PRELIMINARY SITE ASSESSMENT
PARCEL 007, STATE PROJECT B-4490
WBS ELEMENT 33727.1.1, CUMBERLAND COUNTY

REPLACE BRIDGE NO. 116 OVER CXS RAILROAD, NORTH SOUTH RAILROAD, AND HILLSBORO STREET ON NC 24-210, FAYETTEVILLE, NORTH CAROLINA

Schnabel Project 11821014.33
April 8, 2014

Schnabel ENGINEERING

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April 8, 2014

Mr. Mohammed A. Mulla, P.E., CPM, MCE
NCDOT, Geotechnical Engineering Unit
1020 Birch Ridge Drive
Raleigh, NC 27610

RE:
State Project: B-4490
WBS Element: 33727.1.1
County: Cumberland
Description: Replace Bridge No. 116 over CSX Railroad, North South Railroad, and Hillsboro Street on NC 24-210 in Fayetteville

Subject: **Preliminary Site Assessment for Parcel 007, Fayetteville, NC**
Schnabel Engineering Project 11821014.33

Dear Mr. Mulla:

SCHNABEL ENGINEERING SOUTH, P.C. (Schnabel) is pleased to submit our report for this project. This study was performed in accordance with our proposal dated January 23, 2014 as authorized by the Notice to Proceed on January 24, 2014 and was conducted under our June 2, 2011 Agreement with the NCDOT.

We appreciate the opportunity to be of service for this project. Please call us if you have any questions regarding this report.

Sincerely,

SCHNABEL ENGINEERING SOUTH, PC

Benjamin L. Bradley, GIT
Project Scientist

Gregory B. Kuntz, LG
Senior Associate Scientist

BB/GK

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PRELIMINARY SITE ASSESSMENT FOR PARCEL 007

STATE PROJECT B-4490, WBS ELEMENT 33727.1.1

REPLACE BRIDGE NO. 116 OVER CSX RAILROAD, NORTH SOUTH RAILROAD, AND HILLSBORO STREET ON NC 24-210
FAYETTEVILLE, CUMBERLAND COUNTY, NORTH CAROLINA

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1.0 INTRODUCTION

The North Carolina Department of Transportation (NCDOT) is replacing a bridge over CSX Railroad, North South Railroad, and Hillsboro Street on Highway 24/210 (W. Rowan Street) in the town of Fayetteville, located in Cumberland County, North Carolina. Acquisition of properties within the right-of-way (ROW) is necessary prior to road and bridge construction. Schnabel Engineering conducted Preliminary Site Assessments (PSAs) on 10 sites (thirteen parcels) located within the proposed ROW that are of concern to the NCDOT.

This report summarizes the results of field activities conducted during the PSA for the proposed property acquisition area (Study Area) identified by NCDOT on Parcel 007. The property is located on 636 W. Rowan Street and is occupied by Eddie's Transmissions, currently owned by Edmund George (Figure 1). The property line and topography are shown on Figure 2. The approximate NCDOT project limits that delineate the property acquisition area are shown on Figure 3.

The scope of work executed at the site was performed in general accordance with our cost proposal dated January 23, 2014 and was initiated based on a Notice to Proceed issued by the NCDOT Geotechnical Engineering Unit on January 24, 2014 under contract 7000012208, dated June 2, 2011.

2.0 BACKGROUND AND SITE DESCRIPTION

A one-story cinder block building is located on Parcel 007. The surface of the ROW is covered with an asphalt parking lot, two concrete islands, and some grassy areas. In addition, a partially full 55-gallon drum (labelled "Used Oil Filters") and one small above-ground storage tank (AST, labelled "Used Oil") were observed on the eastern part of the parcel. Multiple 5-gallon un-lidded buckets with black material were observed near the northeastern corner of the building. Dark stains on the ground surface were observed on the eastern part of the parcel. Several utilities cross the site including buried water and storm sewer lines, and overhead electric lines are located along the ROW. The information regarding prior site use provided to Schnabel Engineering by NCDOT was that this parcel formerly operated as a gas station, and that an underground storage tank (UST) bed was observed near the southeast corner of the building approximately 40 feet north from the edge of pavement of W. Rowan Street. This PSA is for the investigation of the entire parcel. Photographs of the Study Area are presented in Appendix A.

3.0 FIELD METHODOLOGY

Prior to mobilizing to the site to conduct the field investigation, Schnabel Engineering contacted North Carolina One Call to locate underground utilities in the Study Area of the site. Schnabel Engineering mobilized a geophysical crew to the site on January 29, 2014 and performed an electromagnetic survey of the subsurface in the proposed ROW area within the parcel. The electromagnetic survey equipment (EM61-MK2) identified various magnetic anomalies within the Study Area. The Schnabel geophysical crew returned to the Study Area on February 10, 2014 to perform ground penetrating radar (GPR) survey with a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna. Results of the survey suggested the presence of buried utility lines or conduits, and four probable USTs within the Study Area.

After reviewing the background information and geophysical data, Schnabel returned to Parcel 007 to conduct field screening of soils from within the Study Area. Eleven soil borings designated B-07-01 through B-07-11 were advanced by SAEDACCO of Fort Mill, SC along Rowan Street on February 18 and 20, 2014. Five borings were advanced near the location of the probable USTs, three borings were advanced near the concrete islands, and three borings were advanced to define the extent of petroleum

impact. The location of the soil borings are shown on Figure 3. The borings were advanced to a total depth of 10 feet below ground surface (bgs). The borings drilled within the Study Area were advanced utilizing a track-mounted Geoprobe® (Model 7822-DT) with direct push probe technology. At the completion of the sampling activities, the borings were backfilled with soil removed from the boring during sampling and/or bentonite chips.

Soils for field screening were obtained from the borings using a MacroCore® sampler fitted with a new, single-use, five foot long disposable polyvinyl chloride (PVC) liner. A portion of each 2-foot interval was placed in a separate re-sealable plastic bag. These bags were sealed and placed at ambient temperature for field screening with a MiniRAE Plus photo ionization detector (PID). Volatiles were allowed to accumulate in the headspace of each bag for approximately 15 minutes, and then the headspace of each sealed bag was scanned with the PID. Headspace screening of the soil samples indicated concentrations that ranged from 0 to 1,469 ppm at each boring location at intervals of two, four, six, eight, and ten feet bgs (Table 1, Sampling Intervals and Field Volatile Measurements). The PID was calibrated on February 18 and 20, 2014 in general accordance with the manufacturer's recommended calibration procedures. The PID readings were recorded with the soil descriptions and indications of staining or odors, if present. Logs for each boring are presented in Appendix C.

Ultra Violet Fluorescence (UVF) was performed at Parcel 07 because the PID indicated readings over 10 ppm at the majority of the borings advanced on the parcel. Confirmatory soil samples were submitted for laboratory analysis at B-07-02 (8 FT) and B-07-06 (10FT) and submitted to Pace Analytical in Hampstead, NC. Sample information was recorded on the Chain-of-Custody form and the samples were submitted for chemical analysis of chromium and lead by Method 6010, total petroleum hydrocarbons-diesel range organics (TPH-DRO), total petroleum hydrocarbons-gasoline range organics (TPH-GRO), volatile organic compounds (VOCs) by EPA Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, and MADEP EPH and VPH. The Summary of Laboratory Results is shown on Table 2.

Four additional borings (B-07-08 through B-07-11) were advanced on Parcel 007 to delineate the extent of soil impact. Fill ports for one of the USTs were visible but could not be pried open because it appeared that they had been sealed shut with concrete.

Not including overburden, the estimated volume of impacted soil is about 460 cubic yards and is estimated based on borehole data.

Soils collected from borings within the Study Area generally consisted of orangish brown Silty Sand (SM), orangish brown Clayey Sand (SC), or light gray Sandy Lean Clay (CL). GPS coordinates for each boring were obtained using a Trimble Pro-XRS DGPS system (Appendix D) with coordinates reported in US State Plane 1983 system, North Carolina 3200 zone, using the NAD 83 datum, with units in US survey feet.

4.0 GROUNDWATER MONITORING WELLS OR REMEDIATION WELLS

Groundwater monitoring wells and remediation wells were not observed within the proposed ROW or easement on this parcel.

5.0 DISCUSSION OF RESULTS

The EM data obtained during the geophysical survey contained multiple anomalies that were investigated with GPR, most of which appear to be the result of buried utilities, reinforced concrete, or other metal objects at the ground surface or at shallow depths. GPR data was collected over several EM anomalies of an unknown cause. The GPR data collected near the northeastern corner of the building on Parcel 007 indicated the presence of a probable UST. The GPR data collected near the southeastern corner of the building on Parcel 007 indicated the presence of three additional probable USTs.

At B-07-04 the PID showed low readings of 8.4 to 18.3 ppm from 2 to 10 feet. UVF analyses showed degraded PHC below 10 mg/kg TPH at 4 feet, and background organics from 6 to 10 feet. Background organics were also detected at B-07-05 at four feet with a PID reading of 14.2 ppm. B-07-01 and B-07-07 both showed PID reading between 3.9 and 10.7 ppm. Based on soil core observations and PID reading from previous borings both of these locations are likely below 10 mg/kg TPH. B-07-08 is an upgradient location that indicated the absence of petroleum constituents in the soil based on a PID reading of 0 ppm. B-07-11 is a downgradient location that indicated the absence of petroleum constituents in the soil based on a PID reading of 1 ppm and no staining or odor in the soil core.

At B-07-02 the PID showed readings of 481 to 1,469 ppm from 2 to 10 feet. UVF analyses showed that degraded fuel was detected at B-07-06 from 4 to 10 feet at concentrations above 10 mg/kg TPH. At B-07-03 the PID showed readings of 6.4 to 12.2 ppm between 2 and 8 feet and 921 ppm at ten feet. UVF analyses showed that TPH was not detected at B-07-03 at 2 and 4 feet and degraded kerosene and gas was detected at B-07-03 at 10 feet above 10 mg/kg TPH. At B-07-06 the PID showed readings of 11 ppm at 8 feet and 33.5 ppm at 10 feet. UVF analyses showed that degraded fuel was detected at B-07-06 at 8 feet at a concentration below 10 mg/kg TPH and polyaromatic hydrocarbons (PAHs) at 10 feet, however laboratory confirmation sampling indicated the TPH GRO was detected at 10.3 mg/kg. At B-07-09 and B-07-10 the PID showed readings of 1,134 ppm at 4 feet and 270 ppm at 8 feet, respectively. UVF analyses showed that degraded gas was detected at B-07-09 at 4 feet and B-07-10 at 8 feet, both of which were above 10 mg/kg TPH. UVF results are included in Appendix E.

Analytical results from the laboratory show that TPH-DRO, TPH-GRO, chromium, and various other petroleum related constituents were detected in B-07-02 at 8 feet at concentrations that exceed the TPH action level and maximum soil contaminant concentration levels (MSCCs). TPH-GRO and chromium exceeded the MSCCs in B-07-06 10'. Analytical results are included in Appendix F.

6.0 CONCLUSIONS

The geophysical survey conducted at the site indicated the presence of four probable USTs on the northeastern part of Parcel 007 as well as the presence of buried utility lines and conduits. Also observed on the property was one used oil AST, one 55-gallon drum containing used oil filters, numerous five-gallon buckets with black material, and ground surface staining. Field screening and UVF results showed that impacted soils are present in this area. Eleven soil borings B-07-01 through B-07-11 were advanced to evaluate potential petroleum impact within the Study Area, and to document soil conditions.

UVF showed that TPH-DRO was detected in the soil at B-07-02 4 FT at 31.4 ppm, B-07-02 8 FT at 308 ppm, B-07-02 10FT at 12.9 ppm, B-07-03 10FT at 154 ppm, B-07-10 8 FT at 13.5 ppm, and B-07-09 4 FT at 48.4 ppm. UVF showed that TPH-GRO was detected in the soil at B-07-02 8 FT at 157 ppm, B-07-03 10 FT at 55.3 ppm, B-07-10 8 FT at 35.1 ppm, and B-07-09 4 FT at 153 ppm. These results exceed the TPH Action Level of 10 mg/Kg for DRO and GRO *(Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases, Division of Waste Management, UST Section, December 1, 2013).*

Laboratory analytical results for B-07-02 8' show that TPH-DRO is 559 mg/Kg and TPH-GRO is 3,760 mg/Kg which exceed the TPH Action Level of 10 mg/Kg. Various other constituents were detected in B-07-02 8' which exceed the MSCC Levels. TPH-GRO was detected in B-07-06 10' at a concentration of 10.3 mg/Kg.

Geochemical background levels of chromium in the Eastern United States show that the mean range of chromium in soil is 33 mg/kg and the range is 1 to 1,000 mg/kg, suggesting that the concentration of chromium encountered on Parcel 007 may be naturally occurring and at background levels (Element Concentrations in Soils and Other Surficial Material of the Conterminous United States, Hansford Shacklette and Josephine Boerngen, US Geological Survey Professional Paper 1270, 1984).

7.0 RECOMMENDATIONS

Soil impact can be expected to be encountered if excavation activities occur in the proposed ROW of Parcel 007. Approximately 460 cubic yards of impacted soil is present, not including overburden. The NCDOT should properly transport and dispose of the excavated soil in the vicinity of these soil borings. Because groundwater is shallow in this area, it is also a possibility that free product is present. Groundwater sampling should be performed in this area if groundwater is expected to be intercepted during excavation activities.

8.0 LIMITATIONS

This PSA was prepared for the use of the NCDOT. The scope of work performed at the site is limited to the tasks described in our cost proposal dated January 23, 2014. This report is not intended to represent an exhaustive research of all potential hazards that may exist. Schnabel makes no other declarations, or any express or implied warranty, as to the professional services provided under the terms of the agreement.

TABLES

Table 1, Sampling Intervals and Field Volatile Measurements
Table2, Summary of Laboratory Results

TABLE 1
SAMPLING INTERVALS AND FIELD VOLATILE MEASUREMENTS
PARCEL 007
NCDOT B-4490, CUMBERLAND COUNTY

Sample Depth Below Ground	Soil Borings										
	B-07-01	B-07-02	B-07-03	B-07-04	B-07-05	B-07-06	B-07-07	B-07-08	B-07-09	B-07-10	B-07-11
0 - 2 feet	4.4	6.1	10.1*	8.4	2.8	2.9	7.7	0.0	8.1	5.4	0.0
2 - 4 feet	3.9	481.0*	12.2*	15.3*	14.2*	3.5	10.7	0.0	1134.0*	10.4	0.0
4 - 6 feet	4.1	1469.0*	6.4	15.3*	4.4	7.2	7.0	0.0	92.7	8.1	1.0
6 - 8 feet	4.7	1325.0*	7.5	18.3*	8.2	11.0*	6.8	0.0	4.5	270.0*	0.0
8 - 10 feet	5.3	672.0*	921.0*	11.5*	5.4	33.5*	7.6	0.0	1.7	6.6	0.0

Notes:
Shaded cells were submitted for laboratory analysis
*: Ultra Violet Fluorescence (UVF) performed
Field volatile measurements obtained with a MiniRae Photo Ionization Detector
Measurements in parts per million (ppm)

TABLE 2
SUMMARY OF LABORATORY RESULTS
PARCEL 007
NCDOT B-4490, CUMBERLAND COUNTY

Sample ID:	TPH-GRO and DRO Action Level	Soil to Groundwater MSCC	Commercial/Industrial MSCC	B-07-02 8'	B-07-06 10'
Matrix:				Soil	Soil
Sampled Date:				2/18/2014	2/18/2014
EPA Method 8015 TPH-DRO					
Diesel Range Organics	10	NA	NA	**559**	ND
MADEP EPH					
Aliphatic (C09-C18)	NA	540	40,000	202	ND
Aliphatic (C19-C36)	NA	NA	810,000	ND	ND
Aromatic (C11-C22)	NA	31	12,264	**90.0**	ND
EPA Method 8015 TPH-GRO					
Gasoline Range Organics	10	NA	NA	**3,760**	**10.3**
MADEP VPH					
Aliphatic (C05-C08)	NA	68	24,528	**280**	ND
Aliphatic (C09-C12)	NA	540	40,000	**1,260**	ND
Aromatic (C09-C10)	NA	31	12,264	**743**	ND
Metals Method 6010					
Chromium	NA	5.4	1,226	**5.5**	**5.4**
Lead	NA	270	400	34.8	9.0
EPA Method 8270 Semi-volatile Organic Compounds (SVOCs)					
1-Methylnaphthalene	NA	0.004	100	**8.22**	ND
2- Methylnaphthalene	NA	3.6	1,635	**15.1**	ND
Naphthalene	NA	0.16	8,176	**23.8**	ND
EPA Method 8260 Volatile Organic Compounds (VOCs)					
n-Butylbenzene	NA	4.3	16,350	**30.5**	ND
Ethylbenzene	NA	4.9	40,000	**81.3**	ND
Isopropylbenzene (Cumene)	NA	1.7	40,880	**30.7**	ND
p-Isopropytoluene	NA	0.12	4,000	**22.0**	ND
Naphthalene	NA	0.16	8,176	**41.3**	ND
n-Propylbenzene	NA	1.7	16,350	**68.0**	0.119
Toluene	NA	4.3	32,000	**36.7**	ND
1,2,4-Trimethylbenzene	NA	8.5	20,440	**329**	ND
1,3,5-Trimethylbenzene	NA	8.3	20,440	**109**	ND
Xylene (Total)	NA	4.6	81,760	**285**	ND
m&p-Xylene	NA	4.6	81,760	**196**	ND
o-Xylene	NA	4.6	81,760	**89.6**	ND

Notes:
Units in mg/Kg
ND: Not Detected
NA: Not Applicable
Action Level and Maximum Soil Concentration Levels (MSCC) from Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases, March 1, 2007 Version Change 5, Effective December 1, 2013
Bold exceeds the standard

FIGURES

Figure 1, Vicinity Map
Figure 2, Site Map
Figure 3, Soil Impact Map
Figure 4 and 4A, Boring Locations and Legend

Source: 1. Cumberland County, NC, GIS Department
http://www.co.cumberland.nc.us/is_technology/gis.aspx
Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet

240 120 0 240 Feet

Scale: 1:3,000

Schnabel ENGINEERING

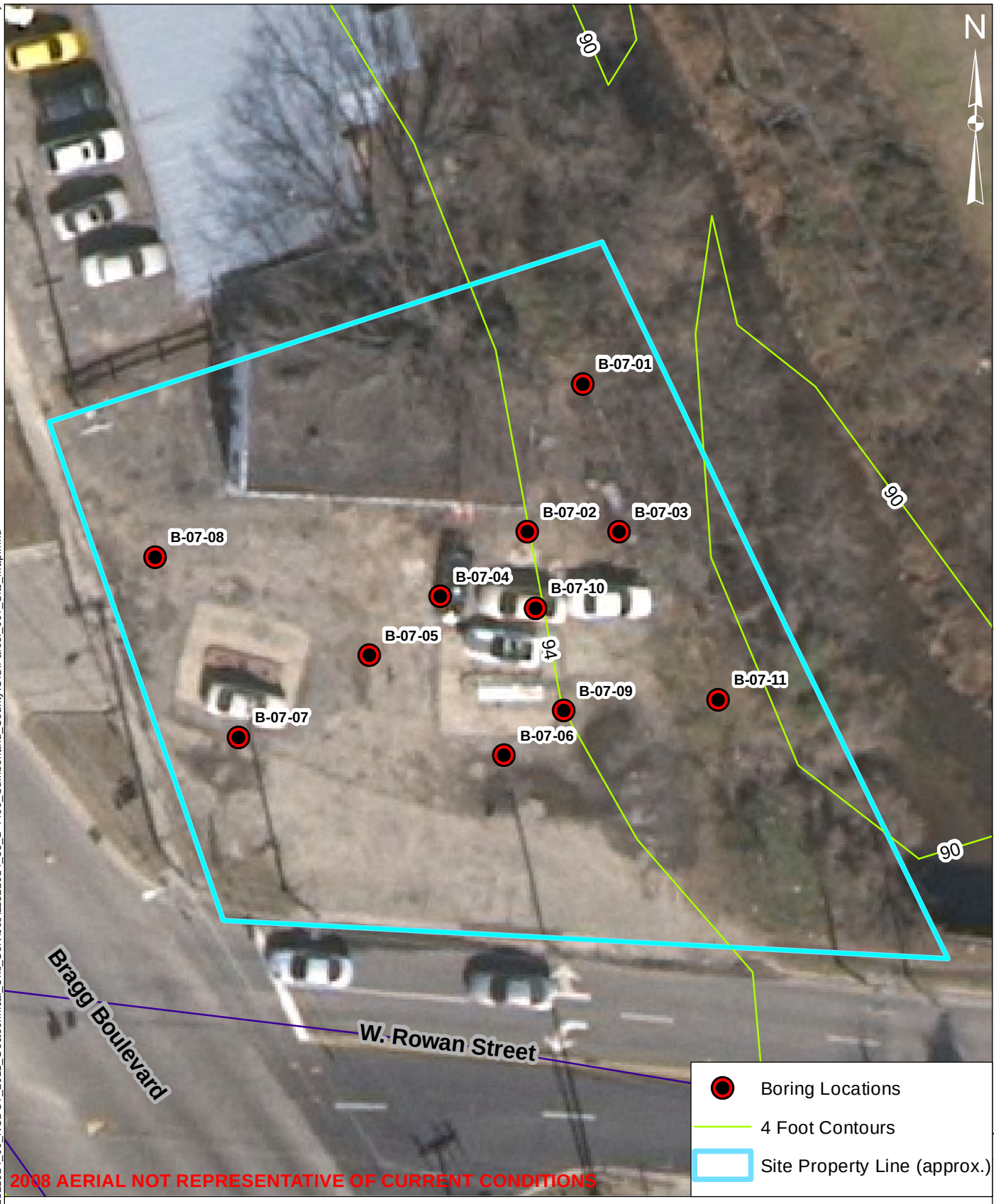
SITE PROJECT B-4490, PSA PARCELS
CUMBERLAND COUNTY, NORTH CAROLINA
NC DEPARTMENT OF TRANSPORTATION
PROJECT NO. 11821014.33

VICINITY MAP

FIGURE 1

bbradley

3/27/2014 G:\2011-SDE-Jobs\11821014_00_NCDOT_2011_Geotechnical_Unit_Services\11821014_33_B-4490_Cumberland_County\GIS\Vicinity_map.mxd



Source: 1. Cumberland County, NC, GIS Department
http://www.co.cumberland.nc.us/is_technology/gis.aspx
Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet

25 12.5 0 25 Feet

Scale: 1:315

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SITE PROJECT B-4490, PARCEL 007
CUMBERLAND COUNTY, NORTH CAROLINA
NC DEPARTMENT OF TRANSPORTATION
PROJECT NO. 11821014.33

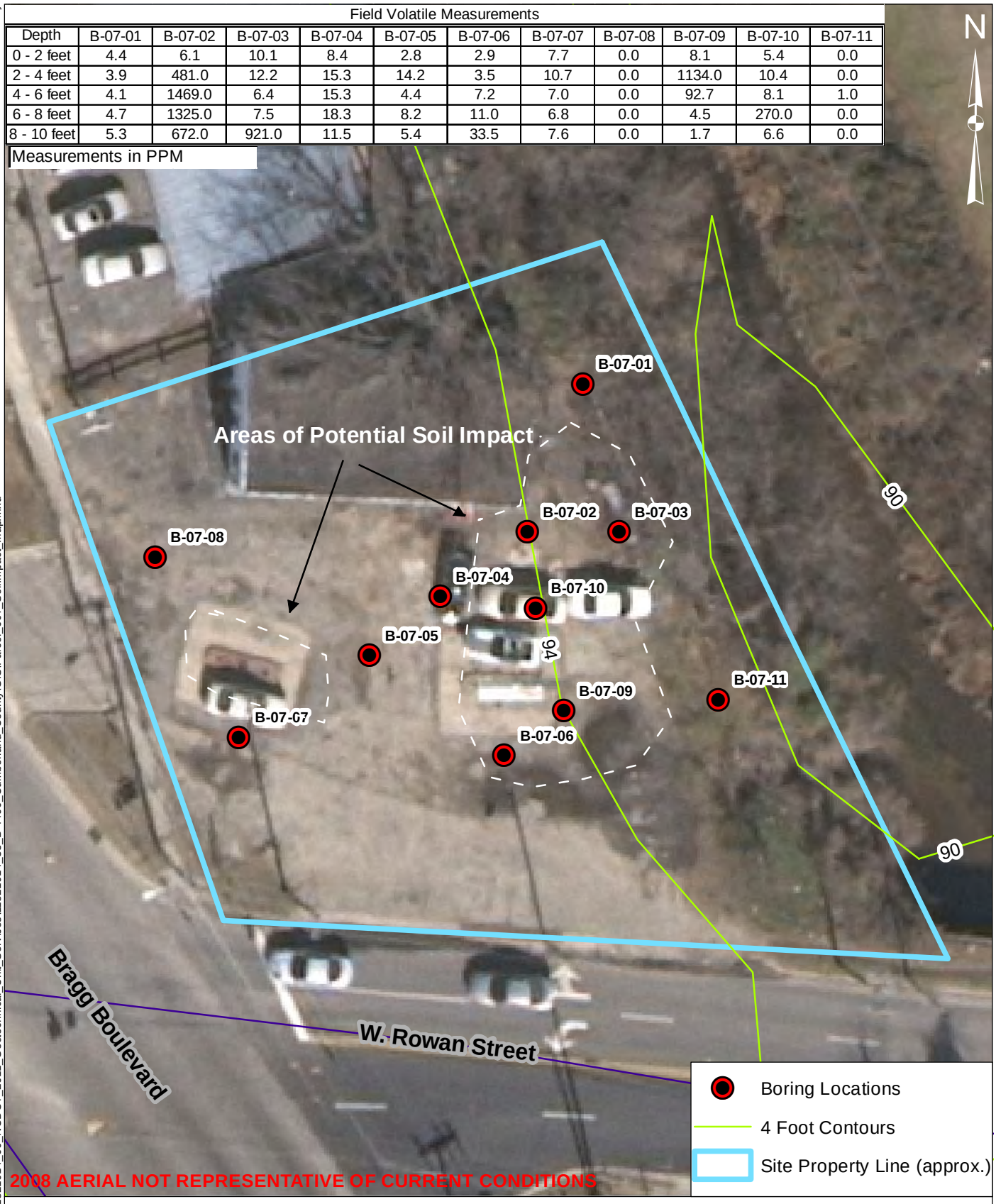
SITE MAP
PARCEL 007
FIGURE 2

bbradley

Field Volatile Measurements

Depth	B-07-01	B-07-02	B-07-03	B-07-04	B-07-05	B-07-06	B-07-07	B-07-08	B-07-09	B-07-10	B-07-11
0 - 2 feet	4.4	6.1	10.1	8.4	2.8	2.9	7.7	0.0	8.1	5.4	0.0
2 - 4 feet	3.9	481.0	12.2	15.3	14.2	3.5	10.7	0.0	1134.0	10.4	0.0
4 - 6 feet	4.1	1469.0	6.4	15.3	4.4	7.2	7.0	0.0	92.7	8.1	1.0
6 - 8 feet	4.7	1325.0	7.5	18.3	8.2	11.0	6.8	0.0	4.5	270.0	0.0
8 - 10 feet	5.3	672.0	921.0	11.5	5.4	33.5	7.6	0.0	1.7	6.6	0.0

Measurements in PPM



Source: 1. Cumberland County, NC, GIS Department
http://www.co.cumberland.nc.us/is_technology/gis.aspx
Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet

25 12.5 0 25 Feet

Scale: 1:315

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SITE PROJECT B-4490, PARCEL 007
CUMBERLAND COUNTY, NORTH CAROLINA
NC DEPARTMENT OF TRANSPORTATION
PROJECT NO. 11821014.33

PROBABLE SOIL IMPACT AREA
PARCEL 007
FIGURE 3

3/27/2014 G:\2011-SDE-Jobs\11821014_00_NCDOT_2011_Geotechnical_Unit_Services\11821014_33_B-4490_Cumberland_County\GIS\Parcel_007_SoilImpact_Map.mxd

-L- POC Sta. 17+75.00 =
-Y2- POT Sta. 10+00.00

-L-

-Y2- PC Sta. 10+33.95

-L- PT Sta. 18+96.87

110.00'
N 71°39'37" E

S 30°55'53.7" W

N 79°25'56" E
133.68'

S 26°28'04" E
62.79'

144.54'

B-07-01
B-07-02
B-07-03
B-07-04
B-07-05
B-07-06
B-07-07
B-07-08
B-07-09
B-07-10
B-07-11
B-10-01

UST

TB

5
DORIS B. UTLEY

EDMUND GEORGE

BRAGG BLVD

-Y2-

ROWAN ST

17
18
19
20

0 20 40
FEET

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NC Department of Transportation
Geotechnical Engineering Unit
State Project No. B-4490
Cumberland County, North Carolina

BORING LOCATIONS
Parcel 007
Figure 4

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
B-4490	4-A

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Boundary or Site
- Potential Soil Contamination: Boundary or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Curb Cut Future Ramp — CCFR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

