMETER (in) 1 MATERIAL PVC
 DEPTH TO TOP OF SAND _____ BAGS OF SAND _____
 DEPTH TO TOP SEAL _____ BENTONITE USED .25 BAGS OF CEMENT USED 0

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: PROJECT NUMBER:	NC DOT B-4490, Parcel 8, S.C. Rankin, Est., Fayetteville, NC / 2014-008	BORING/WELL NO:	8-4
SITE LOCATION:	Cumberland County, NC	BORING/WELL LOCATION:	Parcel 8, S.C. Rankin, Est. SE of 8-2 along Bragg Blvd.
START DATE:	2/14/14	COMPLETED:	2/14/14
GEOLOGIST:	Tim Leatherman	DRILLER:	Solutions-IES
DRILL METHOD:	Geoprobe	SAMPLE METHOD:	Macro-core
BORING DIA:	2-inch	CASING DIA:	N/A
TOTAL DEPTH:	8 feet	CASING DEPTH:	N/A

DEPTH (ft.)	VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.	OVA RESULTS PERCENT RECOVERY BLOW COUNTS
----------------	---	--

DEPTH (ft.)	VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.	OVA RESULTS PERCENT RECOVERY BLOW COUNTS
		Core Sample Depths
2-4'	clayey silty sand (SP-SM); brown to gray, soft, moist, no odor	OVA=8-4(2-4): 110 PPM
4-6'	clayey silty sand (SP-SM); brown to gray, soft, moist to saturated, no odor	OVA=8-4(4-6): 190 PPM
6-8'	sand (SP); gray, saturated, no odor	
		OVA=8-4(6-8): 130 PPM

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ____ DEPTH (ft) ____ DIAMETER (in) ____ MATERIAL ____.
 SCREEN LENGTH (ft) ____ DEPTH (ft) ____ DIAMETER (in) ____ MATERIAL ____.
 DEPTH TO TOP OF SAND ____ BAGS OF SAND ____.
 DEPTH TO TOP SEAL ____ BENTONITE USED ____ BAGS OF CEMENT USED 0.

Pyramid Environmental & Engineering, P.C.

FIELD DRILLING RECORD

PROJECT NAME: PROJECT NUMBER:	NC DOT B-4490, Parcel 8, S.C. Rankin, Est., Fayetteville, NC / 2014-008	BORING/WELL NO:	8-5
SITE LOCATION:	Cumberland County, NC	BORING/WELL LOCATION:	Parcel 8, S.C. Rankin, Est. SE of 8-4 along Bragg Blvd.
START DATE:	2/18/14	COMPLETED:	2/18/14
GEOLOGIST:	Eric Cross	DRILLER:	Solutions-IES
DRILL METHOD:	Geoprobe	SAMPLE METHOD:	Macro-core
BORING DIA:	2-inch	CASING DIA:	N/A
TOTAL DEPTH:	8 feet	CASING DEPTH:	N/A

DEPTH (ft.)	VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.	OVA RESULTS PERCENT RECOVERY BLOW COUNTS
------------------------	---	---

DEPTH (ft.)	VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.	OVA RESULTS PERCENT RECOVERY BLOW COUNTS
		Core Sample Depths
1-2'	asphalt/concrete to sand (SP); brown, fine grained, no odor	OVA=8-5(1-2): 0 PPM
2-4'	sand (SP) and clayey sand (SC); brown, fine grained, no odor	OVA=8-5(2-4): 160 PPM
4-6'	sand (SP) and clayey sand (SC); gray, fine grained, moderate petroleum odor, wet	OVA=8-5(4-6): 280 PPM
6-8'	sand (SP); gray, fine grained, strong petroleum odor, wet	OVA=8-5(6-8): 340 PPM

MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ____ DEPTH (ft) ____ DIAMETER (in) ____ MATERIAL ____
SCREEN LENGTH (ft) ____ DEPTH (ft) ____ DIAMETER (in) ____ MATERIAL ____
DEPTH TO TOP OF SAND ____ BAGS OF SAND ____
DEPTH TO TOP SEAL ____ BENTONITE USED ____ BAGS OF CEMENT USED 0

APPENDIX D



Hydrocarbon Analysis Results

Client: NCDOT Cumberland County B-4490
Address: 539 Bragg Blvd. - Parcel 008
 Fayetteville, NC

Samples taken Six (6) Samples Taken
Samples extracted Six (6) Samples Extracted
Samples analysed Six (6) Samples Analysed

Contact: **Operator** Tim Leatherman with

Project: NCDOT Cumberland County B-4490

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	Ratios			HC Fingerprint Match
										% light	% mid	% heavy	
s	8-1(4-6)	14.0	<0.1	<0.1	2.2	2.2	1.7	0.08	<0.01	44.3	38.6	17.1	V.Deg.PHC 96.7%
s	8-2(4-6)	14.0	<0.1	<0.1	52.4	52.4	47.7	3	0.02	25.7	60.6	13.7	V.Deg.PHC 95.9%
s	8-3(4-6)	15.0	<0.2	<0.2	2	2	1.9	0.13	<0.01	45.5	32.3	22.2	V.Deg.PHC 87.8%
s	8-4(4-6)	11.0	<0.1	<0.1	25.2	25.2	23.1	1.7	0.031	21.8	55.2	23	V.Deg.PHC 86%
s	8-1(6-8)	14.0	<0.1	<0.1	30.4	30.4	29	1.4	0.026	90.6	6.2	3.2	PAH (PFM) (P)
s	8-3(6-8)	12.0	<0.1	<0.1	0.48	0.48	0.37	0.02	<0.01	45.6	31.1	23.3	V.Deg.PHC 78%
			Initial Calibrator QC check OK										

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content
 Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library
 (SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present



Hydrocarbon Analysis Results

Client: NCDOT Cumberland County B=4490
Address: 539 Bragg Blvd. - Parcel 008
 Fayetteville, NC

Samples taken One (1) Sample Taken
Samples extracted One (1) Sample Extracted
Samples analysed One (1) Sample Analysed

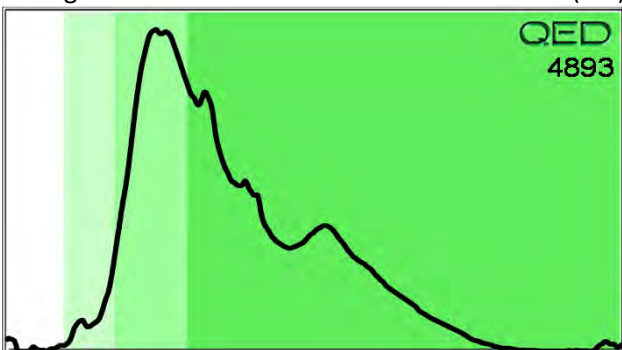
Contact: **Operator** Ryan Kramer

Project: NCDOT Cumberland County B-4490

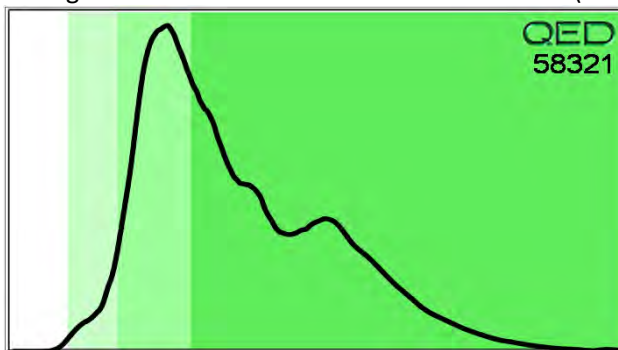
Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	Ratios			HC Fingerprint Match
										% light	% mid	% heavy	
s	008-5(4-6)	28.0	<0.3	<0.3	3.9	3.9	3.1	0.12	<0.01	36.7	28.6	34.7	Deg.Fuel 47.9%
Initial Calibrator QC check			OK										

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content
 Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library
 (SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present

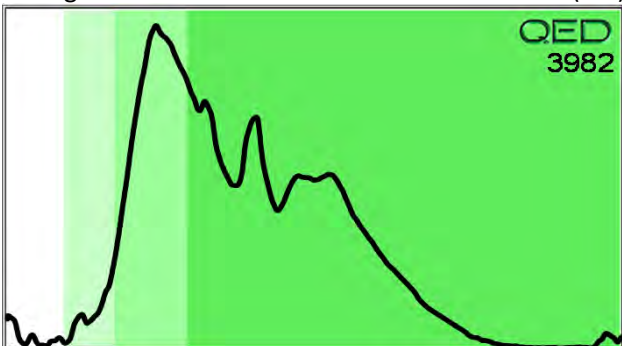
V.Deg.PHC 96.7% 8-1(4-6)



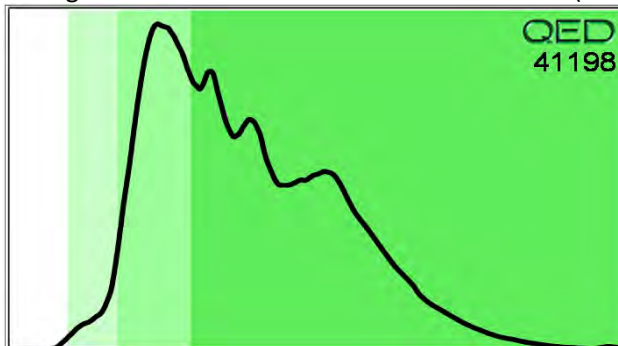
V.Deg.PHC 95.9% 8-2(4-6)



V.Deg.PHC 87.8% 8-3(4-6)



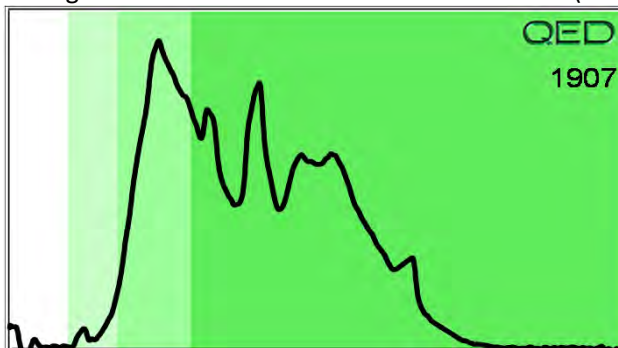
V.Deg.PHC 86% 8-4(4-6)



PAH (PFM) (P) 8-1(6-8)

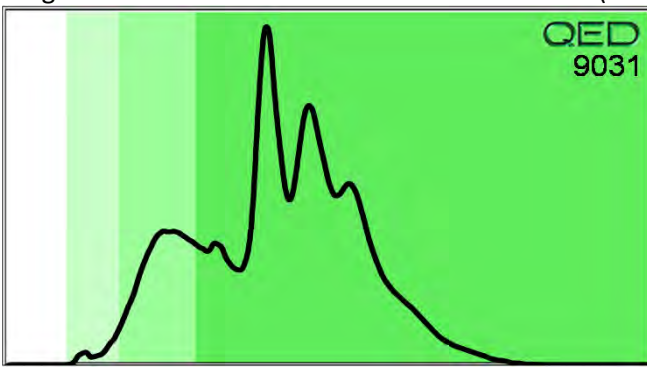


V.Deg.PHC 78% 8-3(6-8)



Deg.Fuel 47.9%

008-5(4-6)



Parcel # 008

CHAIN-OF-CUSTODY / Analytical Request Document - QROS / QED

Pyramid Environmental & Engineering, P.C.
 Company:
 Pyramid Environmental & Engineering, P.C.
 Address: 503 Industrial Ave.
 Greensboro, NC 27406

Purchase Order No.:
 Project Name: KCDOT Cumberland Co.
 Project Number:

Requested Analysis

ITEM	SAMPLE ID	Matrix	C=Comp. G=Grab	COLLECTED		Containers	Un-preserved	Methanol	Requested Analysis		
				Date	Time				GRO	DRO	TPH
1	B-1 (4-6)	Soil	G	2/14/14	1320	1	10.3g	20 ml	<0.1	2.2	2.2
2	B-1 (6-8)	-11-	-11-	-11-	1325	1	10.1g	20 ml	<0.1	30.4	30.4
3	B-2 (4-6)	-11-	G	-11-	1340	1	10.3g	20 ml	52.4 <0.1	52.4	52.4
4	B-3 (4-6)	-11-	G	-11-	1410	1	9.2g	20 ml	<0.2	2	2
5	B-3 (6-8)	-11-	-11-	-11-	1415	1	12.1g	20 ml	<0.1	0.48	0.48
6	B-4 (4-6)	-11-	-11-	-11-	1445	1	12.7g	20 ml	25.2 <0.1	25.2	25.2
7	B-5 (4-6)	-11-	-11-	2/18/14	1430	1	9.3g	20 ml	<0.1	25.2	25.2
									>> <0.3	3.9	3.9

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time

SAMPLER NAME AND SIGNATURE
 Print Name of Sampler: Timothy D. Leatherman
 Signature of Sampler: Timothy D. Leatherman Date Signed: 2/14/14

APPENDIX E

March 04, 2014

Chemical Testing Engineer
Materials and Tests Unit
1801 Blue Ridge Road
Raleigh, NC 27607

RE: Project: NCDOT Cumberland WBS33727.1.1
Pace Project No.: 92190305

Dear Chemical Engineer:

Enclosed are the analytical results for sample(s) received by the laboratory on February 19, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jon D Bradley
jon.bradley@pacelabs.com
Project Manager

