Report of

Phase II Soil Assessment

Prepared for

Randolph County EDC

May 6, 2015

ECS Carolinas, LLP
4811 Koger Blvd.
Greensboro, North Carolina, 27407
(336) 856-7150

May 6, 2015

Ms. Bonnie R. Renfro
Randolph County EDC
P.O. Box 2001
Asheboro, North Carolina 27204

Reference: Phase II Soil Assessment Report
Liberty Mega Site
Liberty, Randolph, North Carolina
ECS Project 09-24982C

Dear Ms. Renfro:

ECS Carolinas, LLP (ECS) is pleased to provide Randolph County EDC with the results of the Phase II Soil Assessment we conducted at the above referenced site. ECS' services were conducted in accordance with the services outlined in ECS Proposal 09-22754-P dated February 16, 2015 and authorized on March 12, 2015. ECS appreciates the opportunity to provide our services to you. If there are questions regarding this report, or a need for further information, please contact us at (336) 856-7150.

Respectfully submitted,

ECS CAROLINAS, LLP

Ken Vilagos
Environmental Scientist

John M. Stewart, P.G.
Chief Geologist

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1.0 PROJECT INFORMATION

1.1 Background/Introduction

The subject site consists of fifty-seven parcels totaling approximately 1,400 acres located near Liberty, Randolph County, North Carolina (Figures 1 and 2). The site contains undeveloped land, agricultural fields, single family residences, and agricultural structures in various degrees of disrepair, asphalt roadways and gravel roadways. Two commercial businesses, Yates American Machine Co. (Parcel 2) and Crutchfields Automotive Repair (Parcel 56), are located on the site. The structures located on the site utilize water supply wells and septic systems. ECS completed a Phase I Environmental Site Assessment (ESA) of the site in January 2015 (ECS Project 09.24982, report dated January 23, 2015). The ESA identified several areas/properties considered to be recognized environmental concerns (RECs). The parcels where the RECs were identified are shown on Figure 2. The RECs are summarized below.

Yates American Machine Co. is located on Parcel 4. According to the owner of the parcel, Mr. Dexter Blakely, the business primarily acquires and distributes logging and wood-working parts. Some machining is performed at the facility. Various sized containers of gasoline, diesel, hydraulic oil and cutting oil were observed in the building. A self-contained parts cleaner was observed in the building. Mr. Blakely indicated that Safety Kleen maintains the parts cleaner. Mr. Blakely indicated that used fluids are transported off-site for disposal. *De minimus* staining was observed on the concrete floor. Floor drains were not observed. The property utilizes a septic system, which could receive automotive fluids and part cleaners poured down drains.

A storage structure was observed on Parcel 6, north of the power line easement. Various machine parts were observed in and around the structure. Several unlabeled 55-gallon drums were observed in the vicinity of the structure. One empty above ground storage tank (AST) was observed west of the structure. Stained soil was not observed beneath or adjacent to the AST. Stained soil from fluids from the various machine parts was observed on the dirt floor of the structure.

Three storage sheds were observed on the northeastern portion of Parcel 30. A heating oil AST was observed east of the eastern storage shed. An additional AST was observed inside of the shed. Several five-gallon containers of used motor oil were observed in the shed. Several unlabeled 55-gallon drums with unknown contents were also observed in the shed. Stained soil was observed surrounding the five-gallon containers and drums.

An apparent automobile repair business (Crutchfields) is located on Parcel 56. Various automobile parts, including apparent gasoline tanks, were observed adjacent to the building. Several 55-gallon drums containing antifreeze and motor oil were observed in the vicinity of the building. An apparent heating oil AST was observed north of the building. A compressor was observed east of the building. Staining was not observed in the vicinity of the drums, AST or compressor. A drainpipe was observed on the eastern wall of the building. Sanitary sewer services are not available in the vicinity of the site. It is likely the business utilizes a septic system, which could receive automotive fluids and part cleaners poured down drains

Based on a potential real estate transaction and in an effort to determine if the site has been adversely impacted by the RECs identified during the Phase I ESA/other document, ECS was

contracted to conduct an assessment of the site. Project information is based on correspondence between Ms. Bonnie Renfro and Mr. Brian Maas, Mr. Randy Cavalier, Mr. Ken Vilagos and the previously cited Phase I ESA/other document.

2.0 SCOPE OF SERVICES

2.1 Introduction to Scope of Work

The Phase II ESA soil assessment consisted of collecting soil samples using a Geoprobe® drill rig and a hand auger. The subcontractor used for this project was 3-D Environmental Investigations, LLC.