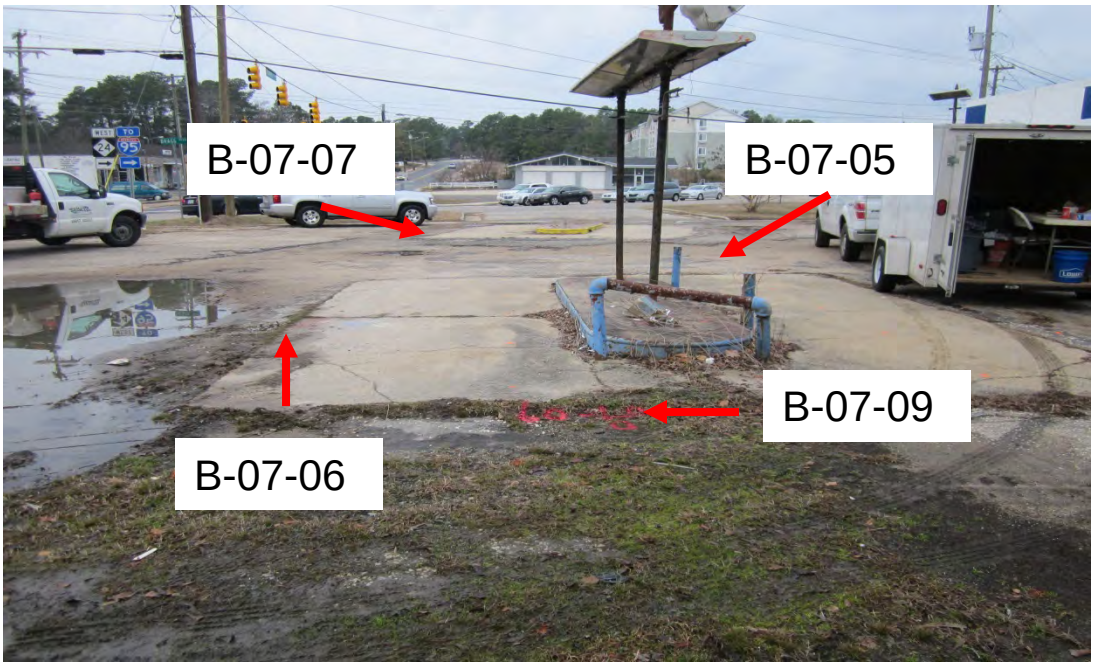
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

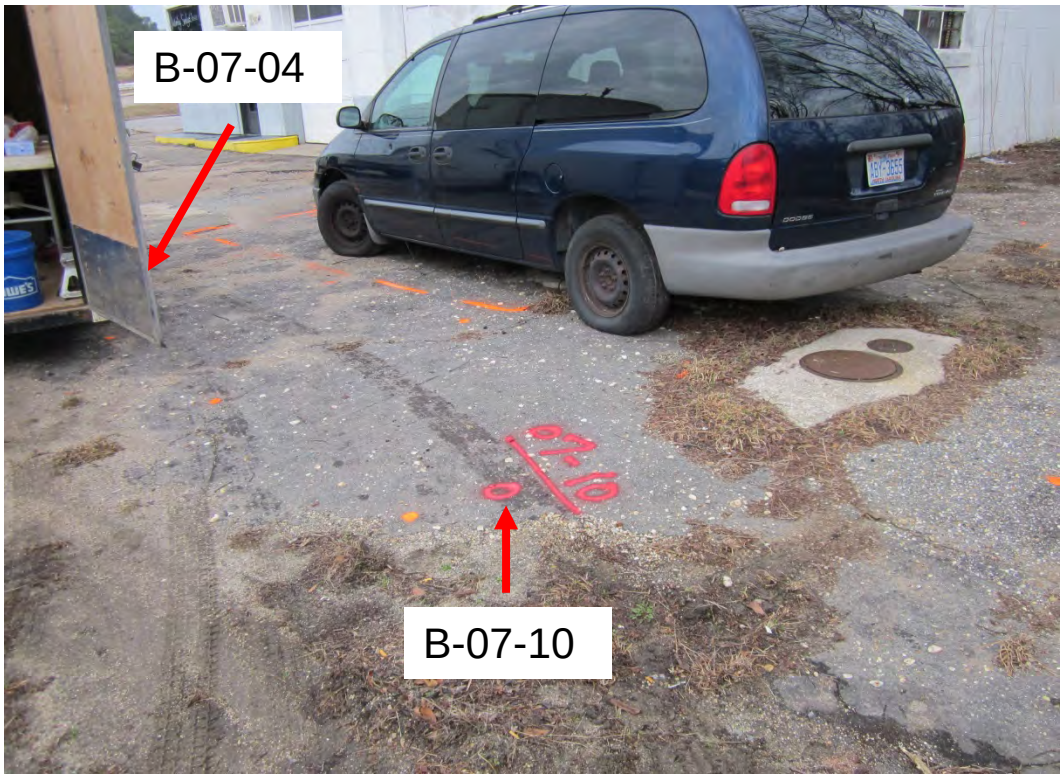
APPENDIX A

PHOTOGRAPHS



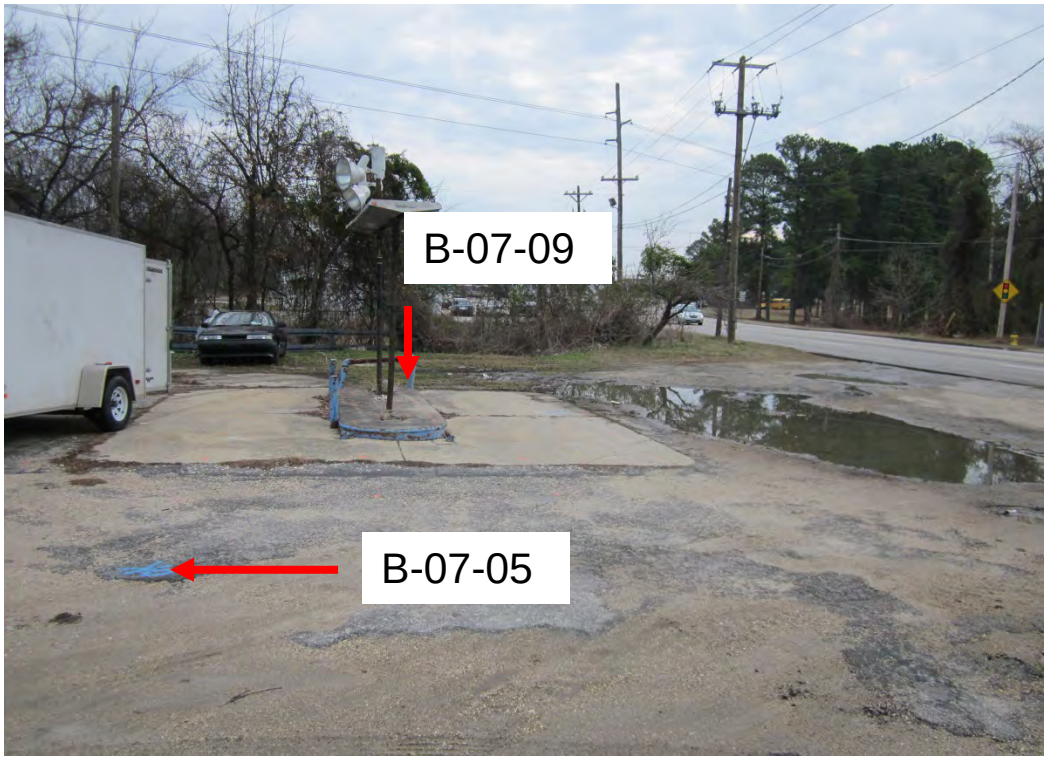
Parcel 007, facing west toward B-07-05, 06, 07, and 09.

Parcel 007, facing east toward B-07-11

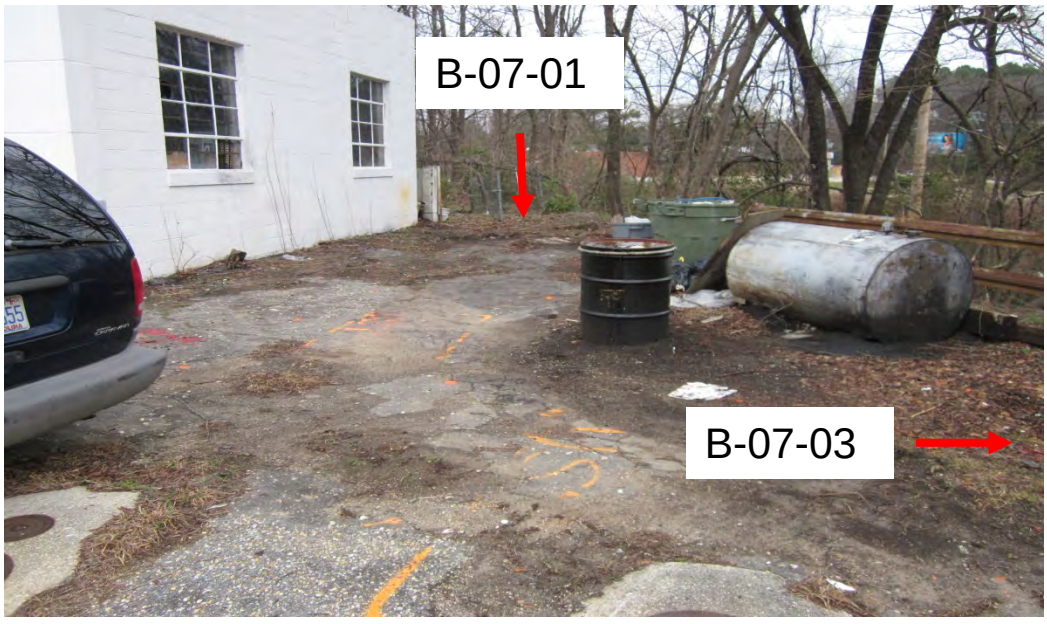


Parcel 007, facing northwest toward B-07-10 and 04.

Parcel 007, facing north toward B-07-08.



Parcel 007, facing east toward B-07-05 and 09.



Parcel 007, facing north toward B-07-01, 02, and 03.

Parcel 007, facing northwest toward B-07-02.

Parcel 007, facing east. 55-gallon drum with “Used Oil Filters” sticker on drum.

Schnabel ENGINEERING	STATE PROJECT B-4490 CUMBERLAND CO. NORTH CAROLINA NC DEPT. OF TRANSPORTATION PROJECT NO. 11821014.33	SOIL BORINGS PARCEL 007 Figure A-1

Parcel 007, facing east. Above-ground storage tank with staining at base and “Used Oil” sticker on tank.

Parcel 007, facing west. Five-gallon buckets with black substance oozing from buckets and ground staining.

APPENDIX B

GEOPHYSICS REPORT

Schnabel ENGINEERING

March 27, 2014

Mr. Mohammed A. Mulla, P.E., CPM, MCE
NCDOT, Geotechnical Engineering Unit
1020 Birch Ridge Drive
Raleigh, NC 27610

RE:	State Project:	B-4490
	WBS Element:	33727.1.1
	County:	Cumberland
	Description:	Replace Bridge No. 116 over CSX Railroad, North South Railroad, and Hillsboro Street on NC 24-210

Subject: **Project 11821014.33, Report on Geophysical Surveys**
Parcel 007, Edmund George Property, Fayetteville, North Carolina

Dear Mr. Mulla:

SCHNABEL ENGINEERING SOUTH, PC (Schnabel) is pleased to present this report on the geophysical surveys we performed on the subject property. The report includes two 11x17 inch color figures and five 8.5x11 inch color figures. This study was performed in accordance with our proposal for Geophysical Surveys to Locate Possible USTs dated December 26, 2013, as approved by Terry Farr on January 24, 2014, and our existing agreement dated June 2, 2011. Gordon Box provided a verbal notice to proceed on January 23, 2014.

INTRODUCTION

The field work described in this report was performed on January 29, 2014 and February 11, 2014, by Schnabel. The purpose of the geophysical surveys was to evaluate the potential presence of metal underground storage tanks (USTs) in the accessible areas of Parcel 007. Photographs of the property are included on Figure 1. The property is located in the northeast quadrant of the intersection of NC 24 (Bragg Boulevard) and NC 210 (Rowan Street) in Fayetteville, NC.

The geophysical surveys consisted of an electromagnetic (EM) induction survey and a ground penetrating radar (GPR) survey. The EM survey was performed using a Geonics EM61-MK2 (EM61) instrument. The EM61 is a time domain metal detector that stores data digitally for later processing and review. Sensitivity to metallic objects is dependent on the size, depth, and orientation of the buried object and the amount of noise (i.e. response from spurious metallic objects) in the area. The EM61 can generally observe a single

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11A Oak Branch Drive / Greensboro, NC / 27407

buried 55 gallon drum at a depth of 10 feet or less. The EM61 makes measurements by creating an electromagnetic pulse and then measuring the response from metallic objects over time after the pulse is generated. We measured and recorded the response at several time increments after the pulse to help evaluate relative size and depth of metallic objects in the subsurface.

The GPR survey was performed over selected EM61 anomalies using a Geophysical Survey Systems SIR-3000 system equipped with a 400 MHz antenna to further investigate and evaluate EM responses that could indicate a potential UST. The depth penetration of the GPR signal, when using a 400 MHz antenna, is normally limited to 6 feet or less.

Photographs of the equipment used are shown on Figure 2.

FIELD METHODOLOGY

We obtained locations of geophysical data points using a sub-meter Trimble Pro-XRS differential global positioning system (DGPS). References to direction and location in this report are based on the US State Plane 1983 System, North Carolina 3200 Zone, using the NAD 83 datum, with units in US survey feet. We also recorded the locations of existing site features (signs, guy wires, etc.) with the DGPS for later correlation with the geophysical data and a site plan provided by the NCDOT. The Microstation data provided by the NCDOT appears to be offset from the DGPS data we collected. The amount (approximately 5 feet) and direction (WNW) of offset of the Microstation data appear to be consistent for all parcels where we collected data for this project.

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

DISCUSSION OF RESULTS

The contoured EM61 data collected over Parcel 007 and the GPR survey area locations are shown on Figure 3, EM61 Early Time Gate Response, and Figure 4, EM61 Differential Response. Areas outside the colored, contoured EM61 data were not surveyed. Early time data refer to the response measured at a short time after the initial EM pulse is generated. Early time data typically contain responses from all metal objects, small or large and shallow or deep, within the sensitivity range of the instrument. Differential data represent the difference in response between the top and bottom coils of the EM61 instrument at a later time after the initial pulse than early time data. Differential data naturally tend to filter out the effect of surface and very shallowly buried metallic objects. Typically, the differential response emphasizes anomalies from deeper and larger objects such as USTs.

We were able to access most of the planned survey area with the exception of thick vegetation along the eastern side of the property and obstacles near the northeast corner of the building. The EM data contain multiple anomalies that we investigated with GPR (as shown on Figures 3 and 4), most of which appear to be the result of buried utilities, reinforced concrete, or other metal objects at the ground surface or at

shallow depths. We collected GPR data over several EM anomalies of an unknown cause as shown on Figures 3 and 4 to further investigate the EM anomalies. The GPR data collected near the northeastern corner of the building on Parcel 007 indicated the presence of a probable UST, as shown on Figures 3 and 4. The GPR data collected near the southeastern corner of the building on Parcel 007 indicated the presence of three additional probable USTs, as shown on Figures 3 and 4. The identification of Probable UST Nos. 1, 2, 3, and 4 was selected in accordance with the anomaly categories provided by the NCDOT in their letter, dated May 19, 2009, entitled “Geophysical Surveys to Identify USTs”. Example GPR images from lines oriented over the marked locations of Probable UST Nos. 1, 2, 3, and 4 are shown on Figure 5. The GPR data suggest the tops of Probable UST Nos. 1 and 2 are approximately 4.5 to 5.5 feet below ground surface and 1.0 to 2.0 feet below ground surface, respectively. Probable UST No. 1 is about 4 feet in diameter and about 6 feet long, equivalent to a capacity of a 550 gallon UST. Probable UST No. 2 is about 3 feet in diameter and about 5 feet long, equivalent to a capacity of a 270 gallon UST. The GPR data suggest the tops of Probable UST Nos. 3 and 4 are approximately 4.5 to 5.5 feet below ground surface and 3.0 to 4.0 below ground surface, respectively. Probable UST No. 3 is about 3.5 feet in diameter and about 7.5 feet long, equivalent to a capacity of a 560 gallon UST. Probable UST No. 4 is estimated to be about 8 feet in diameter and about 16 feet long, equivalent to a capacity of a 6,000 gallon UST. We were unable to collect data over most of suspected location of Probable UST No. 4 due to the presence of a vehicle we could not arrange to be moved. A metal lid likely related to the probable UST was observed under the vehicle. Photographs of the approximate locations of the probable USTs that were marked in the field are included on Figures 6 and 7.

CONCLUSIONS

As shown in Figures 3 and 4, the EM data we collected over Parcel 007 did not cover portions of the planned survey area due to the presence of thick vegetation and other obstacles within the planned survey area. The EM data include responses from several visible metallic objects at grade (e.g. guy wires, signs, etc.).

The geophysical data indicate the presence of four probable USTs outside the existing right-of-way on Parcel 007. The EM and GPR data suggest Probable UST Nos. 1, 2, 3, and 4 are about the size of a 550-gallon capacity UST, a 270-gallon capacity UST, a 560-gallon capacity UST, and a 6,000-gallon capacity UST, respectively. The tops of Probable UST Nos. 1, 2, 3, and 4 are about 4.5 to 5.5 feet, 1.0 to 2.0 feet, 4.5 to 5.5 feet, and 3.0 to 4.0 feet below ground surface, respectively.

LIMITATIONS

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

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

Sincerely,

SCHNABEL ENGINEERING SOUTH, PC

James W. Whitt, LG
Senior Staff Geophysicist

Gregory B. Kuntz, LG
Senior Associate

JWW:JCD:GBK
Attachments: Figures (7)
CC: NCDOT, Gordon Box
FILE: G:\2011-SDE-JOBS\11821014_00_NCDOT_2011_GEOTECHNICAL_UNIT_SERVICES\11821014_33_B-4490_CUMBERLAND_COUNTY\REPORT\GEOPHYSICS\PARCEL 07\SCHNABEL GEOPHYSICAL REPORT ON PARCEL 7 (B-4490) FINAL.DOCX

Attachments:

- Figure 1 - Parcel 007 Site Photos
- Figure 2 - Photos of Geophysical Equipment Used
- Figure 3 - EM61 Early Time Gate Response
- Figure 4 - EM61 Differential Response
- Figure 5 - Parcel 007 Example GPR Images
- Figure 6 - Parcel 007 Photos of Probable UST Locations
- Figure 7 - Parcel 007 Additional Photos of Probable UST Locations

Parcel 007 (Edmund George Property), looking north

Parcel 007 (Edmund George Property), looking east

Schnabel ENGINEERING	STATE PROJECT B-4490 NC DEPT. OF TRANSPORTATION CUMBERLAND CO., NORTH CAROLINA PROJECT NO. 11821014.33	PARCEL 007 SITE PHOTOS FIGURE 1

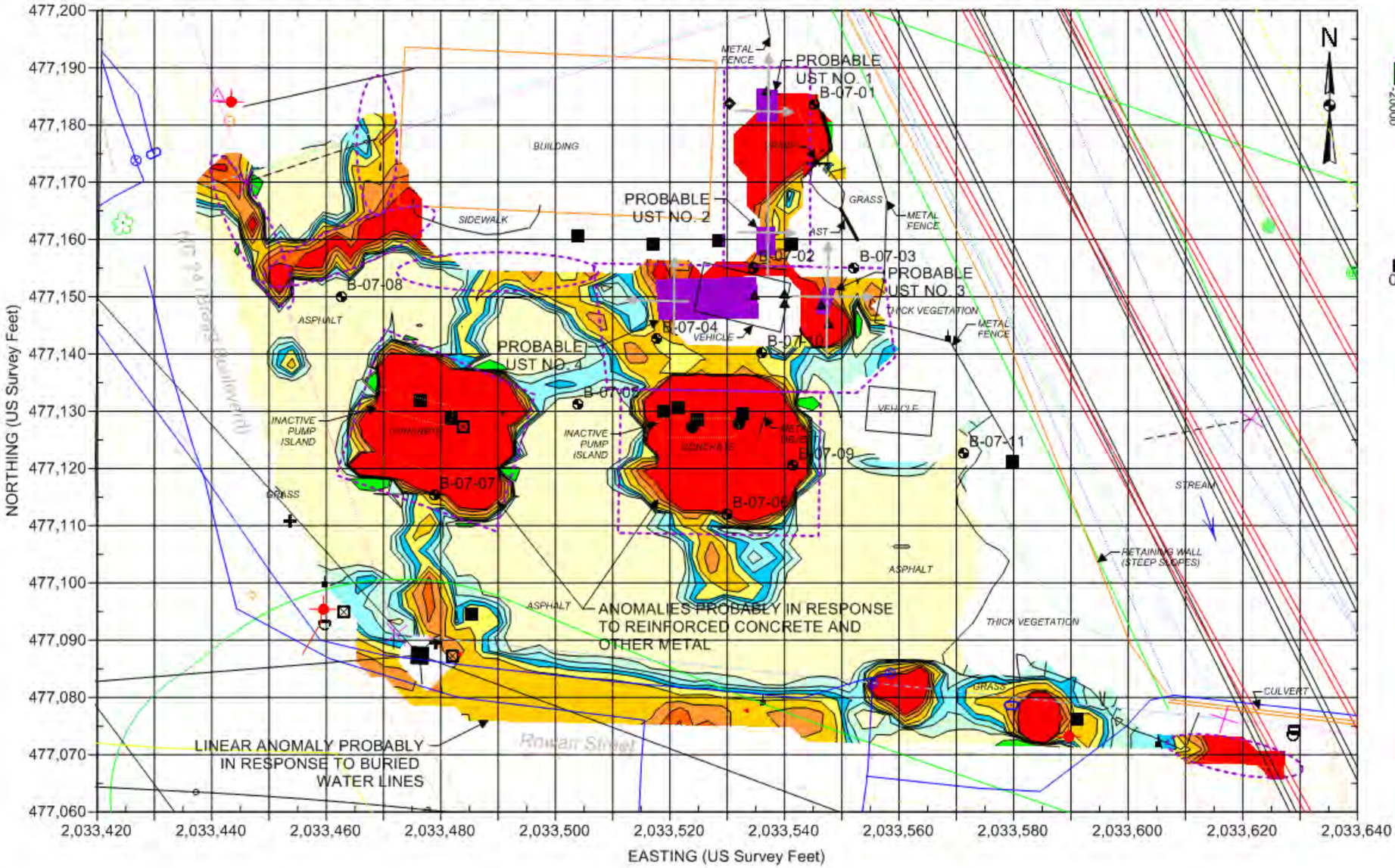
Geonics EM61-MK2 Metal Detector with Trimble DGPS Unit

GSSI SIR-3000 Ground-Penetrating Radar with 400 MHz Antenna

Note: Stock photographs – not taken on site.

Schnabel ENGINEERING	STATE PROJECT B-4490 NC DEPT. OF TRANSPORTATION CUMBERLAND CO., NORTH CAROLINA PROJECT NO. 11821014.33	PHOTOS OF GEOPHYSICAL EQUIPMENT USED FIGURE 2

PARCEL 007



EM61 Differential Response (mV)

-20000 -100 0 40 60 80 100 120 140 160 200

Scale in US Survey Feet: 1 in = 20 ft

0 20 40 60

EXPLANATION

- SIGN
- MISCELLANEOUS METALLIC OBJECT
- UTILITY MANHOLE, METER, BOX, ETC.
- UTILITY POLE
- GUY WIRE
- POTENTIAL VENT PIPE
- METAL ACCESS LID
- EDGE OF NCDOT PROPOSED R/W
- PROPERTY LINE
- GPR SURVEY AREA
- LOCATION OF SUSPECT USTS MARKED ON SITE
- EXAMPLE GPR LINE LOCATION
- BORING LOCATION

BASE PLAN FROM NCDOT FILE:
B-4490_rdy_psh05.dgn &
B-4490_rdy_psh06.dgn
(FOR SOME SITE FEATURES)

Note: The contour plot shows the difference, in millivolts (mV), between the readings from the top and bottom coils of the EM61. The difference is taken to reduce the effect of shallow metal objects and emphasize anomalies caused by deeper metallic objects, such as drums and tanks. The EM data were collected on January 29, 2014, using a Geonics EM61-MK2 instrument. Positioning for the EM61 survey was provided using a submeter Trimble ProXRS DGPS system. Coordinates are in the US State Plane 1983 System, North Carolina 3200 Zone, using the NAD 1983 datum. GPR data were acquired on February 11, 2014, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

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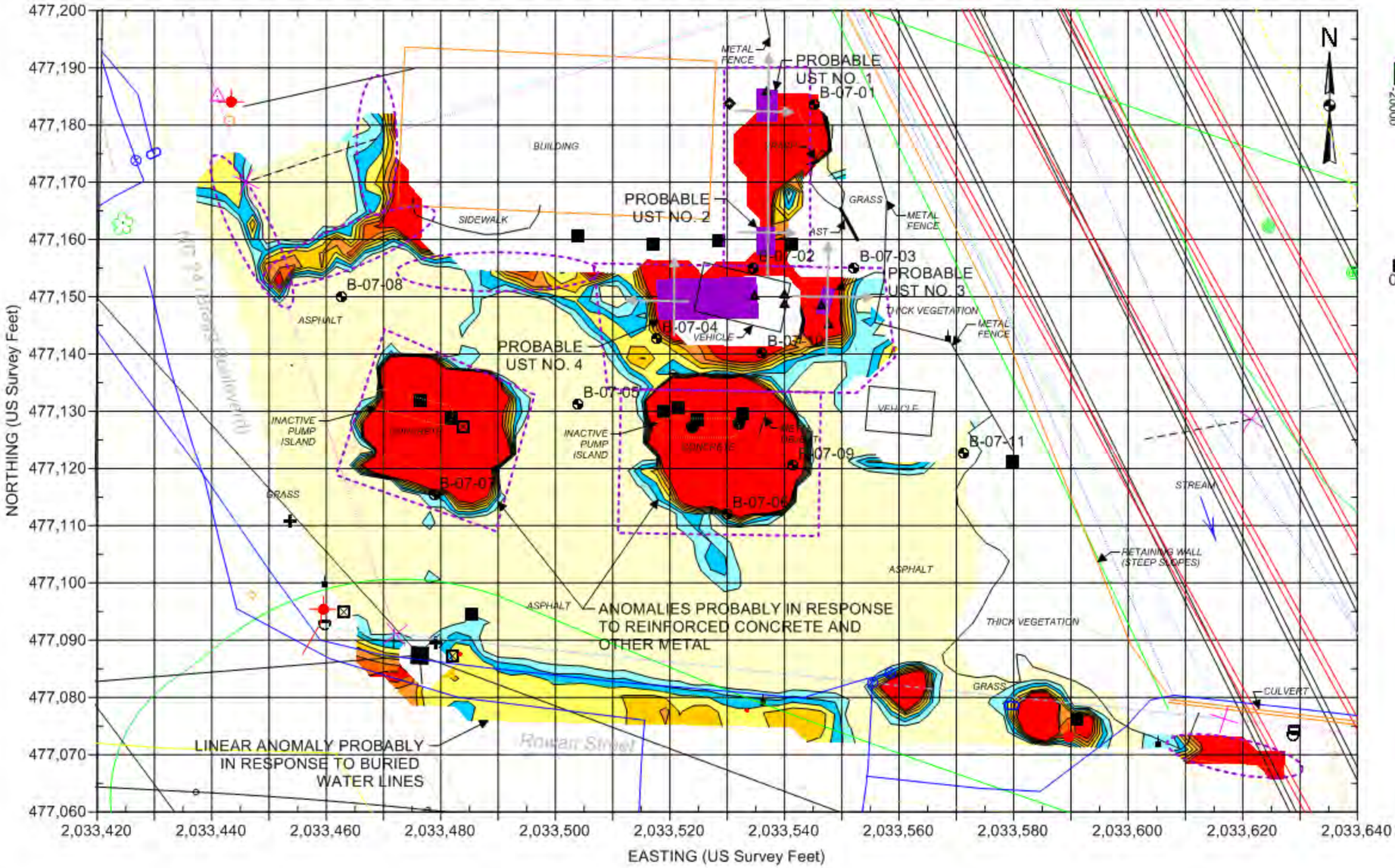
STATE PROJECT B-4490
NC DEPARTMENT OF TRANSPORTATION
CUMBERLAND COUNTY, NC
PROJECT NO. 11821014.33

EM61
EARLY TIME GATE
RESPONSE

FIGURE 3

PARCEL 007



EM61 Differential Response (mV)

-20000 -100 0 40 60 80 100 120 140 160 200

Scale in US Survey Feet: 1 in = 20 ft

0 20 40 60

EXPLANATION

- SIGN
- MISCELLANEOUS METALLIC OBJECT
- UTILITY MANHOLE, METER, BOX, ETC.
- UTILITY POLE
- GUY WIRE
- POTENTIAL VENT PIPE
- METAL ACCESS LID
- EDGE OF NCDOT PROPOSED R/W
- PROPERTY LINE
- GPR SURVEY AREA
- LOCATION OF SUSPECT USTS MARKED ON SITE
- EXAMPLE GPR LINE LOCATION
- BORING LOCATION

BASE PLAN FROM NCDOT FILE:
B-4490_rdy_psh05.dgn &
B-4490_rdy_psh06.dgn
(FOR SOME SITE FEATURES)

Note: The contour plot shows the difference, in millivolts (mV), between the readings from the top and bottom coils of the EM61. The difference is taken to reduce the effect of shallow metal objects and emphasize anomalies caused by deeper metallic objects, such as drums and tanks. The EM data were collected on January 29, 2014, using a Geonics EM61-MK2 instrument. Positioning for the EM61 survey was provided using a submeter Trimble ProXRS DGPS system. Coordinates are in the US State Plane 1983 System, North Carolina 3200 Zone, using the NAD 1983 datum. GPR data were acquired on February 11, 2014, using a Geophysical Survey Systems SIR 3000 equipped with a 400 MHz antenna.