Enclosures

cc: Tim Leatherman, Pyramid Environmental



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-2 (TW)	Lab ID: 92190305001	Collected: 02/14/14 16:00	Received: 02/19/14 17:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV		Analytical Method: EPA 625 Preparation Method: EPA 625						
Acenaphthene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	83-32-9	
Acenaphthylene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	208-96-8	
Anthracene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	120-12-7	
Benzo(a)anthracene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	56-55-3	
Benzo(a)pyrene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	50-32-8	
Benzo(b)fluoranthene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	205-99-2	
Benzo(g,h,i)perylene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	191-24-2	
Benzo(k)fluoranthene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	207-08-9	
4-Bromophenylphenyl ether	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	101-55-3	
Butylbenzylphthalate	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	85-68-7	
4-Chloro-3-methylphenol	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	59-50-7	
bis(2-Chloroethoxy)methane	ND ug/L		10.0	1	02/20/14 13:00	02/27/14 22:56	111-91-1	
bis(2-Chloroethyl) ether	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	111-44-4	
bis(2-Chloroisopropyl) ether	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	108-60-1	
2-Chloronaphthalene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	91-58-7	
2-Chlorophenol	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	95-57-8	
4-Chlorophenylphenyl ether	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	7005-72-3	
Chrysene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	218-01-9	
Dibenz(a,h)anthracene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	53-70-3	
3,3'-Dichlorobenzidine	ND ug/L		25.0	1	02/20/14 13:00	02/27/14 22:56	91-94-1	
2,4-Dichlorophenol	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	120-83-2	
Diethylphthalate	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	84-66-2	
2,4-Dimethylphenol	ND ug/L		10.0	1	02/20/14 13:00	02/27/14 22:56	105-67-9	
Dimethylphthalate	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	131-11-3	
Di-n-butylphthalate	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	84-74-2	
4,6-Dinitro-2-methylphenol	ND ug/L		20.0	1	02/20/14 13:00	02/27/14 22:56	534-52-1	
2,4-Dinitrophenol	ND ug/L		50.0	1	02/20/14 13:00	02/27/14 22:56	51-28-5	
2,4-Dinitrotoluene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	121-14-2	
2,6-Dinitrotoluene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	606-20-2	
Di-n-octylphthalate	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	117-84-0	
bis(2-Ethylhexyl)phthalate	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	117-81-7	
Fluoranthene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	206-44-0	
Fluorene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	86-73-7	
Hexachloro-1,3-butadiene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	87-68-3	
Hexachlorobenzene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	118-74-1	
Hexachlorocyclopentadiene	ND ug/L		10.0	1	02/20/14 13:00	02/27/14 22:56	77-47-4	
Hexachloroethane	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	67-72-1	
Indeno(1,2,3-cd)pyrene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	193-39-5	
Isophorone	ND ug/L		10.0	1	02/20/14 13:00	02/27/14 22:56	78-59-1	
Naphthalene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	91-20-3	
Nitrobenzene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	98-95-3	
2-Nitrophenol	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	88-75-5	
4-Nitrophenol	ND ug/L		50.0	1	02/20/14 13:00	02/27/14 22:56	100-02-7	
N-Nitrosodimethylamine	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	62-75-9	
N-Nitroso-di-n-propylamine	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	621-64-7	
N-Nitrosodiphenylamine	ND ug/L		10.0	1	02/20/14 13:00	02/27/14 22:56	86-30-6	
Pentachlorophenol	ND ug/L		10.0	1	02/20/14 13:00	02/27/14 22:56	87-86-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-2 (TW)		Lab ID: 92190305001	Collected: 02/14/14 16:00	Received: 02/19/14 17:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV		Analytical Method: EPA 625 Preparation Method: EPA 625						
Phenanthrene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	85-01-8	
Phenol	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	108-95-2	
Pyrene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	129-00-0	
1,2,4-Trichlorobenzene	ND ug/L		5.0	1	02/20/14 13:00	02/27/14 22:56	120-82-1	
2,4,6-Trichlorophenol	ND ug/L		10.0	1	02/20/14 13:00	02/27/14 22:56	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	58 %		10-120	1	02/20/14 13:00	02/27/14 22:56	4165-60-0	
2-Fluorobiphenyl (S)	63 %		15-120	1	02/20/14 13:00	02/27/14 22:56	321-60-8	
Terphenyl-d14 (S)	70 %		11-131	1	02/20/14 13:00	02/27/14 22:56	1718-51-0	
Phenol-d6 (S)	40 %		10-120	1	02/20/14 13:00	02/27/14 22:56	13127-88-3	
2-Fluorophenol (S)	47 %		10-120	1	02/20/14 13:00	02/27/14 22:56	367-12-4	
2,4,6-Tribromophenol (S)	81 %		10-137	1	02/20/14 13:00	02/27/14 22:56	118-79-6	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-3 (4-6) **Lab ID: 92190305002** Collected: 02/14/14 14:10 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave		Analytical Method: EPA 8270 Preparation Method: EPA 3546						
Acenaphthene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	83-32-9	
Acenaphthylene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	208-96-8	
Aniline	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	62-53-3	
Anthracene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	120-12-7	
Benzo(a)anthracene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	56-55-3	
Benzo(a)pyrene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	207-08-9	
Benzoic Acid	ND	ug/kg	1910	1	02/20/14 08:54	02/21/14 14:16	65-85-0	
Benzyl alcohol	ND	ug/kg	764	1	02/20/14 08:54	02/21/14 14:16	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	101-55-3	
Butylbenzylphthalate	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	764	1	02/20/14 08:54	02/21/14 14:16	59-50-7	
4-Chloroaniline	ND	ug/kg	1910	1	02/20/14 08:54	02/21/14 14:16	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	108-60-1	
2-Chloronaphthalene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	91-58-7	
2-Chlorophenol	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	7005-72-3	
Chrysene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	53-70-3	
Dibenzofuran	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	132-64-9	
1,2-Dichlorobenzene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/kg	1910	1	02/20/14 08:54	02/21/14 14:16	91-94-1	
2,4-Dichlorophenol	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	120-83-2	
Diethylphthalate	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	105-67-9	
Dimethylphthalate	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	131-11-3	
Di-n-butylphthalate	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	764	1	02/20/14 08:54	02/21/14 14:16	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1910	1	02/20/14 08:54	02/21/14 14:16	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	606-20-2	
Di-n-octylphthalate	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	117-81-7	
Fluoranthene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	206-44-0	
Fluorene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	87-68-3	
Hexachlorobenzene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	118-74-1	
Hexachlorocyclopentadiene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	77-47-4	
Hexachloroethane	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	193-39-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-3 (4-6) **Lab ID: 92190305002** Collected: 02/14/14 14:10 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave		Analytical Method: EPA 8270 Preparation Method: EPA 3546						
Isophorone	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	78-59-1	
1-Methylnaphthalene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	90-12-0	
2-Methylnaphthalene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16		
Naphthalene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	91-20-3	
2-Nitroaniline	ND	ug/kg	1910	1	02/20/14 08:54	02/21/14 14:16	88-74-4	
3-Nitroaniline	ND	ug/kg	1910	1	02/20/14 08:54	02/21/14 14:16	99-09-2	
4-Nitroaniline	ND	ug/kg	764	1	02/20/14 08:54	02/21/14 14:16	100-01-6	
Nitrobenzene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	98-95-3	
2-Nitrophenol	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	88-75-5	
4-Nitrophenol	ND	ug/kg	1910	1	02/20/14 08:54	02/21/14 14:16	100-02-7	
N-Nitrosodimethylamine	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	86-30-6	
Pentachlorophenol	ND	ug/kg	1910	1	02/20/14 08:54	02/21/14 14:16	87-86-5	
Phenanthrene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	85-01-8	
Phenol	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	108-95-2	
Pyrene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	120-82-1	
2,4,5-Trichlorophenol	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	382	1	02/20/14 08:54	02/21/14 14:16	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	60 %		23-110	1	02/20/14 08:54	02/21/14 14:16	4165-60-0	
2-Fluorobiphenyl (S)	56 %		30-110	1	02/20/14 08:54	02/21/14 14:16	321-60-8	
Terphenyl-d14 (S)	75 %		28-110	1	02/20/14 08:54	02/21/14 14:16	1718-51-0	
Phenol-d6 (S)	84 %		22-110	1	02/20/14 08:54	02/21/14 14:16	13127-88-3	
2-Fluorophenol (S)	75 %		13-110	1	02/20/14 08:54	02/21/14 14:16	367-12-4	
2,4,6-Tribromophenol (S)	83 %		27-110	1	02/20/14 08:54	02/21/14 14:16	118-79-6	
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
Acetone	ND	ug/kg	76.3	1	02/24/14 21:31	02/24/14 21:31	67-64-1	
Benzene	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	71-43-2	
Bromobenzene	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	108-86-1	
Bromochloromethane	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	74-97-5	
Bromodichloromethane	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	75-27-4	
Bromoform	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	75-25-2	
Bromomethane	ND	ug/kg	7.6	1	02/24/14 21:31	02/24/14 21:31	74-83-9	
2-Butanone (MEK)	ND	ug/kg	76.3	1	02/24/14 21:31	02/24/14 21:31	78-93-3	
n-Butylbenzene	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	98-06-6	
Carbon tetrachloride	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	56-23-5	
Chlorobenzene	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	108-90-7	
Chloroethane	ND	ug/kg	7.6	1	02/24/14 21:31	02/24/14 21:31	75-00-3	
Chloroform	ND	ug/kg	3.8	1	02/24/14 21:31	02/24/14 21:31	67-66-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-3 (4-6) **Lab ID: 92190305002** Collected: 02/14/14 14:10 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
Chloromethane	ND	ug/kg	7.6	1		02/24/14 21:31	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.8	1		02/24/14 21:31	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.8	1		02/24/14 21:31	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	3.8	1		02/24/14 21:31	96-12-8	
Dibromochloromethane	ND	ug/kg	3.8	1		02/24/14 21:31	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.8	1		02/24/14 21:31	106-93-4	
Dibromomethane	ND	ug/kg	3.8	1		02/24/14 21:31	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3.8	1		02/24/14 21:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3.8	1		02/24/14 21:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3.8	1		02/24/14 21:31	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	7.6	1		02/24/14 21:31	75-71-8	
1,1-Dichloroethane	ND	ug/kg	3.8	1		02/24/14 21:31	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.8	1		02/24/14 21:31	107-06-2	
1,1-Dichloroethene	ND	ug/kg	3.8	1		02/24/14 21:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.8	1		02/24/14 21:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.8	1		02/24/14 21:31	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.8	1		02/24/14 21:31	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.8	1		02/24/14 21:31	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.8	1		02/24/14 21:31	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.8	1		02/24/14 21:31	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.8	1		02/24/14 21:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.8	1		02/24/14 21:31	10061-02-6	
Diisopropyl ether	ND	ug/kg	3.8	1		02/24/14 21:31	108-20-3	
Ethylbenzene	ND	ug/kg	3.8	1		02/24/14 21:31	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.8	1		02/24/14 21:31	87-68-3	
2-Hexanone	ND	ug/kg	38.2	1		02/24/14 21:31	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.8	1		02/24/14 21:31	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.8	1		02/24/14 21:31	99-87-6	
Methylene Chloride	ND	ug/kg	15.3	1		02/24/14 21:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	38.2	1		02/24/14 21:31	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.8	1		02/24/14 21:31	1634-04-4	
Naphthalene	ND	ug/kg	3.8	1		02/24/14 21:31	91-20-3	
n-Propylbenzene	ND	ug/kg	3.8	1		02/24/14 21:31	103-65-1	
Styrene	ND	ug/kg	3.8	1		02/24/14 21:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.8	1		02/24/14 21:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.8	1		02/24/14 21:31	79-34-5	
Tetrachloroethene	ND	ug/kg	3.8	1		02/24/14 21:31	127-18-4	
Toluene	ND	ug/kg	3.8	1		02/24/14 21:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.8	1		02/24/14 21:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3.8	1		02/24/14 21:31	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.8	1		02/24/14 21:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.8	1		02/24/14 21:31	79-00-5	
Trichloroethene	ND	ug/kg	3.8	1		02/24/14 21:31	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.8	1		02/24/14 21:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.8	1		02/24/14 21:31	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.8	1		02/24/14 21:31	95-63-6	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-3 (4-6) **Lab ID: 92190305002** Collected: 02/14/14 14:10 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
1,3,5-Trimethylbenzene	ND	ug/kg	3.8	1		02/24/14 21:31	108-67-8	
Vinyl acetate	ND	ug/kg	38.2	1		02/24/14 21:31	108-05-4	
Vinyl chloride	ND	ug/kg	7.6	1		02/24/14 21:31	75-01-4	
Xylene (Total)	ND	ug/kg	7.6	1		02/24/14 21:31	1330-20-7	
m&p-Xylene	ND	ug/kg	7.6	1		02/24/14 21:31	179601-23-1	
o-Xylene	ND	ug/kg	3.8	1		02/24/14 21:31	95-47-6	
Surrogates								
Toluene-d8 (S)	106	%	70-130	1		02/24/14 21:31	2037-26-5	
4-Bromofluorobenzene (S)	79	%	70-130	1		02/24/14 21:31	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-132	1		02/24/14 21:31	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	13.6	%	0.10	1		03/03/14 16:16		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-4 (4-6) **Lab ID: 92190305003** Collected: 02/14/14 14:45 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave		Analytical Method: EPA 8270 Preparation Method: EPA 3546						
Acenaphthene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	83-32-9	
Acenaphthylene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	208-96-8	
Aniline	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	62-53-3	
Anthracene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	120-12-7	
Benzo(a)anthracene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	56-55-3	
Benzo(a)pyrene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	207-08-9	
Benzoic Acid	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 14:43	65-85-0	
Benzyl alcohol	ND	ug/kg	798	1	02/20/14 08:54	02/21/14 14:43	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	101-55-3	
Butylbenzylphthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	798	1	02/20/14 08:54	02/21/14 14:43	59-50-7	
4-Chloroaniline	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 14:43	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	108-60-1	
2-Chloronaphthalene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	91-58-7	
2-Chlorophenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	7005-72-3	
Chrysene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	53-70-3	
Dibenzofuran	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	132-64-9	
1,2-Dichlorobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 14:43	91-94-1	
2,4-Dichlorophenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	120-83-2	
Diethylphthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	105-67-9	
Dimethylphthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	131-11-3	
Di-n-butylphthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	798	1	02/20/14 08:54	02/21/14 14:43	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 14:43	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	606-20-2	
Di-n-octylphthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	117-81-7	
Fluoranthene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	206-44-0	
Fluorene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	87-68-3	
Hexachlorobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	118-74-1	
Hexachlorocyclopentadiene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	77-47-4	
Hexachloroethane	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	193-39-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-4 (4-6) **Lab ID: 92190305003** Collected: 02/14/14 14:45 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave		Analytical Method: EPA 8270 Preparation Method: EPA 3546						
Isophorone	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	78-59-1	
1-Methylnaphthalene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	90-12-0	
2-Methylnaphthalene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43		
Naphthalene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	91-20-3	
2-Nitroaniline	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 14:43	88-74-4	
3-Nitroaniline	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 14:43	99-09-2	
4-Nitroaniline	ND	ug/kg	798	1	02/20/14 08:54	02/21/14 14:43	100-01-6	
Nitrobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	98-95-3	
2-Nitrophenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	88-75-5	
4-Nitrophenol	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 14:43	100-02-7	
N-Nitrosodimethylamine	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	86-30-6	
Pentachlorophenol	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 14:43	87-86-5	
Phenanthrene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	85-01-8	
Phenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	108-95-2	
Pyrene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	120-82-1	
2,4,5-Trichlorophenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 14:43	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	67 %		23-110	1	02/20/14 08:54	02/21/14 14:43	4165-60-0	
2-Fluorobiphenyl (S)	62 %		30-110	1	02/20/14 08:54	02/21/14 14:43	321-60-8	
Terphenyl-d14 (S)	81 %		28-110	1	02/20/14 08:54	02/21/14 14:43	1718-51-0	
Phenol-d6 (S)	82 %		22-110	1	02/20/14 08:54	02/21/14 14:43	13127-88-3	
2-Fluorophenol (S)	73 %		13-110	1	02/20/14 08:54	02/21/14 14:43	367-12-4	
2,4,6-Tribromophenol (S)	91 %		27-110	1	02/20/14 08:54	02/21/14 14:43	118-79-6	
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
Acetone	ND	ug/kg	82.8	1		02/21/14 16:28	67-64-1	
Benzene	ND	ug/kg	4.1	1		02/21/14 16:28	71-43-2	
Bromobenzene	ND	ug/kg	4.1	1		02/21/14 16:28	108-86-1	
Bromochloromethane	ND	ug/kg	4.1	1		02/21/14 16:28	74-97-5	
Bromodichloromethane	ND	ug/kg	4.1	1		02/21/14 16:28	75-27-4	
Bromoform	ND	ug/kg	4.1	1		02/21/14 16:28	75-25-2	
Bromomethane	ND	ug/kg	8.3	1		02/21/14 16:28	74-83-9	
2-Butanone (MEK)	ND	ug/kg	82.8	1		02/21/14 16:28	78-93-3	
n-Butylbenzene	ND	ug/kg	4.1	1		02/21/14 16:28	104-51-8	
sec-Butylbenzene	ND	ug/kg	4.1	1		02/21/14 16:28	135-98-8	
tert-Butylbenzene	ND	ug/kg	4.1	1		02/21/14 16:28	98-06-6	
Carbon tetrachloride	ND	ug/kg	4.1	1		02/21/14 16:28	56-23-5	
Chlorobenzene	ND	ug/kg	4.1	1		02/21/14 16:28	108-90-7	
Chloroethane	ND	ug/kg	8.3	1		02/21/14 16:28	75-00-3	
Chloroform	ND	ug/kg	4.1	1		02/21/14 16:28	67-66-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-4 (4-6) **Lab ID: 92190305003** Collected: 02/14/14 14:45 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
Chloromethane	ND	ug/kg	8.3	1		02/21/14 16:28	74-87-3	
2-Chlorotoluene	ND	ug/kg	4.1	1		02/21/14 16:28	95-49-8	
4-Chlorotoluene	ND	ug/kg	4.1	1		02/21/14 16:28	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	4.1	1		02/21/14 16:28	96-12-8	
Dibromochloromethane	ND	ug/kg	4.1	1		02/21/14 16:28	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	4.1	1		02/21/14 16:28	106-93-4	
Dibromomethane	ND	ug/kg	4.1	1		02/21/14 16:28	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	4.1	1		02/21/14 16:28	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	4.1	1		02/21/14 16:28	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	4.1	1		02/21/14 16:28	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	8.3	1		02/21/14 16:28	75-71-8	
1,1-Dichloroethane	ND	ug/kg	4.1	1		02/21/14 16:28	75-34-3	
1,2-Dichloroethane	ND	ug/kg	4.1	1		02/21/14 16:28	107-06-2	
1,1-Dichloroethene	ND	ug/kg	4.1	1		02/21/14 16:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	4.1	1		02/21/14 16:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	4.1	1		02/21/14 16:28	156-60-5	
1,2-Dichloropropane	ND	ug/kg	4.1	1		02/21/14 16:28	78-87-5	
1,3-Dichloropropane	ND	ug/kg	4.1	1		02/21/14 16:28	142-28-9	
2,2-Dichloropropane	ND	ug/kg	4.1	1		02/21/14 16:28	594-20-7	
1,1-Dichloropropene	ND	ug/kg	4.1	1		02/21/14 16:28	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	4.1	1		02/21/14 16:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	4.1	1		02/21/14 16:28	10061-02-6	
Diisopropyl ether	ND	ug/kg	4.1	1		02/21/14 16:28	108-20-3	
Ethylbenzene	ND	ug/kg	4.1	1		02/21/14 16:28	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	4.1	1		02/21/14 16:28	87-68-3	
2-Hexanone	ND	ug/kg	41.4	1		02/21/14 16:28	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	4.1	1		02/21/14 16:28	98-82-8	
p-Isopropyltoluene	ND	ug/kg	4.1	1		02/21/14 16:28	99-87-6	
Methylene Chloride	ND	ug/kg	16.6	1		02/21/14 16:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	41.4	1		02/21/14 16:28	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	4.1	1		02/21/14 16:28	1634-04-4	
Naphthalene	ND	ug/kg	4.1	1		02/21/14 16:28	91-20-3	
n-Propylbenzene	ND	ug/kg	4.1	1		02/21/14 16:28	103-65-1	
Styrene	ND	ug/kg	4.1	1		02/21/14 16:28	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	4.1	1		02/21/14 16:28	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.1	1		02/21/14 16:28	79-34-5	
Tetrachloroethene	ND	ug/kg	4.1	1		02/21/14 16:28	127-18-4	
Toluene	ND	ug/kg	4.1	1		02/21/14 16:28	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	4.1	1		02/21/14 16:28	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	4.1	1		02/21/14 16:28	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	4.1	1		02/21/14 16:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	4.1	1		02/21/14 16:28	79-00-5	
Trichloroethene	ND	ug/kg	4.1	1		02/21/14 16:28	79-01-6	
Trichlorofluoromethane	ND	ug/kg	4.1	1		02/21/14 16:28	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	4.1	1		02/21/14 16:28	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	4.1	1		02/21/14 16:28	95-63-6	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1
Pace Project No.: 92190305