2.2 Public Utility Clearance

Prior to commencing with field activities, ECS contacted North Carolina State Locating Service to locate/mark public utilities at the site. Required separation distances between subsurface activities and marked utilities (typically 30-inches) were maintained during the field activities.

2.3 Health and Safety Plan

As part of this assessment, ECS prepared a site-specific health and safety plan (HASP) for the site. The HASP documented the known or suspected hazards, applicable personal protective equipment (PPE) of site personnel, and emergency response procedures. Prior to commencing with field activities, ECS and its subcontractors and applicable site personnel reviewed the site-specific HASP.

2.4 Geoprobe® Drilling Services

The Geoprobe® consists of a hydraulic jack mounted on a light-duty truck or all-terrain vehicle (ATV). The Geoprobe® is capable of driving various forms of groundwater, soil, and soil-gas sampling probes into the ground to depths equivalent of auger refusal.

2.5 Geoprobe® Soil Borings

On March 26, 2015, soil borings were advanced by hydraulically driving a five-foot long, 1.5-inch soil sampling probe into the soil. Prior to advancing each boring, the down hole equipment and Geoprobe® drill rig were decontaminated utilizing a high pressure steam cleaner that utilized municipal water. The down hole equipment and drill rig were decontaminated to prevent cross-contamination between boring locations. The soil sampling probe is lined with a disposable clear plastic tube, which is replaced with each five-foot interval. After the probe is driven, the clear plastic tube filled with soil is removed from the probe. The clear plastic tube is then cut open to remove the soil.

Parcel 4

Four borings were drilled in the area of the septic drain field to collect four soil samples. Borings P4-1 through P4-4 were advanced to a depth of 5 feet where the sample was collected. The approximate location of the borings is shown on Figure 3.

Parcel 6

Based on the size of the stained area adjacent to the machine parts, one boring was drilled to collect a soil sample. Boring P6-1 was advanced to a depth of 2 feet where the sample was collected. The approximate location of the borings is shown on Figure 4.

Parcel 30

Based on the size of the stained area adjacent to the drums and containers, two borings were drilled to collect soil samples. Because one of the stained areas was inside a shed, the boring for P30-2 was drilled with a hand auger. Borings P30-1 and P30-2 were advanced to a depth of 2 feet where the sample was collected. The approximate location of the borings is shown on Figure 5.

Parcel 56

Four borings were drilled in the area of the septic drain field to collect four soil samples. Borings P56-1 through P56-4 were advanced to a depth of 5 feet where the sample was collected. The approximate location of the borings is shown on Figure 6.

2.6 Sample Preparation and Submittal

The soil samples were placed into laboratory prepared containers. The sample containers were labeled with ECS project number, sample identification, sample date and time, and requested analytical analysis. Samples were labeled using the parcel numbers shown on Figure 2 and the boring number in series. The containers were placed into protective packaging material and placed into a cooler with ice to maintain the samples at approximately 4° Celsius (C°). The samples were submitted to Research and Analytical Laboratories Inc. (R&A Labs), Kernersville, North Carolina #34 for chemical analysis.

The samples collected from Parcels 4 and 56 were analyzed for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), using EPA Methods 8260 and 8270 BNA, respectively. The samples collected from Parcels 6 and 30 were analyzed for VOCs and total petroleum hydrocarbons using EPA Methods 8260 and8015/3550 and 8015/5035, respectively. ECS maintained chain-of-custody (COC) procedures throughout the sample collection and transportation process. Copies of the COCs are included in Appendix A.

3.0 RESULTS

Laboratory analysis of soil samples P4-1through P4-4; P6-1; and P56-1through P56-4 did not detect targeted compounds above laboratory quantitation limits.

Laboratory analysis of soil samples P6-1 and P30-1 detected Total Petroleum Hydrocarbons (TPH) above laboratory quantitation limits and in concentrations that exceed the State Action Level.

A summary of the laboratory analytical results is included in Table 1. The laboratory data sheets are included in Appendix A.

4.0 CONCLUSIONS

Based on the results of the Phase II ESA soil assessment, ECS concludes the following:

Analysis of the samples collected in the area of stained soil on Parcel 6 and Parcel 30 detected petroleum hydrocarbons above State Action Levels. The analysis did not detected petroleum hydrocarbons, VOCs, or SVOCs in the septic drain fields where sampled.