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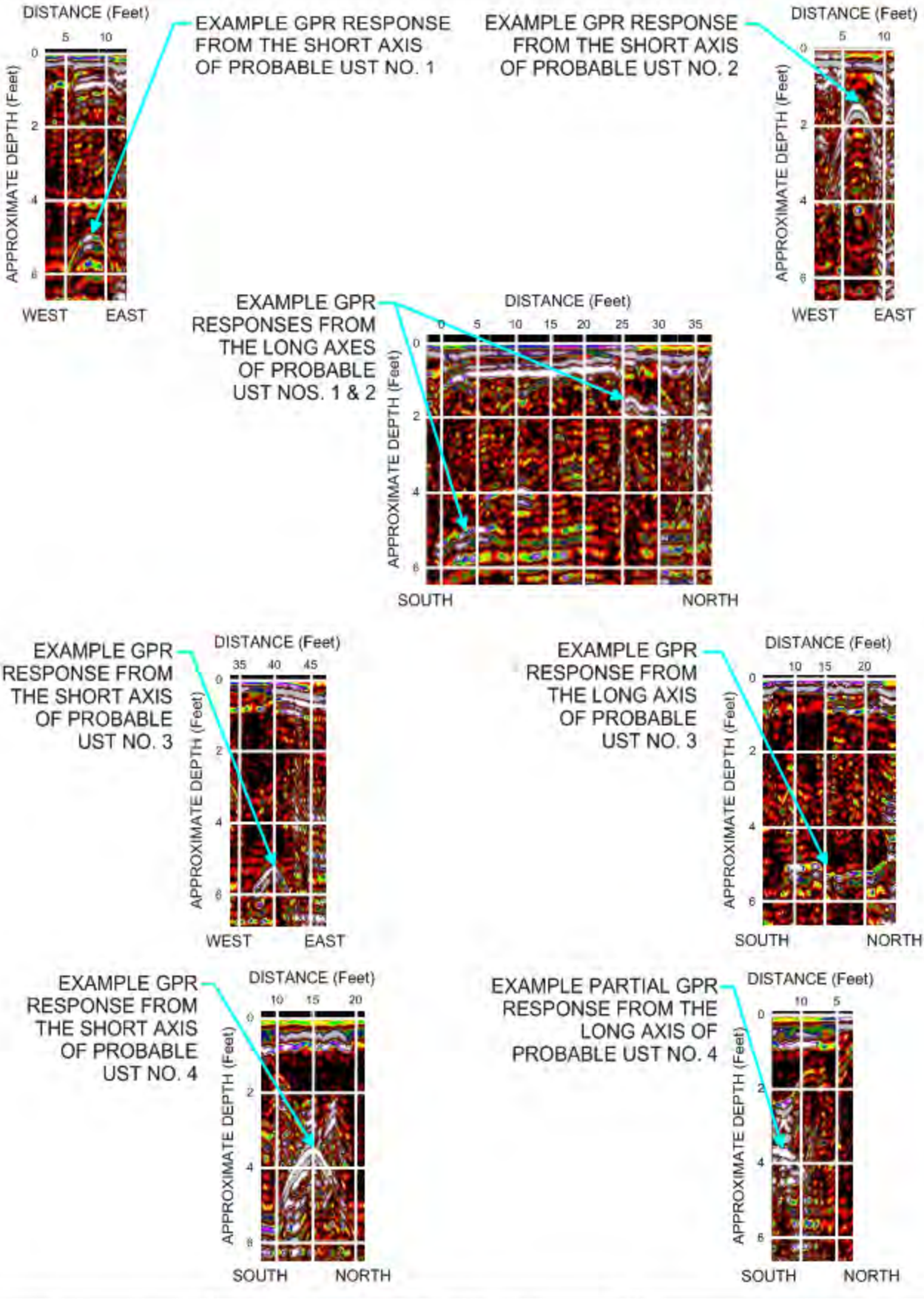
STATE PROJECT B-4490
NC DEPARTMENT OF TRANSPORTATION
CUMBERLAND COUNTY, NC
PROJECT NO. 11821014.33

EM61
DIFFERENTIAL
RESPONSE

FIGURE 4



Schnabel ENGINEERING

STATE PROJECT B-4490
NC DEPARTMENT OF TRANSPORTATION
CUMBERLAND COUNTY, NC
PROJECT NO. 11821014.33

PARCEL 007 EXAMPLE GPR IMAGES

FIGURE 5

Parcel 007 (Edmund George Property), looking north. Photo shows approximate marked location of Probable UST No. 1 near the northeast corner of the building on Parcel 007.

Parcel 007 (Edmund George Property), looking north. Photo shows approximate marked location of Probable UST No. 2 near the southeast corner of the building on Parcel 007

Schnabel ENGINEERING	STATE PROJECT B-4490 NC DEPT. OF TRANSPORTATION CUMBERLAND CO., NORTH CAROLINA PROJECT NO. 11821014.33	PARCEL 007 PHOTOS OF PROBABLE UST LOCATIONS FIGURE 6

Parcel 007 (Edmund George Property), looking south. Photo shows approximate marked location of Probable UST No. 3 near the southeast corner of the building on Parcel 007.

Parcel 007 (Edmund George Property), looking north. Photo shows approximate marked location of Probable UST No. 4 near the southeast corner of the building on Parcel 007

Schnabel ENGINEERING	STATE PROJECT B-4490 NC DEPT. OF TRANSPORTATION CUMBERLAND CO., NORTH CAROLINA PROJECT NO. 11821014.33	PARCEL 007 ADDITIONAL PHOTOS OF PROBABLE UST LOCATIONS FIGURE 7

APPENDIX C

SOIL BORING LOGS

Schnabel ENGINEERING

GEO PROBE LOG

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: B-07-01
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina

Contractor Foreman: W. Hall

Schnabel Representative: B. Bradley

Equipment: Geoprobe 7822DT

Method: 3-1/4" Probe Rod,
Macrocore

Hammer Type:

Dates Started: 2/18/14 **Finished:** 2/18/14

X: 477183.635 m **Y:** 2033545.193 m

Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/18	2:51 PM	8.0'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.2	Asphalt							
	PROBABLE FILL, sampled as clayey sand; moist, reddish brown	FILL					PID = 4.4 ppm	
4.0	SILTY SAND; wet, dark grayish brown, probable RESIDUAL material	SM			5		PID = 3.9 ppm PID = 4.1 ppm	
8.0	SILTY SAND WITH GRAVEL; moist, yellowish brown, probable RESIDUAL material	SM					PID = 4.7 ppm	
10.0					10		PID = 5.3 ppm	

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

Schnabel ENGINEERING **GEO PROBE LOG**

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: **B-07-02**
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina
Contractor Foreman: W. Hall
Schnabel Representative: B. Bradley
Equipment: Geoprobe 7822DT
Method: 3-1/4" Probe Rod,
Macrocore
Hammer Type:
Dates Started: 2/18/14 **Finished:** 2/18/14
X: 477155.086 m **Y:** 2033534.507 m
Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/18	4:25 PM	8.0'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.2	Asphalt							
	PROBABLE FILL, sampled as silty sand; moist, brownish gray	FILL					PID = 6.1 ppm	
4.0	SILTY SAND; wet, grayish brown, probable RESIDUAL material	SM			5		PID = 481 ppm	Staining and odor present
							PID = 1469 ppm	
						B-07-02 8 FT	PID = 1325 ppm	
10.0					10		PID = 672 ppm	

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

Schnabel ENGINEERING

GEO PROBE LOG

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: B-07-03
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina

Contractor Foreman: W. Hall

Schnabel Representative: B. Bradley

Equipment: Geoprobe 7822DT

Method: 3-1/4" Probe Rod,
Macrocore

Hammer Type:

Dates Started: 2/18/14 **Finished:** 2/18/14

X: 477155.011 m **Y:** 2033552.164 m

Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/18	4:40 PM	8.0'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.2	Asphalt							
	PROBABLE FILL, sampled as silty sand; moist, orangeish brown	FILL					PID = 10.1 ppm	
3.0	SILTY SAND; moist, gray, probable RESIDUAL material	SM					PID = 12.2 ppm	
5.0	SILTY SAND; wet, dark grayish black, estimated 15 - 25% organics, probable RESIDUAL material	SM			5		PID = 6.4 ppm	
7.0	SILTY SAND; moist, orangeish brown, estimated 5 - 10% gravel, probable RESIDUAL material ▽	SM					PID = 7.5 ppm	Staining and odor present
10.0					10		PID = 921 ppm	

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

Schnabel ENGINEERING

GEO PROBE LOG

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: **B-07-04**
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina

Contractor Foreman: W. Hall

Schnabel Representative: B. Bradley

Equipment: Geoprobe 7822DT

Method: 3-1/4" Probe Rod,
Macrocore

Hammer Type:

Dates Started: 2/18/14 **Finished:** 2/18/14

X: 477142.642 m **Y:** 2033517.66 m

Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/18	3:27 PM	8.0'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.1	Asphalt							
	PROBABLE FILL, sampled as silty sand; moist, light yellowish brown	FILL					PID = 8.4 ppm	Odor present
3.0	PROBABLE FILL, sampled as silty sand; moist, dark brownish gray	FILL					PID = 15.3 ppm	
					5			
6.0	SILTY SAND; moist, gray, probable RESIDUAL material	SM					PID = 15.3 ppm	
							PID = 10.3 ppm	
					10		PID = 11.5 ppm	
10.0								

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

Schnabel ENGINEERING **GEO PROBE LOG**

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: **B-07-05**
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina
Contractor Foreman: W. Hall
Schnabel Representative: B. Bradley
Equipment: Geoprobe 7822DT
Method: 3-1/4" Probe Rod,
Macrocore
Hammer Type:
Dates Started: 2/18/14 **Finished:** 2/18/14
X: 477131.229 m **Y:** 2033503.932 m
Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/18	3:38 PM	8.0'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
1.0	PROBABLE FILL, sampled as silty sand with gravel; dry, light brown, estimated 5 - 10% gravel	FILL						
	PROBABLE FILL, sampled as silty lean clay with sand; moist, dark grayish orange, low plasticity	FILL					PID = 2.8 ppm	
3.5	PROBABLE FILL, sampled as silty sand; moist, dark grayish black, estimated <5% organics	FILL					PID = 14.2 ppm	
5.0	PROBABLE FILL, sampled as silty sand; moist, light orangeish brown	FILL			5		PID = 4.4 ppm	
7.5	SILTY SAND; moist, gray, probable RESIDUAL material ▽	SM					PID = 8.2 ppm	
10.0					10		PID = 5.4 ppm	

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

Schnabel ENGINEERING **GEO PROBE LOG**

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: **B-07-06**
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina

Contractor Foreman: W. Hall

Schnabel Representative: B. Bradley

Equipment: Geoprobe 7822DT

Method: 3-1/4" Probe Rod,
Macrocore

Hammer Type:

Dates Started: 2/18/14 **Finished:** 2/18/14

X: 477111.992 m **Y:** 2033529.964 m

Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/18	3:53 PM	8.0'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.3	Asphalt							
	PROBABLE FILL, sampled as clayey sand with silt; moist, light yellowish gray	FILL					PID = 2.9 ppm	
							PID = 3.5 ppm	
					5		PID = 7.2 ppm	Odor present
							PID = 11 ppm	
10.0					10	B-07-06 10 FT	PID = 33.5 ppm	

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

Schnabel ENGINEERING

GEO PROBE LOG

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: **B-07-07**
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina

Contractor Foreman: W. Hall

Schnabel Representative: B. Bradley

Equipment: Geoprobe 7822DT

Method: 3-1/4" Probe Rod,
Macrocore

Hammer Type:

Dates Started: 2/25/14 **Finished:** 2/25/14

X: 477115.327 m **Y:** 2033478.811 m

Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/18	5:02 PM	8.0'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.2	Asphalt							
	PROBABLE FILL, sampled as sand with gravel; moist, orangeish brown	FILL						
2.0	CLAYEY SAND; moist, orangeish brown, probable RESIDUAL material	SC					PID = 7.7 ppm	
4.0	SILTY SAND; wet, black, estimated 30 - 45% organics, probable RESIDUAL material	SM			5		PID = 10.7 ppm	
6.0	SILTY SAND; moist to wet, grayish white, probable RESIDUAL material	SM					PID = 7.0 ppm	
							PID = 6.8 ppm	
10.0					10		PID = 7.6 ppm	

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

TEST BORING LOG PSA.GPJ SCHNABEL DATA TEMPLATE 2008_07_06.GDT 3/27/14

Schnabel ENGINEERING **GEO PROBE LOG**

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: **B-07-08**
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina

Contractor Foreman: W. Hall

Schnabel Representative: B. Bradley

Equipment: Geoprobe 7822DT

Method: 3-1/4" Probe Rod,
Macrocore

Hammer Type:

Dates Started: 2/20/14 **Finished:** 2/20/14

X: 477150.064 m **Y:** 2033462.598 m

Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/20	9:04 AM	8.0'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.2	PROBABLE FILL, sampled as silty sand with clay; moist, orangeish gray	FILL						
2.0	FAT CLAY; moist, orangeish gray, estimated 15 - 25% organics, probable RESIDUAL material, 2 inch organic layer from 4.9 to 5.1	CH					PID = 0.0 ppm	
					5		PID = 0.0 ppm	
6.0	SILTY SAND; wet, light grayish white, probable RESIDUAL material ▽	SM					PID = 0.0 ppm	
							PID = 0.0 ppm	
10.0					10		PID = 0.0 ppm	

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

Schnabel ENGINEERING **GEO PROBE LOG**

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: **B-07-09**
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina

Contractor Foreman: W. Hall

Schnabel Representative: B. Bradley

Equipment: Geoprobe 7822DT

Method: 3-1/4" Probe Rod,
Macrocore

Hammer Type:

Dates Started: 2/20/14 **Finished:** 2/20/14

X: 477120.503 m **Y:** 2033541.414 m

Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/20	9:18 AM	8.5'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.2	Asphalt							
	PROBABLE FILL, sampled as sandy lean clay; moist, orangeish brown	FILL						
2.0	PROBABLE FILL, sampled as sandy lean clay; wet, light gray to dark brownish gray, estimated <5% wood, high plasticity	FILL			5		PID = 8.1 ppm PID = 1134 ppm PID = 92.7 ppm PID = 4.5 ppm	Staining and odor present
9.0	SILTY SAND; wet, light grayish white, probable RESIDUAL material	SM			10		PID = 1.7 ppm	
10.0								

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

Schnabel ENGINEERING

GEO PROBE LOG

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: **B-07-10**
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina

Contractor Foreman: W. Hall

Schnabel Representative: B. Bradley

Equipment: Geoprobe 7822DT

Method: 3-1/4" Probe Rod,
Macrocore

Hammer Type:

Dates Started: 2/20/14 **Finished:** 2/20/14

X: 477140.209 m **Y:** 2033536.082 m

Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/20	9:27 AM	8.5'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
0.2	Asphalt							
	PROBABLE FILL, sampled as silty sand; moist, orangeish brown	FILL					PID = 5.4 ppm	
1.5	PROBABLE FILL, sampled as silty sand with clay; wet, light gray						PID = 10.4 ppm	
		FILL			5		PID = 8.1 ppm	
							PID = 270 ppm	
10.0					10		PID = 6.6 ppm	

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

TEST BORING LOG PSA.GPJ SCHNABEL DATA TEMPLATE 2008_07_06.GDT 3/27/14

Schnabel ENGINEERING

GEO PROBE LOG

Project: Preliminary Site Assessments
Cumberland County
Fayetteville, North Carolina

Geo Probe Number: B-07-11
Contract Number: B-4490
Sheet: 1 of 1

Contractor: Saedacco, Inc.
Fort Mill, South Carolina

Contractor Foreman: W. Hall

Schnabel Representative: B. Bradley

Equipment: Geoprobe 7822DT

Method: 3-1/4" Probe Rod,
Macrocore

Hammer Type:

Dates Started: 2/20/14 **Finished:** 2/20/14

X: 477122.654 m **Y:** 2033571.249 m

Ground Surface Elevation: **Total Depth:** 10.0 ft

Groundwater Observations

	Date	Time	Depth	Casing	Caved
Encountered ▽	2/20	9:22 AM	8.5'	---	---

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	TESTS	REMARKS
	SILTY SAND WITH CLAY; wet, orangeish gray to light brownish gray, probable RESIDUAL material, Boring nearest stream	SM			5		PID = 0.0 ppm PID = 0.0 ppm PID = 1.0 ppm PID = 0.0 ppm	
10.0					10		PID = 0.0 ppm	

Bottom of Geo Probe at 10.0 ft.
Boring terminated at selected depth.
Boring backfilled with bentonite and cuttings upon completion.

APPENDIX D

SOIL BORING GPS COORDINATES

SOIL BORING GPS COORDINATES
NCDOT B-4490, CUMBERLAND COUNTY

Soil Boring GPS Coordinates		
Boring Identification	Easting	Northing
	X	Y
B-07-01	2033545.193	477183.635
B-07-02	2033534.507	477155.086
B-07-03	2033552.164	477155.011
B-07-04	2033517.660	477142.642
B-07-05	2033503.932	477131.229
B-07-06	2033529.964	477111.992
B-07-07	2033478.811	477115.327
B-07-08	2033462.598	477150.064
B-07-09	2033541.414	477120.503
B-07-10	2033536.082	477140.209
B-07-11	2033571.249	477122.654

* NC State Plane 1983 System, NC 3200 Zone,
NAD 83 Datum, US Survey Feet

APPENDIX E

UVF ANALYSIS RESULTS

Hydrocarbon Analysis Results

Client: NCDOT
Address:

Samples taken
Samples extracted
Samples analysed

Contact:

Operator

Project: FAYETTEVILLE PSAS B-4490

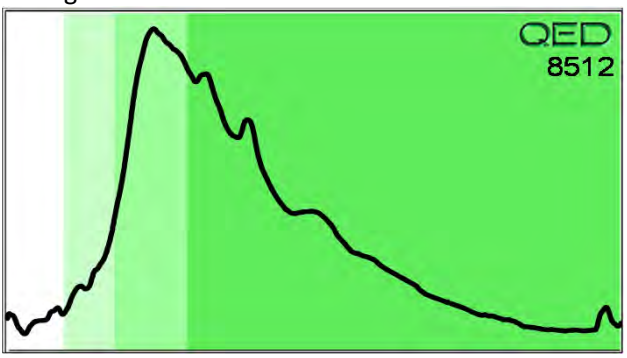
Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	Ratios			HC Fingerprint Match
										% light	% mid	% heavy	
s	B-07-04 4 FT	19.0	<0.2	<0.2	7.3	7.3	6.7	0.38	<0.01	46.4	33.1	20.5	V.Deg.PHC 87.2%
s	B-07-04 6 FT	24.0	3.6	3.6	<0.6	3.6	0.24	0.03	0.024	93.8	1.6	4.5	Background Organics (P)
s	B-07-04 8 FT	20.0	0.89	0.89	<0.5	0.89	0.19	<0.1	<0.01	82.9	2.7	14.4	Background Organics (P)
s	B-07-04 10 FT	13.0	<0.1	<0.1	<0.3	<0.3	0.04	<0.1	<0.01	0	0	100	Background Organics (P)
s	B-07-05 4 FT	17.0	<0.2	<0.2	<0.4	<0.4	0.13	<0.1	<0.01	0	20.1	79.9	Background Organics (P)
s	B-07-06 8 FT	19.0	<0.2	<0.2	2.6	2.6	0.61	0.02	<0.01	0	34.1	65.9	Deg.Fuel (FCM) (P) 59.6%
s	B-07-06 10 FT	17.0	<0.2	<0.2	<0.4	<0.4	0.16	0.02	0.016	0	32.9	67.1	PAH (P)
s	B-07-02 4 FT	16.0	<0.2	<0.2	31.4	31.4	14.4	0.49	0.014	60	31.4	8.7	Deg.Fuel (FCM) 83.6%
s	B-07-02 6 FT	19.0	<0.2	6.7	9.6	16.3	6.3	0.16	0.018	84.5	6.7	8.9	motor oil (FCM) 43.7%
s	B-07-02 8 FT	20.0	95.7	157	308	465	123	4	0.11	80.7	17.6	1.7	motor oil (FCM) 66.7%

Initial Calibrator QC check OK

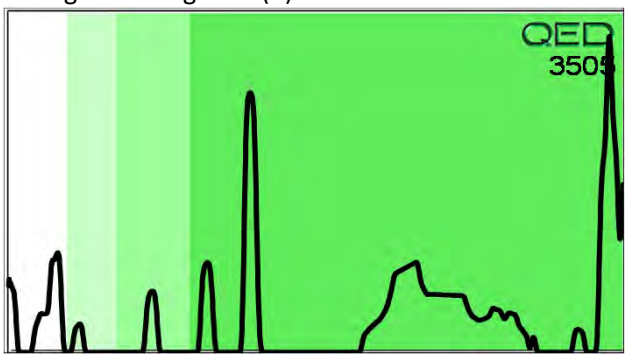
Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

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

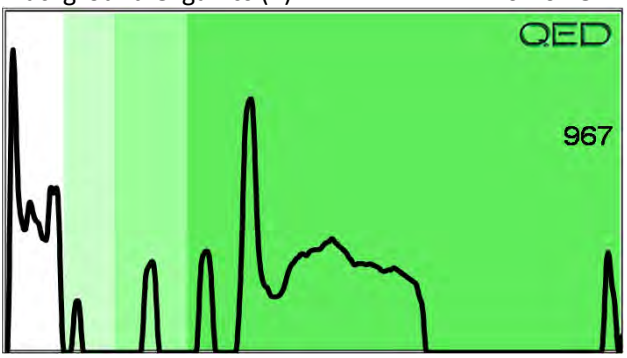
V.Deg.PHC 87.2% B-07-04 4 FT



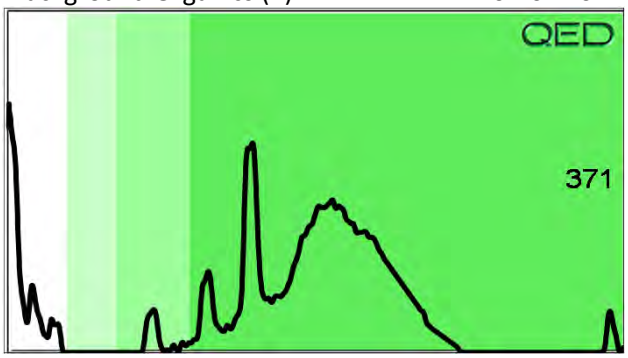
Background Organics (P) B-07-04 6 FT



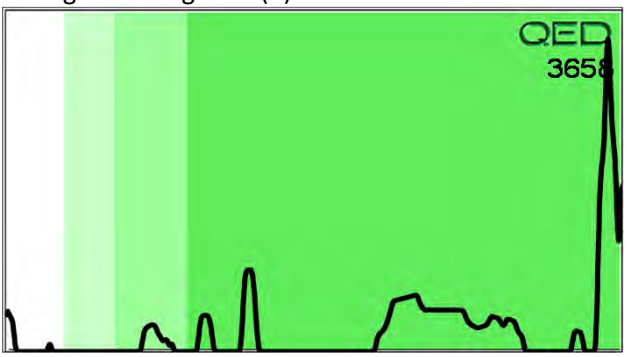
Background Organics (P) B-07-04 8 FT



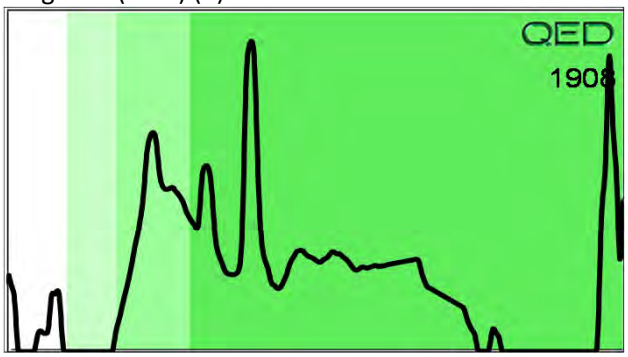
Background Organics (P) B-07-04 10 FT



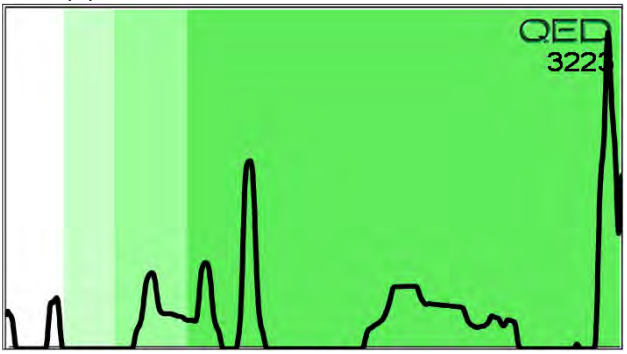
Background Organics (P) B-07-05 4 FT



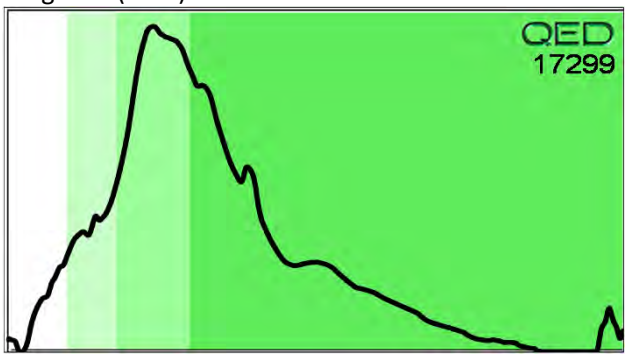
Deg.Fuel (FCM) (P) 59.6% B-07-06 8 FT



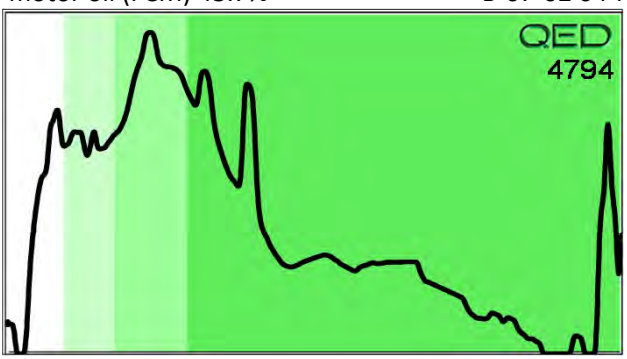
PAH (P) B-07-06 10 FT



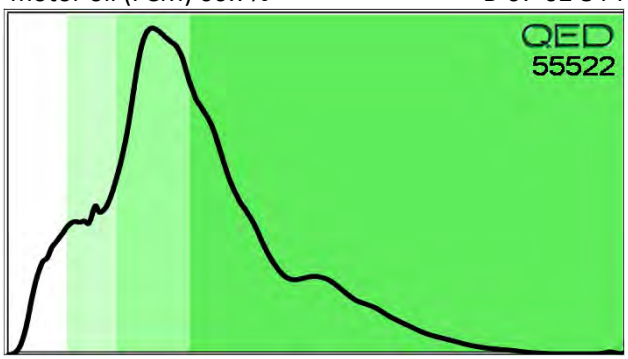
Deg.Fuel (FCM) 83.6% B-07-02 4 FT



motor oil (FCM) 43.7% B-07-02 6 FT



motor oil (FCM) 66.7% B-07-02 8 FT



Hydrocarbon Analysis Results

Client: NCDOT
Address:

Samples taken
Samples extracted
Samples analysed

Contact:

Operator

Project: FAYETTEVILLE PSAS 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	B-07-02 10 FT	19.0	<0.2	<0.2	12.9	12.9	2.6	0.09	<0.01	81.4	14.7	3.9	Deg.Fuel 75.7%
s	B-07-03 2 FT	20.0	<0.2	<0.2	<0.5	<1	<0.1	<0.1	<0.01	0	0	100	TPH not detected (P)
s	B-07-03 4 FT	19.0	<0.2	<0.2	<0.5	<1	<0.1	<0.1	<0.01	0	0	100	TPH not detected
s	B-07--03 10 FT	15.0	27.9	55.3	154	209.3	52.9	1.6	0.022	96.8	2.9	0.3	Deg.Kerosene + Deg.Gas (FCM) (FCM) 57.8%