Sample: 8-4 (4-6) **Lab ID: 92190305003** Collected: 02/14/14 14:45 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
1,3,5-Trimethylbenzene	ND	ug/kg	4.1	1		02/21/14 16:28	108-67-8	
Vinyl acetate	ND	ug/kg	41.4	1		02/21/14 16:28	108-05-4	
Vinyl chloride	ND	ug/kg	8.3	1		02/21/14 16:28	75-01-4	
Xylene (Total)	ND	ug/kg	8.3	1		02/21/14 16:28	1330-20-7	
m&p-Xylene	ND	ug/kg	8.3	1		02/21/14 16:28	179601-23-1	
o-Xylene	ND	ug/kg	4.1	1		02/21/14 16:28	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%	70-130	1		02/21/14 16:28	2037-26-5	
4-Bromofluorobenzene (S)	83	%	70-130	1		02/21/14 16:28	460-00-4	
1,2-Dichloroethane-d4 (S)	124	%	70-132	1		02/21/14 16:28	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	17.3	%	0.10	1		03/03/14 19:04		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-1 (4-6) **Lab ID: 92190305004** Collected: 02/14/14 13:20 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave		Analytical Method: EPA 8270 Preparation Method: EPA 3546						
Acenaphthene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	83-32-9	
Acenaphthylene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	208-96-8	
Aniline	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	62-53-3	
Anthracene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	120-12-7	
Benzo(a)anthracene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	56-55-3	
Benzo(a)pyrene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	207-08-9	
Benzoic Acid	ND	ug/kg	1870	1	02/20/14 08:54	02/21/14 16:04	65-85-0	
Benzyl alcohol	ND	ug/kg	750	1	02/20/14 08:54	02/21/14 16:04	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	101-55-3	
Butylbenzylphthalate	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	750	1	02/20/14 08:54	02/21/14 16:04	59-50-7	
4-Chloroaniline	ND	ug/kg	1870	1	02/20/14 08:54	02/21/14 16:04	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	108-60-1	
2-Chloronaphthalene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	91-58-7	
2-Chlorophenol	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	7005-72-3	
Chrysene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	53-70-3	
Dibenzofuran	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	132-64-9	
1,2-Dichlorobenzene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/kg	1870	1	02/20/14 08:54	02/21/14 16:04	91-94-1	
2,4-Dichlorophenol	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	120-83-2	
Diethylphthalate	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	105-67-9	
Dimethylphthalate	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	131-11-3	
Di-n-butylphthalate	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	750	1	02/20/14 08:54	02/21/14 16:04	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1870	1	02/20/14 08:54	02/21/14 16:04	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	606-20-2	
Di-n-octylphthalate	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	117-81-7	
Fluoranthene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	206-44-0	
Fluorene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	87-68-3	
Hexachlorobenzene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	118-74-1	
Hexachlorocyclopentadiene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	77-47-4	
Hexachloroethane	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	193-39-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-1 (4-6) **Lab ID: 92190305004** Collected: 02/14/14 13:20 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave		Analytical Method: EPA 8270 Preparation Method: EPA 3546						
Isophorone	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	78-59-1	
1-Methylnaphthalene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	90-12-0	
2-Methylnaphthalene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04		
Naphthalene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	91-20-3	
2-Nitroaniline	ND	ug/kg	1870	1	02/20/14 08:54	02/21/14 16:04	88-74-4	
3-Nitroaniline	ND	ug/kg	1870	1	02/20/14 08:54	02/21/14 16:04	99-09-2	
4-Nitroaniline	ND	ug/kg	750	1	02/20/14 08:54	02/21/14 16:04	100-01-6	
Nitrobenzene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	98-95-3	
2-Nitrophenol	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	88-75-5	
4-Nitrophenol	ND	ug/kg	1870	1	02/20/14 08:54	02/21/14 16:04	100-02-7	
N-Nitrosodimethylamine	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	86-30-6	
Pentachlorophenol	ND	ug/kg	1870	1	02/20/14 08:54	02/21/14 16:04	87-86-5	
Phenanthrene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	85-01-8	
Phenol	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	108-95-2	
Pyrene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	120-82-1	
2,4,5-Trichlorophenol	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	375	1	02/20/14 08:54	02/21/14 16:04	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	62 %		23-110	1	02/20/14 08:54	02/21/14 16:04	4165-60-0	
2-Fluorobiphenyl (S)	61 %		30-110	1	02/20/14 08:54	02/21/14 16:04	321-60-8	
Terphenyl-d14 (S)	80 %		28-110	1	02/20/14 08:54	02/21/14 16:04	1718-51-0	
Phenol-d6 (S)	60 %		22-110	1	02/20/14 08:54	02/21/14 16:04	13127-88-3	
2-Fluorophenol (S)	67 %		13-110	1	02/20/14 08:54	02/21/14 16:04	367-12-4	
2,4,6-Tribromophenol (S)	69 %		27-110	1	02/20/14 08:54	02/21/14 16:04	118-79-6	
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
Acetone	ND	ug/kg	92.5	1		02/21/14 16:47	67-64-1	
Benzene	ND	ug/kg	4.6	1		02/21/14 16:47	71-43-2	
Bromobenzene	ND	ug/kg	4.6	1		02/21/14 16:47	108-86-1	
Bromochloromethane	ND	ug/kg	4.6	1		02/21/14 16:47	74-97-5	
Bromodichloromethane	ND	ug/kg	4.6	1		02/21/14 16:47	75-27-4	
Bromoform	ND	ug/kg	4.6	1		02/21/14 16:47	75-25-2	
Bromomethane	ND	ug/kg	9.2	1		02/21/14 16:47	74-83-9	
2-Butanone (MEK)	ND	ug/kg	92.5	1		02/21/14 16:47	78-93-3	
n-Butylbenzene	ND	ug/kg	4.6	1		02/21/14 16:47	104-51-8	
sec-Butylbenzene	ND	ug/kg	4.6	1		02/21/14 16:47	135-98-8	
tert-Butylbenzene	ND	ug/kg	4.6	1		02/21/14 16:47	98-06-6	
Carbon tetrachloride	ND	ug/kg	4.6	1		02/21/14 16:47	56-23-5	
Chlorobenzene	ND	ug/kg	4.6	1		02/21/14 16:47	108-90-7	
Chloroethane	ND	ug/kg	9.2	1		02/21/14 16:47	75-00-3	
Chloroform	ND	ug/kg	4.6	1		02/21/14 16:47	67-66-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-1 (4-6) **Lab ID: 92190305004** Collected: 02/14/14 13:20 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
Chloromethane	ND	ug/kg	9.2	1		02/21/14 16:47	74-87-3	
2-Chlorotoluene	ND	ug/kg	4.6	1		02/21/14 16:47	95-49-8	
4-Chlorotoluene	ND	ug/kg	4.6	1		02/21/14 16:47	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	4.6	1		02/21/14 16:47	96-12-8	
Dibromochloromethane	ND	ug/kg	4.6	1		02/21/14 16:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	4.6	1		02/21/14 16:47	106-93-4	
Dibromomethane	ND	ug/kg	4.6	1		02/21/14 16:47	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	4.6	1		02/21/14 16:47	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	4.6	1		02/21/14 16:47	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	4.6	1		02/21/14 16:47	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	9.2	1		02/21/14 16:47	75-71-8	
1,1-Dichloroethane	ND	ug/kg	4.6	1		02/21/14 16:47	75-34-3	
1,2-Dichloroethane	ND	ug/kg	4.6	1		02/21/14 16:47	107-06-2	
1,1-Dichloroethene	ND	ug/kg	4.6	1		02/21/14 16:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	4.6	1		02/21/14 16:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	4.6	1		02/21/14 16:47	156-60-5	
1,2-Dichloropropane	ND	ug/kg	4.6	1		02/21/14 16:47	78-87-5	
1,3-Dichloropropane	ND	ug/kg	4.6	1		02/21/14 16:47	142-28-9	
2,2-Dichloropropane	ND	ug/kg	4.6	1		02/21/14 16:47	594-20-7	
1,1-Dichloropropene	ND	ug/kg	4.6	1		02/21/14 16:47	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	4.6	1		02/21/14 16:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	4.6	1		02/21/14 16:47	10061-02-6	
Diisopropyl ether	ND	ug/kg	4.6	1		02/21/14 16:47	108-20-3	
Ethylbenzene	ND	ug/kg	4.6	1		02/21/14 16:47	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	4.6	1		02/21/14 16:47	87-68-3	
2-Hexanone	ND	ug/kg	46.2	1		02/21/14 16:47	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	4.6	1		02/21/14 16:47	98-82-8	
p-Isopropyltoluene	ND	ug/kg	4.6	1		02/21/14 16:47	99-87-6	
Methylene Chloride	ND	ug/kg	18.5	1		02/21/14 16:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	46.2	1		02/21/14 16:47	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	4.6	1		02/21/14 16:47	1634-04-4	
Naphthalene	ND	ug/kg	4.6	1		02/21/14 16:47	91-20-3	
n-Propylbenzene	ND	ug/kg	4.6	1		02/21/14 16:47	103-65-1	
Styrene	ND	ug/kg	4.6	1		02/21/14 16:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	4.6	1		02/21/14 16:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.6	1		02/21/14 16:47	79-34-5	
Tetrachloroethene	ND	ug/kg	4.6	1		02/21/14 16:47	127-18-4	
Toluene	ND	ug/kg	4.6	1		02/21/14 16:47	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	4.6	1		02/21/14 16:47	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	4.6	1		02/21/14 16:47	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	4.6	1		02/21/14 16:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	4.6	1		02/21/14 16:47	79-00-5	
Trichloroethene	ND	ug/kg	4.6	1		02/21/14 16:47	79-01-6	
Trichlorofluoromethane	ND	ug/kg	4.6	1		02/21/14 16:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	4.6	1		02/21/14 16:47	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	4.6	1		02/21/14 16:47	95-63-6	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-1 (4-6) **Lab ID: 92190305004** Collected: 02/14/14 13:20 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
1,3,5-Trimethylbenzene	ND	ug/kg	4.6	1		02/21/14 16:47	108-67-8	
Vinyl acetate	ND	ug/kg	46.2	1		02/21/14 16:47	108-05-4	
Vinyl chloride	ND	ug/kg	9.2	1		02/21/14 16:47	75-01-4	
Xylene (Total)	ND	ug/kg	9.2	1		02/21/14 16:47	1330-20-7	
m&p-Xylene	ND	ug/kg	9.2	1		02/21/14 16:47	179601-23-1	
o-Xylene	ND	ug/kg	4.6	1		02/21/14 16:47	95-47-6	
Surrogates								
Toluene-d8 (S)	98	%	70-130	1		02/21/14 16:47	2037-26-5	
4-Bromofluorobenzene (S)	87	%	70-130	1		02/21/14 16:47	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	70-132	1		02/21/14 16:47	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	11.9	%	0.10	1		03/03/14 19:04		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-2 (4-6) **Lab ID: 92190305005** Collected: 02/14/14 13:40 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave		Analytical Method: EPA 8270 Preparation Method: EPA 3546						
Acenaphthene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	83-32-9	
Acenaphthylene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	208-96-8	
Aniline	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	62-53-3	
Anthracene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	120-12-7	
Benzo(a)anthracene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	56-55-3	
Benzo(a)pyrene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	207-08-9	
Benzoic Acid	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 19:39	65-85-0	
Benzyl alcohol	ND	ug/kg	798	1	02/20/14 08:54	02/21/14 19:39	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	101-55-3	
Butylbenzylphthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	798	1	02/20/14 08:54	02/21/14 19:39	59-50-7	
4-Chloroaniline	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 19:39	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	108-60-1	
2-Chloronaphthalene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	91-58-7	
2-Chlorophenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	7005-72-3	
Chrysene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	53-70-3	
Dibenzofuran	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	132-64-9	
1,2-Dichlorobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 19:39	91-94-1	
2,4-Dichlorophenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	120-83-2	
Diethylphthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	105-67-9	
Dimethylphthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	131-11-3	
Di-n-butylphthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	798	1	02/20/14 08:54	02/21/14 19:39	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 19:39	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	606-20-2	
Di-n-octylphthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	117-81-7	
Fluoranthene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	206-44-0	
Fluorene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	87-68-3	
Hexachlorobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	118-74-1	
Hexachlorocyclopentadiene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	77-47-4	
Hexachloroethane	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	193-39-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-2 (4-6) **Lab ID: 92190305005** Collected: 02/14/14 13:40 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave		Analytical Method: EPA 8270 Preparation Method: EPA 3546						
Isophorone	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	78-59-1	
1-Methylnaphthalene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	90-12-0	
2-Methylnaphthalene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39		
Naphthalene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	91-20-3	
2-Nitroaniline	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 19:39	88-74-4	
3-Nitroaniline	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 19:39	99-09-2	
4-Nitroaniline	ND	ug/kg	798	1	02/20/14 08:54	02/21/14 19:39	100-01-6	
Nitrobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	98-95-3	
2-Nitrophenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	88-75-5	
4-Nitrophenol	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 19:39	100-02-7	
N-Nitrosodimethylamine	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	86-30-6	
Pentachlorophenol	ND	ug/kg	1990	1	02/20/14 08:54	02/21/14 19:39	87-86-5	
Phenanthrene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	85-01-8	
Phenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	108-95-2	
Pyrene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	120-82-1	
2,4,5-Trichlorophenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	399	1	02/20/14 08:54	02/21/14 19:39	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	60 %		23-110	1	02/20/14 08:54	02/21/14 19:39	4165-60-0	
2-Fluorobiphenyl (S)	54 %		30-110	1	02/20/14 08:54	02/21/14 19:39	321-60-8	
Terphenyl-d14 (S)	77 %		28-110	1	02/20/14 08:54	02/21/14 19:39	1718-51-0	
Phenol-d6 (S)	68 %		22-110	1	02/20/14 08:54	02/21/14 19:39	13127-88-3	
2-Fluorophenol (S)	67 %		13-110	1	02/20/14 08:54	02/21/14 19:39	367-12-4	
2,4,6-Tribromophenol (S)	82 %		27-110	1	02/20/14 08:54	02/21/14 19:39	118-79-6	
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
Acetone	ND	ug/kg	74.6	1		02/21/14 17:07	67-64-1	
Benzene	ND	ug/kg	3.7	1		02/21/14 17:07	71-43-2	
Bromobenzene	ND	ug/kg	3.7	1		02/21/14 17:07	108-86-1	
Bromochloromethane	ND	ug/kg	3.7	1		02/21/14 17:07	74-97-5	
Bromodichloromethane	ND	ug/kg	3.7	1		02/21/14 17:07	75-27-4	
Bromoform	ND	ug/kg	3.7	1		02/21/14 17:07	75-25-2	
Bromomethane	ND	ug/kg	7.5	1		02/21/14 17:07	74-83-9	
2-Butanone (MEK)	ND	ug/kg	74.6	1		02/21/14 17:07	78-93-3	
n-Butylbenzene	ND	ug/kg	3.7	1		02/21/14 17:07	104-51-8	
sec-Butylbenzene	ND	ug/kg	3.7	1		02/21/14 17:07	135-98-8	
tert-Butylbenzene	ND	ug/kg	3.7	1		02/21/14 17:07	98-06-6	
Carbon tetrachloride	ND	ug/kg	3.7	1		02/21/14 17:07	56-23-5	
Chlorobenzene	ND	ug/kg	3.7	1		02/21/14 17:07	108-90-7	
Chloroethane	ND	ug/kg	7.5	1		02/21/14 17:07	75-00-3	
Chloroform	ND	ug/kg	3.7	1		02/21/14 17:07	67-66-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-2 (4-6) **Lab ID: 92190305005** Collected: 02/14/14 13:40 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
Chloromethane	ND	ug/kg	7.5	1		02/21/14 17:07	74-87-3	
2-Chlorotoluene	ND	ug/kg	3.7	1		02/21/14 17:07	95-49-8	
4-Chlorotoluene	ND	ug/kg	3.7	1		02/21/14 17:07	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	3.7	1		02/21/14 17:07	96-12-8	
Dibromochloromethane	ND	ug/kg	3.7	1		02/21/14 17:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	3.7	1		02/21/14 17:07	106-93-4	
Dibromomethane	ND	ug/kg	3.7	1		02/21/14 17:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	3.7	1		02/21/14 17:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3.7	1		02/21/14 17:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3.7	1		02/21/14 17:07	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	7.5	1		02/21/14 17:07	75-71-8	1g
1,1-Dichloroethane	ND	ug/kg	3.7	1		02/21/14 17:07	75-34-3	
1,2-Dichloroethane	ND	ug/kg	3.7	1		02/21/14 17:07	107-06-2	
1,1-Dichloroethene	ND	ug/kg	3.7	1		02/21/14 17:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	3.7	1		02/21/14 17:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	3.7	1		02/21/14 17:07	156-60-5	
1,2-Dichloropropane	ND	ug/kg	3.7	1		02/21/14 17:07	78-87-5	
1,3-Dichloropropane	ND	ug/kg	3.7	1		02/21/14 17:07	142-28-9	
2,2-Dichloropropane	ND	ug/kg	3.7	1		02/21/14 17:07	594-20-7	
1,1-Dichloropropene	ND	ug/kg	3.7	1		02/21/14 17:07	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	3.7	1		02/21/14 17:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	3.7	1		02/21/14 17:07	10061-02-6	
Diisopropyl ether	ND	ug/kg	3.7	1		02/21/14 17:07	108-20-3	
Ethylbenzene	ND	ug/kg	3.7	1		02/21/14 17:07	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	3.7	1		02/21/14 17:07	87-68-3	
2-Hexanone	ND	ug/kg	37.3	1		02/21/14 17:07	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	3.7	1		02/21/14 17:07	98-82-8	
p-Isopropyltoluene	ND	ug/kg	3.7	1		02/21/14 17:07	99-87-6	
Methylene Chloride	ND	ug/kg	14.9	1		02/21/14 17:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	37.3	1		02/21/14 17:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	3.7	1		02/21/14 17:07	1634-04-4	
Naphthalene	ND	ug/kg	3.7	1		02/21/14 17:07	91-20-3	
n-Propylbenzene	ND	ug/kg	3.7	1		02/21/14 17:07	103-65-1	
Styrene	ND	ug/kg	3.7	1		02/21/14 17:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3.7	1		02/21/14 17:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	3.7	1		02/21/14 17:07	79-34-5	
Tetrachloroethene	ND	ug/kg	3.7	1		02/21/14 17:07	127-18-4	
Toluene	ND	ug/kg	3.7	1		02/21/14 17:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	3.7	1		02/21/14 17:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	3.7	1		02/21/14 17:07	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	3.7	1		02/21/14 17:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	3.7	1		02/21/14 17:07	79-00-5	
Trichloroethene	ND	ug/kg	3.7	1		02/21/14 17:07	79-01-6	
Trichlorofluoromethane	ND	ug/kg	3.7	1		02/21/14 17:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	3.7	1		02/21/14 17:07	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	3.7	1		02/21/14 17:07	95-63-6	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Sample: 8-2 (4-6) **Lab ID: 92190305005** Collected: 02/14/14 13:40 Received: 02/19/14 17:45 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
1,3,5-Trimethylbenzene	ND	ug/kg	3.7	1		02/21/14 17:07	108-67-8	
Vinyl acetate	ND	ug/kg	37.3	1		02/21/14 17:07	108-05-4	
Vinyl chloride	ND	ug/kg	7.5	1		02/21/14 17:07	75-01-4	
Xylene (Total)	ND	ug/kg	7.5	1		02/21/14 17:07	1330-20-7	
m&p-Xylene	ND	ug/kg	7.5	1		02/21/14 17:07	179601-23-1	
o-Xylene	ND	ug/kg	3.7	1		02/21/14 17:07	95-47-6	
Surrogates								
Toluene-d8 (S)	97	%	70-130	1		02/21/14 17:07	2037-26-5	
4-Bromofluorobenzene (S)	72	%	70-130	1		02/21/14 17:07	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-132	1		02/21/14 17:07	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	17.3	%	0.10	1		03/03/14 19:05		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: WSB33727.1 B-4490 CUMBERLAND