5.0 RECOMMENDATIONS

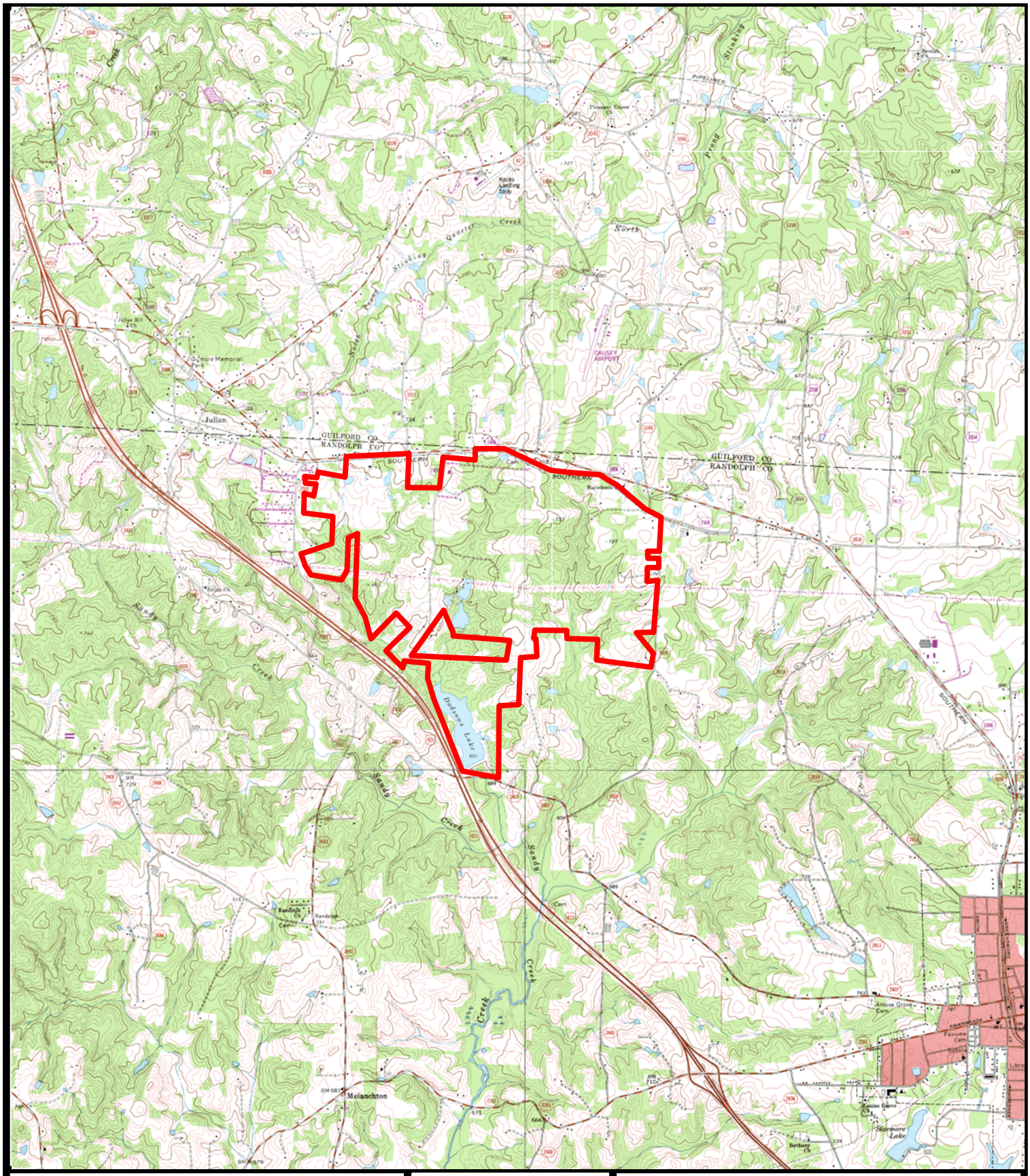
Based on the results of the assessment, ECS recommends the following:

- The stained areas of soil on Parcels 6 and 30 need to excavated and taken off-site to licensed disposal facility.
- The drums, containers, and tanks of liquid need to removed and properly disposed.

6.0 QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in soil assessment projects of this type. Our evaluation of site conditions has been based on our understanding of the site project information and the data obtained during our field activities. This report was prepared for the express use of Randolph County EDC. Use of this report by other individuals or companies implies their acceptance of the General Conditions of Service of the original contract.