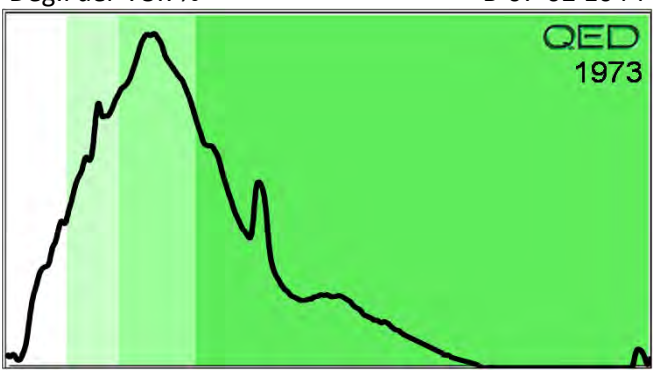
Initial Calibrator QC check OK

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

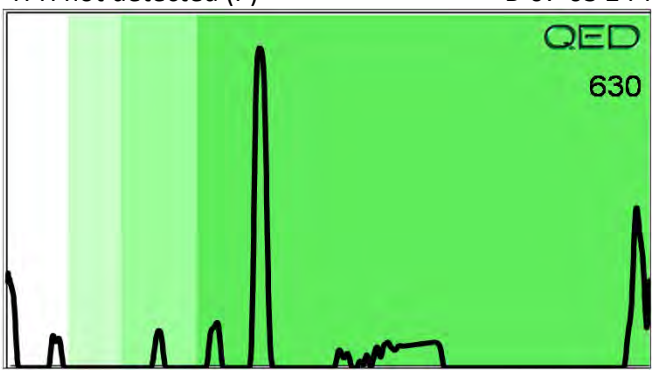
Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present

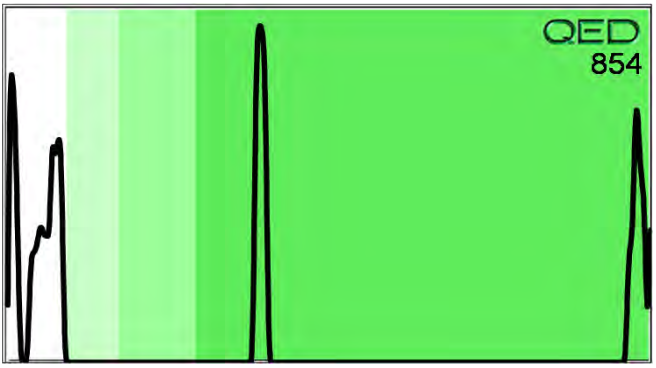
Deg.Fuel 75.7% B-07-02 10 FT



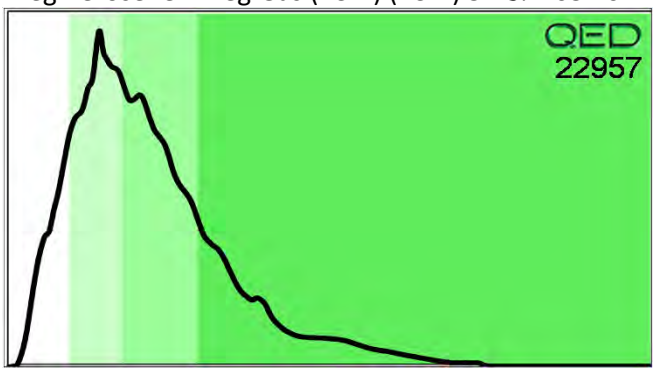
TPH not detected (P) B-07-03 2 FT



TPH not detected B-07-03 4 FT



Deg.Kerosene + Deg.Gas (FCM) (FCM) 5[illegible]7-87--03 10 FT



Hydrocarbon Analysis Results

Client: NCDOT
Address:

Samples taken
Samples extracted
Samples analysed

Contact:

Operator BLB

Project: FAYETTEVILLE PSAS, B-4490

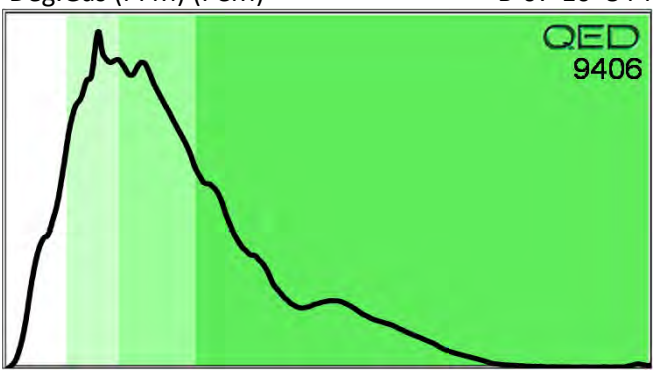
Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	Ratios			HC Fingerprint Match
										% light	% mid	% heavy	
s	B-07-10 8 FT	20.0	21.8	35.1	13.5	48.6	23.3	<0.1	<0.01	95.7	3.3	1.1	Deg.Gas (PFM) (FCM)
s	B-07-09 4 FT	20.0	94.9	153	48.4	201.4	37.6	1.07	0.032	98.6	1.2	0.2	Deg.Gas (FCM) 65.7%
w	B-20-02	1.0	<0.025	<0.025	#DIV/0!	#DIV/0!	0.01	<0.005	<0.005	0	0	100	#DIV/0!

Initial Calibrator QC check OK

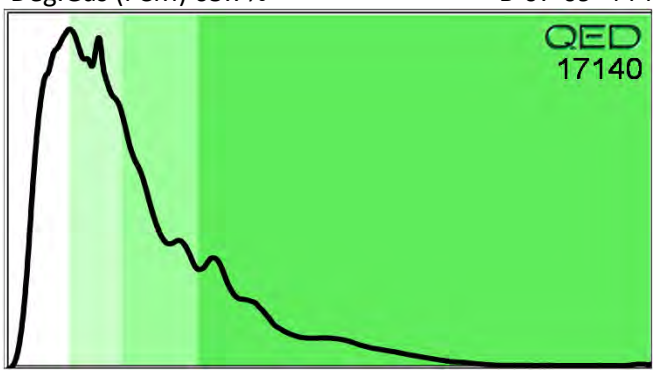
Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

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

Deg.Gas (PFM) (FCM) B-07-10 8 FT



Deg.Gas (FCM) 65.7% B-07-09 4 FT



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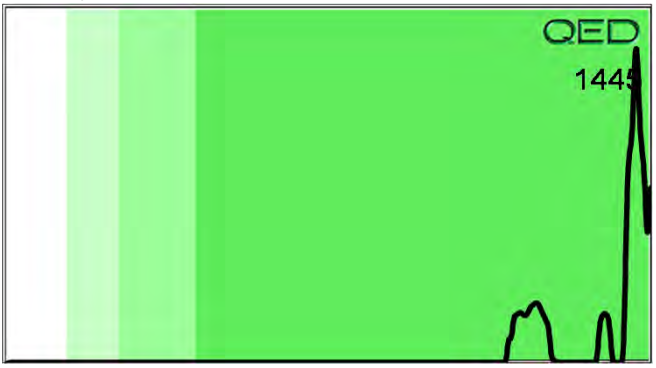

APPENDIX F

LABORATORY ANALYTICAL RESULTS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

March 08, 2014

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

RE: Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Dear Chemical Engineer:
Enclosed are the analytical results for sample(s) received by the laboratory on February 20, 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.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Ben Bradley, Schnabel Engineering

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Indiana Certification IDs
7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas Certification #: E-10247
Kentucky UST Certification #: 0042
Louisiana/NELAP Certification #: 04076
Ohio VAP Certification #: CL-0065
Pennsylvania Certification #: 68-04991
West Virginia Certification #: 330

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

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92190355001	**B-13-01 6FT**	EPA 8015 Modified	NU1	2	PASI-C
		EPA 8015 Modified	GAW	2	PASI-C
		ASTM D2974-87	LLW	1	PASI-C
92190355002	**DUPLICATE -1**	EPA 8015 Modified	NU1	2	PASI-C
		EPA 8015 Modified	GAW	2	PASI-C
		ASTM D2974-87	LLW	1	PASI-C
92190355003	**B-16/17-01**	EPA 8015 - Alcohol-Glycol	CEM	1	PASI-I
		MADEP EPH	EJK	7	PASI-C
		MADEP VPH	GAW	5	PASI-C
		EPA 6010	JMW	2	PASI-A
		EPA 625	RES	58	PASI-C
		SM 6200B	CAH	64	PASI-C
		EPA 8260	MCK	63	PASI-C
92190355004	**B-18-01**	EPA 8015 - Alcohol-Glycol	CEM	1	PASI-I
		MADEP EPH	EJK	7	PASI-C
		MADEP VPH	GAW	5	PASI-C
		EPA 6010	JMW	2	PASI-A
		EPA 625	RES	60	PASI-C
		SM 6200B	CAH	64	PASI-C
		EPA 8260	MCK	63	PASI-C
92190355005	**DUPLICATE-2**	EPA 8015 - Alcohol-Glycol	CEM	1	PASI-I
		MADEP EPH	EJK	7	PASI-C
		MADEP VPH	GAW	5	PASI-C
		EPA 6010	JMW	2	PASI-A
		EPA 625	RES	59	PASI-C
		SM 6200B	CAH	64	PASI-C
		EPA 8260	MCK	63	PASI-C
92190355006	**B-07-02 8'**	EPA 8015 Modified	NU1	2	PASI-C
		MADEP EPH	EJK	7	PASI-C
		EPA 8015 Modified	GAW	2	PASI-C
		MADEP VPH	GAW	5	PASI-C
		EPA 6010	JMW	2	PASI-A
		EPA 8270	RES	74	PASI-C
		EPA 8260	DLK	70	PASI-C
		ASTM D2974-87	LLW	1	PASI-C
92190355007	**B-07-06 10'**	EPA 8015 Modified	NU1	2	PASI-C
		MADEP EPH	EJK	7	PASI-C

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8015 Modified	GAW	2	PASI-C
		MADEP VPH	GAW	5	PASI-C
		EPA 6010	JMW	2	PASI-A
		EPA 8270	RES	74	PASI-C
		EPA 8260	DLK	70	PASI-C
		ASTM D2974-87	LLW	1	PASI-C

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **EPA 8015 Modified**
Description: 8015 GCS THC-Diesel
Client: NCDOT South East
Date: March 08, 2014

General Information:
4 samples were analyzed for EPA 8015 Modified. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/26002

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92189902002

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1141207)
  - Diesel Components
- MSD (Lab ID: 1141208)
  - Diesel Components

R1: RPD value was outside control limits.

- MSD (Lab ID: 1141208)
  - Diesel Components
  - n-Pentacosane (S)

Additional Comments:

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **EPA 8015 - Alcohol-Glycol**
Description: 8015M Glycols in water
Client: NCDOT South East
Date: March 08, 2014

General Information:
3 samples were analyzed for EPA 8015 - Alcohol-Glycol. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **MADEP EPH**
Description: MADEP EPH NC Soil
Client: NCDOT South East
Date: March 08, 2014

General Information:
2 samples were analyzed for MADEP EPH. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with MADEP EPH with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/26076

S4: Surrogate recovery not evaluated against control limits due to sample dilution.
- B-07-02 8' (Lab ID: 92190355006)
  - Nonatriacontane (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: OEXT/26076

N2: The lab does not hold TNI accreditation for this parameter.
- B-07-02 8' (Lab ID: 92190355006)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)
  - Aromatic (C11-C22)
- B-07-06 10' (Lab ID: 92190355007)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **MADEP EPH**
Description: MADEP EPH NC Soil
Client: NCDOT South East
Date: March 08, 2014

Analyte Comments:

QC Batch: OEXT/26076

N2: The lab does not hold TNI accreditation for this parameter.

- B-07-06 10' (Lab ID: 92190355007)
  - Aromatic (C11-C22)
- BLANK (Lab ID: 1143989)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)
  - Aromatic (C11-C22)
- LCS (Lab ID: 1143990)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)
  - Aromatic (C11-C22)
- LCSD (Lab ID: 1143991)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)
  - Aromatic (C11-C22)

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **MADEP EPH**
Description: MADEP EPH NC Water
Client: NCDOT South East
Date: March 08, 2014

General Information:
3 samples were analyzed for MADEP EPH. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with MADEP EPH with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: OEXT/26031

N2: The lab does not hold TNI accreditation for this parameter.

- B-16/17-01 (Lab ID: 92190355003)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)
  - Aromatic (C11-C22)
- B-18-01 (Lab ID: 92190355004)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)
  - Aromatic (C11-C22)
- BLANK (Lab ID: 1142333)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **MADEP EPH**
Description: MADEP EPH NC Water
Client: NCDOT South East
Date: March 08, 2014

Analyte Comments:

QC Batch: OEXT/26031

N2: The lab does not hold TNI accreditation for this parameter.

- BLANK (Lab ID: 1142333)
  - Aromatic (C11-C22)
- DUPLICATE-2 (Lab ID: 92190355005)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)
  - Aromatic (C11-C22)
- LCS (Lab ID: 1142334)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)
  - Aromatic (C11-C22)
- LCSD (Lab ID: 1142335)
  - Aliphatic (C09-C18)
  - Aliphatic (C19-C36)
  - Aromatic (C11-C22)

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **EPA 8015 Modified**
Description: Gasoline Range Organics
Client: NCDOT South East
Date: March 08, 2014

General Information:
4 samples were analyzed for EPA 8015 Modified. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 5035A/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **MADEP VPH**
Description: VPH NC Soil
Client: NCDOT South East
Date: March 08, 2014

General Information:
2 samples were analyzed for MADEP VPH. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with MADEP VPH with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: GCV/7860

S1: Surrogate recovery outside laboratory control limits (confirmed by re-analysis).

- B-07-02 8' (Lab ID: 92190355006)
  - 4-Bromofluorobenzene (FID) (S)
  - 4-Bromofluorobenzene (PID) (S)
- B-07-06 10' (Lab ID: 92190355007)
  - 4-Bromofluorobenzene (FID) (S)
  - 4-Bromofluorobenzene (PID) (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **MADEP VPH**
Description: VPH NC Soil
Client: NCDOT South East
Date: March 08, 2014

Analyte Comments:

QC Batch: GCV/7860

N2: The lab does not hold TNI accreditation for this parameter.

- B-07-02 8' (Lab ID: 92190355006)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)
- B-07-06 10' (Lab ID: 92190355007)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)
- BLANK (Lab ID: 1152103)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)
- LCS (Lab ID: 1152104)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)
- LCSD (Lab ID: 1152105)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **MADEP VPH**
Description: VPH NC Water
Client: NCDOT South East
Date: March 08, 2014

General Information:
3 samples were analyzed for MADEP VPH. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: GCV/7835

N2: The lab does not hold TNI accreditation for this parameter.

- B-16/17-01 (Lab ID: 92190355003)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)
- B-18-01 (Lab ID: 92190355004)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)
- BLANK (Lab ID: 1148658)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **MADEP VPH**
Description: VPH NC Water
Client: NCDOT South East
Date: March 08, 2014

Analyte Comments:

QC Batch: GCV/7835

N2: The lab does not hold TNI accreditation for this parameter.

- DUPLICATE-2 (Lab ID: 92190355005)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)
- LCS (Lab ID: 1148659)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)
- LCSD (Lab ID: 1148660)
  - Aliphatic (C05-C08)
  - Aliphatic (C09-C12)
  - Aromatic (C09-C10)

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **EPA 6010**
Description: 6010 MET ICP
Client: NCDOT South East
Date: March 08, 2014

General Information:
5 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.
The samples were prepared in accordance with EPA 3050 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **EPA 625**
Description: 625 MSSV
Client: NCDOT South East
Date: March 08, 2014

General Information:
3 samples were analyzed for EPA 625. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 625 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/26010

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92190065001

R1: RPD value was outside control limits.

- MSD (Lab ID: 1141553)
  - 2,4-Dimethylphenol
  - 2-Chlorophenol
  - N-Nitroso-di-n-propylamine
  - Phenol
  - bis(2-Chloroisopropyl) ether

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **EPA 8270**
Description: 8270 MSSV Microwave
Client: NCDOT South East
Date: March 08, 2014

General Information:
2 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/26015

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- B-07-02 8' (Lab ID: 92190355006)
  - Nitrobenzene-d5 (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: OEXT/26015

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- B-07-02 8' (Lab ID: 92190355006)
  - Nitrobenzene-d5 (S)

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **SM 6200B**
Description: 6200B MSV
Client: NCDOT South East
Date: March 08, 2014

General Information:
3 samples were analyzed for SM 6200B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/25905

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92190689006

R1: RPD value was outside control limits.

- MSD (Lab ID: 1145844)
  - 1,2,3-Trichloropropane
  - 1,2-Dibromo-3-chloropropane
  - Ethanol

Additional Comments:

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **EPA 8260**
Description: 8260 MSV Low Level
Client: NCDOT South East
Date: March 08, 2014

General Information:
3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **EPA 8260**
Description: 8260/5035A Volatile Organics
Client: NCDOT South East
Date: March 08, 2014

General Information:
2 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/25855

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.

- LCS (Lab ID: 1142404)
  - Bromomethane
  - Methylene Chloride

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: MSV/25855

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- B-07-06 10' (Lab ID: 92190355007)
  - Dichlorodifluoromethane

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

PROJECT NARRATIVE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Method: **EPA 8260**
Description: 8260/5035A Volatile Organics
Client: NCDOT South East
Date: March 08, 2014

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-13-01 6FT **Lab ID: 92190355001** Collected: 02/19/14 14:15 Received: 02/20/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	**178**	mg/kg	6.2	1	02/20/14 16:30	02/21/14 15:40	68334-30-5	
Surrogates								
n-Pentacosane (S)	56	%	41-119	1	02/20/14 16:30	02/21/14 15:40	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	**24.0**	mg/kg	5.3	1	02/21/14 09:04	02/21/14 16:26	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	124	%	70-167	1	02/21/14 09:04	02/21/14 16:26	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**19.5**	%	0.10	1		03/03/14 11:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: DUPLICATE -1 **Lab ID: 92190355002** Collected: 02/19/14 00:00 Received: 02/20/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	**486**	mg/kg	12.0	2	02/20/14 16:30	02/21/14 17:43	68334-30-5	
Surrogates								
n-Pentacosane (S)	69	%	41-119	2	02/20/14 16:30	02/21/14 17:43	629-99-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	**36.8**	mg/kg	4.8	1	02/21/14 09:04	02/21/14 17:35	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	147	%	70-167	1	02/21/14 09:04	02/21/14 17:35	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.9**	%	0.10	1		03/03/14 11:58		