Pace Project No.: 92190453

Sample: 008-5(4-6) **Lab ID: 92190453001** Collected: 02/18/14 14:30 Received: 02/20/14 13:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave		Analytical Method: EPA 8270 Preparation Method: EPA 3546						
Acenaphthene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	83-32-9	
Acenaphthylene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	208-96-8	
Aniline	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	62-53-3	
Anthracene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	120-12-7	
Benzo(a)anthracene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	56-55-3	
Benzo(a)pyrene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	207-08-9	
Benzoic Acid	ND	ug/kg	1840	1	02/20/14 16:05	02/25/14 21:43	65-85-0	
Benzyl alcohol	ND	ug/kg	734	1	02/20/14 16:05	02/25/14 21:43	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	101-55-3	
Butylbenzylphthalate	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	734	1	02/20/14 16:05	02/25/14 21:43	59-50-7	
4-Chloroaniline	ND	ug/kg	1840	1	02/20/14 16:05	02/25/14 21:43	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	108-60-1	
2-Chloronaphthalene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	91-58-7	
2-Chlorophenol	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	7005-72-3	
Chrysene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	53-70-3	
Dibenzofuran	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	132-64-9	
1,2-Dichlorobenzene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/kg	1840	1	02/20/14 16:05	02/25/14 21:43	91-94-1	
2,4-Dichlorophenol	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	120-83-2	
Diethylphthalate	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	105-67-9	
Dimethylphthalate	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	131-11-3	
Di-n-butylphthalate	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	734	1	02/20/14 16:05	02/25/14 21:43	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1840	1	02/20/14 16:05	02/25/14 21:43	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	606-20-2	
Di-n-octylphthalate	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	117-81-7	
Fluoranthene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	206-44-0	
Fluorene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	87-68-3	
Hexachlorobenzene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	118-74-1	
Hexachlorocyclopentadiene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	77-47-4	
Hexachloroethane	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	193-39-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: WSB33727.1 B-4490 CUMBERLAND

Pace Project No.: 92190453

Sample: 008-5(4-6) **Lab ID: 92190453001** Collected: 02/18/14 14:30 Received: 02/20/14 13:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Microwave		Analytical Method: EPA 8270 Preparation Method: EPA 3546						
Isophorone	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	78-59-1	
1-Methylnaphthalene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	90-12-0	
2-Methylnaphthalene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43		
Naphthalene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	91-20-3	
2-Nitroaniline	ND	ug/kg	1840	1	02/20/14 16:05	02/25/14 21:43	88-74-4	
3-Nitroaniline	ND	ug/kg	1840	1	02/20/14 16:05	02/25/14 21:43	99-09-2	
4-Nitroaniline	ND	ug/kg	734	1	02/20/14 16:05	02/25/14 21:43	100-01-6	
Nitrobenzene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	98-95-3	
2-Nitrophenol	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	88-75-5	
4-Nitrophenol	ND	ug/kg	1840	1	02/20/14 16:05	02/25/14 21:43	100-02-7	
N-Nitrosodimethylamine	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	621-64-7	
N-Nitrosodiphenylamine	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	86-30-6	
Pentachlorophenol	ND	ug/kg	1840	1	02/20/14 16:05	02/25/14 21:43	87-86-5	
Phenanthrene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	85-01-8	
Phenol	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	108-95-2	
Pyrene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	120-82-1	
2,4,5-Trichlorophenol	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	367	1	02/20/14 16:05	02/25/14 21:43	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	69 %		23-110	1	02/20/14 16:05	02/25/14 21:43	4165-60-0	
2-Fluorobiphenyl (S)	68 %		30-110	1	02/20/14 16:05	02/25/14 21:43	321-60-8	
Terphenyl-d14 (S)	74 %		28-110	1	02/20/14 16:05	02/25/14 21:43	1718-51-0	
Phenol-d6 (S)	73 %		22-110	1	02/20/14 16:05	02/25/14 21:43	13127-88-3	
2-Fluorophenol (S)	74 %		13-110	1	02/20/14 16:05	02/25/14 21:43	367-12-4	
2,4,6-Tribromophenol (S)	77 %		27-110	1	02/20/14 16:05	02/25/14 21:43	118-79-6	
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
Acetone	ND	ug/kg	86.5	1		02/24/14 23:30	67-64-1	
Benzene	ND	ug/kg	4.3	1		02/24/14 23:30	71-43-2	
Bromobenzene	ND	ug/kg	4.3	1		02/24/14 23:30	108-86-1	
Bromochloromethane	ND	ug/kg	4.3	1		02/24/14 23:30	74-97-5	
Bromodichloromethane	ND	ug/kg	4.3	1		02/24/14 23:30	75-27-4	
Bromoform	ND	ug/kg	4.3	1		02/24/14 23:30	75-25-2	
Bromomethane	ND	ug/kg	8.6	1		02/24/14 23:30	74-83-9	
2-Butanone (MEK)	ND	ug/kg	86.5	1		02/24/14 23:30	78-93-3	
n-Butylbenzene	ND	ug/kg	4.3	1		02/24/14 23:30	104-51-8	
sec-Butylbenzene	ND	ug/kg	4.3	1		02/24/14 23:30	135-98-8	
tert-Butylbenzene	ND	ug/kg	4.3	1		02/24/14 23:30	98-06-6	
Carbon tetrachloride	ND	ug/kg	4.3	1		02/24/14 23:30	56-23-5	
Chlorobenzene	ND	ug/kg	4.3	1		02/24/14 23:30	108-90-7	
Chloroethane	ND	ug/kg	8.6	1		02/24/14 23:30	75-00-3	
Chloroform	ND	ug/kg	4.3	1		02/24/14 23:30	67-66-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: WSB33727.1 B-4490 CUMBERLAND

Lab Project No.: 92190453

Sample: 008-5(4-6) **Lab ID: 92190453001** Collected: 02/18/14 14:30 Received: 02/20/14 13:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
Chloromethane	ND	ug/kg	8.6	1		02/24/14 23:30	74-87-3	
2-Chlorotoluene	ND	ug/kg	4.3	1		02/24/14 23:30	95-49-8	
4-Chlorotoluene	ND	ug/kg	4.3	1		02/24/14 23:30	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	4.3	1		02/24/14 23:30	96-12-8	
Dibromochloromethane	ND	ug/kg	4.3	1		02/24/14 23:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	4.3	1		02/24/14 23:30	106-93-4	
Dibromomethane	ND	ug/kg	4.3	1		02/24/14 23:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	4.3	1		02/24/14 23:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	4.3	1		02/24/14 23:30	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	4.3	1		02/24/14 23:30	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	8.6	1		02/24/14 23:30	75-71-8	
1,1-Dichloroethane	ND	ug/kg	4.3	1		02/24/14 23:30	75-34-3	
1,2-Dichloroethane	ND	ug/kg	4.3	1		02/24/14 23:30	107-06-2	
1,1-Dichloroethene	ND	ug/kg	4.3	1		02/24/14 23:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	4.3	1		02/24/14 23:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	4.3	1		02/24/14 23:30	156-60-5	
1,2-Dichloropropane	ND	ug/kg	4.3	1		02/24/14 23:30	78-87-5	
1,3-Dichloropropane	ND	ug/kg	4.3	1		02/24/14 23:30	142-28-9	
2,2-Dichloropropane	ND	ug/kg	4.3	1		02/24/14 23:30	594-20-7	
1,1-Dichloropropene	ND	ug/kg	4.3	1		02/24/14 23:30	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	4.3	1		02/24/14 23:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	4.3	1		02/24/14 23:30	10061-02-6	
Diisopropyl ether	ND	ug/kg	4.3	1		02/24/14 23:30	108-20-3	
Ethylbenzene	ND	ug/kg	4.3	1		02/24/14 23:30	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	4.3	1		02/24/14 23:30	87-68-3	
2-Hexanone	ND	ug/kg	43.2	1		02/24/14 23:30	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	4.3	1		02/24/14 23:30	98-82-8	
p-Isopropyltoluene	ND	ug/kg	4.3	1		02/24/14 23:30	99-87-6	
Methylene Chloride	ND	ug/kg	17.3	1		02/24/14 23:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	43.2	1		02/24/14 23:30	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	4.3	1		02/24/14 23:30	1634-04-4	
Naphthalene	ND	ug/kg	4.3	1		02/24/14 23:30	91-20-3	
n-Propylbenzene	ND	ug/kg	4.3	1		02/24/14 23:30	103-65-1	
Styrene	ND	ug/kg	4.3	1		02/24/14 23:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	4.3	1		02/24/14 23:30	630-20-6	
1,1,1,2,2-Tetrachloroethane	ND	ug/kg	4.3	1		02/24/14 23:30	79-34-5	
Tetrachloroethene	ND	ug/kg	4.3	1		02/24/14 23:30	127-18-4	
Toluene	ND	ug/kg	4.3	1		02/24/14 23:30	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	4.3	1		02/24/14 23:30	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	4.3	1		02/24/14 23:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	4.3	1		02/24/14 23:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	4.3	1		02/24/14 23:30	79-00-5	
Trichloroethene	ND	ug/kg	4.3	1		02/24/14 23:30	79-01-6	
Trichlorofluoromethane	ND	ug/kg	4.3	1		02/24/14 23:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	4.3	1		02/24/14 23:30	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	4.3	1		02/24/14 23:30	95-63-6	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: WSB33727.1 B-4490 CUMBERLAND

Pace Project No.: 92190453

Sample: 008-5(4-6) **Lab ID: 92190453001** Collected: 02/18/14 14:30 Received: 02/20/14 13:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A Volatile Organics		Analytical Method: EPA 8260						
1,3,5-Trimethylbenzene	ND	ug/kg	4.3	1		02/24/14 23:30	108-67-8	
Vinyl acetate	ND	ug/kg	43.2	1		02/24/14 23:30	108-05-4	
Vinyl chloride	ND	ug/kg	8.6	1		02/24/14 23:30	75-01-4	
Xylene (Total)	ND	ug/kg	8.6	1		02/24/14 23:30	1330-20-7	
m&p-Xylene	ND	ug/kg	8.6	1		02/24/14 23:30	179601-23-1	
o-Xylene	ND	ug/kg	4.3	1		02/24/14 23:30	95-47-6	
Surrogates								
Toluene-d8 (S)	111	%	70-130	1		02/24/14 23:30	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130	1		02/24/14 23:30	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-132	1		02/24/14 23:30	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	10.1	%	0.10	1		03/03/14 19:05		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

QC Batch: MSV/25854

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5035A Volatile Organics

Associated Lab Samples: 92190305003, 92190305004, 92190305005

METHOD BLANK: 1142401

Matrix: Solid

Associated Lab Samples: 92190305003, 92190305004, 92190305005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.6	02/21/14 11:54	
1,1,1-Trichloroethane	ug/kg	ND	5.6	02/21/14 11:54	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.6	02/21/14 11:54	
1,1,2-Trichloroethane	ug/kg	ND	5.6	02/21/14 11:54	
1,1-Dichloroethane	ug/kg	ND	5.6	02/21/14 11:54	
1,1-Dichloroethene	ug/kg	ND	5.6	02/21/14 11:54	
1,1-Dichloropropene	ug/kg	ND	5.6	02/21/14 11:54	
1,2,3-Trichlorobenzene	ug/kg	ND	5.6	02/21/14 11:54	
1,2,3-Trichloropropane	ug/kg	ND	5.6	02/21/14 11:54	
1,2,4-Trichlorobenzene	ug/kg	ND	5.6	02/21/14 11:54	
1,2,4-Trimethylbenzene	ug/kg	ND	5.6	02/21/14 11:54	
1,2-Dibromo-3-chloropropane	ug/kg	ND	5.6	02/21/14 11:54	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.6	02/21/14 11:54	
1,2-Dichlorobenzene	ug/kg	ND	5.6	02/21/14 11:54	
1,2-Dichloroethane	ug/kg	ND	5.6	02/21/14 11:54	
1,2-Dichloropropane	ug/kg	ND	5.6	02/21/14 11:54	
1,3,5-Trimethylbenzene	ug/kg	ND	5.6	02/21/14 11:54	
1,3-Dichlorobenzene	ug/kg	ND	5.6	02/21/14 11:54	
1,3-Dichloropropane	ug/kg	ND	5.6	02/21/14 11:54	
1,4-Dichlorobenzene	ug/kg	ND	5.6	02/21/14 11:54	
2,2-Dichloropropane	ug/kg	ND	5.6	02/21/14 11:54	
2-Butanone (MEK)	ug/kg	ND	111	02/21/14 11:54	
2-Chlorotoluene	ug/kg	ND	5.6	02/21/14 11:54	
2-Hexanone	ug/kg	ND	55.6	02/21/14 11:54	
4-Chlorotoluene	ug/kg	ND	5.6	02/21/14 11:54	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	55.6	02/21/14 11:54	
Acetone	ug/kg	ND	111	02/21/14 11:54	
Benzene	ug/kg	ND	5.6	02/21/14 11:54	
Bromobenzene	ug/kg	ND	5.6	02/21/14 11:54	
Bromochloromethane	ug/kg	ND	5.6	02/21/14 11:54	
Bromodichloromethane	ug/kg	ND	5.6	02/21/14 11:54	
Bromoform	ug/kg	ND	5.6	02/21/14 11:54	
Bromomethane	ug/kg	ND	11.1	02/21/14 11:54	
Carbon tetrachloride	ug/kg	ND	5.6	02/21/14 11:54	
Chlorobenzene	ug/kg	ND	5.6	02/21/14 11:54	
Chloroethane	ug/kg	ND	11.1	02/21/14 11:54	
Chloroform	ug/kg	ND	5.6	02/21/14 11:54	
Chloromethane	ug/kg	ND	11.1	02/21/14 11:54	
cis-1,2-Dichloroethene	ug/kg	ND	5.6	02/21/14 11:54	
cis-1,3-Dichloropropene	ug/kg	ND	5.6	02/21/14 11:54	
Dibromochloromethane	ug/kg	ND	5.6	02/21/14 11:54	
Dibromomethane	ug/kg	ND	5.6	02/21/14 11:54	
Dichlorodifluoromethane	ug/kg	ND	11.1	02/21/14 11:54	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