FIGURES



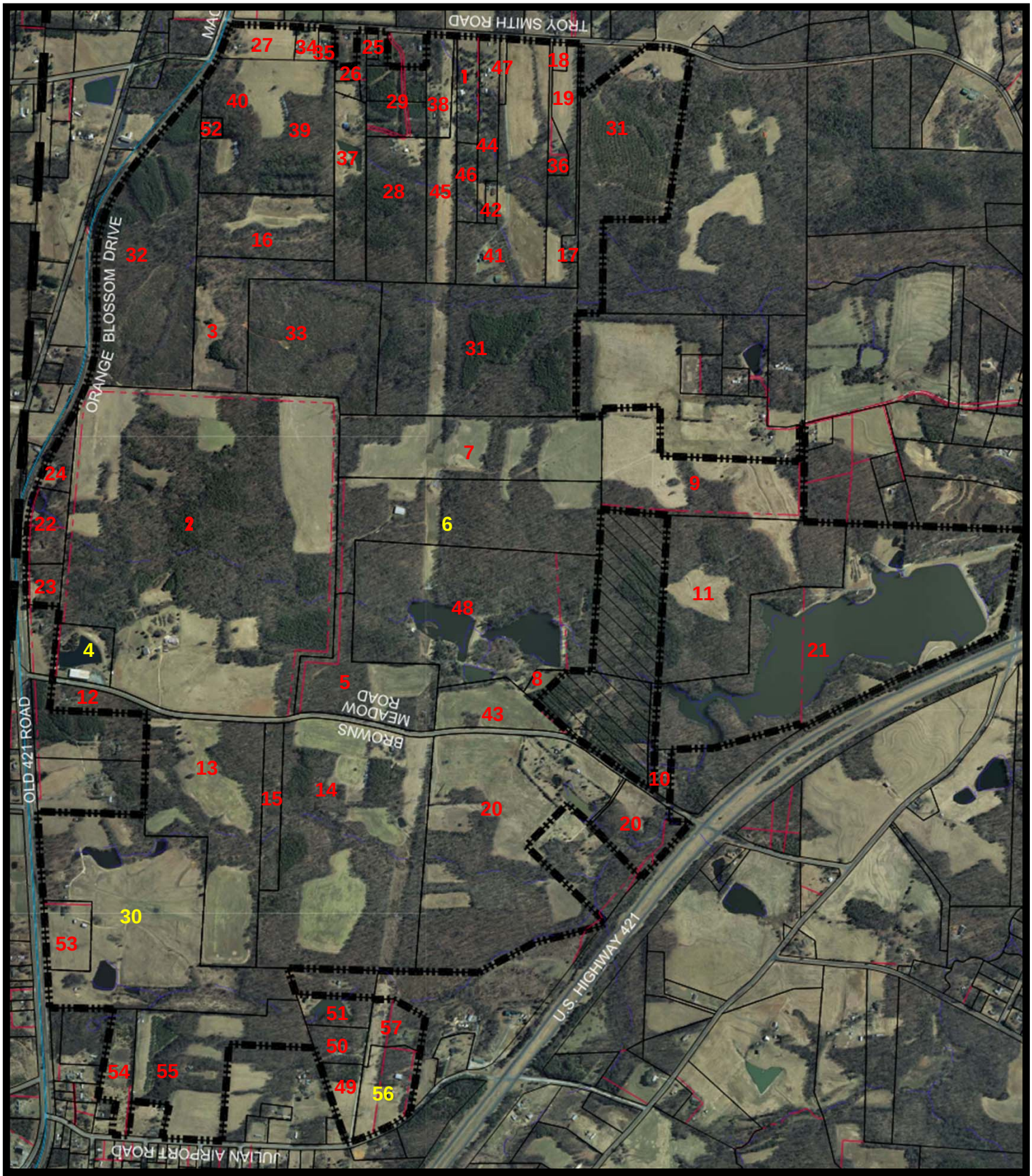
SOURCE:
USGS TOPOGRAPHIC MAP
CLIMAX, NC QUADRANGLE,
DATED 1970 REVISED 1982; KIMESVILLE, NC QUADRANGLE DATED 1970 REVISED 1982; GREY CHAPEL, NC QUADRANGLE, DATED 1974; LIBERTY, NC QUADRANGLE, DATED 1974

SCALE 1" = 4,000'