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ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-16/17-01 **Lab ID: 92190355003** Collected: 02/19/14 13:00 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015M Glycols in water	Analytical Method: EPA 8015 - Alcohol-Glycol							
Ethylene glycol	ND	mg/L	10.0	1		02/26/14 14:12	107-21-1	
MADEP EPH NC Water	Analytical Method: MADEP EPH Preparation Method: MADEP EPH							
Aliphatic (C09-C18)	ND	ug/L	100	1	02/21/14 10:25	02/24/14 19:13		N2
Aliphatic (C19-C36)	ND	ug/L	100	1	02/21/14 10:25	02/24/14 19:13		N2
Aromatic (C11-C22)	ND	ug/L	100	1	02/21/14 10:25	02/24/14 19:13		N2
Surrogates								
Nonatriacontane (S)	52	%	40-140	1	02/21/14 10:25	02/24/14 19:13	7194-86-7	
o-Terphenyl (S)	59	%	40-140	1	02/21/14 10:25	02/24/14 19:13	84-15-1	
2-Fluorobiphenyl (S)	43	%	40-140	1	02/21/14 10:25	02/24/14 19:13	321-60-8	
2-Bromonaphthalene (S)	62	%	40-140	1	02/21/14 10:25	02/24/14 19:13	580-13-2	
VPH NC Water	Analytical Method: MADEP VPH							
Aliphatic (C05-C08)	ND	ug/L	50.0	1		03/02/14 01:35		N2
Aliphatic (C09-C12)	ND	ug/L	50.0	1		03/02/14 01:35		N2
Aromatic (C09-C10)	ND	ug/L	50.0	1		03/02/14 01:35		N2
Surrogates								
4-Bromofluorobenzene (FID) (S)	90	%	70-130	1		03/02/14 01:35	460-00-4	
4-Bromofluorobenzene (PID) (S)	84	%	70-130	1		03/02/14 01:35	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Chromium	**5.8**	ug/L	5.0	1	02/21/14 10:00	02/21/14 22:26	7440-47-3	
Lead	ND	ug/L	5.0	1	02/21/14 10:00	02/21/14 22:26	7439-92-1	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Acenaphthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	83-32-9	
Acenaphthylene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	208-96-8	
Anthracene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	120-12-7	
Benzo(a)anthracene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	56-55-3	
Benzo(a)pyrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	207-08-9	
4-Bromophenylphenyl ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	101-55-3	
Butylbenzylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	85-68-7	
4-Chloro-3-methylphenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	59-50-7	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:24	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	108-60-1	
2-Chloronaphthalene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	91-58-7	
2-Chlorophenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	7005-72-3	
Chrysene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	53-70-3	
3,3'-Dichlorobenzidine	ND	ug/L	25.0	1	02/20/14 13:00	02/28/14 03:24	91-94-1	
2,4-Dichlorophenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	120-83-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-16/17-01 **Lab ID: 92190355003** Collected: 02/19/14 13:00 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Diethylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:24	105-67-9	
Dimethylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	131-11-3	
Di-n-butylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1	02/20/14 13:00	02/28/14 03:24	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	1	02/20/14 13:00	02/28/14 03:24	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	606-20-2	
Di-n-octylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	117-81-7	
Fluoranthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	206-44-0	
Fluorene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	87-68-3	
Hexachlorobenzene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:24	77-47-4	
Hexachloroethane	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	193-39-5	
Isophorone	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:24	78-59-1	
Naphthalene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	91-20-3	
Nitrobenzene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	98-95-3	
2-Nitrophenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	1	02/20/14 13:00	02/28/14 03:24	100-02-7	
N-Nitrosodimethylamine	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:24	86-30-6	
Pentachlorophenol	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:24	87-86-5	
Phenanthrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	85-01-8	
Phenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	108-95-2	
Pyrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:24	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:24	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	39	%	10-120	1	02/20/14 13:00	02/28/14 03:24	4165-60-0	
2-Fluorobiphenyl (S)	37	%	15-120	1	02/20/14 13:00	02/28/14 03:24	321-60-8	
Terphenyl-d14 (S)	69	%	11-131	1	02/20/14 13:00	02/28/14 03:24	1718-51-0	
Phenol-d6 (S)	19	%	10-120	1	02/20/14 13:00	02/28/14 03:24	13127-88-3	
2-Fluorophenol (S)	26	%	10-120	1	02/20/14 13:00	02/28/14 03:24	367-12-4	
2,4,6-Tribromophenol (S)	59	%	10-137	1	02/20/14 13:00	02/28/14 03:24	118-79-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/26/14 21:32	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		02/26/14 21:32	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		02/26/14 21:32	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		02/26/14 21:32	75-27-4	
Bromoform	ND	ug/L	0.50	1		02/26/14 21:32	75-25-2	
Bromomethane	ND	ug/L	5.0	1		02/26/14 21:32	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		02/26/14 21:32	104-51-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-16/17-01 **Lab ID: 92190355003** Collected: 02/19/14 13:00 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
sec-Butylbenzene	ND	ug/L	0.50	1		02/26/14 21:32	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		02/26/14 21:32	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		02/26/14 21:32	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		02/26/14 21:32	108-90-7	
Chloroethane	ND	ug/L	1.0	1		02/26/14 21:32	75-00-3	
Chloroform	ND	ug/L	0.50	1		02/26/14 21:32	67-66-3	
Chloromethane	ND	ug/L	1.0	1		02/26/14 21:32	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		02/26/14 21:32	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		02/26/14 21:32	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/26/14 21:32	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		02/26/14 21:32	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/26/14 21:32	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		02/26/14 21:32	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/26/14 21:32	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/26/14 21:32	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/26/14 21:32	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/26/14 21:32	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		02/26/14 21:32	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		02/26/14 21:32	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		02/26/14 21:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		02/26/14 21:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/26/14 21:32	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		02/26/14 21:32	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		02/26/14 21:32	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		02/26/14 21:32	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		02/26/14 21:32	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/26/14 21:32	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/26/14 21:32	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		02/26/14 21:32	108-20-3	
Ethanol	ND	ug/L	200	1		02/26/14 21:32	64-17-5	
Ethylbenzene	ND	ug/L	0.50	1		02/26/14 21:32	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/26/14 21:32	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/26/14 21:32	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		02/26/14 21:32	75-09-2	
Methyl-tert-butyl ether	**0.87**	ug/L	0.50	1		02/26/14 21:32	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		02/26/14 21:32	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		02/26/14 21:32	103-65-1	
Styrene	ND	ug/L	0.50	1		02/26/14 21:32	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/26/14 21:32	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/26/14 21:32	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		02/26/14 21:32	127-18-4	
Toluene	ND	ug/L	0.50	1		02/26/14 21:32	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		02/26/14 21:32	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		02/26/14 21:32	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		02/26/14 21:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		02/26/14 21:32	79-00-5	
Trichloroethene	**0.57**	ug/L	0.50	1		02/26/14 21:32	79-01-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-16/17-01 **Lab ID: 92190355003** Collected: 02/19/14 13:00 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Trichlorofluoromethane	ND	ug/L	1.0	1		02/26/14 21:32	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		02/26/14 21:32	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		02/26/14 21:32	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		02/26/14 21:32	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		02/26/14 21:32	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		02/26/14 21:32	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		02/26/14 21:32	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	70-130	1		02/26/14 21:32	17060-07-0	
4-Bromofluorobenzene (S)	95	%	70-130	1		02/26/14 21:32	460-00-4	
Toluene-d8 (S)	101	%	70-130	1		02/26/14 21:32	2037-26-5	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		02/22/14 02:55	67-64-1	
Benzene	ND	ug/L	1.0	1		02/22/14 02:55	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		02/22/14 02:55	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		02/22/14 02:55	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		02/22/14 02:55	75-27-4	
Bromoform	ND	ug/L	1.0	1		02/22/14 02:55	75-25-2	
Bromomethane	ND	ug/L	2.0	1		02/22/14 02:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		02/22/14 02:55	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		02/22/14 02:55	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		02/22/14 02:55	108-90-7	
Chloroethane	ND	ug/L	1.0	1		02/22/14 02:55	75-00-3	
Chloroform	ND	ug/L	1.0	1		02/22/14 02:55	67-66-3	
Chloromethane	ND	ug/L	1.0	1		02/22/14 02:55	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		02/22/14 02:55	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		02/22/14 02:55	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		02/22/14 02:55	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		02/22/14 02:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		02/22/14 02:55	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		02/22/14 02:55	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		02/22/14 02:55	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		02/22/14 02:55	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		02/22/14 02:55	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		02/22/14 02:55	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		02/22/14 02:55	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/22/14 02:55	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		02/22/14 02:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/22/14 02:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		02/22/14 02:55	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		02/22/14 02:55	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		02/22/14 02:55	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		02/22/14 02:55	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		02/22/14 02:55	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		02/22/14 02:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		02/22/14 02:55	10061-02-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-16/17-01 **Lab ID: 92190355003** Collected: 02/19/14 13:00 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Diisopropyl ether	ND	ug/L	1.0	1		02/22/14 02:55	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		02/22/14 02:55	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		02/22/14 02:55	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		02/22/14 02:55	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		02/22/14 02:55	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		02/22/14 02:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		02/22/14 02:55	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		02/22/14 02:55	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		02/22/14 02:55	91-20-3	
Styrene	ND	ug/L	1.0	1		02/22/14 02:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		02/22/14 02:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		02/22/14 02:55	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		02/22/14 02:55	127-18-4	
Toluene	ND	ug/L	1.0	1		02/22/14 02:55	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		02/22/14 02:55	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		02/22/14 02:55	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		02/22/14 02:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		02/22/14 02:55	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		02/22/14 02:55	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		02/22/14 02:55	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		02/22/14 02:55	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		02/22/14 02:55	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		02/22/14 02:55	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		02/22/14 02:55	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		02/22/14 02:55	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		02/22/14 02:55	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		02/22/14 02:55	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		02/22/14 02:55	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		02/22/14 02:55	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-18-01 **Lab ID: 92190355004** Collected: 02/19/14 14:30 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015M Glycols in water	Analytical Method: EPA 8015 - Alcohol-Glycol							
Ethylene glycol	ND	mg/L	10.0	1		02/26/14 14:17	107-21-1	
MADEP EPH NC Water	Analytical Method: MADEP EPH Preparation Method: MADEP EPH							
Aliphatic (C09-C18)	ND	ug/L	100	1	02/21/14 10:25	02/24/14 19:45		N2
Aliphatic (C19-C36)	ND	ug/L	100	1	02/21/14 10:25	02/24/14 19:45		N2
Aromatic (C11-C22)	ND	ug/L	100	1	02/21/14 10:25	02/24/14 19:45		N2
Surrogates								
Nonatriacontane (S)	67	%	40-140	1	02/21/14 10:25	02/24/14 19:45	7194-86-7	
o-Terphenyl (S)	50	%	40-140	1	02/21/14 10:25	02/24/14 19:45	84-15-1	
2-Fluorobiphenyl (S)	61	%	40-140	1	02/21/14 10:25	02/24/14 19:45	321-60-8	
2-Bromonaphthalene (S)	74	%	40-140	1	02/21/14 10:25	02/24/14 19:45	580-13-2	
VPH NC Water	Analytical Method: MADEP VPH							
Aliphatic (C05-C08)	ND	ug/L	50.0	1		03/02/14 01:58		N2
Aliphatic (C09-C12)	ND	ug/L	50.0	1		03/02/14 01:58		N2
Aromatic (C09-C10)	ND	ug/L	50.0	1		03/02/14 01:58		N2
Surrogates								
4-Bromofluorobenzene (FID) (S)	85	%	70-130	1		03/02/14 01:58	460-00-4	
4-Bromofluorobenzene (PID) (S)	82	%	70-130	1		03/02/14 01:58	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Chromium	**10.4**	ug/L	5.0	1	02/21/14 10:00	02/21/14 22:29	7440-47-3	
Lead	ND	ug/L	5.0	1	02/21/14 10:00	02/21/14 22:29	7439-92-1	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Acenaphthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	83-32-9	
Acenaphthylene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	208-96-8	
Anthracene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	120-12-7	
Benzo(a)anthracene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	56-55-3	
Benzo(a)pyrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	207-08-9	
4-Bromophenylphenyl ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	101-55-3	
Butylbenzylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	85-68-7	
4-Chloro-3-methylphenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	59-50-7	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:51	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	108-60-1	
2-Chloronaphthalene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	91-58-7	
2-Chlorophenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	7005-72-3	
Chrysene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	53-70-3	
3,3'-Dichlorobenzidine	ND	ug/L	25.0	1	02/20/14 13:00	02/28/14 03:51	91-94-1	
2,4-Dichlorophenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	120-83-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-18-01 **Lab ID: 92190355004** Collected: 02/19/14 14:30 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Diethylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:51	105-67-9	
Dimethylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	131-11-3	
Di-n-butylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1	02/20/14 13:00	02/28/14 03:51	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	1	02/20/14 13:00	02/28/14 03:51	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	606-20-2	
Di-n-octylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	117-81-7	
Fluoranthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	206-44-0	
Fluorene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	87-68-3	
Hexachlorobenzene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:51	77-47-4	
Hexachloroethane	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	193-39-5	
Isophorone	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:51	78-59-1	
Naphthalene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	91-20-3	
Nitrobenzene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	98-95-3	
2-Nitrophenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	1	02/20/14 13:00	02/28/14 03:51	100-02-7	
N-Nitrosodimethylamine	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:51	86-30-6	
Pentachlorophenol	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:51	87-86-5	
Phenanthrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	85-01-8	
Phenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	108-95-2	
Pyrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 03:51	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 03:51	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	48	%	10-120	1	02/20/14 13:00	02/28/14 03:51	4165-60-0	
2-Fluorobiphenyl (S)	48	%	15-120	1	02/20/14 13:00	02/28/14 03:51	321-60-8	
Terphenyl-d14 (S)	68	%	11-131	1	02/20/14 13:00	02/28/14 03:51	1718-51-0	
Phenol-d6 (S)	31	%	10-120	1	02/20/14 13:00	02/28/14 03:51	13127-88-3	
2-Fluorophenol (S)	35	%	10-120	1	02/20/14 13:00	02/28/14 03:51	367-12-4	
2,4,6-Tribromophenol (S)	61	%	10-137	1	02/20/14 13:00	02/28/14 03:51	118-79-6	
Tentatively Identified Compounds								
Unknown	**113**	ug/L		1	02/20/14 13:00	02/28/14 03:51		N
Unknown	**168**	ug/L		1	02/20/14 13:00	02/28/14 03:51		N
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/26/14 21:48	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		02/26/14 21:48	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		02/26/14 21:48	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		02/26/14 21:48	75-27-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-18-01 **Lab ID: 92190355004** Collected: 02/19/14 14:30 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Bromoform	ND	ug/L	0.50	1		02/26/14 21:48	75-25-2	
Bromomethane	ND	ug/L	5.0	1		02/26/14 21:48	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		02/26/14 21:48	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		02/26/14 21:48	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		02/26/14 21:48	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		02/26/14 21:48	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		02/26/14 21:48	108-90-7	
Chloroethane	ND	ug/L	1.0	1		02/26/14 21:48	75-00-3	
Chloroform	ND	ug/L	0.50	1		02/26/14 21:48	67-66-3	
Chloromethane	ND	ug/L	1.0	1		02/26/14 21:48	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		02/26/14 21:48	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		02/26/14 21:48	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/26/14 21:48	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		02/26/14 21:48	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/26/14 21:48	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		02/26/14 21:48	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/26/14 21:48	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/26/14 21:48	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/26/14 21:48	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/26/14 21:48	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		02/26/14 21:48	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		02/26/14 21:48	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		02/26/14 21:48	75-35-4	
cis-1,2-Dichloroethene	**8.7**	ug/L	0.50	1		02/26/14 21:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/26/14 21:48	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		02/26/14 21:48	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		02/26/14 21:48	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		02/26/14 21:48	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		02/26/14 21:48	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/26/14 21:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/26/14 21:48	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		02/26/14 21:48	108-20-3	
Ethanol	ND	ug/L	200	1		02/26/14 21:48	64-17-5	
Ethylbenzene	ND	ug/L	0.50	1		02/26/14 21:48	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/26/14 21:48	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/26/14 21:48	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		02/26/14 21:48	75-09-2	
Methyl-tert-butyl ether	**1.3**	ug/L	0.50	1		02/26/14 21:48	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		02/26/14 21:48	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		02/26/14 21:48	103-65-1	
Styrene	ND	ug/L	0.50	1		02/26/14 21:48	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/26/14 21:48	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/26/14 21:48	79-34-5	
Tetrachloroethene	**28.9**	ug/L	0.50	1		02/26/14 21:48	127-18-4	
Toluene	ND	ug/L	0.50	1		02/26/14 21:48	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		02/26/14 21:48	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		02/26/14 21:48	120-82-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-18-01 **Lab ID: 92190355004** Collected: 02/19/14 14:30 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
1,1,1-Trichloroethane	ND	ug/L	0.50	1		02/26/14 21:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		02/26/14 21:48	79-00-5	
Trichloroethene	**8.8**	ug/L	0.50	1		02/26/14 21:48	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		02/26/14 21:48	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		02/26/14 21:48	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		02/26/14 21:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		02/26/14 21:48	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		02/26/14 21:48	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		02/26/14 21:48	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		02/26/14 21:48	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	70-130	1		02/26/14 21:48	17060-07-0	
4-Bromofluorobenzene (S)	96	%	70-130	1		02/26/14 21:48	460-00-4	
Toluene-d8 (S)	101	%	70-130	1		02/26/14 21:48	2037-26-5	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		02/22/14 03:10	67-64-1	
Benzene	ND	ug/L	1.0	1		02/22/14 03:10	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		02/22/14 03:10	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		02/22/14 03:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		02/22/14 03:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		02/22/14 03:10	75-25-2	
Bromomethane	ND	ug/L	2.0	1		02/22/14 03:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		02/22/14 03:10	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		02/22/14 03:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		02/22/14 03:10	108-90-7	
Chloroethane	ND	ug/L	1.0	1		02/22/14 03:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		02/22/14 03:10	67-66-3	
Chloromethane	ND	ug/L	1.0	1		02/22/14 03:10	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		02/22/14 03:10	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		02/22/14 03:10	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		02/22/14 03:10	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		02/22/14 03:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		02/22/14 03:10	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		02/22/14 03:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		02/22/14 03:10	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		02/22/14 03:10	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		02/22/14 03:10	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		02/22/14 03:10	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		02/22/14 03:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/22/14 03:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		02/22/14 03:10	75-35-4	
cis-1,2-Dichloroethene	**7.4**	ug/L	1.0	1		02/22/14 03:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		02/22/14 03:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		02/22/14 03:10	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		02/22/14 03:10	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		02/22/14 03:10	594-20-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-18-01 **Lab ID: 92190355004** Collected: 02/19/14 14:30 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,1-Dichloropropene	ND	ug/L	1.0	1		02/22/14 03:10	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		02/22/14 03:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		02/22/14 03:10	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		02/22/14 03:10	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		02/22/14 03:10	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		02/22/14 03:10	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		02/22/14 03:10	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		02/22/14 03:10	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		02/22/14 03:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		02/22/14 03:10	108-10-1	
Methyl-tert-butyl ether	**1.1**	ug/L	1.0	1		02/22/14 03:10	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		02/22/14 03:10	91-20-3	
Styrene	ND	ug/L	1.0	1		02/22/14 03:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		02/22/14 03:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		02/22/14 03:10	79-34-5	
Tetrachloroethene	**30.1**	ug/L	1.0	1		02/22/14 03:10	127-18-4	
Toluene	ND	ug/L	1.0	1		02/22/14 03:10	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		02/22/14 03:10	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		02/22/14 03:10	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		02/22/14 03:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		02/22/14 03:10	79-00-5	
Trichloroethene	**9.0**	ug/L	1.0	1		02/22/14 03:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		02/22/14 03:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		02/22/14 03:10	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		02/22/14 03:10	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		02/22/14 03:10	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		02/22/14 03:10	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		02/22/14 03:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		02/22/14 03:10	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		02/22/14 03:10	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		02/22/14 03:10	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		02/22/14 03:10	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: DUPLICATE-2 **Lab ID: 92190355005** Collected: 02/19/14 00:00 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015M Glycols in water	Analytical Method: EPA 8015 - Alcohol-Glycol							
Ethylene glycol	ND	mg/L	10.0	1		02/26/14 14:22	107-21-1	
MADEP EPH NC Water	Analytical Method: MADEP EPH Preparation Method: MADEP EPH							
Aliphatic (C09-C18)	ND	ug/L	100	1	02/21/14 10:25	02/24/14 20:17		N2
Aliphatic (C19-C36)	ND	ug/L	100	1	02/21/14 10:25	02/24/14 20:17		N2
Aromatic (C11-C22)	ND	ug/L	100	1	02/21/14 10:25	02/24/14 20:17		N2
Surrogates								
Nonatriacontane (S)	58	%	40-140	1	02/21/14 10:25	02/24/14 20:17	7194-86-7	
o-Terphenyl (S)	73	%	40-140	1	02/21/14 10:25	02/24/14 20:17	84-15-1	
2-Fluorobiphenyl (S)	83	%	40-140	1	02/21/14 10:25	02/24/14 20:17	321-60-8	
2-Bromonaphthalene (S)	104	%	40-140	1	02/21/14 10:25	02/24/14 20:17	580-13-2	
VPH NC Water	Analytical Method: MADEP VPH							
Aliphatic (C05-C08)	ND	ug/L	50.0	1		03/02/14 02:21		N2
Aliphatic (C09-C12)	ND	ug/L	50.0	1		03/02/14 02:21		N2
Aromatic (C09-C10)	ND	ug/L	50.0	1		03/02/14 02:21		N2
Surrogates								
4-Bromofluorobenzene (FID) (S)	86	%	70-130	1		03/02/14 02:21	460-00-4	
4-Bromofluorobenzene (PID) (S)	83	%	70-130	1		03/02/14 02:21	460-00-4	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Chromium	ND	ug/L	5.0	1	02/21/14 10:00	02/21/14 22:33	7440-47-3	
Lead	ND	ug/L	5.0	1	02/21/14 10:00	02/21/14 22:33	7439-92-1	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Acenaphthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	83-32-9	
Acenaphthylene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	208-96-8	
Anthracene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	120-12-7	
Benzo(a)anthracene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	56-55-3	
Benzo(a)pyrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	207-08-9	
4-Bromophenylphenyl ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	101-55-3	
Butylbenzylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	85-68-7	
4-Chloro-3-methylphenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	59-50-7	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 04:17	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	108-60-1	
2-Chloronaphthalene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	91-58-7	
2-Chlorophenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	7005-72-3	
Chrysene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	53-70-3	
3,3'-Dichlorobenzidine	ND	ug/L	25.0	1	02/20/14 13:00	02/28/14 04:17	91-94-1	
2,4-Dichlorophenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	120-83-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: DUPLICATE-2 **Lab ID: 92190355005** Collected: 02/19/14 00:00 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Diethylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 04:17	105-67-9	
Dimethylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	131-11-3	
Di-n-butylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1	02/20/14 13:00	02/28/14 04:17	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	1	02/20/14 13:00	02/28/14 04:17	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	606-20-2	
Di-n-octylphthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	117-81-7	
Fluoranthene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	206-44-0	
Fluorene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	87-68-3	
Hexachlorobenzene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 04:17	77-47-4	
Hexachloroethane	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	193-39-5	
Isophorone	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 04:17	78-59-1	
Naphthalene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	91-20-3	
Nitrobenzene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	98-95-3	
2-Nitrophenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	1	02/20/14 13:00	02/28/14 04:17	100-02-7	
N-Nitrosodimethylamine	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 04:17	86-30-6	
Pentachlorophenol	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 04:17	87-86-5	
Phenanthrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	85-01-8	
Phenol	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	108-95-2	
Pyrene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1	02/20/14 13:00	02/28/14 04:17	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	1	02/20/14 13:00	02/28/14 04:17	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	42	%	10-120	1	02/20/14 13:00	02/28/14 04:17	4165-60-0	
2-Fluorobiphenyl (S)	44	%	15-120	1	02/20/14 13:00	02/28/14 04:17	321-60-8	
Terphenyl-d14 (S)	79	%	11-131	1	02/20/14 13:00	02/28/14 04:17	1718-51-0	
Phenol-d6 (S)	17	%	10-120	1	02/20/14 13:00	02/28/14 04:17	13127-88-3	
2-Fluorophenol (S)	26	%	10-120	1	02/20/14 13:00	02/28/14 04:17	367-12-4	
2,4,6-Tribromophenol (S)	58	%	10-137	1	02/20/14 13:00	02/28/14 04:17	118-79-6	
Tentatively Identified Compounds								
Tetrachloroethylene	**5.1**	ug/L		1	02/20/14 13:00	02/28/14 04:17	127-18-4	N
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/26/14 22:05	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		02/26/14 22:05	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		02/26/14 22:05	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		02/26/14 22:05	75-27-4	
Bromoform	ND	ug/L	0.50	1		02/26/14 22:05	75-25-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: DUPLICATE-2 **Lab ID: 92190355005** Collected: 02/19/14 00:00 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Bromomethane	ND	ug/L	5.0	1		02/26/14 22:05	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		02/26/14 22:05	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		02/26/14 22:05	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		02/26/14 22:05	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		02/26/14 22:05	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		02/26/14 22:05	108-90-7	
Chloroethane	ND	ug/L	1.0	1		02/26/14 22:05	75-00-3	
Chloroform	ND	ug/L	0.50	1		02/26/14 22:05	67-66-3	
Chloromethane	ND	ug/L	1.0	1		02/26/14 22:05	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		02/26/14 22:05	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		02/26/14 22:05	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/26/14 22:05	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		02/26/14 22:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/26/14 22:05	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		02/26/14 22:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/26/14 22:05	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/26/14 22:05	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/26/14 22:05	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/26/14 22:05	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		02/26/14 22:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		02/26/14 22:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		02/26/14 22:05	75-35-4	
cis-1,2-Dichloroethene	**8.9**	ug/L	0.50	1		02/26/14 22:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/26/14 22:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		02/26/14 22:05	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		02/26/14 22:05	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		02/26/14 22:05	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		02/26/14 22:05	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/26/14 22:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/26/14 22:05	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		02/26/14 22:05	108-20-3	
Ethanol	ND	ug/L	200	1		02/26/14 22:05	64-17-5	
Ethylbenzene	ND	ug/L	0.50	1		02/26/14 22:05	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/26/14 22:05	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/26/14 22:05	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		02/26/14 22:05	75-09-2	
Methyl-tert-butyl ether	**1.4**	ug/L	0.50	1		02/26/14 22:05	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		02/26/14 22:05	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		02/26/14 22:05	103-65-1	
Styrene	ND	ug/L	0.50	1		02/26/14 22:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/26/14 22:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/26/14 22:05	79-34-5	
Tetrachloroethene	**28.1**	ug/L	0.50	1		02/26/14 22:05	127-18-4	
Toluene	ND	ug/L	0.50	1		02/26/14 22:05	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		02/26/14 22:05	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		02/26/14 22:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		02/26/14 22:05	71-55-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: DUPLICATE-2 **Lab ID: 92190355005** Collected: 02/19/14 00:00 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
1,1,2-Trichloroethane	ND	ug/L	0.50	1		02/26/14 22:05	79-00-5	
Trichloroethene	**8.6**	ug/L	0.50	1		02/26/14 22:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		02/26/14 22:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		02/26/14 22:05	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		02/26/14 22:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		02/26/14 22:05	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		02/26/14 22:05	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		02/26/14 22:05	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		02/26/14 22:05	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	70-130	1		02/26/14 22:05	17060-07-0	
4-Bromofluorobenzene (S)	96	%	70-130	1		02/26/14 22:05	460-00-4	
Toluene-d8 (S)	101	%	70-130	1		02/26/14 22:05	2037-26-5	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		02/22/14 03:26	67-64-1	
Benzene	ND	ug/L	1.0	1		02/22/14 03:26	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		02/22/14 03:26	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		02/22/14 03:26	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		02/22/14 03:26	75-27-4	
Bromoform	ND	ug/L	1.0	1		02/22/14 03:26	75-25-2	
Bromomethane	ND	ug/L	2.0	1		02/22/14 03:26	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		02/22/14 03:26	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		02/22/14 03:26	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		02/22/14 03:26	108-90-7	
Chloroethane	ND	ug/L	1.0	1		02/22/14 03:26	75-00-3	
Chloroform	ND	ug/L	1.0	1		02/22/14 03:26	67-66-3	
Chloromethane	ND	ug/L	1.0	1		02/22/14 03:26	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		02/22/14 03:26	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		02/22/14 03:26	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		02/22/14 03:26	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		02/22/14 03:26	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		02/22/14 03:26	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		02/22/14 03:26	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		02/22/14 03:26	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		02/22/14 03:26	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		02/22/14 03:26	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		02/22/14 03:26	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		02/22/14 03:26	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/22/14 03:26	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		02/22/14 03:26	75-35-4	
cis-1,2-Dichloroethene	**7.2**	ug/L	1.0	1		02/22/14 03:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		02/22/14 03:26	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		02/22/14 03:26	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		02/22/14 03:26	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		02/22/14 03:26	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		02/22/14 03:26	563-58-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: DUPLICATE-2 **Lab ID: 92190355005** Collected: 02/19/14 00:00 Received: 02/20/14 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		02/22/14 03:26	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		02/22/14 03:26	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		02/22/14 03:26	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		02/22/14 03:26	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		02/22/14 03:26	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		02/22/14 03:26	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		02/22/14 03:26	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		02/22/14 03:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		02/22/14 03:26	108-10-1	
Methyl-tert-butyl ether	**1.1**	ug/L	1.0	1		02/22/14 03:26	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		02/22/14 03:26	91-20-3	
Styrene	ND	ug/L	1.0	1		02/22/14 03:26	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		02/22/14 03:26	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		02/22/14 03:26	79-34-5	
Tetrachloroethene	**29.5**	ug/L	1.0	1		02/22/14 03:26	127-18-4	
Toluene	ND	ug/L	1.0	1		02/22/14 03:26	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		02/22/14 03:26	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		02/22/14 03:26	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		02/22/14 03:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		02/22/14 03:26	79-00-5	
Trichloroethene	**8.7**	ug/L	1.0	1		02/22/14 03:26	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		02/22/14 03:26	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		02/22/14 03:26	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		02/22/14 03:26	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		02/22/14 03:26	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		02/22/14 03:26	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		02/22/14 03:26	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		02/22/14 03:26	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		02/22/14 03:26	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		02/22/14 03:26	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		02/22/14 03:26	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
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ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-07-02 8' **Lab ID: 92190355006** Collected: 02/18/14 16:20 Received: 02/20/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	**559**	mg/kg	11.3	2	02/22/14 11:00	02/24/14 14:54	68334-30-5	
Surrogates								
n-Pentacosane (S)	90	%	41-119	2	02/22/14 11:00	02/24/14 14:54	629-99-2	
MADEP EPH NC Soil	Analytical Method: MADEP EPH Preparation Method: MADEP EPH							
Aliphatic (C09-C18)	**202**	mg/kg	90.7	8	02/24/14 15:58	02/26/14 17:16		N2
Aliphatic (C19-C36)	ND	mg/kg	90.7	8	02/24/14 15:58	02/26/14 17:16		N2
Aromatic (C11-C22)	**90.0**	mg/kg	11.3	1	02/24/14 15:58	02/26/14 01:39		N2
Surrogates								
Nonatriacontane (S)	0	%	40-140	8	02/24/14 15:58	02/26/14 17:16	7194-86-7	S4
o-Terphenyl (S)	81	%	40-140	1	02/24/14 15:58	02/26/14 01:39	84-15-1	
2-Fluorobiphenyl (S)	101	%	40-140	1	02/24/14 15:58	02/26/14 01:39	321-60-8	
2-Bromonaphthalene (S)	136	%	40-140	1	02/24/14 15:58	02/26/14 01:39	580-13-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	**3760**	mg/kg	97.6	20	02/28/14 02:49	02/28/14 21:36	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	114	%	70-167	20	02/28/14 02:49	02/28/14 21:36	460-00-4	
VPH NC Soil	Analytical Method: MADEP VPH Preparation Method: MADEP VPH							
Aliphatic (C05-C08)	**280**	mg/kg	31.4	10	03/06/14 17:00	03/07/14 12:13		N2
Aliphatic (C09-C12)	**1260**	mg/kg	31.4	10	03/06/14 17:00	03/07/14 12:13		N2
Aromatic (C09-C10)	**743**	mg/kg	31.4	10	03/06/14 17:00	03/07/14 12:13		N2
Surrogates								
4-Bromofluorobenzene (FID) (S)	227	%	70-130	10	03/06/14 17:00	03/07/14 12:13	460-00-4	S1
4-Bromofluorobenzene (PID) (S)	244	%	70-130	10	03/06/14 17:00	03/07/14 12:13	460-00-4	S1
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Chromium	**5.5**	mg/kg	0.44	1	02/26/14 13:05	02/27/14 02:45	7440-47-3	
Lead	**34.8**	mg/kg	0.44	1	02/26/14 13:05	02/27/14 02:45	7439-92-1	
8270 MSSV Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	83-32-9	
Acenaphthylene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	208-96-8	
Aniline	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	62-53-3	
Anthracene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	120-12-7	
Benzo(a)anthracene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	56-55-3	
Benzo(a)pyrene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	207-08-9	
Benzoic Acid	ND	ug/kg	18700	10	02/20/14 16:05	02/26/14 19:45	65-85-0	
Benzyl alcohol	ND	ug/kg	7480	10	02/20/14 16:05	02/26/14 19:45	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	101-55-3	
Butylbenzylphthalate	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	7480	10	02/20/14 16:05	02/26/14 19:45	59-50-7	