METHOD BLANK: 1142401

Matrix: Solid

Associated Lab Samples: 92190305003, 92190305004, 92190305005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/kg	ND	5.6	02/21/14 11:54	
Ethylbenzene	ug/kg	ND	5.6	02/21/14 11:54	
Hexachloro-1,3-butadiene	ug/kg	ND	5.6	02/21/14 11:54	
Isopropylbenzene (Cumene)	ug/kg	ND	5.6	02/21/14 11:54	
m&p-Xylene	ug/kg	ND	11.1	02/21/14 11:54	
Methyl-tert-butyl ether	ug/kg	ND	5.6	02/21/14 11:54	
Methylene Chloride	ug/kg	ND	22.2	02/21/14 11:54	
n-Butylbenzene	ug/kg	ND	5.6	02/21/14 11:54	
n-Propylbenzene	ug/kg	ND	5.6	02/21/14 11:54	
Naphthalene	ug/kg	ND	5.6	02/21/14 11:54	
o-Xylene	ug/kg	ND	5.6	02/21/14 11:54	
p-Isopropyltoluene	ug/kg	ND	5.6	02/21/14 11:54	
sec-Butylbenzene	ug/kg	ND	5.6	02/21/14 11:54	
Styrene	ug/kg	ND	5.6	02/21/14 11:54	
tert-Butylbenzene	ug/kg	ND	5.6	02/21/14 11:54	
Tetrachloroethene	ug/kg	ND	5.6	02/21/14 11:54	
Toluene	ug/kg	ND	5.6	02/21/14 11:54	
trans-1,2-Dichloroethene	ug/kg	ND	5.6	02/21/14 11:54	
trans-1,3-Dichloropropene	ug/kg	ND	5.6	02/21/14 11:54	
Trichloroethene	ug/kg	ND	5.6	02/21/14 11:54	
Trichlorofluoromethane	ug/kg	ND	5.6	02/21/14 11:54	
Vinyl acetate	ug/kg	ND	55.6	02/21/14 11:54	
Vinyl chloride	ug/kg	ND	11.1	02/21/14 11:54	
Xylene (Total)	ug/kg	ND	11.1	02/21/14 11:54	
1,2-Dichloroethane-d4 (S)	%	97	70-132	02/21/14 11:54	
4-Bromofluorobenzene (S)	%	87	70-130	02/21/14 11:54	
Toluene-d8 (S)	%	97	70-130	02/21/14 11:54	

LABORATORY CONTROL SAMPLE: 1142402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	48.6	48.6	100	70-131	
1,1,1-Trichloroethane	ug/kg	48.6	52.4	108	70-141	
1,1,2,2-Tetrachloroethane	ug/kg	48.6	49.7	102	70-130	
1,1,2-Trichloroethane	ug/kg	48.6	48.9	101	70-132	
1,1-Dichloroethane	ug/kg	48.6	50.9	105	70-143	
1,1-Dichloroethene	ug/kg	48.6	51.6	106	70-137	
1,1-Dichloropropene	ug/kg	48.6	55.3	114	70-135	
1,2,3-Trichlorobenzene	ug/kg	48.6	54.8	113	69-153	
1,2,3-Trichloropropane	ug/kg	48.6	48.3	99	70-130	
1,2,4-Trichlorobenzene	ug/kg	48.6	55.9	115	55-171	
1,2,4-Trimethylbenzene	ug/kg	48.6	55.6	114	70-149	
1,2-Dibromo-3-chloropropane	ug/kg	48.6	49.2	101	68-141	
1,2-Dibromoethane (EDB)	ug/kg	48.6	51.7	106	70-130	
1,2-Dichlorobenzene	ug/kg	48.6	50.2	103	70-140	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

LABORATORY CONTROL SAMPLE: 1142402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/kg	48.6	46.5	96	70-137	
1,2-Dichloropropane	ug/kg	48.6	49.5	102	70-133	
1,3,5-Trimethylbenzene	ug/kg	48.6	53.8	111	70-143	
1,3-Dichlorobenzene	ug/kg	48.6	48.8	100	70-144	
1,3-Dichloropropane	ug/kg	48.6	49.8	102	70-132	
1,4-Dichlorobenzene	ug/kg	48.6	50.1	103	70-142	
2,2-Dichloropropane	ug/kg	48.6	54.6	112	68-152	
2-Butanone (MEK)	ug/kg	97.3	112	115	70-149	
2-Chlorotoluene	ug/kg	48.6	51.4	106	70-141	
2-Hexanone	ug/kg	97.3	105	108	70-149	
4-Chlorotoluene	ug/kg	48.6	51.5	106	70-149	
4-Methyl-2-pentanone (MIBK)	ug/kg	97.3	100	103	70-153	
Acetone	ug/kg	97.3	112	115	70-157	
Benzene	ug/kg	48.6	52.0	107	70-130	
Bromobenzene	ug/kg	48.6	49.5	102	70-141	
Bromochloromethane	ug/kg	48.6	51.4	106	70-149	
Bromodichloromethane	ug/kg	48.6	48.0	99	70-130	
Bromoform	ug/kg	48.6	48.2	99	70-131	
Bromomethane	ug/kg	48.6	67.1	138	64-136 L3	
Carbon tetrachloride	ug/kg	48.6	47.1	97	70-154	
Chlorobenzene	ug/kg	48.6	47.5	98	70-135	
Chloroethane	ug/kg	48.6	51.1	105	68-151	
Chloroform	ug/kg	48.6	50.3	103	70-130	
Chloromethane	ug/kg	48.6	50.8	104	70-132	
cis-1,2-Dichloroethene	ug/kg	48.6	50.6	104	70-140	
cis-1,3-Dichloropropene	ug/kg	48.6	49.8	102	70-137	
Dibromochloromethane	ug/kg	48.6	47.7	98	70-130	
Dibromomethane	ug/kg	48.6	48.3	99	70-136	
Dichlorodifluoromethane	ug/kg	48.6	56.6	116	36-148	
Diisopropyl ether	ug/kg	48.6	51.8	107	70-139	
Ethylbenzene	ug/kg	48.6	50.0	103	70-137	
Hexachloro-1,3-butadiene	ug/kg	48.6	45.4	93	70-145	
Isopropylbenzene (Cumene)	ug/kg	48.6	52.5	108	70-141	
m&p-Xylene	ug/kg	97.3	102	105	70-140	
Methyl-tert-butyl ether	ug/kg	48.6	53.8	111	45-150	
Methylene Chloride	ug/kg	48.6	71.0	146	70-133 L3	
n-Butylbenzene	ug/kg	48.6	59.2	122	65-155	
n-Propylbenzene	ug/kg	48.6	54.0	111	70-148	
Naphthalene	ug/kg	48.6	70.6	145	70-148	
o-Xylene	ug/kg	48.6	50.4	104	70-141	
p-Isopropyltoluene	ug/kg	48.6	54.5	112	70-148	
sec-Butylbenzene	ug/kg	48.6	53.8	111	70-145	
Styrene	ug/kg	48.6	51.4	106	70-138	
tert-Butylbenzene	ug/kg	48.6	49.8	102	70-143	
Tetrachloroethene	ug/kg	48.6	48.2	99	70-140	
Toluene	ug/kg	48.6	48.7	100	70-130	
trans-1,2-Dichloroethene	ug/kg	48.6	52.0	107	70-136	
trans-1,3-Dichloropropene	ug/kg	48.6	48.8	100	70-138	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

LABORATORY CONTROL SAMPLE: 1142402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/kg	48.6	48.6	100	70-132	
Trichlorofluoromethane	ug/kg	48.6	55.0	113	69-134	
Vinyl acetate	ug/kg	97.3	142	146	24-161	
Vinyl chloride	ug/kg	48.6	58.3	120	55-140	
Xylene (Total)	ug/kg	146	153	105	70-141	
1,2-Dichloroethane-d4 (S)	%			105	70-132	
4-Bromofluorobenzene (S)	%			90	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 1143259

Parameter	Units	92190305005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/kg		ND 41.8	44.7	107	49-180	
Benzene	ug/kg		ND 41.8	39.2	94	50-166	
Chlorobenzene	ug/kg		ND 41.8	25.8	62	43-169	
Toluene	ug/kg		ND 41.8	33.1	79	52-163	
Trichloroethene	ug/kg		ND 41.8	35.7	85	49-167	
1,2-Dichloroethane-d4 (S)	%				89	70-132	
4-Bromofluorobenzene (S)	%				83	70-130	
Toluene-d8 (S)	%				104	70-130	

SAMPLE DUPLICATE: 1143258

Parameter	Units	92190181001 Result	Dup Result	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	ND		
1,1,1-Trichloroethane	ug/kg	ND	ND		
1,1,2,2-Tetrachloroethane	ug/kg	ND	ND		
1,1,2-Trichloroethane	ug/kg	ND	ND		
1,1-Dichloroethane	ug/kg	ND	ND		
1,1-Dichloroethene	ug/kg	ND	ND		
1,1-Dichloropropene	ug/kg	ND	ND		
1,2,3-Trichlorobenzene	ug/kg	ND	ND		
1,2,3-Trichloropropane	ug/kg	ND	ND		
1,2,4-Trichlorobenzene	ug/kg	ND	ND		
1,2,4-Trimethylbenzene	ug/kg	ND	ND		
1,2-Dibromo-3-chloropropane	ug/kg	ND	ND		
1,2-Dibromoethane (EDB)	ug/kg	ND	ND		
1,2-Dichlorobenzene	ug/kg	ND	ND		
1,2-Dichloroethane	ug/kg	ND	ND		
1,2-Dichloropropane	ug/kg	ND	ND		
1,3,5-Trimethylbenzene	ug/kg	ND	ND		
1,3-Dichlorobenzene	ug/kg	ND	ND		
1,3-Dichloropropane	ug/kg	ND	ND		
1,4-Dichlorobenzene	ug/kg	ND	ND		
2,2-Dichloropropane	ug/kg	ND	ND		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

SAMPLE DUPLICATE: 1143258

Parameter	Units	92190181001 Result	Dup Result	RPD	Qualifiers
2-Butanone (MEK)	ug/kg	ND	ND		
2-Chlorotoluene	ug/kg	ND	ND		
2-Hexanone	ug/kg	ND	ND		
4-Chlorotoluene	ug/kg	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	ND		
Acetone	ug/kg	12.2J	ND		
Benzene	ug/kg	ND	ND		
Bromobenzene	ug/kg	ND	ND		
Bromochloromethane	ug/kg	ND	ND		
Bromodichloromethane	ug/kg	ND	ND		
Bromoform	ug/kg	ND	ND		
Bromomethane	ug/kg	ND	ND		
Carbon tetrachloride	ug/kg	ND	ND		
Chlorobenzene	ug/kg	ND	ND		
Chloroethane	ug/kg	ND	ND		
Chloroform	ug/kg	ND	ND		
Chloromethane	ug/kg	ND	ND		
cis-1,2-Dichloroethene	ug/kg	ND	ND		
cis-1,3-Dichloropropene	ug/kg	ND	ND		
Dibromochloromethane	ug/kg	ND	ND		
Dibromomethane	ug/kg	ND	ND		
Dichlorodifluoromethane	ug/kg	ND	ND		
Diisopropyl ether	ug/kg	ND	ND		
Ethylbenzene	ug/kg	ND	ND		
Hexachloro-1,3-butadiene	ug/kg	ND	ND		
Isopropylbenzene (Cumene)	ug/kg	ND	ND		
m&p-Xylene	ug/kg	ND	ND		
Methyl-tert-butyl ether	ug/kg	ND	ND		
Methylene Chloride	ug/kg	ND	ND		
n-Butylbenzene	ug/kg	ND	ND		
n-Propylbenzene	ug/kg	ND	ND		
Naphthalene	ug/kg	ND	ND		
o-Xylene	ug/kg	ND	ND		
p-Isopropyltoluene	ug/kg	ND	ND		
sec-Butylbenzene	ug/kg	ND	ND		
Styrene	ug/kg	ND	ND		
tert-Butylbenzene	ug/kg	ND	ND		
Tetrachloroethene	ug/kg	ND	ND		
Toluene	ug/kg	ND	ND		
trans-1,2-Dichloroethene	ug/kg	ND	ND		
trans-1,3-Dichloropropene	ug/kg	ND	ND		
Trichloroethene	ug/kg	ND	ND		
Trichlorofluoromethane	ug/kg	ND	ND		
Vinyl acetate	ug/kg	ND	ND		
Vinyl chloride	ug/kg	ND	ND		
Xylene (Total)	ug/kg	ND	ND		
1,2-Dichloroethane-d4 (S)	%	131	79	54	
4-Bromofluorobenzene (S)	%	89	94	1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1
Pace Project No.: 92190305

SAMPLE DUPLICATE: 1143258

Parameter	Units	92190181001 Result	Dup Result	RPD	Qualifiers
Toluene-d8 (S)	%	94	110	12	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

QC Batch:	MSV/25877	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV 5035A Volatile Organics
Associated Lab Samples:	92190305002		

METHOD BLANK: 1143876 Matrix: Solid

Associated Lab Samples: 92190305002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	02/24/14 17:33	
1,1,1-Trichloroethane	ug/kg	ND	5.0	02/24/14 17:33	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	02/24/14 17:33	
1,1,2-Trichloroethane	ug/kg	ND	5.0	02/24/14 17:33	
1,1-Dichloroethane	ug/kg	ND	5.0	02/24/14 17:33	
1,1-Dichloroethene	ug/kg	ND	5.0	02/24/14 17:33	
1,1-Dichloropropene	ug/kg	ND	5.0	02/24/14 17:33	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	02/24/14 17:33	
1,2,3-Trichloropropane	ug/kg	ND	5.0	02/24/14 17:33	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	02/24/14 17:33	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	02/24/14 17:33	
1,2-Dibromo-3-chloropropane	ug/kg	ND	5.0	02/24/14 17:33	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	02/24/14 17:33	
1,2-Dichlorobenzene	ug/kg	ND	5.0	02/24/14 17:33	
1,2-Dichloroethane	ug/kg	ND	5.0	02/24/14 17:33	
1,2-Dichloropropane	ug/kg	ND	5.0	02/24/14 17:33	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	02/24/14 17:33	
1,3-Dichlorobenzene	ug/kg	ND	5.0	02/24/14 17:33	
1,3-Dichloropropane	ug/kg	ND	5.0	02/24/14 17:33	
1,4-Dichlorobenzene	ug/kg	ND	5.0	02/24/14 17:33	
2,2-Dichloropropane	ug/kg	ND	5.0	02/24/14 17:33	
2-Butanone (MEK)	ug/kg	ND	99.0	02/24/14 17:33	
2-Chlorotoluene	ug/kg	ND	5.0	02/24/14 17:33	
2-Hexanone	ug/kg	ND	49.5	02/24/14 17:33	
4-Chlorotoluene	ug/kg	ND	5.0	02/24/14 17:33	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	49.5	02/24/14 17:33	
Acetone	ug/kg	ND	99.0	02/24/14 17:33	
Benzene	ug/kg	ND	5.0	02/24/14 17:33	
Bromobenzene	ug/kg	ND	5.0	02/24/14 17:33	
Bromochloromethane	ug/kg	ND	5.0	02/24/14 17:33	
Bromodichloromethane	ug/kg	ND	5.0	02/24/14 17:33	
Bromoform	ug/kg	ND	5.0	02/24/14 17:33	
Bromomethane	ug/kg	ND	9.9	02/24/14 17:33	
Carbon tetrachloride	ug/kg	ND	5.0	02/24/14 17:33	
Chlorobenzene	ug/kg	ND	5.0	02/24/14 17:33	
Chloroethane	ug/kg	ND	9.9	02/24/14 17:33	
Chloroform	ug/kg	ND	5.0	02/24/14 17:33	
Chloromethane	ug/kg	ND	9.9	02/24/14 17:33	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	02/24/14 17:33	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	02/24/14 17:33	
Dibromochloromethane	ug/kg	ND	5.0	02/24/14 17:33	
Dibromomethane	ug/kg	ND	5.0	02/24/14 17:33	
Dichlorodifluoromethane	ug/kg	ND	9.9	02/24/14 17:33	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

METHOD BLANK: 1143876

Matrix: Solid

Associated Lab Samples: 92190305002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/kg	ND	5.0	02/24/14 17:33	
Ethylbenzene	ug/kg	ND	5.0	02/24/14 17:33	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	02/24/14 17:33	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	02/24/14 17:33	
m&p-Xylene	ug/kg	ND	9.9	02/24/14 17:33	
Methyl-tert-butyl ether	ug/kg	ND	5.0	02/24/14 17:33	
Methylene Chloride	ug/kg	ND	19.8	02/24/14 17:33	
n-Butylbenzene	ug/kg	ND	5.0	02/24/14 17:33	
n-Propylbenzene	ug/kg	ND	5.0	02/24/14 17:33	
Naphthalene	ug/kg	ND	5.0	02/24/14 17:33	
o-Xylene	ug/kg	ND	5.0	02/24/14 17:33	
p-Isopropyltoluene	ug/kg	ND	5.0	02/24/14 17:33	
sec-Butylbenzene	ug/kg	ND	5.0	02/24/14 17:33	
Styrene	ug/kg	ND	5.0	02/24/14 17:33	
tert-Butylbenzene	ug/kg	ND	5.0	02/24/14 17:33	
Tetrachloroethene	ug/kg	ND	5.0	02/24/14 17:33	
Toluene	ug/kg	ND	5.0	02/24/14 17:33	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	02/24/14 17:33	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	02/24/14 17:33	
Trichloroethene	ug/kg	ND	5.0	02/24/14 17:33	
Trichlorofluoromethane	ug/kg	ND	5.0	02/24/14 17:33	
Vinyl acetate	ug/kg	ND	49.5	02/24/14 17:33	
Vinyl chloride	ug/kg	ND	9.9	02/24/14 17:33	
Xylene (Total)	ug/kg	ND	9.9	02/24/14 17:33	
1,2-Dichloroethane-d4 (S)	%	87	70-132	02/24/14 17:33	
4-Bromofluorobenzene (S)	%	97	70-130	02/24/14 17:33	
Toluene-d8 (S)	%	111	70-130	02/24/14 17:33	

LABORATORY CONTROL SAMPLE: 1143877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	49.3	51.7	105	70-131	
1,1,1-Trichloroethane	ug/kg	49.3	61.1	124	70-141	
1,1,2,2-Tetrachloroethane	ug/kg	49.3	46.6	94	70-130	
1,1,2-Trichloroethane	ug/kg	49.3	57.5	117	70-132	
1,1-Dichloroethane	ug/kg	49.3	56.4	114	70-143	
1,1-Dichloroethene	ug/kg	49.3	58.4	119	70-137	
1,1-Dichloropropene	ug/kg	49.3	57.9	117	70-135	
1,2,3-Trichlorobenzene	ug/kg	49.3	50.0	101	69-153	
1,2,3-Trichloropropane	ug/kg	49.3	51.0	103	70-130	
1,2,4-Trichlorobenzene	ug/kg	49.3	47.7	97	55-171	
1,2,4-Trimethylbenzene	ug/kg	49.3	50.7	103	70-149	
1,2-Dibromo-3-chloropropane	ug/kg	49.3	47.0	95	68-141	
1,2-Dibromoethane (EDB)	ug/kg	49.3	53.1	108	70-130	
1,2-Dichlorobenzene	ug/kg	49.3	50.2	102	70-140	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

LABORATORY CONTROL SAMPLE: 1143877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/kg	49.3	57.7	117	70-137	
1,2-Dichloropropane	ug/kg	49.3	55.1	112	70-133	
1,3,5-Trimethylbenzene	ug/kg	49.3	51.0	103	70-143	
1,3-Dichlorobenzene	ug/kg	49.3	48.5	98	70-144	
1,3-Dichloropropane	ug/kg	49.3	52.3	106	70-132	
1,4-Dichlorobenzene	ug/kg	49.3	50.3	102	70-142	
2,2-Dichloropropane	ug/kg	49.3	56.7	115	68-152	
2-Butanone (MEK)	ug/kg	98.6	109	111	70-149	
2-Chlorotoluene	ug/kg	49.3	49.7	101	70-141	
2-Hexanone	ug/kg	98.6	92.9	94	70-149	
4-Chlorotoluene	ug/kg	49.3	51.3	104	70-149	
4-Methyl-2-pentanone (MIBK)	ug/kg	98.6	99.5	101	70-153	
Acetone	ug/kg	98.6	105	106	70-157	
Benzene	ug/kg	49.3	56.4	114	70-130	
Bromobenzene	ug/kg	49.3	51.2	104	70-141	
Bromochloromethane	ug/kg	49.3	61.6	125	70-149	
Bromodichloromethane	ug/kg	49.3	55.7	113	70-130	
Bromoform	ug/kg	49.3	45.5	92	70-131	
Bromomethane	ug/kg	49.3	84.7	172	64-136 L3	
Carbon tetrachloride	ug/kg	49.3	52.0	105	70-154	
Chlorobenzene	ug/kg	49.3	50.3	102	70-135	
Chloroethane	ug/kg	49.3	61.4	124	68-151	
Chloroform	ug/kg	49.3	58.2	118	70-130	
Chloromethane	ug/kg	49.3	57.5	117	70-132	
cis-1,2-Dichloroethene	ug/kg	49.3	58.5	119	70-140	
cis-1,3-Dichloropropene	ug/kg	49.3	54.0	109	70-137	
Dibromochloromethane	ug/kg	49.3	48.8	99	70-130	
Dibromomethane	ug/kg	49.3	52.7	107	70-136	
Dichlorodifluoromethane	ug/kg	49.3	53.4	108	36-148	
Diisopropyl ether	ug/kg	49.3	57.8	117	70-139	
Ethylbenzene	ug/kg	49.3	50.6	103	70-137	
Hexachloro-1,3-butadiene	ug/kg	49.3	51.7	105	70-145	
Isopropylbenzene (Cumene)	ug/kg	49.3	52.0	105	70-141	
m&p-Xylene	ug/kg	98.6	101	102	70-140	
Methyl-tert-butyl ether	ug/kg	49.3	62.8	127	45-150	
Methylene Chloride	ug/kg	49.3	57.9	117	70-133	
n-Butylbenzene	ug/kg	49.3	52.0	105	65-155	
n-Propylbenzene	ug/kg	49.3	54.2	110	70-148	
Naphthalene	ug/kg	49.3	50.1	102	70-148	
o-Xylene	ug/kg	49.3	50.2	102	70-141	
p-Isopropyltoluene	ug/kg	49.3	53.3	108	70-148	
sec-Butylbenzene	ug/kg	49.3	53.7	109	70-145	
Styrene	ug/kg	49.3	51.2	104	70-138	
tert-Butylbenzene	ug/kg	49.3	53.4	108	70-143	
Tetrachloroethene	ug/kg	49.3	51.5	104	70-140	
Toluene	ug/kg	49.3	53.2	108	70-130	
trans-1,2-Dichloroethene	ug/kg	49.3	58.4	118	70-136	
trans-1,3-Dichloropropene	ug/kg	49.3	53.1	108	70-138	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

LABORATORY CONTROL SAMPLE: 1143877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/kg	49.3	57.1	116	70-132	
Trichlorofluoromethane	ug/kg	49.3	64.0	130	69-134	
Vinyl acetate	ug/kg	98.6	101	102	24-161	F3
Vinyl chloride	ug/kg	49.3	58.8	119	55-140	
Xylene (Total)	ug/kg	148	151	102	70-141	
1,2-Dichloroethane-d4 (S)	%			96	70-132	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 1144253

Parameter	Units	92190447002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/kg	ND	48.3	57.5	119	49-180	
Benzene	ug/kg	ND	48.3	51.3	106	50-166	
Chlorobenzene	ug/kg	ND	48.3	47.7	99	43-169	
Toluene	ug/kg	ND	48.3	45.0	93	52-163	
Trichloroethene	ug/kg	ND	48.3	48.4	100	49-167	
1,2-Dichloroethane-d4 (S)	%				99	70-132	
4-Bromofluorobenzene (S)	%				75	70-130	
Toluene-d8 (S)	%				101	70-130	

SAMPLE DUPLICATE: 1144441

Parameter	Units	92190453001 Result	Dup Result	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	ND		
1,1,1-Trichloroethane	ug/kg	ND	ND		
1,1,2,2-Tetrachloroethane	ug/kg	ND	ND		
1,1,2-Trichloroethane	ug/kg	ND	ND		
1,1-Dichloroethane	ug/kg	ND	ND		
1,1-Dichloroethene	ug/kg	ND	ND		
1,1-Dichloropropene	ug/kg	ND	ND		
1,2,3-Trichlorobenzene	ug/kg	ND	ND		
1,2,3-Trichloropropane	ug/kg	ND	ND		
1,2,4-Trichlorobenzene	ug/kg	ND	ND		
1,2,4-Trimethylbenzene	ug/kg	ND	ND		
1,2-Dibromo-3-chloropropane	ug/kg	ND	ND		
1,2-Dibromoethane (EDB)	ug/kg	ND	ND		
1,2-Dichlorobenzene	ug/kg	ND	ND		
1,2-Dichloroethane	ug/kg	ND	ND		
1,2-Dichloropropane	ug/kg	ND	ND		
1,3,5-Trimethylbenzene	ug/kg	ND	ND		
1,3-Dichlorobenzene	ug/kg	ND	ND		
1,3-Dichloropropane	ug/kg	ND	ND		
1,4-Dichlorobenzene	ug/kg	ND	ND		
2,2-Dichloropropane	ug/kg	ND	ND		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

SAMPLE DUPLICATE: 1144441

Parameter	Units	92190453001 Result	Dup Result	RPD	Qualifiers
2-Butanone (MEK)	ug/kg	ND	ND		
2-Chlorotoluene	ug/kg	ND	ND		
2-Hexanone	ug/kg	ND	ND		
4-Chlorotoluene	ug/kg	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	ND		
Acetone	ug/kg	ND	22.6J		
Benzene	ug/kg	ND	ND		
Bromobenzene	ug/kg	ND	ND		
Bromochloromethane	ug/kg	ND	ND		
Bromodichloromethane	ug/kg	ND	ND		
Bromoform	ug/kg	ND	ND		
Bromomethane	ug/kg	ND	ND		
Carbon tetrachloride	ug/kg	ND	ND		
Chlorobenzene	ug/kg	ND	ND		
Chloroethane	ug/kg	ND	ND		
Chloroform	ug/kg	ND	ND		
Chloromethane	ug/kg	ND	ND		
cis-1,2-Dichloroethene	ug/kg	ND	ND		
cis-1,3-Dichloropropene	ug/kg	ND	ND		
Dibromochloromethane	ug/kg	ND	ND		
Dibromomethane	ug/kg	ND	ND		
Dichlorodifluoromethane	ug/kg	ND	ND		
Diisopropyl ether	ug/kg	ND	ND		
Ethylbenzene	ug/kg	ND	ND		
Hexachloro-1,3-butadiene	ug/kg	ND	ND		
Isopropylbenzene (Cumene)	ug/kg	ND	ND		
m&p-Xylene	ug/kg	ND	ND		
Methyl-tert-butyl ether	ug/kg	ND	ND		
Methylene Chloride	ug/kg	ND	2.7J		
n-Butylbenzene	ug/kg	ND	ND		
n-Propylbenzene	ug/kg	ND	ND		
Naphthalene	ug/kg	ND	1.2J		
o-Xylene	ug/kg	ND	ND		
p-Isopropyltoluene	ug/kg	ND	ND		
sec-Butylbenzene	ug/kg	ND	ND		
Styrene	ug/kg	ND	ND		
tert-Butylbenzene	ug/kg	ND	ND		
Tetrachloroethene	ug/kg	ND	ND		
Toluene	ug/kg	ND	ND		
trans-1,2-Dichloroethene	ug/kg	ND	ND		
trans-1,3-Dichloropropene	ug/kg	ND	ND		
Trichloroethene	ug/kg	ND	ND		
Trichlorofluoromethane	ug/kg	ND	ND		
Vinyl acetate	ug/kg	ND	ND		
Vinyl chloride	ug/kg	ND	ND		
Xylene (Total)	ug/kg	ND	ND		
1,2-Dichloroethane-d4 (S)	%	93	96		1
4-Bromofluorobenzene (S)	%	90	80		16

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1
Pace Project No.: 92190305

SAMPLE DUPLICATE: 1144441

Parameter	Units	92190453001 Result	Dup Result	RPD	Qualifiers
Toluene-d8 (S)	%	111	116	0	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

QC Batch:	OEXT/26010	Analysis Method:	EPA 625
QC Batch Method:	EPA 625	Analysis Description:	625 MSS
Associated Lab Samples:	92190305001		

METHOD BLANK: 1141550 Matrix: Water

Associated Lab Samples: 92190305001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	02/28/14 07:26	
2,4,6-Trichlorophenol	ug/L	ND	10.0	02/28/14 07:26	
2,4-Dichlorophenol	ug/L	ND	5.0	02/28/14 07:26	
2,4-Dimethylphenol	ug/L	ND	10.0	02/28/14 07:26	
2,4-Dinitrophenol	ug/L	ND	50.0	02/28/14 07:26	
2,4-Dinitrotoluene	ug/L	ND	5.0	02/28/14 07:26	
2,6-Dinitrotoluene	ug/L	ND	5.0	02/28/14 07:26	
2-Chloronaphthalene	ug/L	ND	5.0	02/28/14 07:26	
2-Chlorophenol	ug/L	ND	5.0	02/28/14 07:26	
2-Nitrophenol	ug/L	ND	5.0	02/28/14 07:26	
3,3'-Dichlorobenzidine	ug/L	ND	25.0	02/28/14 07:26	
4,6-Dinitro-2-methylphenol	ug/L	ND	20.0	02/28/14 07:26	
4-Bromophenylphenyl ether	ug/L	ND	5.0	02/28/14 07:26	
4-Chloro-3-methylphenol	ug/L	ND	5.0	02/28/14 07:26	
4-Chlorophenylphenyl ether	ug/L	ND	5.0	02/28/14 07:26	
4-Nitrophenol	ug/L	ND	50.0	02/28/14 07:26	
Acenaphthene	ug/L	ND	5.0	02/28/14 07:26	
Acenaphthylene	ug/L	ND	5.0	02/28/14 07:26	
Anthracene	ug/L	ND	5.0	02/28/14 07:26	
Benzo(a)anthracene	ug/L	ND	5.0	02/28/14 07:26	
Benzo(a)pyrene	ug/L	ND	5.0	02/28/14 07:26	
Benzo(b)fluoranthene	ug/L	ND	5.0	02/28/14 07:26	
Benzo(g,h,i)perylene	ug/L	ND	5.0	02/28/14 07:26	
Benzo(k)fluoranthene	ug/L	ND	5.0	02/28/14 07:26	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	02/28/14 07:26	
bis(2-Chloroethyl) ether	ug/L	ND	5.0	02/28/14 07:26	
bis(2-Chloroisopropyl) ether	ug/L	ND	5.0	02/28/14 07:26	
bis(2-Ethylhexyl)phthalate	ug/L	ND	5.0	02/28/14 07:26	
Butylbenzylphthalate	ug/L	ND	5.0	02/28/14 07:26	
Chrysene	ug/L	ND	5.0	02/28/14 07:26	
Di-n-butylphthalate	ug/L	ND	5.0	02/28/14 07:26	
Di-n-octylphthalate	ug/L	ND	5.0	02/28/14 07:26	
Dibenz(a,h)anthracene	ug/L	ND	5.0	02/28/14 07:26	
Diethylphthalate	ug/L	ND	5.0	02/28/14 07:26	
Dimethylphthalate	ug/L	ND	5.0	02/28/14 07:26	
Fluoranthene	ug/L	ND	5.0	02/28/14 07:26	
Fluorene	ug/L	ND	5.0	02/28/14 07:26	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	02/28/14 07:26	
Hexachlorobenzene	ug/L	ND	5.0	02/28/14 07:26	
Hexachlorocyclopentadiene	ug/L	ND	10.0	02/28/14 07:26	
Hexachloroethane	ug/L	ND	5.0	02/28/14 07:26	
Indeno(1,2,3-cd)pyrene	ug/L	ND	5.0	02/28/14 07:26	
Isophorone	ug/L	ND	10.0	02/28/14 07:26	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

METHOD BLANK: 1141550

Matrix: Water

Associated Lab Samples: 92190305001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
N-Nitroso-di-n-propylamine	ug/L	ND	5.0	02/28/14 07:26	
N-Nitrosodimethylamine	ug/L	ND	5.0	02/28/14 07:26	
N-Nitrosodiphenylamine	ug/L	ND	10.0	02/28/14 07:26	
Naphthalene	ug/L	ND	5.0	02/28/14 07:26	
Nitrobenzene	ug/L	ND	5.0	02/28/14 07:26	
Pentachlorophenol	ug/L	ND	10.0	02/28/14 07:26	
Phenanthrene	ug/L	ND	5.0	02/28/14 07:26	
Phenol	ug/L	ND	5.0	02/28/14 07:26	
Pyrene	ug/L	ND	5.0	02/28/14 07:26	
2,4,6-Tribromophenol (S)	%	88	10-137	02/28/14 07:26	
2-Fluorobiphenyl (S)	%	74	15-120	02/28/14 07:26	
2-Fluorophenol (S)	%	46	10-120	02/28/14 07:26	
Nitrobenzene-d5 (S)	%	73	10-120	02/28/14 07:26	
Phenol-d6 (S)	%	33	10-120	02/28/14 07:26	
Terphenyl-d14 (S)	%	99	11-131	02/28/14 07:26	

LABORATORY CONTROL SAMPLE: 1141551

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	36.0	72	44-142	
2,4,6-Trichlorophenol	ug/L	50	19.6	39	37-144	
2,4-Dichlorophenol	ug/L	50	23.9	48	1-191	
2,4-Dimethylphenol	ug/L	50	31.7	63	32-119	
2,4-Dinitrophenol	ug/L	250	49.5J	20	1-181	
2,4-Dinitrotoluene	ug/L	50	54.3	109	39-139	
2,6-Dinitrotoluene	ug/L	50	51.3	103	50-158	
2-Chloronaphthalene	ug/L	50	34.2	68	60-118	
2-Chlorophenol	ug/L	50	23.6	47	23-134	
2-Nitrophenol	ug/L	50	20.8	42	29-182	
3,3'-Dichlorobenzidine	ug/L	100	107	107	1-262	
4,6-Dinitro-2-methylphenol	ug/L	100	34.2	34	1-181	
4-Bromophenylphenyl ether	ug/L	50	44.3	89	53-127	
4-Chloro-3-methylphenol	ug/L	100	59.7	60	22-147	
4-Chlorophenylphenyl ether	ug/L	50	48.4	97	25-158	
4-Nitrophenol	ug/L	250	48.6J	19	1-132	
Acenaphthene	ug/L	50	40.8	82	47-145	
Acenaphthylene	ug/L	50	42.0	84	33-145	
Anthracene	ug/L	50	46.2	92	1-166	
Benzo(a)anthracene	ug/L	50	45.7	91	33-143	
Benzo(a)pyrene	ug/L	50	49.2	98	17-163	
Benzo(b)fluoranthene	ug/L	50	44.9	90	24-159	
Benzo(g,h,i)perylene	ug/L	50	45.0	90	1-219	
Benzo(k)fluoranthene	ug/L	50	41.4	83	11-162	
bis(2-Chloroethoxy)methane	ug/L	50	41.6	83	33-184	
bis(2-Chloroethyl) ether	ug/L	50	44.4	89	12-158	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