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-07-02 8' **Lab ID: 92190355006** Collected: 02/18/14 16:20 Received: 02/20/14 09:30 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							
4-Chloroaniline	ND	ug/kg	18700	10	02/20/14 16:05	02/26/14 19:45	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	108-60-1	
2-Chloronaphthalene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	91-58-7	
2-Chlorophenol	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	7005-72-3	
Chrysene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	53-70-3	
Dibenzofuran	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	132-64-9	
1,2-Dichlorobenzene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/kg	18700	10	02/20/14 16:05	02/26/14 19:45	91-94-1	
2,4-Dichlorophenol	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	120-83-2	
Diethylphthalate	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	105-67-9	
Dimethylphthalate	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	131-11-3	
Di-n-butylphthalate	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	7480	10	02/20/14 16:05	02/26/14 19:45	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	18700	10	02/20/14 16:05	02/26/14 19:45	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	606-20-2	
Di-n-octylphthalate	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	117-81-7	
Fluoranthene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	206-44-0	
Fluorene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	87-68-3	
Hexachlorobenzene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	118-74-1	
Hexachlorocyclopentadiene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	77-47-4	
Hexachloroethane	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	193-39-5	
Isophorone	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	78-59-1	
1-Methylnaphthalene	**8220**	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	90-12-0	
2-Methylnaphthalene	**15100**	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45		
Naphthalene	**23800**	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	91-20-3	
2-Nitroaniline	ND	ug/kg	18700	10	02/20/14 16:05	02/26/14 19:45	88-74-4	
3-Nitroaniline	ND	ug/kg	18700	10	02/20/14 16:05	02/26/14 19:45	99-09-2	
4-Nitroaniline	ND	ug/kg	7480	10	02/20/14 16:05	02/26/14 19:45	100-01-6	
Nitrobenzene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	98-95-3	
2-Nitrophenol	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	88-75-5	
4-Nitrophenol	ND	ug/kg	18700	10	02/20/14 16:05	02/26/14 19:45	100-02-7	
N-Nitrosodimethylamine	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	621-64-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-07-02 8' **Lab ID: 92190355006** Collected: 02/18/14 16:20 Received: 02/20/14 09:30 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							
N-Nitrosodiphenylamine	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	86-30-6	
Pentachlorophenol	ND	ug/kg	18700	10	02/20/14 16:05	02/26/14 19:45	87-86-5	
Phenanthrene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	85-01-8	
Phenol	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	108-95-2	
Pyrene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	120-82-1	
2,4,5-Trichlorophenol	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	3740	10	02/20/14 16:05	02/26/14 19:45	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	23-110	10	02/20/14 16:05	02/26/14 19:45	4165-60-0	D3,S4
2-Fluorobiphenyl (S)	0	%	30-110	10	02/20/14 16:05	02/26/14 19:45	321-60-8	
Terphenyl-d14 (S)	0	%	28-110	10	02/20/14 16:05	02/26/14 19:45	1718-51-0	
Phenol-d6 (S)	0	%	22-110	10	02/20/14 16:05	02/26/14 19:45	13127-88-3	
2-Fluorophenol (S)	0	%	13-110	10	02/20/14 16:05	02/26/14 19:45	367-12-4	
2,4,6-Tribromophenol (S)	0	%	27-110	10	02/20/14 16:05	02/26/14 19:45	118-79-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	106000	1000		02/21/14 19:24	67-64-1	
Benzene	ND	ug/kg	5290	1000		02/21/14 19:24	71-43-2	
Bromobenzene	ND	ug/kg	5290	1000		02/21/14 19:24	108-86-1	
Bromochloromethane	ND	ug/kg	5290	1000		02/21/14 19:24	74-97-5	
Bromodichloromethane	ND	ug/kg	5290	1000		02/21/14 19:24	75-27-4	
Bromoform	ND	ug/kg	5290	1000		02/21/14 19:24	75-25-2	
Bromomethane	ND	ug/kg	10600	1000		02/21/14 19:24	74-83-9	
2-Butanone (MEK)	ND	ug/kg	106000	1000		02/21/14 19:24	78-93-3	
n-Butylbenzene	**30500**	ug/kg	5290	1000		02/21/14 19:24	104-51-8	
sec-Butylbenzene	ND	ug/kg	5290	1000		02/21/14 19:24	135-98-8	
tert-Butylbenzene	ND	ug/kg	5290	1000		02/21/14 19:24	98-06-6	
Carbon tetrachloride	ND	ug/kg	5290	1000		02/21/14 19:24	56-23-5	
Chlorobenzene	ND	ug/kg	5290	1000		02/21/14 19:24	108-90-7	
Chloroethane	ND	ug/kg	10600	1000		02/21/14 19:24	75-00-3	
Chloroform	ND	ug/kg	5290	1000		02/21/14 19:24	67-66-3	
Chloromethane	ND	ug/kg	10600	1000		02/21/14 19:24	74-87-3	
2-Chlorotoluene	ND	ug/kg	5290	1000		02/21/14 19:24	95-49-8	
4-Chlorotoluene	ND	ug/kg	5290	1000		02/21/14 19:24	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	5290	1000		02/21/14 19:24	96-12-8	
Dibromochloromethane	ND	ug/kg	5290	1000		02/21/14 19:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	5290	1000		02/21/14 19:24	106-93-4	
Dibromomethane	ND	ug/kg	5290	1000		02/21/14 19:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	5290	1000		02/21/14 19:24	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	5290	1000		02/21/14 19:24	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	5290	1000		02/21/14 19:24	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	10600	1000		02/21/14 19:24	75-71-8	
1,1-Dichloroethane	ND	ug/kg	5290	1000		02/21/14 19:24	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5290	1000		02/21/14 19:24	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5290	1000		02/21/14 19:24	75-35-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-07-02 8' **Lab ID: 92190355006** Collected: 02/18/14 16:20 Received: 02/20/14 09:30 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							
cis-1,2-Dichloroethene	ND	ug/kg	5290	1000		02/21/14 19:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5290	1000		02/21/14 19:24	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5290	1000		02/21/14 19:24	78-87-5	
1,3-Dichloropropane	ND	ug/kg	5290	1000		02/21/14 19:24	142-28-9	
2,2-Dichloropropane	ND	ug/kg	5290	1000		02/21/14 19:24	594-20-7	
1,1-Dichloropropene	ND	ug/kg	5290	1000		02/21/14 19:24	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	5290	1000		02/21/14 19:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5290	1000		02/21/14 19:24	10061-02-6	
Diisopropyl ether	ND	ug/kg	5290	1000		02/21/14 19:24	108-20-3	
Ethylbenzene	**81300**	ug/kg	5290	1000		02/21/14 19:24	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	5290	1000		02/21/14 19:24	87-68-3	
2-Hexanone	ND	ug/kg	52900	1000		02/21/14 19:24	591-78-6	
Isopropylbenzene (Cumene)	**30700**	ug/kg	5290	1000		02/21/14 19:24	98-82-8	
p-Isopropyltoluene	**22000**	ug/kg	5290	1000		02/21/14 19:24	99-87-6	
Methylene Chloride	ND	ug/kg	21100	1000		02/21/14 19:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	52900	1000		02/21/14 19:24	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	5290	1000		02/21/14 19:24	1634-04-4	
Naphthalene	**41300**	ug/kg	5290	1000		02/21/14 19:24	91-20-3	
n-Propylbenzene	**68000**	ug/kg	5290	1000		02/21/14 19:24	103-65-1	
Styrene	ND	ug/kg	5290	1000		02/21/14 19:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	5290	1000		02/21/14 19:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5290	1000		02/21/14 19:24	79-34-5	
Tetrachloroethene	ND	ug/kg	5290	1000		02/21/14 19:24	127-18-4	
Toluene	**36700**	ug/kg	5290	1000		02/21/14 19:24	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	5290	1000		02/21/14 19:24	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	5290	1000		02/21/14 19:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	5290	1000		02/21/14 19:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5290	1000		02/21/14 19:24	79-00-5	
Trichloroethene	ND	ug/kg	5290	1000		02/21/14 19:24	79-01-6	
Trichlorofluoromethane	ND	ug/kg	5290	1000		02/21/14 19:24	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	5290	1000		02/21/14 19:24	96-18-4	
1,2,4-Trimethylbenzene	**329000**	ug/kg	26400	5000		02/24/14 18:12	95-63-6	
1,3,5-Trimethylbenzene	**109000**	ug/kg	5290	1000		02/21/14 19:24	108-67-8	
Vinyl acetate	ND	ug/kg	52900	1000		02/21/14 19:24	108-05-4	
Vinyl chloride	ND	ug/kg	10600	1000		02/21/14 19:24	75-01-4	
Xylene (Total)	**285000**	ug/kg	10600	1000		02/21/14 19:24	1330-20-7	
m&p-Xylene	**196000**	ug/kg	10600	1000		02/21/14 19:24	179601-23-1	
o-Xylene	**89600**	ug/kg	5290	1000		02/21/14 19:24	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%	70-130	1000		02/21/14 19:24	2037-26-5	
4-Bromofluorobenzene (S)	91	%	70-130	1000		02/21/14 19:24	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-132	1000		02/21/14 19:24	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**11.8**	%	0.10	1		03/03/14 11:58		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-07-06 10' **Lab ID: 92190355007** Collected: 02/18/14 16:10 Received: 02/20/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015 Modified Preparation Method: EPA 3546							
Diesel Components	ND	mg/kg	5.9	1	02/22/14 11:00	02/24/14 10:30	68334-30-5	
Surrogates								
n-Pentacosane (S)	84	%	41-119	1	02/22/14 11:00	02/24/14 10:30	629-99-2	
MADEP EPH NC Soil	Analytical Method: MADEP EPH Preparation Method: MADEP EPH							
Aliphatic (C09-C18)	ND	mg/kg	11.8	1	02/24/14 15:58	02/26/14 02:11		N2
Aliphatic (C19-C36)	ND	mg/kg	11.8	1	02/24/14 15:58	02/26/14 02:11		N2
Aromatic (C11-C22)	ND	mg/kg	11.8	1	02/24/14 15:58	02/26/14 02:11		N2
Surrogates								
Nonatriacontane (S)	72	%	40-140	1	02/24/14 15:58	02/26/14 02:11	7194-86-7	
o-Terphenyl (S)	79	%	40-140	1	02/24/14 15:58	02/26/14 02:11	84-15-1	
2-Fluorobiphenyl (S)	73	%	40-140	1	02/24/14 15:58	02/26/14 02:11	321-60-8	
2-Bromonaphthalene (S)	81	%	40-140	1	02/24/14 15:58	02/26/14 02:11	580-13-2	
Gasoline Range Organics	Analytical Method: EPA 8015 Modified Preparation Method: EPA 5035A/5030B							
Gasoline Range Organics	**10.3**	mg/kg	6.2	1	02/28/14 02:49	02/28/14 21:13	8006-61-9	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-167	1	02/28/14 02:49	02/28/14 21:13	460-00-4	
VPH NC Soil	Analytical Method: MADEP VPH Preparation Method: MADEP VPH							
Aliphatic (C05-C08)	ND	mg/kg	3.4	1	03/06/14 17:00	03/07/14 13:22		N2
Aliphatic (C09-C12)	ND	mg/kg	3.4	1	03/06/14 17:00	03/07/14 13:22		N2
Aromatic (C09-C10)	ND	mg/kg	3.4	1	03/06/14 17:00	03/07/14 13:22		N2
Surrogates								
4-Bromofluorobenzene (FID) (S)	219	%	70-130	1	03/06/14 17:00	03/07/14 13:22	460-00-4	S1
4-Bromofluorobenzene (PID) (S)	204	%	70-130	1	03/06/14 17:00	03/07/14 13:22	460-00-4	S1
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Chromium	**5.4**	mg/kg	0.57	1	02/26/14 13:05	02/27/14 02:48	7440-47-3	
Lead	**9.0**	mg/kg	0.57	1	02/26/14 13:05	02/27/14 02:48	7439-92-1	
8270 MSSV Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	83-32-9	
Acenaphthylene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	208-96-8	
Aniline	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	62-53-3	
Anthracene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	120-12-7	
Benzo(a)anthracene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	56-55-3	
Benzo(a)pyrene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	207-08-9	
Benzoic Acid	ND	ug/kg	1950	1	02/20/14 16:05	02/26/14 20:12	65-85-0	
Benzyl alcohol	ND	ug/kg	780	1	02/20/14 16:05	02/26/14 20:12	100-51-6	
4-Bromophenylphenyl ether	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	101-55-3	
Butylbenzylphthalate	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	85-68-7	
4-Chloro-3-methylphenol	ND	ug/kg	780	1	02/20/14 16:05	02/26/14 20:12	59-50-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-07-06 10' **Lab ID: 92190355007** Collected: 02/18/14 16:10 Received: 02/20/14 09:30 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							
4-Chloroaniline	ND	ug/kg	1950	1	02/20/14 16:05	02/26/14 20:12	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	108-60-1	
2-Chloronaphthalene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	91-58-7	
2-Chlorophenol	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	7005-72-3	
Chrysene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	53-70-3	
Dibenzofuran	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	132-64-9	
1,2-Dichlorobenzene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/kg	1950	1	02/20/14 16:05	02/26/14 20:12	91-94-1	
2,4-Dichlorophenol	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	120-83-2	
Diethylphthalate	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	84-66-2	
2,4-Dimethylphenol	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	105-67-9	
Dimethylphthalate	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	131-11-3	
Di-n-butylphthalate	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/kg	780	1	02/20/14 16:05	02/26/14 20:12	534-52-1	
2,4-Dinitrophenol	ND	ug/kg	1950	1	02/20/14 16:05	02/26/14 20:12	51-28-5	
2,4-Dinitrotoluene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	121-14-2	
2,6-Dinitrotoluene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	606-20-2	
Di-n-octylphthalate	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	117-81-7	
Fluoranthene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	206-44-0	
Fluorene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	87-68-3	
Hexachlorobenzene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	118-74-1	
Hexachlorocyclopentadiene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	77-47-4	
Hexachloroethane	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	193-39-5	
Isophorone	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	78-59-1	
1-Methylnaphthalene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	90-12-0	
2-Methylnaphthalene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12		
Naphthalene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	91-20-3	
2-Nitroaniline	ND	ug/kg	1950	1	02/20/14 16:05	02/26/14 20:12	88-74-4	
3-Nitroaniline	ND	ug/kg	1950	1	02/20/14 16:05	02/26/14 20:12	99-09-2	
4-Nitroaniline	ND	ug/kg	780	1	02/20/14 16:05	02/26/14 20:12	100-01-6	
Nitrobenzene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	98-95-3	
2-Nitrophenol	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	88-75-5	
4-Nitrophenol	ND	ug/kg	1950	1	02/20/14 16:05	02/26/14 20:12	100-02-7	
N-Nitrosodimethylamine	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	62-75-9	
N-Nitroso-di-n-propylamine	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	621-64-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-07-06 10' **Lab ID: 92190355007** Collected: 02/18/14 16:10 Received: 02/20/14 09:30 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							
N-Nitrosodiphenylamine	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	86-30-6	
Pentachlorophenol	ND	ug/kg	1950	1	02/20/14 16:05	02/26/14 20:12	87-86-5	
Phenanthrene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	85-01-8	
Phenol	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	108-95-2	
Pyrene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	129-00-0	
1,2,4-Trichlorobenzene	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	120-82-1	
2,4,5-Trichlorophenol	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	95-95-4	
2,4,6-Trichlorophenol	ND	ug/kg	390	1	02/20/14 16:05	02/26/14 20:12	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	68	%	23-110	1	02/20/14 16:05	02/26/14 20:12	4165-60-0	
2-Fluorobiphenyl (S)	63	%	30-110	1	02/20/14 16:05	02/26/14 20:12	321-60-8	
Terphenyl-d14 (S)	54	%	28-110	1	02/20/14 16:05	02/26/14 20:12	1718-51-0	
Phenol-d6 (S)	74	%	22-110	1	02/20/14 16:05	02/26/14 20:12	13127-88-3	
2-Fluorophenol (S)	70	%	13-110	1	02/20/14 16:05	02/26/14 20:12	367-12-4	
2,4,6-Tribromophenol (S)	84	%	27-110	1	02/20/14 16:05	02/26/14 20:12	118-79-6	
8260/5035A Volatile Organics	Analytical Method: EPA 8260							
Acetone	ND	ug/kg	2280	25		02/21/14 19:43	67-64-1	
Benzene	ND	ug/kg	114	25		02/21/14 19:43	71-43-2	
Bromobenzene	ND	ug/kg	114	25		02/21/14 19:43	108-86-1	
Bromochloromethane	ND	ug/kg	114	25		02/21/14 19:43	74-97-5	
Bromodichloromethane	ND	ug/kg	114	25		02/21/14 19:43	75-27-4	
Bromoform	ND	ug/kg	114	25		02/21/14 19:43	75-25-2	
Bromomethane	ND	ug/kg	228	25		02/21/14 19:43	74-83-9	
2-Butanone (MEK)	ND	ug/kg	2280	25		02/21/14 19:43	78-93-3	
n-Butylbenzene	ND	ug/kg	114	25		02/21/14 19:43	104-51-8	
sec-Butylbenzene	ND	ug/kg	114	25		02/21/14 19:43	135-98-8	
tert-Butylbenzene	ND	ug/kg	114	25		02/21/14 19:43	98-06-6	
Carbon tetrachloride	ND	ug/kg	114	25		02/21/14 19:43	56-23-5	
Chlorobenzene	ND	ug/kg	114	25		02/21/14 19:43	108-90-7	
Chloroethane	ND	ug/kg	228	25		02/21/14 19:43	75-00-3	
Chloroform	ND	ug/kg	114	25		02/21/14 19:43	67-66-3	
Chloromethane	ND	ug/kg	228	25		02/21/14 19:43	74-87-3	
2-Chlorotoluene	ND	ug/kg	114	25		02/21/14 19:43	95-49-8	
4-Chlorotoluene	ND	ug/kg	114	25		02/21/14 19:43	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/kg	114	25		02/21/14 19:43	96-12-8	
Dibromochloromethane	ND	ug/kg	114	25		02/21/14 19:43	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/kg	114	25		02/21/14 19:43	106-93-4	
Dibromomethane	ND	ug/kg	114	25		02/21/14 19:43	74-95-3	
1,2-Dichlorobenzene	ND	ug/kg	114	25		02/21/14 19:43	95-50-1	
1,3-Dichlorobenzene	ND	ug/kg	114	25		02/21/14 19:43	541-73-1	
1,4-Dichlorobenzene	ND	ug/kg	114	25		02/21/14 19:43	106-46-7	
Dichlorodifluoromethane	ND	ug/kg	228	25		02/21/14 19:43	75-71-8	D3
1,1-Dichloroethane	ND	ug/kg	114	25		02/21/14 19:43	75-34-3	
1,2-Dichloroethane	ND	ug/kg	114	25		02/21/14 19:43	107-06-2	
1,1-Dichloroethene	ND	ug/kg	114	25		02/21/14 19:43	75-35-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Sample: B-07-06 10' **Lab ID: 92190355007** Collected: 02/18/14 16:10 Received: 02/20/14 09:30 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							
cis-1,2-Dichloroethene	ND	ug/kg	114	25		02/21/14 19:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	114	25		02/21/14 19:43	156-60-5	
1,2-Dichloropropane	ND	ug/kg	114	25		02/21/14 19:43	78-87-5	
1,3-Dichloropropane	ND	ug/kg	114	25		02/21/14 19:43	142-28-9	
2,2-Dichloropropane	ND	ug/kg	114	25		02/21/14 19:43	594-20-7	
1,1-Dichloropropene	ND	ug/kg	114	25		02/21/14 19:43	563-58-6	
cis-1,3-Dichloropropene	ND	ug/kg	114	25		02/21/14 19:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	114	25		02/21/14 19:43	10061-02-6	
Diisopropyl ether	ND	ug/kg	114	25		02/21/14 19:43	108-20-3	
Ethylbenzene	ND	ug/kg	114	25		02/21/14 19:43	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/kg	114	25		02/21/14 19:43	87-68-3	
2-Hexanone	ND	ug/kg	1140	25		02/21/14 19:43	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/kg	114	25		02/21/14 19:43	98-82-8	
p-Isopropyltoluene	ND	ug/kg	114	25		02/21/14 19:43	99-87-6	
Methylene Chloride	ND	ug/kg	456	25		02/21/14 19:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	1140	25		02/21/14 19:43	108-10-1	
Methyl-tert-butyl ether	ND	ug/kg	114	25		02/21/14 19:43	1634-04-4	
Naphthalene	ND	ug/kg	114	25		02/21/14 19:43	91-20-3	
n-Propylbenzene	**119**	ug/kg	114	25		02/21/14 19:43	103-65-1	
Styrene	ND	ug/kg	114	25		02/21/14 19:43	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/kg	114	25		02/21/14 19:43	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/kg	114	25		02/21/14 19:43	79-34-5	
Tetrachloroethene	ND	ug/kg	114	25		02/21/14 19:43	127-18-4	
Toluene	ND	ug/kg	114	25		02/21/14 19:43	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/kg	114	25		02/21/14 19:43	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/kg	114	25		02/21/14 19:43	120-82-1	
1,1,1-Trichloroethane	ND	ug/kg	114	25		02/21/14 19:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	114	25		02/21/14 19:43	79-00-5	
Trichloroethene	ND	ug/kg	114	25		02/21/14 19:43	79-01-6	
Trichlorofluoromethane	ND	ug/kg	114	25		02/21/14 19:43	75-69-4	
1,2,3-Trichloropropane	ND	ug/kg	114	25		02/21/14 19:43	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/kg	114	25		02/21/14 19:43	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/kg	114	25		02/21/14 19:43	108-67-8	
Vinyl acetate	ND	ug/kg	1140	25		02/21/14 19:43	108-05-4	
Vinyl chloride	ND	ug/kg	228	25		02/21/14 19:43	75-01-4	
Xylene (Total)	ND	ug/kg	228	25		02/21/14 19:43	1330-20-7	
m&p-Xylene	ND	ug/kg	228	25		02/21/14 19:43	179601-23-1	
o-Xylene	ND	ug/kg	114	25		02/21/14 19:43	95-47-6	
Surrogates								
Toluene-d8 (S)	98	%	70-130	25		02/21/14 19:43	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130	25		02/21/14 19:43	460-00-4	
1,2-Dichloroethane-d4 (S)	76	%	70-132	25		02/21/14 19:43	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**15.4**	%	0.10	1		03/03/14 11:58		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: GCSV/12153 Analysis Method: EPA 8015 - Alcohol-Glycol
QC Batch Method: EPA 8015 - Alcohol-Glycol Analysis Description: EPA 8015 Modified
Associated Lab Samples: 92190355003, 92190355004, 92190355005

METHOD BLANK: 1052253 Matrix: Water
Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylene glycol	mg/L	ND	10.0	02/26/14 12:29	

LABORATORY CONTROL SAMPLE: 1052254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylene glycol	mg/L	250	218	87	79-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1052255 1052256

Parameter	Units	60163155001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Ethylene glycol	mg/L	ND	250	250	284	261	112	103	67-133	8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: GCV/7826 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 92190355001, 92190355002

METHOD BLANK: 1142278 Matrix: Solid
Associated Lab Samples: 92190355001, 92190355002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	6.0	02/21/14 12:12	
4-Bromofluorobenzene (S)	%	96	70-167	02/21/14 12:12	

LABORATORY CONTROL SAMPLE: 1142279

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	49.8	55.4	111	70-165	
4-Bromofluorobenzene (S)	%			105	70-167	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1142280 1142281

Parameter	Units	92190355001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Gasoline Range Organics	mg/kg	24.0	44.5	44.5	77.8	89.0	121	146	47-187	13	
4-Bromofluorobenzene (S)	%						130	122	70-167		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1142282 1142283

Parameter	Units	92190355002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Gasoline Range Organics	mg/kg	36.8	40	40	91.6	95.6	137	147	47-187	4	
4-Bromofluorobenzene (S)	%						161	162	70-167		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: GCV/7833 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 92190355006, 92190355007

METHOD BLANK: 1148112 Matrix: Solid
Associated Lab Samples: 92190355006, 92190355007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	6.0	02/28/14 15:21	
4-Bromofluorobenzene (S)	%	101	70-167	02/28/14 15:21	

LABORATORY CONTROL SAMPLE: 1148113

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	50	48.9	98	70-165	
4-Bromofluorobenzene (S)	%			98	70-167	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1148114 1148115

Parameter	Units	92190992004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Gasoline Range Organics	mg/kg	ND	48.6	48.6	51.6	53.5	106	110	47-187	3	
4-Bromofluorobenzene (S)	%						100	96	70-167		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: GCV/7860 Analysis Method: MADEP VPH
QC Batch Method: MADEP VPH Analysis Description: VPH NC Soil
Associated Lab Samples: 92190355006, 92190355007

METHOD BLANK: 1152103 Matrix: Solid
Associated Lab Samples: 92190355006, 92190355007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aliphatic (C05-C08)	mg/kg	ND	2.5	03/06/14 19:42	N2
Aliphatic (C09-C12)	mg/kg	ND	2.5	03/06/14 19:42	N2
Aromatic (C09-C10)	mg/kg	ND	2.5	03/06/14 19:42	N2
4-Bromofluorobenzene (FID) (S)	%	121	70-130	03/06/14 19:42	
4-Bromofluorobenzene (PID) (S)	%	108	70-130	03/06/14 19:42	

LABORATORY CONTROL SAMPLE & LCSD: 1152104 1152105

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Aliphatic (C05-C08)	mg/kg	7.5	6.6	6.4	88	85	70-130	4	25	N2
Aliphatic (C09-C12)	mg/kg	7.5	4.3	4.1	57	55	30-130	4	25	N2
Aromatic (C09-C10)	mg/kg	2.5	ND	ND	92	87	70-130		25	N2
4-Bromofluorobenzene (FID) (S)	%				75	72	70-130			
4-Bromofluorobenzene (PID) (S)	%				81	77	70-130			

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: GCV/7835 Analysis Method: MADEP VPH
QC Batch Method: MADEP VPH Analysis Description: VPH NC Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

METHOD BLANK: 1148658 Matrix: Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aliphatic (C05-C08)	ug/L	ND	50.0	03/01/14 20:36	N2
Aliphatic (C09-C12)	ug/L	ND	50.0	03/01/14 20:36	N2
Aromatic (C09-C10)	ug/L	ND	50.0	03/01/14 20:36	N2
4-Bromofluorobenzene (FID) (S)	%	92	70-130	03/01/14 20:36	
4-Bromofluorobenzene (PID) (S)	%	91	70-130	03/01/14 20:36	

LABORATORY CONTROL SAMPLE & LCSD: 1148659 1148660

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Aliphatic (C05-C08)	ug/L	300	272	261	91	87	70-130	4	25	N2
Aliphatic (C09-C12)	ug/L	300	316	297	105	99	30-130	6	25	N2
Aromatic (C09-C10)	ug/L	100	108	105	108	105	70-130	3	25	N2
4-Bromofluorobenzene (FID) (S)	%				103	101	70-130			
4-Bromofluorobenzene (PID) (S)	%				103	102	70-130			

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: MPRP/15312 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 92190355006, 92190355007

METHOD BLANK: 1145621 Matrix: Solid
Associated Lab Samples: 92190355006, 92190355007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	mg/kg	ND	0.50	02/27/14 01:27	
Lead	mg/kg	ND	0.50	02/27/14 01:27	

LABORATORY CONTROL SAMPLE: 1145622

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	mg/kg	50	50.7	101	80-120	
Lead	mg/kg	50	51.5	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1145623 1145624

Parameter	Units	92190738001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Chromium	mg/kg	2.85 ug/g	43.1	46.3	46.0	49.7	100	101	75-125	8	
Lead	mg/kg	0.905 ug/g	43.1	46.3	46.3	48.2	105	102	75-125	4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: MPRP/15285 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 92190355003, 92190355004, 92190355005

METHOD BLANK: 1142293 Matrix: Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	ND	5.0	02/21/14 20:58	
Lead	ug/L	ND	5.0	02/21/14 20:58	

LABORATORY CONTROL SAMPLE: 1142294

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	509	102	80-120	
Lead	ug/L	500	501	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1142295 1142296

Parameter	Units	92190489009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Chromium	ug/L	28.9	500	500	523	523	99	99	75-125	0	
Lead	ug/L	20.4	500	500	468	469	90	90	75-125	0	

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: MSV/25905 Analysis Method: SM 6200B
QC Batch Method: SM 6200B Analysis Description: 6200B MSV
Associated Lab Samples: 92190355003, 92190355004, 92190355005

METHOD BLANK: 1145841 Matrix: Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	02/26/14 18:47	
1,1,1-Trichloroethane	ug/L	ND	0.50	02/26/14 18:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	02/26/14 18:47	
1,1,2-Trichloroethane	ug/L	ND	0.50	02/26/14 18:47	
1,1-Dichloroethane	ug/L	ND	0.50	02/26/14 18:47	
1,1-Dichloroethene	ug/L	ND	0.50	02/26/14 18:47	
1,1-Dichloropropene	ug/L	ND	0.50	02/26/14 18:47	
1,2,3-Trichlorobenzene	ug/L	ND	2.0	02/26/14 18:47	
1,2,3-Trichloropropane	ug/L	ND	0.50	02/26/14 18:47	
1,2,4-Trichlorobenzene	ug/L	ND	2.0	02/26/14 18:47	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	02/26/14 18:47	
1,2-Dibromo-3-chloropropane	ug/L	ND	1.0	02/26/14 18:47	
1,2-Dibromoethane (EDB)	ug/L	ND	0.50	02/26/14 18:47	
1,2-Dichlorobenzene	ug/L	ND	0.50	02/26/14 18:47	
1,2-Dichloroethane	ug/L	ND	0.50	02/26/14 18:47	
1,2-Dichloropropane	ug/L	ND	0.50	02/26/14 18:47	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	02/26/14 18:47	
1,3-Dichlorobenzene	ug/L	ND	0.50	02/26/14 18:47	
1,3-Dichloropropane	ug/L	ND	0.50	02/26/14 18:47	
1,4-Dichlorobenzene	ug/L	ND	0.50	02/26/14 18:47	
2,2-Dichloropropane	ug/L	ND	0.50	02/26/14 18:47	
2-Chlorotoluene	ug/L	ND	0.50	02/26/14 18:47	
4-Chlorotoluene	ug/L	ND	0.50	02/26/14 18:47	
Benzene	ug/L	ND	0.50	02/26/14 18:47	
Bromobenzene	ug/L	ND	0.50	02/26/14 18:47	
Bromochloromethane	ug/L	ND	0.50	02/26/14 18:47	
Bromodichloromethane	ug/L	ND	0.50	02/26/14 18:47	
Bromoform	ug/L	ND	0.50	02/26/14 18:47	
Bromomethane	ug/L	ND	5.0	02/26/14 18:47	
Carbon tetrachloride	ug/L	ND	0.50	02/26/14 18:47	
Chlorobenzene	ug/L	ND	0.50	02/26/14 18:47	
Chloroethane	ug/L	ND	1.0	02/26/14 18:47	
Chloroform	ug/L	ND	0.50	02/26/14 18:47	
Chloromethane	ug/L	ND	1.0	02/26/14 18:47	
cis-1,2-Dichloroethene	ug/L	ND	0.50	02/26/14 18:47	
cis-1,3-Dichloropropene	ug/L	ND	0.50	02/26/14 18:47	
Dibromochloromethane	ug/L	ND	0.50	02/26/14 18:47	
Dibromomethane	ug/L	ND	0.50	02/26/14 18:47	
Dichlorodifluoromethane	ug/L	ND	0.50	02/26/14 18:47	
Diisopropyl ether	ug/L	ND	0.50	02/26/14 18:47	
Ethanol	ug/L	ND	200	02/26/14 18:47	
Ethylbenzene	ug/L	ND	0.50	02/26/14 18:47	
Hexachloro-1,3-butadiene	ug/L	ND	2.0	02/26/14 18:47	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

METHOD BLANK: 1145841 Matrix: Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	ND	0.50	02/26/14 18:47	
m&p-Xylene	ug/L	ND	1.0	02/26/14 18:47	
Methyl-tert-butyl ether	ug/L	ND	0.50	02/26/14 18:47	
Methylene Chloride	ug/L	ND	2.0	02/26/14 18:47	
n-Butylbenzene	ug/L	ND	0.50	02/26/14 18:47	
n-Propylbenzene	ug/L	ND	0.50	02/26/14 18:47	
Naphthalene	ug/L	ND	2.0	02/26/14 18:47	
o-Xylene	ug/L	ND	0.50	02/26/14 18:47	
sec-Butylbenzene	ug/L	ND	0.50	02/26/14 18:47	
Styrene	ug/L	ND	0.50	02/26/14 18:47	
tert-Butylbenzene	ug/L	ND	0.50	02/26/14 18:47	
Tetrachloroethene	ug/L	ND	0.50	02/26/14 18:47	
Toluene	ug/L	ND	0.50	02/26/14 18:47	
trans-1,2-Dichloroethene	ug/L	ND	0.50	02/26/14 18:47	
trans-1,3-Dichloropropene	ug/L	ND	0.50	02/26/14 18:47	
Trichloroethene	ug/L	ND	0.50	02/26/14 18:47	
Trichlorofluoromethane	ug/L	ND	1.0	02/26/14 18:47	
Vinyl chloride	ug/L	ND	1.0	02/26/14 18:47	
1,2-Dichloroethane-d4 (S)	%	101	70-130	02/26/14 18:47	
4-Bromofluorobenzene (S)	%	98	70-130	02/26/14 18:47	
Toluene-d8 (S)	%	101	70-130	02/26/14 18:47	

LABORATORY CONTROL SAMPLE: 1145842

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	49.0	98	60-140	
1,1,1-Trichloroethane	ug/L	50	53.7	107	60-140	
1,1,2,2-Tetrachloroethane	ug/L	50	50.2	100	60-140	
1,1,2-Trichloroethane	ug/L	50	52.9	106	60-140	
1,1-Dichloroethane	ug/L	50	49.2	98	60-140	
1,1-Dichloroethene	ug/L	50	48.0	96	60-140	
1,1-Dichloropropene	ug/L	50	51.3	103	60-140	
1,2,3-Trichlorobenzene	ug/L	50	49.1	98	60-140	
1,2,3-Trichloropropane	ug/L	50	49.8	100	60-140	
1,2,4-Trichlorobenzene	ug/L	50	49.1	98	60-140	
1,2,4-Trimethylbenzene	ug/L	50	51.4	103	60-140	
1,2-Dibromo-3-chloropropane	ug/L	50	64.7	129	60-140	
1,2-Dibromoethane (EDB)	ug/L	50	52.8	106	60-140	
1,2-Dichlorobenzene	ug/L	50	48.3	97	60-140	
1,2-Dichloroethane	ug/L	50	47.9	96	60-140	
1,2-Dichloropropane	ug/L	50	50.1	100	60-140	
1,3,5-Trimethylbenzene	ug/L	50	52.4	105	60-140	
1,3-Dichlorobenzene	ug/L	50	47.3	95	60-140	
1,3-Dichloropropane	ug/L	50	51.3	103	60-140	
1,4-Dichlorobenzene	ug/L	50	47.7	95	60-140	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

LABORATORY CONTROL SAMPLE: 1145842

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	55.4	111	60-140	
2-Chlorotoluene	ug/L	50	48.4	97	60-140	
4-Chlorotoluene	ug/L	50	49.8	100	60-140	
Benzene	ug/L	50	52.3	105	60-140	
Bromobenzene	ug/L	50	49.8	100	60-140	
Bromochloromethane	ug/L	50	52.0	104	60-140	
Bromodichloromethane	ug/L	50	55.3	111	60-140	
Bromoform	ug/L	50	44.8	90	60-140	
Bromomethane	ug/L	50	36.3	73	60-140	
Carbon tetrachloride	ug/L	50	46.6	93	60-140	
Chlorobenzene	ug/L	50	50.6	101	60-140	
Chloroethane	ug/L	50	48.7	97	60-140	
Chloroform	ug/L	50	51.2	102	60-140	
Chloromethane	ug/L	50	45.3	91	60-140	
cis-1,2-Dichloroethene	ug/L	50	48.1	96	60-140	
cis-1,3-Dichloropropene	ug/L	50	48.3	97	60-140	
Dibromochloromethane	ug/L	50	48.0	96	60-140	
Dibromomethane	ug/L	50	50.6	101	60-140	
Dichlorodifluoromethane	ug/L	50	38.5	77	60-140	
Diisopropyl ether	ug/L	50	50.4	101	60-140	
Ethanol	ug/L	2000	1710	85	60-140	
Ethylbenzene	ug/L	50	50.8	102	60-140	
Hexachloro-1,3-butadiene	ug/L	50	50.4	101	60-140	
Isopropylbenzene (Cumene)	ug/L	50	54.0	108	60-140	
m&p-Xylene	ug/L	100	105	105	60-140	
Methyl-tert-butyl ether	ug/L	50	50.5	101	60-140	
Methylene Chloride	ug/L	50	53.9	108	60-140	
n-Butylbenzene	ug/L	50	50.8	102	60-140	
n-Propylbenzene	ug/L	50	52.7	105	60-140	
Naphthalene	ug/L	50	49.0	98	60-140	
o-Xylene	ug/L	50	52.2	104	60-140	
sec-Butylbenzene	ug/L	50	52.1	104	60-140	
Styrene	ug/L	50	55.3	111	60-140	
tert-Butylbenzene	ug/L	50	51.8	104	60-140	
Tetrachloroethene	ug/L	50	51.2	102	60-140	
Toluene	ug/L	50	50.5	101	60-140	
trans-1,2-Dichloroethene	ug/L	50	46.7	93	60-140	
trans-1,3-Dichloropropene	ug/L	50	47.5	95	60-140	
Trichloroethene	ug/L	50	49.9	100	60-140	
Trichlorofluoromethane	ug/L	50	50.3	101	60-140	
Vinyl chloride	ug/L	50	48.4	97	60-140	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			99	70-130	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1145843 1145844

Parameter	Units	92190689006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	17.9	14.3	89	72	60-140	22	
1,1,1-Trichloroethane	ug/L	ND	20	20	21.3	17.1	106	85	60-140	22	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	20.6	15.3	103	76	60-140	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	21.3	16.5	107	83	60-140	25	
1,1-Dichloroethane	ug/L	ND	20	20	21.0	16.8	105	84	60-140	22	
1,1-Dichloroethene	ug/L	ND	20	20	20.2	16.8	101	84	60-140	19	
1,1-Dichloropropene	ug/L	ND	20	20	21.4	17.2	107	86	60-140	22	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	17.4	14.0	87	70	60-140	22	
1,2,3-Trichloropropane	ug/L	ND	20	20	20.3	14.8	101	74	60-140	31	R1
1,2,4-Trichlorobenzene	ug/L	ND	20	20	17.4	14.0	87	70	60-140	22	
1,2,4-Trimethylbenzene	ug/L	ND	20	20	19.3	15.1	96	76	60-140	24	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	22.5	16.2	113	81	60-140	32	R1
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	21.5	16.4	108	82	60-140	27	
1,2-Dichlorobenzene	ug/L	ND	20	20	18.2	14.2	91	71	60-140	24	
1,2-Dichloroethane	ug/L	2.4	20	20	23.0	18.1	103	79	60-140	24	
1,2-Dichloropropane	ug/L	ND	20	20	20.6	16.0	103	80	60-140	25	
1,3,5-Trimethylbenzene	ug/L	ND	20	20	19.5	15.5	97	77	60-140	23	
1,3-Dichlorobenzene	ug/L	ND	20	20	17.7	13.9	89	70	60-140	24	
1,3-Dichloropropane	ug/L	ND	20	20	21.2	16.2	106	81	60-140	26	
1,4-Dichlorobenzene	ug/L	ND	20	20	17.6	14.1	88	70	60-140	23	
2,2-Dichloropropane	ug/L	ND	20	20	18.8	15.5	94	78	60-140	19	
2-Chlorotoluene	ug/L	ND	20	20	18.7	14.9	94	74	60-140	23	
4-Chlorotoluene	ug/L	ND	20	20	19.0	14.9	95	74	60-140	24	
Benzene	ug/L	ND	20	20	20.7	16.6	104	83	60-140	22	
Bromobenzene	ug/L	ND	20	20	19.0	14.8	95	74	60-140	25	
Bromochloromethane	ug/L	ND	20	20	22.3	17.5	112	88	60-140	24	
Bromodichloromethane	ug/L	ND	20	20	19.5	15.6	98	78	60-140	22	
Bromoform	ug/L	ND	20	20	15.7	13.0	78	65	60-140	19	
Bromomethane	ug/L	ND	20	20	14.7	15.1	74	76	60-140	3	
Carbon tetrachloride	ug/L	ND	20	20	17.5	15.6	88	78	60-140	11	
Chlorobenzene	ug/L	ND	20	20	19.8	15.6	99	78	60-140	24	
Chloroethane	ug/L	ND	20	20	22.3	19.5	111	97	60-140	13	
Chloroform	ug/L	ND	20	20	21.3	16.7	106	83	60-140	24	
Chloromethane	ug/L	ND	20	20	18.5	17.8	93	89	60-140	4	
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.4	16.2	102	81	60-140	23	
cis-1,3-Dichloropropene	ug/L	ND	20	20	16.9	13.6	85	68	60-140	21	
Dibromochloromethane	ug/L	ND	20	20	17.2	13.8	86	69	60-140	22	
Dibromomethane	ug/L	ND	20	20	20.0	15.2	100	76	60-140	27	
Dichlorodifluoromethane	ug/L	ND	20	20	15.3	17.9	77	90	60-140	16	
Diisopropyl ether	ug/L	0.55	20	20	22.1	17.1	108	83	60-140	26	
Ethanol	ug/L	ND	800	800	772	559	97	70	60-140	32	R1
Ethylbenzene	ug/L	ND	20	20	19.7	15.7	99	78	60-140	23	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	17.6	14.2	88	71	60-140	21	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	20.5	16.2	102	81	60-140	23	
m&p-Xylene	ug/L	ND	40	40	39.0	31.5	97	79	60-140	21	
Methyl-tert-butyl ether	ug/L	6.6	20	20	28.2	22.8	108	81	60-140	21	
Methylene Chloride	ug/L	ND	20	20	21.6	16.0	108	80	60-140	30	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1145843 1145844

Parameter	Units	92190689006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
n-Butylbenzene	ug/L	ND	20	20	17.8	14.6	89	73	60-140	20	
n-Propylbenzene	ug/L	ND	20	20	19.8	15.8	99	79	60-140	23	
Naphthalene	ug/L	ND	20	20	18.6	14.2	93	71	60-140	27	
o-Xylene	ug/L	ND	20	20	20.0	15.8	100	79	60-140	24	
sec-Butylbenzene	ug/L	ND	20	20	19.4	15.7	97	78	60-140	21	
Styrene	ug/L	ND	20	20	20.8	16.2	104	81	60-140	25	
tert-Butylbenzene	ug/L	ND	20	20	19.4	15.6	97	78	60-140	22	
Tetrachloroethene	ug/L	ND	20	20	19.9	16.1	99	81	60-140	21	
Toluene	ug/L	ND	20	20	19.7	15.8	99	79	60-140	22	
trans-1,2-Dichloroethene	ug/L	ND	20	20	19.3	15.6	97	78	60-140	21	
trans-1,3-Dichloropropene	ug/L	ND	20	20	16.9	13.6	85	68	60-140	21	
Trichloroethene	ug/L	ND	20	20	19.3	15.3	96	77	60-140	23	
Trichlorofluoromethane	ug/L	ND	20	20	21.3	18.2	106	91	60-140	15	
Vinyl chloride	ug/L	ND	20	20	20.1	18.6	101	93	60-140	8	
1,2-Dichloroethane-d4 (S)	%						101	100	70-130		
4-Bromofluorobenzene (S)	%						100	100	70-130		
Toluene-d8 (S)	%						100	100	70-130		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: MSV/25862 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92190355003, 92190355004, 92190355005

METHOD BLANK: 1142847 Matrix: Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	02/22/14 00:19	
1,1,1-Trichloroethane	ug/L	ND	1.0	02/22/14 00:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	02/22/14 00:19	
1,1,2-Trichloroethane	ug/L	ND	1.0	02/22/14 00:19	
1,1-Dichloroethane	ug/L	ND	1.0	02/22/14 00:19	
1,1-Dichloroethene	ug/L	ND	1.0	02/22/14 00:19	
1,1-Dichloropropene	ug/L	ND	1.0	02/22/14 00:19	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	02/22/14 00:19	
1,2,3-Trichloropropane	ug/L	ND	1.0	02/22/14 00:19	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	02/22/14 00:19	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	02/22/14 00:19	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	02/22/14 00:19	
1,2-Dichlorobenzene	ug/L	ND	1.0	02/22/14 00:19	
1,2-Dichloroethane	ug/L	ND	1.0	02/22/14 00:19	
1,2-Dichloropropane	ug/L	ND	1.0	02/22/14 00:19	
1,3-Dichlorobenzene	ug/L	ND	1.0	02/22/14 00:19	
1,3-Dichloropropane	ug/L	ND	1.0	02/22/14 00:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	02/22/14 00:19	
2,2-Dichloropropane	ug/L	ND	1.0	02/22/14 00:19	
2-Butanone (MEK)	ug/L	ND	5.0	02/22/14 00:19	
2-Chlorotoluene	ug/L	ND	1.0	02/22/14 00:19	
2-Hexanone	ug/L	ND	5.0	02/22/14 00:19	
4-Chlorotoluene	ug/L	ND	1.0	02/22/14 00:19	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	02/22/14 00:19	
Acetone	ug/L	ND	25.0	02/22/14 00:19	
Benzene	ug/L	ND	1.0	02/22/14 00:19	
Bromobenzene	ug/L	ND	1.0	02/22/14 00:19	
Bromochloromethane	ug/L	ND	1.0	02/22/14 00:19	
Bromodichloromethane	ug/L	ND	1.0	02/22/14 00:19	
Bromoform	ug/L	ND	1.0	02/22/14 00:19	
Bromomethane	ug/L	ND	2.0	02/22/14 00:19	
Carbon tetrachloride	ug/L	ND	1.0	02/22/14 00:19	
Chlorobenzene	ug/L	ND	1.0	02/22/14 00:19	
Chloroethane	ug/L	ND	1.0	02/22/14 00:19	
Chloroform	ug/L	ND	1.0	02/22/14 00:19	
Chloromethane	ug/L	ND	1.0	02/22/14 00:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/22/14 00:19	
cis-1,3-Dichloropropene	ug/L	ND	1.0	02/22/14 00:19	
Dibromochloromethane	ug/L	ND	1.0	02/22/14 00:19	
Dibromomethane	ug/L	ND	1.0	02/22/14 00:19	
Dichlorodifluoromethane	ug/L	ND	1.0	02/22/14 00:19	
Diisopropyl ether	ug/L	ND	1.0	02/22/14 00:19	
Ethylbenzene	ug/L	ND	1.0	02/22/14 00:19	

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

METHOD BLANK: 1142847 Matrix: Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	1.0	02/22/14 00:19	
m&p-Xylene	ug/L	ND	2.0	02/22/14 00:19	
Methyl-tert-butyl ether	ug/L	ND	1.0	02/22/14 00:19	
Methylene Chloride	ug/L	ND	2.0	02/22/14 00:19	
Naphthalene	ug/L	ND	1.0	02/22/14 00:19	
o-Xylene	ug/L	ND	1.0	02/22/14 00:19	
p-Isopropyltoluene	ug/L	ND	1.0	02/22/14 00:19	
Styrene	ug/L	ND	1.0	02/22/14 00:19	
Tetrachloroethene	ug/L	ND	1.0	02/22/14 00:19	
Toluene	ug/L	ND	1.0	02/22/14 00:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/22/14 00:19	
trans-1,3-Dichloropropene	ug/L	ND	1.0	02/22/14 00:19	
Trichloroethene	ug/L	ND	1.0	02/22/14 00:19	
Trichlorofluoromethane	ug/L	ND	1.0	02/22/14 00:19	
Vinyl acetate	ug/L	ND	2.0	02/22/14 00:19	
Vinyl chloride	ug/L	ND	1.0	02/22/14 00:19	
Xylene (Total)	ug/L	ND	2.0	02/22/14 00:19	
1,2-Dichloroethane-d4 (S)	%	96	70-130	02/22/14 00:19	
4-Bromofluorobenzene (S)	%	98	70-130	02/22/14 00:19	
Toluene-d8 (S)	%	97	70-130	02/22/14 00:19	

LABORATORY CONTROL SAMPLE: 1142848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.2	100	70-130	
1,1,1-Trichloroethane	ug/L	50	43.0	86	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	48.8	98	70-130	
1,1,2-Trichloroethane	ug/L	50	48.2	96	70-130	
1,1-Dichloroethane	ug/L	50	42.1	84	70-130	
1,1-Dichloroethene	ug/L	50	40.6	81	70-132	
1,1-Dichloropropene	ug/L	50	43.0	86	70-130	
1,2,3-Trichlorobenzene	ug/L	50	46.5	93	70-135	
1,2,3-Trichloropropane	ug/L	50	49.3	99	70-130	
1,2,4-Trichlorobenzene	ug/L	50	48.2	96	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	47.6	95	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	49.8	100	70-130	
1,2-Dichlorobenzene	ug/L	50	50.1	100	70-130	
1,2-Dichloroethane	ug/L	50	43.2	86	70-130	
1,2-Dichloropropane	ug/L	50	46.5	93	70-130	
1,3-Dichlorobenzene	ug/L	50	48.8	98	70-130	
1,3-Dichloropropane	ug/L	50	50.5	101	70-130	
1,4-Dichlorobenzene	ug/L	50	49.8	100	70-130	
2,2-Dichloropropane	ug/L	50	39.4	79	58-145	
2-Butanone (MEK)	ug/L	100	87.8	88	70-145	
2-Chlorotoluene	ug/L	50	49.7	99	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

LABORATORY CONTROL SAMPLE: 1142848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Hexanone	ug/L	100	97.5	97	70-144	
4-Chlorotoluene	ug/L	50	51.1	102	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.2	94	70-140	
Acetone	ug/L	100	86.4	86	50-175	
Benzene	ug/L	50	47.6	95	70-130	
Bromobenzene	ug/L	50	49.8	100	70-130	
Bromochloromethane	ug/L	50	43.3	87	70-130	
Bromodichloromethane	ug/L	50	47.2	94	70-130	
Bromoform	ug/L	50	49.8	100	70-130	
Bromomethane	ug/L	50	43.6	87	54-130	
Carbon tetrachloride	ug/L	50	48.1	96	70-132	
Chlorobenzene	ug/L	50	48.8	98	70-130	
Chloroethane	ug/L	50	39.9	80	64-134	
Chloroform	ug/L	50	41.9	84	70-130	
Chloromethane	ug/L	50	44.1	88	64-130	
cis-1,2-Dichloroethene	ug/L	50	42.1	84	70-131	
cis-1,3-Dichloropropene	ug/L	50	45.0	90	70-130	
Dibromochloromethane	ug/L	50	50.4	101	70-130	
Dibromomethane	ug/L	50	46.6	93	70-131	
Dichlorodifluoromethane	ug/L	50	46.0	92	56-130	
Diisopropyl ether	ug/L	50	43.4	87	70-130	
Ethylbenzene	ug/L	50	48.4	97	70-130	
Hexachloro-1,3-butadiene	ug/L	50	46.4	93	70-130	
m&p-Xylene	ug/L	100	99.8	100	70-130	
Methyl-tert-butyl ether	ug/L	50	44.4	89	70-130	
Methylene Chloride	ug/L	50	50.2	100	63-130	
Naphthalene	ug/L	50	48.2	96	70-138	
o-Xylene	ug/L	50	49.4	99	70-130	
p-Isopropyltoluene	ug/L	50	50.0	100	70-130	
Styrene	ug/L	50	51.0	102	70-130	
Tetrachloroethene	ug/L	50	49.6	99	70-130	
Toluene	ug/L	50	46.5	93	70-130	
trans-1,2-Dichloroethene	ug/L	50	40.9	82	70-130	
trans-1,3-Dichloropropene	ug/L	50	47.1	94	70-132	
Trichloroethene	ug/L	50	46.1	92	70-130	
Trichlorofluoromethane	ug/L	50	43.7	87	62-133	
Vinyl acetate	ug/L	100	84.4	84	66-157	
Vinyl chloride	ug/L	50	44.1	88	69-130	
Xylene (Total)	ug/L	150	149	99	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Toluene-d8 (S)	%			97	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1143591 1143592

Parameter	Units	92190582001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	45.5	44.9	91	90	70-166	1	
Benzene	ug/L	ND	50	50	50.3	50.6	101	101	70-148	1	
Chlorobenzene	ug/L	ND	50	50	51.5	52.1	103	104	70-146	1	
Toluene	ug/L	ND	50	50	48.1	48.5	96	97	70-155	1	
Trichloroethene	ug/L	ND	50	50	52.8	52.7	106	105	69-151	0	
1,2-Dichloroethane-d4 (S)	%						100	101	70-130		
4-Bromofluorobenzene (S)	%						97	96	70-130		
Toluene-d8 (S)	%						96	96	70-130		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: MSV/25855 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 92190355006, 92190355007

METHOD BLANK: 1142403 Matrix: Solid
Associated Lab Samples: 92190355006, 92190355007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	5.0	02/21/14 11:34	
1,1,1-Trichloroethane	ug/kg	ND	5.0	02/21/14 11:34	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	02/21/14 11:34	
1,1,2-Trichloroethane	ug/kg	ND	5.0	02/21/14 11:34	
1,1-Dichloroethane	ug/kg	ND	5.0	02/21/14 11:34	
1,1-Dichloroethene	ug/kg	ND	5.0	02/21/14 11:34	
1,1-Dichloropropene	ug/kg	ND	5.0	02/21/14 11:34	
1,2,3-Trichlorobenzene	ug/kg	ND	5.0	02/21/14 11:34	
1,2,3-Trichloropropane	ug/kg	ND	5.0	02/21/14 11:34	
1,2,4-Trichlorobenzene	ug/kg	ND	5.0	02/21/14 11:34	
1,2,4-Trimethylbenzene	ug/kg	ND	5.0	02/21/14 11:34	
1,2-Dibromo-3-chloropropane	ug/kg	ND	5.0	02/21/14 11:34	
1,2-Dibromoethane (EDB)	ug/kg	ND	5.0	02/21/14 11:34	
1,2-Dichlorobenzene	ug/kg	ND	5.0	02/21/14 11:34	
1,2-Dichloroethane	ug/kg	ND	5.0	02/21/14 11:34	
1,2-Dichloropropane	ug/kg	ND	5.0	02/21/14 11:34	
1,3,5-Trimethylbenzene	ug/kg	ND	5.0	02/21/14 11:34	
1,3-Dichlorobenzene	ug/kg	ND	5.0	02/21/14 11:34	
1,3-Dichloropropane	ug/kg	ND	5.0	02/21/14 11:34	
1,4-Dichlorobenzene	ug/kg	ND	5.0	02/21/14 11:34	
2,2-Dichloropropane	ug/kg	ND	5.0	02/21/14 11:34	
2-Butanone (MEK)	ug/kg	ND	101	02/21/14 11:34	
2-Chlorotoluene	ug/kg	ND	5.0	02/21/14 11:34	
2-Hexanone	ug/kg	ND	50.4	02/21/14 11:34	
4-Chlorotoluene	ug/kg	ND	5.0	02/21/14 11:34	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	50.4	02/21/14 11:34	
Acetone	ug/kg	ND	101	02/21/14 11:34	
Benzene	ug/kg	ND	5.0	02/21/14 11:34	
Bromobenzene	ug/kg	ND	5.0	02/21/14 11:34	
Bromochloromethane	ug/kg	ND	5.0	02/21/14 11:34	
Bromodichloromethane	ug/kg	ND	5.0	02/21/14 11:34	
Bromoform	ug/kg	ND	5.0	02/21/14 11:34	
Bromomethane	ug/kg	ND	10.1	02/21/14 11:34	
Carbon tetrachloride	ug/kg	ND	5.0	02/21/14 11:34	
Chlorobenzene	ug/kg	ND	5.0	02/21/14 11:34	
Chloroethane	ug/kg	ND	10.1	02/21/14 11:34	
Chloroform	ug/kg	ND	5.0	02/21/14 11:34	
Chloromethane	ug/kg	ND	10.1	02/21/14 11:34	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	02/21/14 11:34	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	02/21/14 11:34	
Dibromochloromethane	ug/kg	ND	5.0	02/21/14 11:34	
Dibromomethane	ug/kg	ND	5.0	02/21/14 11:34	
Dichlorodifluoromethane	ug/kg	ND	10.1	02/21/14 11:34	

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

METHOD BLANK: 1142403 Matrix: Solid
Associated Lab Samples: 92190355006, 92190355007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/kg	ND	5.0	02/21/14 11:34	
Ethylbenzene	ug/kg	ND	5.0	02/21/14 11:34	
Hexachloro-1,3-butadiene	ug/kg	ND	5.0	02/21/14 11:34	
Isopropylbenzene (Cumene)	ug/kg	ND	5.0	02/21/14 11:34	
m&p-Xylene	ug/kg	ND	10.1	02/21/14 11:34	
Methyl-tert-butyl ether	ug/kg	ND	5.0	02/21/14 11:34	
Methylene Chloride	ug/kg	ND	20.2	02/21/14 11:34	
n-Butylbenzene	ug/kg	ND	5.0	02/21/14 11:34	
n-Propylbenzene	ug/kg	ND	5.0	02/21/14 11:34	
Naphthalene	ug/kg	ND	5.0	02/21/14 11:34	
o-Xylene	ug/kg	ND	5.0	02/21/14 11:34	
p-Isopropyltoluene	ug/kg	ND	5.0	02/21/14 11:34	
sec-Butylbenzene	ug/kg	ND	5.0	02/21/14 11:34	
Styrene	ug/kg	ND	5.0	02/21/14 11:34	
tert-Butylbenzene	ug/kg	ND	5.0	02/21/14 11:34	
Tetrachloroethene	ug/kg	ND	5.0	02/21/14 11:34	
Toluene	ug/kg	ND	5.0	02/21/14 11:34	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	02/21/14 11:34	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	02/21/14 11:34	
Trichloroethene	ug/kg	ND	5.0	02/21/14 11:34	
Trichlorofluoromethane	ug/kg	ND	5.0	02/21/14 11:34	
Vinyl acetate	ug/kg	ND	50.4	02/21/14 11:34	
Vinyl chloride	ug/kg	ND	10.1	02/21/14 11:34	
Xylene (Total)	ug/kg	ND	10.1	02/21/14 11:34	
1,2-Dichloroethane-d4 (S)	%	113	70-132	02/21/14 11:34	
4-Bromofluorobenzene (S)	%	92	70-130	02/21/14 11:34	
Toluene-d8 (S)	%	98	70-130	02/21/14 11:34	

LABORATORY CONTROL SAMPLE: 1142404

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	47.4	44.8	94	70-131	
1,1,1-Trichloroethane	ug/kg	47.4	51.2	108	70-141	
1,1,2,2-Tetrachloroethane	ug/kg	47.4	47.6	100	70-130	
1,1,2-Trichloroethane	ug/kg	47.4	44.9	95	70-132	
1,1-Dichloroethane	ug/kg	47.4	49.3	104	70-143	
1,1-Dichloroethene	ug/kg	47.4	49.2	104	70-137	
1,1-Dichloropropene	ug/kg	47.4	54.0	114	70-135	
1,2,3-Trichlorobenzene	ug/kg	47.4	50.5	106	69-153	
1,2,3-Trichloropropane	ug/kg	47.4	45.4	96	70-130	
1,2,4-Trichlorobenzene	ug/kg	47.4	51.0	108	55-171	
1,2,4-Trimethylbenzene	ug/kg	47.4	51.9	109	70-149	
1,2-Dibromo-3-chloropropane	ug/kg	47.4	45.6	96	68-141	
1,2-Dibromoethane (EDB)	ug/kg	47.4	48.1	101	70-130	
1,2-Dichlorobenzene	ug/kg	47.4	46.4	98	70-140	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

LABORATORY CONTROL SAMPLE: 1142404

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/kg	47.4	45.9	97	70-137	
1,2-Dichloropropane	ug/kg	47.4	45.5	96	70-133	
1,3,5-Trimethylbenzene	ug/kg	47.4	50.0	105	70-143	
1,3-Dichlorobenzene	ug/kg	47.4	45.4	96	70-144	
1,3-Dichloropropane	ug/kg	47.4	46.5	98	70-132	
1,4-Dichlorobenzene	ug/kg	47.4	46.5	98	70-142	
2,2-Dichloropropane	ug/kg	47.4	52.1	110	68-152	
2-Butanone (MEK)	ug/kg	94.9	114	120	70-149	
2-Chlorotoluene	ug/kg	47.4	48.2	102	70-141	
2-Hexanone	ug/kg	94.9	94.7	100	70-149	
4-Chlorotoluene	ug/kg	47.4	48.8	103	70-149	
4-Methyl-2-pentanone (MIBK)	ug/kg	94.9	93.5	99	70-153	
Acetone	ug/kg	94.9	113	119	70-157	
Benzene	ug/kg	47.4	48.2	102	70-130	
Bromobenzene	ug/kg	47.4	47.1	99	70-141	
Bromochloromethane	ug/kg	47.4	49.1	104	70-149	
Bromodichloromethane	ug/kg	47.4	43.4	92	70-130	
Bromoform	ug/kg	47.4	45.9	97	70-131	
Bromomethane	ug/kg	47.4	66.1	139	64-136	L3
Carbon tetrachloride	ug/kg	47.4	42.3	89	70-154	
Chlorobenzene	ug/kg	47.4	44.6	94	70-135	
Chloroethane	ug/kg	47.4	47.9	101	68-151	
Chloroform	ug/kg	47.4	48.0	101	70-130	
Chloromethane	ug/kg	47.4	50.2	106	70-132	
cis-1,2-Dichloroethene	ug/kg	47.4	49.1	104	70-140	
cis-1,3-Dichloropropene	ug/kg	47.4	45.9	97	70-137	
Dibromochloromethane	ug/kg	47.4	44.4	94	70-130	
Dibromomethane	ug/kg	47.4	43.5	92	70-136	
Dichlorodifluoromethane	ug/kg	47.4	55.5	117	36-148	
Diisopropyl ether	ug/kg	47.4	50.3	106	70-139	
Ethylbenzene	ug/kg	47.4	45.9	97	70-137	
Hexachloro-1,3-butadiene	ug/kg	47.4	41.2	87	70-145	
Isopropylbenzene (Cumene)	ug/kg	47.4	48.3	102	70-141	
m&p-Xylene	ug/kg	94.9	93.0	98	70-140	
Methyl-tert-butyl ether	ug/kg	47.4	51.0	107	45-150	
Methylene Chloride	ug/kg	47.4	71.0	150	70-133	L3
n-Butylbenzene	ug/kg	47.4	54.1	114	65-155	
n-Propylbenzene	ug/kg	47.4	51.1	108	70-148	
Naphthalene	ug/kg	47.4	63.7	134	70-148	
o-Xylene	ug/kg	47.4	46.2	97	70-141	
p-Isopropyltoluene	ug/kg	47.4	51.6	109	70-148	
sec-Butylbenzene	ug/kg	47.4	51.0	108	70-145	
Styrene	ug/kg	47.4	47.5	100	70-138	
tert-Butylbenzene	ug/kg	47.4	45.1	95	70-143	
Tetrachloroethene	ug/kg	47.4	43.9	93	70-140	
Toluene	ug/kg	47.4	44.6	94	70-130	
trans-1,2-Dichloroethene	ug/kg	47.4	49.2	104	70-136	
trans-1,3-Dichloropropene	ug/kg	47.4	44.8	94	70-138	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

LABORATORY CONTROL SAMPLE: 1142404

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/kg	47.4	43.5	92	70-132	
Trichlorofluoromethane	ug/kg	47.4	53.1	112	69-134	
Vinyl acetate	ug/kg	94.9	126	133	24-161	
Vinyl chloride	ug/kg	47.4	55.2	116	55-140	
Xylene (Total)	ug/kg	142	139	98	70-141	
1,2-Dichloroethane-d4 (S)	%			111	70-132	
4-Bromofluorobenzene (S)	%			87	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 1143264

Parameter	Units	92190486003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/kg	<4.5	44.4	55.8	126	49-180	
Benzene	ug/kg	<4.5	44.4	55.0	124	50-166	
Chlorobenzene	ug/kg	<4.5	44.4	49.5	112	43-169	
Toluene	ug/kg	<4.5	44.4	55.8	126	52-163	
Trichloroethene	ug/kg	<4.5	44.4	58.2	131	49-167	
1,2-Dichloroethane-d4 (S)	%				91	70-132	
4-Bromofluorobenzene (S)	%				97	70-130	
Toluene-d8 (S)	%				108	70-130	