LABORATORY CONTROL SAMPLE: 1141551

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
bis(2-Chloroisopropyl) ether	ug/L	50	44.1	88	36-166	
bis(2-Ethylhexyl)phthalate	ug/L	50	47.1	94	8-158	
Butylbenzylphthalate	ug/L	50	45.3	91	1-152	
Chrysene	ug/L	50	47.2	94	17-168	
Di-n-butylphthalate	ug/L	50	45.1	90	1-118	
Di-n-octylphthalate	ug/L	50	54.2	108	4-146	
Dibenz(a,h)anthracene	ug/L	50	49.3	99	1-227	
Diethylphthalate	ug/L	50	45.5	91	1-114	
Dimethylphthalate	ug/L	50	41.6	83	1-112	
Fluoranthene	ug/L	50	50.5	101	26-137	
Fluorene	ug/L	50	47.8	96	59-121	
Hexachloro-1,3-butadiene	ug/L	50	32.1	64	24-116	
Hexachlorobenzene	ug/L	50	40.0	80	1-152	
Hexachlorocyclopentadiene	ug/L	50	25.9	52	25-150	
Hexachloroethane	ug/L	50	33.9	68	40-113	
Indeno(1,2,3-cd)pyrene	ug/L	50	48.5	97	1-171	
Isophorone	ug/L	50	48.3	97	21-196	
N-Nitroso-di-n-propylamine	ug/L	50	51.2	102	1-230	
N-Nitrosodimethylamine	ug/L	50	18.9	38	25-150	
N-Nitrosodiphenylamine	ug/L	50	34.8	70	25-150	
Naphthalene	ug/L	50	41.5	83	21-133	
Nitrobenzene	ug/L	50	39.1	78	35-180	
Pentachlorophenol	ug/L	100	39.6	40	14-176	
Phenanthrene	ug/L	50	44.9	90	54-120	
Phenol	ug/L	50	15.0	30	5-112	
Pyrene	ug/L	50	47.2	94	52-115	
2,4,6-Tribromophenol (S)	%			58	10-137	
2-Fluorobiphenyl (S)	%			75	15-120	
2-Fluorophenol (S)	%			25	10-120	
Nitrobenzene-d5 (S)	%			73	10-120	
Phenol-d6 (S)	%			22	10-120	
Terphenyl-d14 (S)	%			94	11-131	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1141552 1141553

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
		92190065001 Result	Spike Conc.	Spike Conc.	MS Result					
1,2,4-Trichlorobenzene	ug/L	ND	100	100	78.9	64.5	79	65	44-142	20
2,4,6-Trichlorophenol	ug/L	ND	100	100	87.6	77.0	88	77	37-144	13
2,4-Dichlorophenol	ug/L	ND	100	100	106	84.4	106	84	1-191	23
2,4-Dimethylphenol	ug/L	ND	100	100	73.8	48.8	74	49	32-119	41 R1
2,4-Dinitrophenol	ug/L	ND	500	500	263	286	53	57	1-181	9
2,4-Dinitrotoluene	ug/L	ND	100	100	105	95.2	105	95	39-139	10
2,6-Dinitrotoluene	ug/L	ND	100	100	105	97.3	105	97	50-158	7
2-Chloronaphthalene	ug/L	ND	100	100	76.9	64.0	77	64	60-118	18
2-Chlorophenol	ug/L	ND	100	100	114	78.3	114	78	23-134	37 R1
2-Nitrophenol	ug/L	ND	100	100	94.9	74.9	95	75	29-182	24

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

Parameter	92190065001		MS		MSD		MS		MSD		% Rec	Limits	RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec						
3,3'-Dichlorobenzidine	ug/L	ND	200	200	115	124	58	62	1-262	7				
4,6-Dinitro-2-methylphenol	ug/L	ND	200	200	156	152	78	76	1-181	3				
4-Bromophenylphenyl ether	ug/L	ND	100	100	95.3	87.4	95	87	53-127	9				
4-Chloro-3-methylphenol	ug/L	ND	200	200	218	191	109	96	22-147	13				
4-Chlorophenylphenyl ether	ug/L	ND	100	100	98.1	89.0	98	89	25-158	10				
4-Nitrophenol	ug/L	ND	500	500	272	225	54	45	1-132	19				
Acenaphthene	ug/L	ND	100	100	88.4	75.5	88	76	47-145	16				
Acenaphthylene	ug/L	ND	100	100	91.1	77.9	91	78	33-145	16				
Anthracene	ug/L	ND	100	100	93.0	81.8	93	82	1-166	13				
Benzo(a)anthracene	ug/L	ND	100	100	90.0	83.6	90	84	33-143	7				
Benzo(a)pyrene	ug/L	ND	100	100	96.2	87.6	96	88	17-163	9				
Benzo(b)fluoranthene	ug/L	ND	100	100	94.0	86.8	94	87	24-159	8				
Benzo(g,h,i)perylene	ug/L	ND	100	100	89.4	78.4	89	78	1-219	13				
Benzo(k)fluoranthene	ug/L	ND	100	100	84.7	79.4	85	79	11-162	6				
bis(2-Chloroethoxy)methane	ug/L	ND	100	100	92.3	74.8	92	75	33-184	21				
bis(2-Chloroethyl) ether	ug/L	ND	100	100	97.6	78.5	98	78	12-158	22				
bis(2-Chloroisopropyl) ether	ug/L	ND	100	100	97.2	70.9	97	71	36-166	31	R1			
bis(2-Ethylhexyl)phthalate	ug/L	ND	100	100	90.9	86.0	91	86	8-158	5				
Butylbenzylphthalate	ug/L	ND	100	100	89.1	86.1	89	86	1-152	3				
Chrysene	ug/L	ND	100	100	93.5	88.6	94	89	17-168	5				
Di-n-butylphthalate	ug/L	ND	100	100	87.5	79.7	88	80	1-118	9				
Di-n-octylphthalate	ug/L	ND	100	100	101	91.7	101	92	4-146	10				
Dibenz(a,h)anthracene	ug/L	ND	100	100	96.1	85.8	96	86	1-227	11				
Diethylphthalate	ug/L	ND	100	100	86.6	80.4	87	80	1-114	7				
Dimethylphthalate	ug/L	ND	100	100	84.2	79.0	84	79	1-112	6				
Fluoranthene	ug/L	ND	100	100	97.9	82.5	98	82	26-137	17				
Fluorene	ug/L	ND	100	100	95.9	86.7	96	87	59-121	10				
Hexachloro-1,3-butadiene	ug/L	ND	100	100	67.7	57.7	68	58	24-116	16				
Hexachlorobenzene	ug/L	ND	100	100	83.7	76.0	84	76	1-152	10				
Hexachlorocyclopentadiene	ug/L	ND	100	100	67.6	53.4	68	53	25-150	24				
Hexachloroethane	ug/L	ND	100	100	69.9	54.7	70	55	40-113	24				
Indeno(1,2,3-cd)pyrene	ug/L	ND	100	100	95.7	84.4	96	84	1-171	13				
Isophorone	ug/L	ND	100	100	104	84.1	104	84	21-196	21				
N-Nitroso-di-n-propylamine	ug/L	ND	100	100	124	74.2	124	74	1-230	50	R1			
N-Nitrosodimethylamine	ug/L	ND	100	100	55.1	44.2	55	44	25-150	22				
N-Nitrosodiphenylamine	ug/L	ND	100	100	76.3	70.5	76	70	25-150	8				
Naphthalene	ug/L	ND	100	100	91.5	73.2	92	73	21-133	22				
Nitrobenzene	ug/L	ND	100	100	96.7	75.6	97	76	35-180	24				
Pentachlorophenol	ug/L	ND	200	200	168	139	84	70	14-176	19				
Phenanthrene	ug/L	ND	100	100	92.6	82.6	93	83	54-120	11				
Phenol	ug/L	ND	100	100	91.8	53.4	92	53	5-112	53	R1			
Pyrene	ug/L	ND	100	100	97.9	93.6	98	94	52-115	4				
2,4,6-Tribromophenol (S)	%						107	95	10-137					
2-Fluorobiphenyl (S)	%						84	74	15-120					
2-Fluorophenol (S)	%						71	55	10-120					
Nitrobenzene-d5 (S)	%						82	68	10-120					
Phenol-d6 (S)	%						84	50	10-120					

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1
Pace Project No.: 92190305

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1141552		1141553							
Parameter	Units	92190065001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Terphenyl-d14 (S)	%						98	99	11-131		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

QC Batch: OEXT/26001 Analysis Method: EPA 8270
QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave
Associated Lab Samples: 92190305002, 92190305003, 92190305004, 92190305005

METHOD BLANK: 1141134 Matrix: Solid
Associated Lab Samples: 92190305002, 92190305003, 92190305004, 92190305005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/kg	ND	330	02/20/14 16:32	
1,2-Dichlorobenzene	ug/kg	ND	330	02/20/14 16:32	
1,3-Dichlorobenzene	ug/kg	ND	330	02/20/14 16:32	
1,4-Dichlorobenzene	ug/kg	ND	330	02/20/14 16:32	
1-Methylnaphthalene	ug/kg	ND	330	02/20/14 16:32	
2,4,5-Trichlorophenol	ug/kg	ND	330	02/20/14 16:32	
2,4,6-Trichlorophenol	ug/kg	ND	330	02/20/14 16:32	
2,4-Dichlorophenol	ug/kg	ND	330	02/20/14 16:32	
2,4-Dimethylphenol	ug/kg	ND	330	02/20/14 16:32	
2,4-Dinitrophenol	ug/kg	ND	1650	02/20/14 16:32	
2,4-Dinitrotoluene	ug/kg	ND	330	02/20/14 16:32	
2,6-Dinitrotoluene	ug/kg	ND	330	02/20/14 16:32	
2-Chloronaphthalene	ug/kg	ND	330	02/20/14 16:32	
2-Chlorophenol	ug/kg	ND	330	02/20/14 16:32	
2-Methylnaphthalene	ug/kg	ND	330	02/20/14 16:32	
2-Methylphenol(o-Cresol)	ug/kg	ND	330	02/20/14 16:32	
2-Nitroaniline	ug/kg	ND	1650	02/20/14 16:32	
2-Nitrophenol	ug/kg	ND	330	02/20/14 16:32	
3&4-Methylphenol(m&p Cresol)	ug/kg	ND	330	02/20/14 16:32	
3,3'-Dichlorobenzidine	ug/kg	ND	1650	02/20/14 16:32	
3-Nitroaniline	ug/kg	ND	1650	02/20/14 16:32	
4,6-Dinitro-2-methylphenol	ug/kg	ND	660	02/20/14 16:32	
4-Bromophenylphenyl ether	ug/kg	ND	330	02/20/14 16:32	
4-Chloro-3-methylphenol	ug/kg	ND	660	02/20/14 16:32	
4-Chloroaniline	ug/kg	ND	1650	02/20/14 16:32	
4-Chlorophenylphenyl ether	ug/kg	ND	330	02/20/14 16:32	
4-Nitroaniline	ug/kg	ND	660	02/20/14 16:32	
4-Nitrophenol	ug/kg	ND	1650	02/20/14 16:32	
Acenaphthene	ug/kg	ND	330	02/20/14 16:32	
Acenaphthylene	ug/kg	ND	330	02/20/14 16:32	
Aniline	ug/kg	ND	330	02/20/14 16:32	
Anthracene	ug/kg	ND	330	02/20/14 16:32	
Benzo(a)anthracene	ug/kg	ND	330	02/20/14 16:32	
Benzo(a)pyrene	ug/kg	ND	330	02/20/14 16:32	
Benzo(b)fluoranthene	ug/kg	ND	330	02/20/14 16:32	
Benzo(g,h,i)perylene	ug/kg	ND	330	02/20/14 16:32	
Benzo(k)fluoranthene	ug/kg	ND	330	02/20/14 16:32	
Benzoic Acid	ug/kg	ND	1650	02/20/14 16:32	
Benzyl alcohol	ug/kg	ND	660	02/20/14 16:32	
bis(2-Chloroethoxy)methane	ug/kg	ND	330	02/20/14 16:32	
bis(2-Chloroethyl) ether	ug/kg	ND	330	02/20/14 16:32	
bis(2-Chloroisopropyl) ether	ug/kg	ND	330	02/20/14 16:32	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	330	02/20/14 16:32	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

METHOD BLANK: 1141134

Matrix: Solid

Associated Lab Samples: 92190305002, 92190305003, 92190305004, 92190305005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Butylbenzylphthalate	ug/kg	ND	330	02/20/14 16:32	
Chrysene	ug/kg	ND	330	02/20/14 16:32	
Di-n-butylphthalate	ug/kg	ND	330	02/20/14 16:32	
Di-n-octylphthalate	ug/kg	ND	330	02/20/14 16:32	
Dibenz(a,h)anthracene	ug/kg	ND	330	02/20/14 16:32	
Dibenzofuran	ug/kg	ND	330	02/20/14 16:32	
Diethylphthalate	ug/kg	ND	330	02/20/14 16:32	
Dimethylphthalate	ug/kg	ND	330	02/20/14 16:32	
Fluoranthene	ug/kg	ND	330	02/20/14 16:32	
Fluorene	ug/kg	ND	330	02/20/14 16:32	
Hexachloro-1,3-butadiene	ug/kg	ND	330	02/20/14 16:32	
Hexachlorobenzene	ug/kg	ND	330	02/20/14 16:32	
Hexachlorocyclopentadiene	ug/kg	ND	330	02/20/14 16:32	
Hexachloroethane	ug/kg	ND	330	02/20/14 16:32	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	330	02/20/14 16:32	
Isophorone	ug/kg	ND	330	02/20/14 16:32	
N-Nitroso-di-n-propylamine	ug/kg	ND	330	02/20/14 16:32	
N-Nitrosodimethylamine	ug/kg	ND	330	02/20/14 16:32	
N-Nitrosodiphenylamine	ug/kg	ND	330	02/20/14 16:32	
Naphthalene	ug/kg	ND	330	02/20/14 16:32	
Nitrobenzene	ug/kg	ND	330	02/20/14 16:32	
Pentachlorophenol	ug/kg	ND	1650	02/20/14 16:32	
Phenanthrene	ug/kg	ND	330	02/20/14 16:32	
Phenol	ug/kg	ND	330	02/20/14 16:32	
Pyrene	ug/kg	ND	330	02/20/14 16:32	
2,4,6-Tribromophenol (S)	%	79	27-110	02/20/14 16:32	
2-Fluorobiphenyl (S)	%	72	30-110	02/20/14 16:32	
2-Fluorophenol (S)	%	75	13-110	02/20/14 16:32	
Nitrobenzene-d5 (S)	%	70	23-110	02/20/14 16:32	
Phenol-d6 (S)	%	71	22-110	02/20/14 16:32	
Terphenyl-d14 (S)	%	94	28-110	02/20/14 16:32	

LABORATORY CONTROL SAMPLE: 1141135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/kg	1670	1050	63	39-101	
1,2-Dichlorobenzene	ug/kg	1670	1080	65	36-110	
1,3-Dichlorobenzene	ug/kg	1670	1050	63	35-110	
1,4-Dichlorobenzene	ug/kg	1670	1070	64	35-110	
1-Methylnaphthalene	ug/kg	1670	1160	70	45-105	
2,4,5-Trichlorophenol	ug/kg	1670	1220	73	48-109	
2,4,6-Trichlorophenol	ug/kg	1670	1130	68	45-111	
2,4-Dichlorophenol	ug/kg	1670	1190	71	51-116	
2,4-Dimethylphenol	ug/kg	1670	1310	79	42-103	
2,4-Dinitrophenol	ug/kg	8330	5680	68	28-103	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