SAMPLE DUPLICATE: 1143263

Parameter	Units	92190486001 Result	Dup Result	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<4.1	ND		
1,1,1-Trichloroethane	ug/kg	<4.1	ND		
1,1,2,2-Tetrachloroethane	ug/kg	<4.1	ND		
1,1,2-Trichloroethane	ug/kg	<4.1	ND		
1,1-Dichloroethane	ug/kg	<4.1	ND		
1,1-Dichloroethene	ug/kg	<4.1	ND		
1,1-Dichloropropene	ug/kg	<4.1	ND		
1,2,3-Trichlorobenzene	ug/kg	<4.1	ND		
1,2,3-Trichloropropane	ug/kg	<4.1	ND		
1,2,4-Trichlorobenzene	ug/kg	<4.1	ND		
1,2,4-Trimethylbenzene	ug/kg	<4.1	ND		
1,2-Dibromo-3-chloropropane	ug/kg	<4.1	ND		
1,2-Dibromoethane (EDB)	ug/kg	<4.1	ND		
1,2-Dichlorobenzene	ug/kg	<4.1	ND		
1,2-Dichloroethane	ug/kg	<4.1	ND		
1,2-Dichloropropane	ug/kg	<4.1	ND		
1,3,5-Trimethylbenzene	ug/kg	<4.1	ND		
1,3-Dichlorobenzene	ug/kg	<4.1	ND		
1,3-Dichloropropane	ug/kg	<4.1	ND		
1,4-Dichlorobenzene	ug/kg	<4.1	ND		
2,2-Dichloropropane	ug/kg	<4.1	ND		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

SAMPLE DUPLICATE: 1143263

Parameter	Units	92190486001 Result	Dup Result	RPD	Qualifiers
2-Butanone (MEK)	ug/kg	<82.9	ND		
2-Chlorotoluene	ug/kg	<4.1	ND		
2-Hexanone	ug/kg	<41.5	ND		
4-Chlorotoluene	ug/kg	<4.1	ND		
4-Methyl-2-pentanone (MIBK)	ug/kg	<41.5	ND		
Acetone	ug/kg	<82.9	27.1J		
Benzene	ug/kg	<4.1	ND		
Bromobenzene	ug/kg	<4.1	ND		
Bromochloromethane	ug/kg	<4.1	ND		
Bromodichloromethane	ug/kg	<4.1	ND		
Bromoform	ug/kg	<4.1	ND		
Bromomethane	ug/kg	<8.3	ND		
Carbon tetrachloride	ug/kg	<4.1	ND		
Chlorobenzene	ug/kg	<4.1	ND		
Chloroethane	ug/kg	<8.3	ND		
Chloroform	ug/kg	<4.1	ND		
Chloromethane	ug/kg	<8.3	ND		
cis-1,2-Dichloroethene	ug/kg	<4.1	ND		
cis-1,3-Dichloropropene	ug/kg	<4.1	ND		
Dibromochloromethane	ug/kg	<4.1	ND		
Dibromomethane	ug/kg	<4.1	ND		
Dichlorodifluoromethane	ug/kg	<8.3	ND		
Diisopropyl ether	ug/kg	<4.1	ND		
Ethylbenzene	ug/kg	<4.1	ND		
Hexachloro-1,3-butadiene	ug/kg	<4.1	ND		
Isopropylbenzene (Cumene)	ug/kg	<4.1	ND		
m&p-Xylene	ug/kg	<8.3	ND		
Methyl-tert-butyl ether	ug/kg	<4.1	ND		
Methylene Chloride	ug/kg	<16.6	2.6J		
n-Butylbenzene	ug/kg	<4.1	ND		
n-Propylbenzene	ug/kg	<4.1	ND		
Naphthalene	ug/kg	<4.1	ND		
o-Xylene	ug/kg	<4.1	ND		
p-Isopropyltoluene	ug/kg	<4.1	ND		
sec-Butylbenzene	ug/kg	<4.1	ND		
Styrene	ug/kg	<4.1	ND		
tert-Butylbenzene	ug/kg	<4.1	ND		
Tetrachloroethene	ug/kg	<4.1	ND		
Toluene	ug/kg	<4.1	ND		
trans-1,2-Dichloroethene	ug/kg	<4.1	ND		
trans-1,3-Dichloropropene	ug/kg	<4.1	ND		
Trichloroethene	ug/kg	<4.1	ND		
Trichlorofluoromethane	ug/kg	<4.1	ND		
Vinyl acetate	ug/kg	<41.5	ND		
Vinyl chloride	ug/kg	<8.3	ND		
Xylene (Total)	ug/kg	<8.3	ND		
1,2-Dichloroethane-d4 (S)	%	117	88	29	
4-Bromofluorobenzene (S)	%	87	92	6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

SAMPLE DUPLICATE: 1143263

Parameter	Units	92190486001 Result	Dup Result	RPD	Qualifiers
Toluene-d8 (S)	%	97	111	13	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: OEXT/26010 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 92190355003, 92190355004, 92190355005

METHOD BLANK: 1141550 Matrix: Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

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

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

METHOD BLANK: 1141550 Matrix: Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

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

Pace Analytical Services, Inc.
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Huntersville, NC 28078
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

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	92190065001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
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

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

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
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

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(704)875-9092

QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

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

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: OEXT/26002 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 3546 Analysis Description: 8015 Solid GCSV
Associated Lab Samples: 92190355001, 92190355002

METHOD BLANK: 1141205 Matrix: Solid
Associated Lab Samples: 92190355001, 92190355002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Components	mg/kg	ND	5.0	02/20/14 14:23	
n-Pentacosane (S)	%	70	41-119	02/20/14 14:23	

LABORATORY CONTROL SAMPLE: 1141206

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Components	mg/kg	66.7	47.9	72	49-113	
n-Pentacosane (S)	%			79	41-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1141207 1141208

Parameter	Units	92189902002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Diesel Components	mg/kg	101	79.5	79.5	80.5	185	-25	106	10-146	79	M0,R1
n-Pentacosane (S)	%						66	94	41-119		R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: OEXT/26043 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 3546 Analysis Description: 8015 Solid GCSV
Associated Lab Samples: 92190355006, 92190355007

METHOD BLANK: 1142830 Matrix: Solid
Associated Lab Samples: 92190355006, 92190355007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Components	mg/kg	ND	5.0	02/22/14 14:47	
n-Pentacosane (S)	%	78	41-119	02/22/14 14:47	

LABORATORY CONTROL SAMPLE & LCSD: 1142831 1142833

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Components	mg/kg	66.7	51.6	52.6	77	79	49-113	2	30	
n-Pentacosane (S)	%				88	73	41-119			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1143312 1143313

Parameter	Units	92190639002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Diesel Components	mg/kg	90.5	73.9	73.9	153	125	85	47	10-146	20	
n-Pentacosane (S)	%						72	61	41-119		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: OEXT/26015
QC Batch Method: EPA 3546
Analysis Method: EPA 8270
Analysis Description: 8270 Solid MSSV Microwave
Associated Lab Samples: 92190355006, 92190355007

METHOD BLANK: 1141738
Matrix: Solid
Associated Lab Samples: 92190355006, 92190355007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/kg	ND	330	02/25/14 15:56	
1,2-Dichlorobenzene	ug/kg	ND	330	02/25/14 15:56	
1,3-Dichlorobenzene	ug/kg	ND	330	02/25/14 15:56	
1,4-Dichlorobenzene	ug/kg	ND	330	02/25/14 15:56	
1-Methylnaphthalene	ug/kg	ND	330	02/25/14 15:56	
2,4,5-Trichlorophenol	ug/kg	ND	330	02/25/14 15:56	
2,4,6-Trichlorophenol	ug/kg	ND	330	02/25/14 15:56	
2,4-Dichlorophenol	ug/kg	ND	330	02/25/14 15:56	
2,4-Dimethylphenol	ug/kg	ND	330	02/25/14 15:56	
2,4-Dinitrophenol	ug/kg	ND	1650	02/25/14 15:56	
2,4-Dinitrotoluene	ug/kg	ND	330	02/25/14 15:56	
2,6-Dinitrotoluene	ug/kg	ND	330	02/25/14 15:56	
2-Chloronaphthalene	ug/kg	ND	330	02/25/14 15:56	
2-Chlorophenol	ug/kg	ND	330	02/25/14 15:56	
2-Methylnaphthalene	ug/kg	ND	330	02/25/14 15:56	
2-Methylphenol(o-Cresol)	ug/kg	ND	330	02/25/14 15:56	
2-Nitroaniline	ug/kg	ND	1650	02/25/14 15:56	
2-Nitrophenol	ug/kg	ND	330	02/25/14 15:56	
3&4-Methylphenol(m&p Cresol)	ug/kg	ND	330	02/25/14 15:56	
3,3'-Dichlorobenzidine	ug/kg	ND	1650	02/25/14 15:56	
3-Nitroaniline	ug/kg	ND	1650	02/25/14 15:56	
4,6-Dinitro-2-methylphenol	ug/kg	ND	660	02/25/14 15:56	
4-Bromophenylphenyl ether	ug/kg	ND	330	02/25/14 15:56	
4-Chloro-3-methylphenol	ug/kg	ND	660	02/25/14 15:56	
4-Chloroaniline	ug/kg	ND	1650	02/25/14 15:56	
4-Chlorophenylphenyl ether	ug/kg	ND	330	02/25/14 15:56	
4-Nitroaniline	ug/kg	ND	660	02/25/14 15:56	
4-Nitrophenol	ug/kg	ND	1650	02/25/14 15:56	
Acenaphthene	ug/kg	ND	330	02/25/14 15:56	
Acenaphthylene	ug/kg	ND	330	02/25/14 15:56	
Aniline	ug/kg	ND	330	02/25/14 15:56	
Anthracene	ug/kg	ND	330	02/25/14 15:56	
Benzo(a)anthracene	ug/kg	ND	330	02/25/14 15:56	
Benzo(a)pyrene	ug/kg	ND	330	02/25/14 15:56	
Benzo(b)fluoranthene	ug/kg	ND	330	02/25/14 15:56	
Benzo(g,h,i)perylene	ug/kg	ND	330	02/25/14 15:56	
Benzo(k)fluoranthene	ug/kg	ND	330	02/25/14 15:56	
Benzoic Acid	ug/kg	ND	1650	02/25/14 15:56	
Benzyl alcohol	ug/kg	ND	660	02/25/14 15:56	
bis(2-Chloroethoxy)methane	ug/kg	ND	330	02/25/14 15:56	
bis(2-Chloroethyl) ether	ug/kg	ND	330	02/25/14 15:56	
bis(2-Chloroisopropyl) ether	ug/kg	ND	330	02/25/14 15:56	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	330	02/25/14 15:56	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

METHOD BLANK: 1141738 Matrix: Solid
Associated Lab Samples: 92190355006, 92190355007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Butylbenzylphthalate	ug/kg	ND	330	02/25/14 15:56	
Chrysene	ug/kg	ND	330	02/25/14 15:56	
Di-n-butylphthalate	ug/kg	ND	330	02/25/14 15:56	
Di-n-octylphthalate	ug/kg	ND	330	02/25/14 15:56	
Dibenz(a,h)anthracene	ug/kg	ND	330	02/25/14 15:56	
Dibenzofuran	ug/kg	ND	330	02/25/14 15:56	
Diethylphthalate	ug/kg	ND	330	02/25/14 15:56	
Dimethylphthalate	ug/kg	ND	330	02/25/14 15:56	
Fluoranthene	ug/kg	ND	330	02/25/14 15:56	
Fluorene	ug/kg	ND	330	02/25/14 15:56	
Hexachloro-1,3-butadiene	ug/kg	ND	330	02/25/14 15:56	
Hexachlorobenzene	ug/kg	ND	330	02/25/14 15:56	
Hexachlorocyclopentadiene	ug/kg	ND	330	02/25/14 15:56	
Hexachloroethane	ug/kg	ND	330	02/25/14 15:56	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	330	02/25/14 15:56	
Isophorone	ug/kg	ND	330	02/25/14 15:56	
N-Nitroso-di-n-propylamine	ug/kg	ND	330	02/25/14 15:56	
N-Nitrosodimethylamine	ug/kg	ND	330	02/25/14 15:56	
N-Nitrosodiphenylamine	ug/kg	ND	330	02/25/14 15:56	
Naphthalene	ug/kg	ND	330	02/25/14 15:56	
Nitrobenzene	ug/kg	ND	330	02/25/14 15:56	
Pentachlorophenol	ug/kg	ND	1650	02/25/14 15:56	
Phenanthrene	ug/kg	ND	330	02/25/14 15:56	
Phenol	ug/kg	ND	330	02/25/14 15:56	
Pyrene	ug/kg	ND	330	02/25/14 15:56	
2,4,6-Tribromophenol (S)	%	85	27-110	02/25/14 15:56	
2-Fluorobiphenyl (S)	%	80	30-110	02/25/14 15:56	
2-Fluorophenol (S)	%	80	13-110	02/25/14 15:56	
Nitrobenzene-d5 (S)	%	73	23-110	02/25/14 15:56	
Phenol-d6 (S)	%	78	22-110	02/25/14 15:56	
Terphenyl-d14 (S)	%	105	28-110	02/25/14 15:56	

LABORATORY CONTROL SAMPLE: 1141739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/kg	1670	1220	73	39-101	
1,2-Dichlorobenzene	ug/kg	1670	1210	73	36-110	
1,3-Dichlorobenzene	ug/kg	1670	1190	71	35-110	
1,4-Dichlorobenzene	ug/kg	1670	1210	73	35-110	
1-Methylnaphthalene	ug/kg	1670	1380	83	45-105	
2,4,5-Trichlorophenol	ug/kg	1670	1400	84	48-109	
2,4,6-Trichlorophenol	ug/kg	1670	1290	77	45-111	
2,4-Dichlorophenol	ug/kg	1670	1420	85	51-116	
2,4-Dimethylphenol	ug/kg	1670	1510	90	42-103	
2,4-Dinitrophenol	ug/kg	8330	5120	61	28-103	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

LABORATORY CONTROL SAMPLE: 1141739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrotoluene	ug/kg	1670	1550	93	46-114	
2,6-Dinitrotoluene	ug/kg	1670	1490	89	48-112	
2-Chloronaphthalene	ug/kg	1670	1100	66	44-105	
2-Chlorophenol	ug/kg	1670	1400	84	36-110	
2-Methylnaphthalene	ug/kg	1670	1430	86	39-112	
2-Methylphenol(o-Cresol)	ug/kg	1670	1410	85	39-101	
2-Nitroaniline	ug/kg	3330	2810	84	44-111	
2-Nitrophenol	ug/kg	1670	1380	83	41-100	
3&4-Methylphenol(m&p Cresol)	ug/kg	1670	1420	85	43-103	
3,3'-Dichlorobenzidine	ug/kg	3330	2820	84	10-150	
3-Nitroaniline	ug/kg	3330	2840	85	35-110	
4,6-Dinitro-2-methylphenol	ug/kg	3330	2480	74	38-118	
4-Bromophenylphenyl ether	ug/kg	1670	1380	83	47-115	
4-Chloro-3-methylphenol	ug/kg	3330	2950	88	43-127	
4-Chloroaniline	ug/kg	3330	2750	82	34-109	
4-Chlorophenylphenyl ether	ug/kg	1670	1400	84	44-115	
4-Nitroaniline	ug/kg	3330	2980	89	37-111	
4-Nitrophenol	ug/kg	8330	6710	80	21-152	
Acenaphthene	ug/kg	1670	1250	75	38-117	
Acenaphthylene	ug/kg	1670	1320	79	46-107	
Aniline	ug/kg	1670	1230	74	29-110	
Anthracene	ug/kg	1670	1430	86	50-110	
Benzo(a)anthracene	ug/kg	1670	1380	83	47-116	
Benzo(a)pyrene	ug/kg	1670	1470	88	47-106	
Benzo(b)fluoranthene	ug/kg	1670	1420	85	47-109	
Benzo(g,h,i)perylene	ug/kg	1670	1280	77	39-115	
Benzo(k)fluoranthene	ug/kg	1670	1330	80	45-117	
Benzoic Acid	ug/kg	8330	5600	67	16-110	
Benzyl alcohol	ug/kg	3330	2470	74	38-105	
bis(2-Chloroethoxy)methane	ug/kg	1670	1280	77	39-110	
bis(2-Chloroethyl) ether	ug/kg	1670	1320	79	19-119	
bis(2-Chloroisopropyl) ether	ug/kg	1670	1180	71	21-110	
bis(2-Ethylhexyl)phthalate	ug/kg	1670	1380	83	35-116	
Butylbenzylphthalate	ug/kg	1670	1420	85	38-110	
Chrysene	ug/kg	1670	1430	86	49-110	
Di-n-butylphthalate	ug/kg	1670	1310	79	43-109	
Di-n-octylphthalate	ug/kg	1670	1460	87	37-109	
Dibenz(a,h)anthracene	ug/kg	1670	1390	83	43-116	
Dibenzofuran	ug/kg	1670	1190	71	45-106	
Diethylphthalate	ug/kg	1670	1270	76	41-114	
Dimethylphthalate	ug/kg	1670	1210	72	43-110	
Fluoranthene	ug/kg	1670	1450	87	50-114	
Fluorene	ug/kg	1670	1390	83	46-114	
Hexachloro-1,3-butadiene	ug/kg	1670	1220	73	28-111	
Hexachlorobenzene	ug/kg	1670	1240	74	46-120	
Hexachlorocyclopentadiene	ug/kg	1670	995	60	18-119	
Hexachloroethane	ug/kg	1670	1160	69	33-110	
Indeno(1,2,3-cd)pyrene	ug/kg	1670	1380	83	42-115	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

LABORATORY CONTROL SAMPLE: 1141739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Isophorone	ug/kg	1670	1380	83	44-109	
N-Nitroso-di-n-propylamine	ug/kg	1670	1080	65	43-104	
N-Nitrosodimethylamine	ug/kg	1670	1100	66	29-110	
N-Nitrosodiphenylamine	ug/kg	1670	1150	69	48-113	
Naphthalene	ug/kg	1670	1330	80	41-110	
Nitrobenzene	ug/kg	1670	1320	79	38-110	
Pentachlorophenol	ug/kg	3330	2490	75	32-128	
Phenanthrene	ug/kg	1670	1380	83	50-110	
Phenol	ug/kg	1670	1460	88	28-106	
Pyrene	ug/kg	1670	1680	101	45-114	
2,4,6-Tribromophenol (S)	%			95	27-110	
2-Fluorobiphenyl (S)	%			77	30-110	
2-Fluorophenol (S)	%			87	13-110	
Nitrobenzene-d5 (S)	%			77	23-110	
Phenol-d6 (S)	%			87	22-110	
Terphenyl-d14 (S)	%			103	28-110	

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: OEXT/26076 Analysis Method: MADEP EPH
QC Batch Method: MADEP EPH Analysis Description: MADEP EPH NC Soil
Associated Lab Samples: 92190355006, 92190355007

METHOD BLANK: 1143989 Matrix: Solid
Associated Lab Samples: 92190355006, 92190355007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aliphatic (C09-C18)	mg/kg	ND	10.0	02/25/14 18:45	N2
Aliphatic (C19-C36)	mg/kg	ND	10.0	02/25/14 18:45	N2
Aromatic (C11-C22)	mg/kg	ND	10.0	02/25/14 18:45	N2
2-Bromonaphthalene (S)	%	86	40-140	02/25/14 18:45	
2-Fluorobiphenyl (S)	%	79	40-140	02/25/14 18:45	
Nonatriacontane (S)	%	68	40-140	02/25/14 18:45	
o-Terphenyl (S)	%	86	40-140	02/25/14 18:45	

LABORATORY CONTROL SAMPLE & LCSD: 1143990 1143991

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Aliphatic (C09-C18)	mg/kg	10	ND	ND	78	81	40-140		50	N2
Aliphatic (C19-C36)	mg/kg	13.3	11.1	12.7	83	95	40-140	13	50	N2
Aromatic (C11-C22)	mg/kg	28.3	15.5	22.0	55	78	40-140	34	50	N2
2-Bromonaphthalene (S)	%				52	67	40-140			
2-Fluorobiphenyl (S)	%				47	62	40-140			
Nonatriacontane (S)	%				66	85	40-140			
o-Terphenyl (S)	%				47	68	40-140			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: OEXT/26031 Analysis Method: MADEP EPH
QC Batch Method: MADEP EPH Analysis Description: MADEP EPH NC Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

METHOD BLANK: 1142333 Matrix: Water
Associated Lab Samples: 92190355003, 92190355004, 92190355005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aliphatic (C09-C18)	ug/L	ND	100	02/24/14 17:37	N2
Aliphatic (C19-C36)	ug/L	ND	100	02/24/14 17:37	N2
Aromatic (C11-C22)	ug/L	ND	100	02/24/14 17:37	N2
2-Bromonaphthalene (S)	%	103	40-140	02/24/14 17:37	
2-Fluorobiphenyl (S)	%	84	40-140	02/24/14 17:37	
Nonatriacontane (S)	%	60	40-140	02/24/14 17:37	
o-Terphenyl (S)	%	77	40-140	02/24/14 17:37	

LABORATORY CONTROL SAMPLE & LCSD: 1142334 1142335

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Aliphatic (C09-C18)	ug/L	300	150	148	50	49	40-140	2	50	N2
Aliphatic (C19-C36)	ug/L	400	226	225	56	56	40-140	0	50	N2
Aromatic (C11-C22)	ug/L	850	583	811	69	95	40-140	33	50	N2
2-Bromonaphthalene (S)	%				83	112	40-140			
2-Fluorobiphenyl (S)	%				71	103	40-140			
Nonatriacontane (S)	%				64	66	40-140			
o-Terphenyl (S)	%				75	95	40-140			

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QUALITY CONTROL DATA

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

QC Batch: PMST/6289 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 92190355001, 92190355002, 92190355006, 92190355007

SAMPLE DUPLICATE: 1146587

Parameter	Units	92190355001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	19.5	20.1	3	

SAMPLE DUPLICATE: 1146588

Parameter	Units	92191196023 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	16.6	16.8	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

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.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte
PASI-I	Pace Analytical Services - Indianapolis

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
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.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
N	Tentatively identified compound (TIC) based on mass spectral library search
N2	The lab does not hold TNI accreditation for this parameter.
R1	RPD value was outside control limits.
S1	Surrogate recovery outside laboratory control limits (confirmed by re-analysis).
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92190355001	**B-13-01 6FT**	EPA 3546	OEXT/26002	EPA 8015 Modified	GCSV/16718
92190355002	**DUPLICATE -1**	EPA 3546	OEXT/26002	EPA 8015 Modified	GCSV/16718
92190355006	**B-07-02 8'**	EPA 3546	OEXT/26043	EPA 8015 Modified	GCSV/16735
92190355007	**B-07-06 10'**	EPA 3546	OEXT/26043	EPA 8015 Modified	GCSV/16735
92190355003	**B-16/17-01**	EPA 8015 - Alcohol-Glycol	GCSV/12153		
92190355004	**B-18-01**	EPA 8015 - Alcohol-Glycol	GCSV/12153		
92190355005	**DUPLICATE-2**	EPA 8015 - Alcohol-Glycol	GCSV/12153		
92190355006	**B-07-02 8'**	MADEP EPH	OEXT/26076	MADEP EPH	GCSV/16765
92190355007	**B-07-06 10'**	MADEP EPH	OEXT/26076	MADEP EPH	GCSV/16765
92190355003	**B-16/17-01**	MADEP EPH	OEXT/26031	MADEP EPH	GCSV/16758
92190355004	**B-18-01**	MADEP EPH	OEXT/26031	MADEP EPH	GCSV/16758
92190355005	**DUPLICATE-2**	MADEP EPH	OEXT/26031	MADEP EPH	GCSV/16758
92190355001	**B-13-01 6FT**	EPA 5035A/5030B	GCV/7826	EPA 8015 Modified	GCV/7828
92190355002	**DUPLICATE -1**	EPA 5035A/5030B	GCV/7826	EPA 8015 Modified	GCV/7828
92190355006	**B-07-02 8'**	EPA 5035A/5030B	GCV/7833	EPA 8015 Modified	GCV/7834
92190355007	**B-07-06 10'**	EPA 5035A/5030B	GCV/7833	EPA 8015 Modified	GCV/7834
92190355006	**B-07-02 8'**	MADEP VPH	GCV/7860	MADEP VPH	GCV/7865
92190355007	**B-07-06 10'**	MADEP VPH	GCV/7860	MADEP VPH	GCV/7865
92190355003	**B-16/17-01**	MADEP VPH	GCV/7835		
92190355004	**B-18-01**	MADEP VPH	GCV/7835		
92190355005	**DUPLICATE-2**	MADEP VPH	GCV/7835		
92190355006	**B-07-02 8'**	EPA 3050	MPRP/15312	EPA 6010	ICP/13889
92190355007	**B-07-06 10'**	EPA 3050	MPRP/15312	EPA 6010	ICP/13889
92190355003	**B-16/17-01**	EPA 3010	MPRP/15285	EPA 6010	ICP/13867
92190355004	**B-18-01**	EPA 3010	MPRP/15285	EPA 6010	ICP/13867
92190355005	**DUPLICATE-2**	EPA 3010	MPRP/15285	EPA 6010	ICP/13867
92190355003	**B-16/17-01**	EPA 625	OEXT/26010	EPA 625	MSSV/8797
92190355004	**B-18-01**	EPA 625	OEXT/26010	EPA 625	MSSV/8797
92190355005	**DUPLICATE-2**	EPA 625	OEXT/26010	EPA 625	MSSV/8797
92190355006	**B-07-02 8'**	EPA 3546	OEXT/26015	EPA 8270	MSSV/8785
92190355007	**B-07-06 10'**	EPA 3546	OEXT/26015	EPA 8270	MSSV/8785
92190355003	**B-16/17-01**	SM 6200B	MSV/25905		
92190355004	**B-18-01**	SM 6200B	MSV/25905		
92190355005	**DUPLICATE-2**	SM 6200B	MSV/25905		
92190355003	**B-16/17-01**	EPA 8260	MSV/25862		
92190355004	**B-18-01**	EPA 8260	MSV/25862		
92190355005	**DUPLICATE-2**	EPA 8260	MSV/25862		
92190355006	**B-07-02 8'**	EPA 8260	MSV/25855		
92190355007	**B-07-06 10'**	EPA 8260	MSV/25855		
92190355001	**B-13-01 6FT**	ASTM D2974-87	PMST/6289		
92190355002	**DUPLICATE -1**	ASTM D2974-87	PMST/6289		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FAYETTEVILLE PSA'S 33727.1.1
Pace Project No.: 92190355

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92190355006	**B-07-02 8'**	ASTM D2974-87	PMST/6289		
92190355007	**B-07-06 10'**	ASTM D2974-87	PMST/6289		

Pace Analytical	Sample Condition Upon Receipt (SCUR)	Page 1 of 2
	Document Number: F-CHR-CS-03-rev.13	Issuing Authority: Pace Huntersville Quality Office

Client Name: Schabel Eng.

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

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.: 5.8 °C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ZD 2/20/14

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12. Received 2 extra samples not on COC EPH, metals by 6010, 8270, VPH kit, and 8260 kit not on COC. Sample #1 ID - B-07-07 8' 2/18/14 at 1620
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13. Sample #2 ID - B-07-06 16' 2/18/14 at 1610
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☑Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Ben Bradley Date/Time: 2/20/14

Comments/ Resolution: Ben informed to analyze extra samples for: DRO, GRO, 8260, 8270, crt Pb, VPH, & EPH. KD

SCURF Review: KD Date: 2/20/14

SRF Review: KD Date: 2/21/14

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#: 92190355

92190355

Pace Analytical®
www.pacelabs.com

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

1785329

Section A — Required Client Information:

Company: Schnabel Engineering
Address: 1-A Oak Branch Dr
Greensboro, NC 27407
Email To: bradley@schnabeleng.com
Phone: Fax:
Requested Due Date/TAT:

Section B — Required Project Information:

Report To: Ben Bradley
Copy To:
Purchase Order No.:
Project Name: Fayetteville PSAs
Project Number: B-4490

Section C — Invoice Information:

Attention:
Company Name: WBS Element 33727.1.1
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE:

Section D — Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	TPH Gas	TPH Diesel	Cr+Pb	VPH	EPH	625+10 Tics	6200B	Ethylene Glycol	Ethanol	Halogenated/Non Halogenated	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	B-13-01 6 FT	SL	G	2-19	2:15				4										X	X									001
2	Duplicate-1	SL	|	2-19					4										X	X									DUP
3	B-16/17-01	WT	|	2-19	13:00															X	X	X	X	X	X	X	X		002
4	B-15-01	WT	|	2-19	14:30															X	X	X	X	X	X	X	X		003
5	Duplicate-2	WT	↓	2-19																X	X	X	X	X	X	X	X		DUP
6																													006
7																													007
8																													
9																													
10																													
11																													
12																													

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Benjamin L. Bradley	2-19	16:15	Zack [illegible]	2/20/14	930	5.8	4	4	4

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

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.