LABORATORY CONTROL SAMPLE: 1141135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrotoluene	ug/kg	1670	1390	83	46-114	
2,6-Dinitrotoluene	ug/kg	1670	1370	82	48-112	
2-Chloronaphthalene	ug/kg	1670	1000	60	44-105	
2-Chlorophenol	ug/kg	1670	1260	76	36-110	
2-Methylnaphthalene	ug/kg	1670	1200	72	39-112	
2-Methylphenol(o-Cresol)	ug/kg	1670	1210	73	39-101	
2-Nitroaniline	ug/kg	3330	2580	77	44-111	
2-Nitrophenol	ug/kg	1670	1160	70	41-100	
3&4-Methylphenol(m&p Cresol)	ug/kg	1670	1200	72	43-103	
3,3'-Dichlorobenzidine	ug/kg	3330	2500	75	10-150	
3-Nitroaniline	ug/kg	3330	2690	81	35-110	
4,6-Dinitro-2-methylphenol	ug/kg	3330	2800	84	38-118	
4-Bromophenylphenyl ether	ug/kg	1670	1380	83	47-115	
4-Chloro-3-methylphenol	ug/kg	3330	2510	75	43-127	
4-Chloroaniline	ug/kg	3330	2470	74	34-109	
4-Chlorophenylphenyl ether	ug/kg	1670	1260	76	44-115	
4-Nitroaniline	ug/kg	3330	2630	79	37-111	
4-Nitrophenol	ug/kg	8330	6180	74	21-152	
Acenaphthene	ug/kg	1670	1180	71	38-117	
Acenaphthylene	ug/kg	1670	1200	72	46-107	
Aniline	ug/kg	1670	1120	67	29-110	
Anthracene	ug/kg	1670	1380	83	50-110	
Benzo(a)anthracene	ug/kg	1670	1390	83	47-116	
Benzo(a)pyrene	ug/kg	1670	1480	89	47-106	
Benzo(b)fluoranthene	ug/kg	1670	1340	80	47-109	
Benzo(g,h,i)perylene	ug/kg	1670	1300	78	39-115	
Benzo(k)fluoranthene	ug/kg	1670	1390	83	45-117	
Benzoic Acid	ug/kg	8330	4980	60	16-110	
Benzyl alcohol	ug/kg	3330	2160	65	38-105	
bis(2-Chloroethoxy)methane	ug/kg	1670	1160	69	39-110	
bis(2-Chloroethyl) ether	ug/kg	1670	1160	70	19-119	
bis(2-Chloroisopropyl) ether	ug/kg	1670	1100	66	21-110	
bis(2-Ethylhexyl)phthalate	ug/kg	1670	1330	80	35-116	
Butylbenzylphthalate	ug/kg	1670	1330	80	38-110	
Chrysene	ug/kg	1670	1440	87	49-110	
Di-n-butylphthalate	ug/kg	1670	1220	73	43-109	
Di-n-octylphthalate	ug/kg	1670	1260	76	37-109	
Dibenz(a,h)anthracene	ug/kg	1670	1350	81	43-116	
Dibenzofuran	ug/kg	1670	1100	66	45-106	
Diethylphthalate	ug/kg	1670	1170	70	41-114	
Dimethylphthalate	ug/kg	1670	1170	70	43-110	
Fluoranthene	ug/kg	1670	1320	79	50-114	
Fluorene	ug/kg	1670	1260	76	46-114	
Hexachloro-1,3-butadiene	ug/kg	1670	1060	63	28-111	
Hexachlorobenzene	ug/kg	1670	1220	73	46-120	
Hexachlorocyclopentadiene	ug/kg	1670	1330	80	18-119	
Hexachloroethane	ug/kg	1670	1040	63	33-110	
Indeno(1,2,3-cd)pyrene	ug/kg	1670	1390	83	42-115	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

LABORATORY CONTROL SAMPLE: 1141135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Isophorone	ug/kg	1670	1220	73	44-109	
N-Nitroso-di-n-propylamine	ug/kg	1670	984	59	43-104	
N-Nitrosodimethylamine	ug/kg	1670	982	59	29-110	
N-Nitrosodiphenylamine	ug/kg	1670	1180	71	48-113	
Naphthalene	ug/kg	1670	1180	71	41-110	
Nitrobenzene	ug/kg	1670	1190	71	38-110	
Pentachlorophenol	ug/kg	3330	2460	74	32-128	
Phenanthrene	ug/kg	1670	1360	81	50-110	
Phenol	ug/kg	1670	1310	79	28-106	
Pyrene	ug/kg	1670	1570	94	45-114	
2,4,6-Tribromophenol (S)	%			88	27-110	
2-Fluorobiphenyl (S)	%			68	30-110	
2-Fluorophenol (S)	%			76	13-110	
Nitrobenzene-d5 (S)	%			66	23-110	
Phenol-d6 (S)	%			75	22-110	
Terphenyl-d14 (S)	%			93	28-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1141136 1141137

Parameter	92190305003		MS	MSD	MS		MSD		% Rec	RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
1,2,4-Trichlorobenzene	ug/kg	ND	2020	2020	1430	1560	71	78	18-119	9	
1,2-Dichlorobenzene	ug/kg	ND	2020	2020	1420	1490	71	74	50-110	4	
1,3-Dichlorobenzene	ug/kg	ND	2020	2020	1390	1470	69	73	27-110	6	
1,4-Dichlorobenzene	ug/kg	ND	2020	2020	1430	1520	71	75	28-110	6	
1-Methylnaphthalene	ug/kg	ND	2020	2020	1510	1680	75	83	24-116	10	
2,4,5-Trichlorophenol	ug/kg	ND	2020	2020	1710	1750	85	87	28-110	2	
2,4,6-Trichlorophenol	ug/kg	ND	2020	2020	1570	1620	78	81	17-117	3	
2,4-Dichlorophenol	ug/kg	ND	2020	2020	1640	1680	81	83	21-128	2	
2,4-Dimethylphenol	ug/kg	ND	2020	2020	1790	1850	89	92	10-120	3	
2,4-Dinitrophenol	ug/kg	ND	10100	10100	399J	1400J	4	14	10-107		M1
2,4-Dinitrotoluene	ug/kg	ND	2020	2020	1750	1790	87	89	36-109	2	
2,6-Dinitrotoluene	ug/kg	ND	2020	2020	1780	1850	88	92	32-110	4	
2-Chloronaphthalene	ug/kg	ND	2020	2020	1340	1440	66	72	30-107	7	
2-Chlorophenol	ug/kg	ND	2020	2020	1690	1710	84	85	14-106	1	
2-Methylnaphthalene	ug/kg	ND	2020	2020	1590	1760	79	87	10-135	10	
2-Methylphenol(o-Cresol)	ug/kg	ND	2020	2020	1620	1600	81	80	10-124	1	
2-Nitroaniline	ug/kg	ND	4020	4020	3310	3150	82	78	26-116	5	
2-Nitrophenol	ug/kg	ND	2020	2020	1620	1790	80	89	28-103	10	
3&4-Methylphenol(m&p Cresol)	ug/kg	ND	2020	2020	1610	1620	80	80	10-109	0	
3,3'-Dichlorobenzidine	ug/kg	ND	4020	4020	3770	3750	94	93	10-150	1	
3-Nitroaniline	ug/kg	ND	4020	4020	3390	3220	84	80	22-110	5	
4,6-Dinitro-2-methylphenol	ug/kg	ND	4020	4020	1800	1590	45	39	13-121	13	
4-Bromophenylphenyl ether	ug/kg	ND	2020	2020	1670	1920	83	95	31-109	14	
4-Chloro-3-methylphenol	ug/kg	ND	4020	4020	3280	3350	81	83	13-128	2	
4-Chloroaniline	ug/kg	ND	4020	4020	3260	3330	81	83	18-102	2	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1141136 1141137												
Parameter	Units	92190305003		MS	MSD	MS		MSD		% Rec	RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
4-Chlorophenylphenyl ether	ug/kg	ND	2020	2020	2020	1570	1760	78	87	29-112	11	
4-Nitroaniline	ug/kg	ND	4020	4020	4020	3270	3280	81	81	16-111	0	
4-Nitrophenol	ug/kg	ND	10100	10100	10100	6550	6390	65	63	14-135	2	
Acenaphthene	ug/kg	ND	2020	2020	2020	1490	1560	74	77	26-114	5	
Acenaphthylene	ug/kg	ND	2020	2020	2020	1560	1640	77	81	32-108	5	
Aniline	ug/kg	ND	2020	2020	2020	1460	1390	72	69	10-107	5	
Anthracene	ug/kg	ND	2020	2020	2020	1670	1750	83	87	32-111	4	
Benzo(a)anthracene	ug/kg	ND	2020	2020	2020	1650	1650	80	80	25-117	1	
Benzo(a)pyrene	ug/kg	ND	2020	2020	2020	1730	1800	83	87	25-106	4	
Benzo(b)fluoranthene	ug/kg	ND	2020	2020	2020	1610	1650	77	79	24-110	3	
Benzo(g,h,i)perylene	ug/kg	ND	2020	2020	2020	1720	1810	85	90	19-112	5	
Benzo(k)fluoranthene	ug/kg	ND	2020	2020	2020	1520	1630	73	78	24-114	7	
Benzoic Acid	ug/kg	ND	10100	10100	10100	290J	306J	3	3	10-110		M1
Benzyl alcohol	ug/kg	ND	4020	4020	4020	2980	3010	74	75	24-106	1	
bis(2-Chloroethoxy)methane	ug/kg	ND	2020	2020	2020	1540	1550	76	77	13-119	1	
bis(2-Chloroethyl) ether	ug/kg	ND	2020	2020	2020	1580	1600	78	79	10-134	1	
bis(2-Chloroisopropyl) ether	ug/kg	ND	2020	2020	2020	1430	1320	71	66	10-113	8	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	2020	2020	2020	1700	1490	84	74	10-125	13	
Butylbenzylphthalate	ug/kg	ND	2020	2020	2020	1630	1620	81	80	18-110	0	
Chrysene	ug/kg	ND	2020	2020	2020	1770	1770	84	85	30-110	0	
Di-n-butylphthalate	ug/kg	ND	2020	2020	2020	1500	1630	75	81	19-112	8	
Di-n-octylphthalate	ug/kg	ND	2020	2020	2020	1940	1460	97	72	17-105	29	
Dibenz(a,h)anthracene	ug/kg	ND	2020	2020	2020	1820	1790	90	89	23-111	2	
Dibenzofuran	ug/kg	ND	2020	2020	2020	1380	1450	69	72	35-103	5	
Diethylphthalate	ug/kg	ND	2020	2020	2020	1470	1560	73	77	27-113	6	
Dimethylphthalate	ug/kg	ND	2020	2020	2020	1470	1530	73	76	26-111	4	
Fluoranthene	ug/kg	ND	2020	2020	2020	1860	2140	87	101	33-109	14	
Fluorene	ug/kg	ND	2020	2020	2020	1570	1660	78	82	32-113	5	
Hexachloro-1,3-butadiene	ug/kg	ND	2020	2020	2020	1410	1630	70	81	16-116	14	
Hexachlorobenzene	ug/kg	ND	2020	2020	2020	1480	1800	73	89	27-120	19	
Hexachlorocyclopentadiene	ug/kg	ND	2020	2020	2020	1850	1790	92	89	10-108	4	
Hexachloroethane	ug/kg	ND	2020	2020	2020	1330	1460	66	72	10-117	9	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	2020	2020	2020	1830	1880	91	94	10-122	3	
Isophorone	ug/kg	ND	2020	2020	2020	1670	1710	83	85	28-114	3	
N-Nitroso-di-n-propylamine	ug/kg	ND	2020	2020	2020	1280	1280	64	64	27-113	0	
N-Nitrosodimethylamine	ug/kg	ND	2020	2020	2020	1270	1270	63	63	10-109	0	
N-Nitrosodiphenylamine	ug/kg	ND	2020	2020	2020	1450	1450	72	72	10-128	0	
Naphthalene	ug/kg	ND	2020	2020	2020	1590	1640	79	81	25-110	3	
Nitrobenzene	ug/kg	ND	2020	2020	2020	1580	1600	79	79	18-114	1	
Pentachlorophenol	ug/kg	ND	4020	4020	4020	3000	3310	74	82	10-122	10	
Phenanthrene	ug/kg	ND	2020	2020	2020	1750	1900	82	90	30-114	8	
Phenol	ug/kg	ND	2020	2020	2020	1680	1670	83	83	11-102	0	
Pyrene	ug/kg	ND	2020	2020	2020	1840	1840	87	87	25-116	0	
2,4,6-Tribromophenol (S)	%							96	125	27-110		S0
2-Fluorobiphenyl (S)	%							67	70	30-110		
2-Fluorophenol (S)	%							84	83	13-110		
Nitrobenzene-d5 (S)	%							70	66	23-110		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1141136		1141137							
Parameter	Units	92190305003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Phenol-d6 (S)	%						81	79	22-110		
Terphenyl-d14 (S)	%						81	82	28-110		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1
Pace Project No.: 92190305

QC Batch:	PMST/6292	Analysis Method:	ASTM D2974-87
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	92190305002		

SAMPLE DUPLICATE: 1148438

Parameter	Units	92189807001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	0.32	0.28	13	

SAMPLE DUPLICATE: 1148439

Parameter	Units	92190762002 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	94.0	94.0	0	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

QC Batch:	PMST/6293	Analysis Method:	ASTM D2974-87
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	92190305003, 92190305004, 92190305005		

SAMPLE DUPLICATE: 1148440

Parameter	Units	92190307005 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	15.2	14.4	5	

SAMPLE DUPLICATE: 1148441

Parameter	Units	92190704006 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	11.5	11.0	5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: NCDOT Cumberland WBS33727.1.1

Pace Project No.: 92190305

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

- | | |
|----|---|
| 1g | The internal standard response is below criteria. No hits associated with this internal standard. Results unaffected by high bias. |
| F3 | The recovery of the second source standard used to verify the initial calibration curve for this analyte is outside the laboratory's control limits. The result is estimated. |
| L3 | Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| R1 | RPD value was outside control limits. |
| S0 | Surrogate recovery outside laboratory control limits. |

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NCDOT Cumberland WBS33727.1.1
Pace Project No.: 92190305

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92190305001	8-2 (TW)	EPA 625	OEXT/26010	EPA 625	MSSV/8797
92190305002	8-3 (4-6)	EPA 3546	OEXT/26001	EPA 8270	MSSV/8768
92190305003	8-4 (4-6)	EPA 3546	OEXT/26001	EPA 8270	MSSV/8768
92190305004	8-1 (4-6)	EPA 3546	OEXT/26001	EPA 8270	MSSV/8768
92190305005	8-2 (4-6)	EPA 3546	OEXT/26001	EPA 8270	MSSV/8768
92190305002	8-3 (4-6)	EPA 8260	MSV/25877		
92190305003	8-4 (4-6)	EPA 8260	MSV/25854		
92190305004	8-1 (4-6)	EPA 8260	MSV/25854		
92190305005	8-2 (4-6)	EPA 8260	MSV/25854		
92190305002	8-3 (4-6)	ASTM D2974-87	PMST/6292		
92190305003	8-4 (4-6)	ASTM D2974-87	PMST/6293		
92190305004	8-1 (4-6)	ASTM D2974-87	PMST/6293		
92190305005	8-2 (4-6)	ASTM D2974-87	PMST/6293		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Client Name: Pymid

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used: IR Gun T1102 T1301 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Temp Correction Factor T1102: No Correction T1301: No Correction

Corrected Cooler Temp.: 4.5 °C Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: [Signature] 2/15/14

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>Missing 6200 for #1</u>
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>#1 1 liter sq e-3 (TW)</u>
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: Tim Leatherman Date/Time: 2/20/14 1054

Comments/ Resolution: Run w/out 6200 for #1

SCURF Review:	<u>AMB</u>	Date:	<u>2-19-14</u>
SRF Review:	<u>SDB</u>	Date:	<u>2/20/14</u>

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92190305



92190305

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Page: 1 of 1
1785946

Section A
 Required Client Information:
 Company: Pyramid Environmental
 Address: 106 Box 16265 Greensboro, NC
 Email To: Jim
 Phone: 336.335.3714 Fax:
 Requested Due Date/AT: Normel

Section B
 Required Project Information:
 Report To: Tim Leatherman - Pyramid
 Copy To:
 Purchase Order No.: WBS # 33727.1.1
 Project Name: NC DOT Cumbyland Parcel 008
 Project Number: 2014-008

Section C
 Invoice Information:
 Attention: NC DOT
 Company Name: NC DOT
 Address:
 Pace Quote Reference: WBS # 33727.1.1
 Pace Project Manager: Jon Bradley
 Pace Profile #: 6527-17

REGULATORY AGENCY
 NPDES
 UST
 GROUND WATER
 RCRA
 DRINKING WATER
 OTHER

Site Location
 STATE: NC

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION		# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME					
1	8-2(TW)	DW	2/14/14	16:00	G	WT			5				001
2	8-3(4-G)	WT	2/14/14	14:10	G	SL			5				002
3	8-4(4-G)	WT	2/14/14	14:15	G	SL			5				003
4	8-1(4-G)	WT	2/14/14	13:30	G	SL			5				004
5	8-2(4-G)	WT	2/14/14	13:40	G	SL			5				005

ADDITIONAL COMMENTS
Tim Leatherman 2/19/14 13:52 Redmond 11 Ave 2/19/14 13:30
Redmond 2/19/14 17:45

RELINQUISHED BY / AFFILIATION
Tim Leatherman
2/19/14

ACCEPTED BY / AFFILIATION
Tim Leatherman
2/19/14 13:30

DATE
2/19/14

TIME
13:30

DATE
2/19/14

TIME
17:45

TEMP IN °C
17.4

Received on
2/19/14

Ice (Y/N)
N

Custody Sealed Cooler (Y/N)
N

Samples Intact (Y/N)
Y

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Timothy D. Leatherman
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YY): 2/14/14

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

APPENDIX F