FIGURE 1
SITE LOCATION MAP

LIBERTY MEGA SITE
HIGHWAY 421
LIBERTY, NORTH CAROLINA

ECS PROJECT NO. 09-24982C



SOURCE:

GOOGLE EATH SATELLITE IMAGERY
AERIAL PHOTOGRAPH, DATED 2014

NTS

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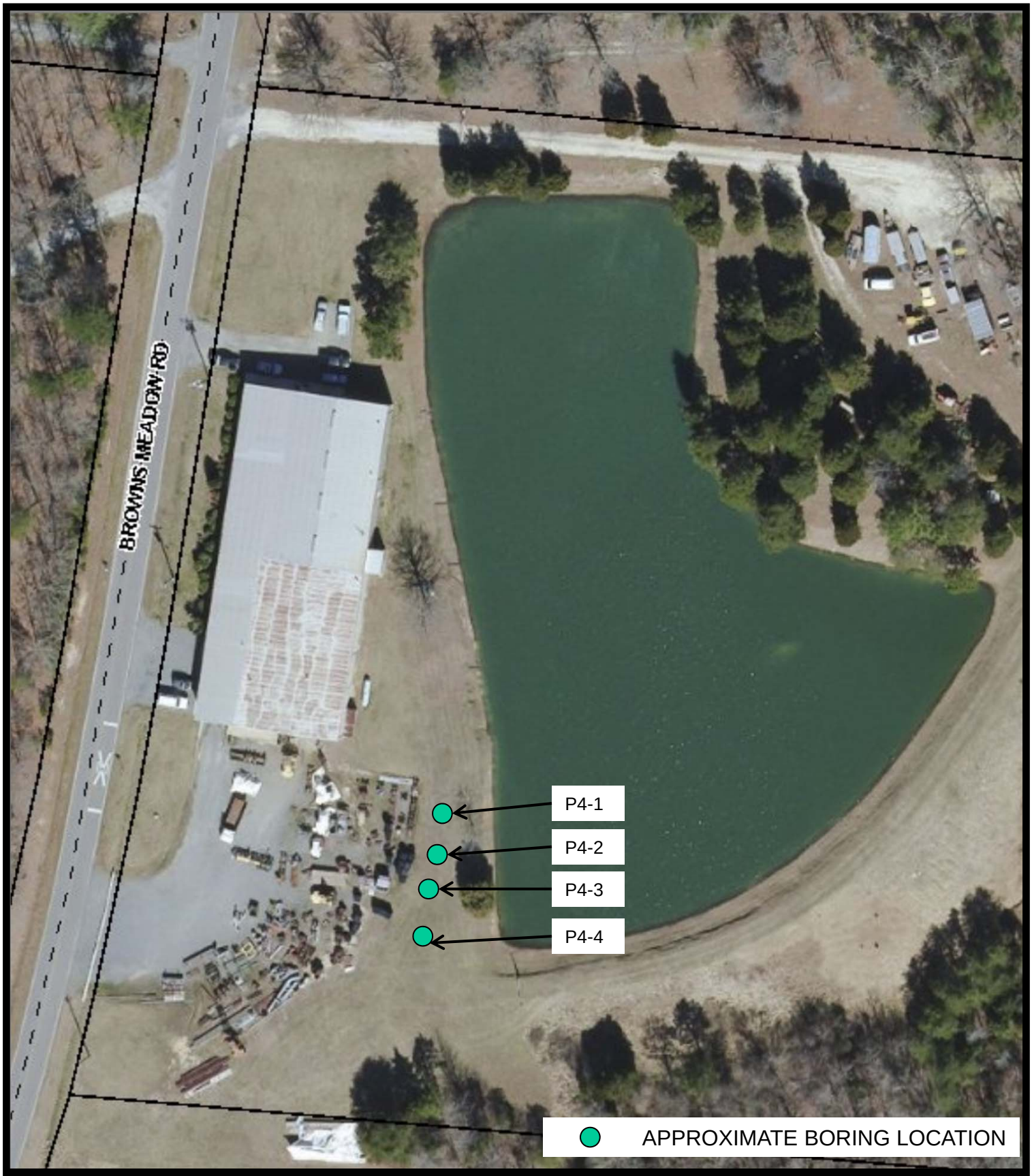
FIGURE 2
PARCEL LOCATION MAP

LIBERTY MEGA SITE
HIGHWAY 421
LIBERTY, NORTH CAROLINA

ECS PROJECT NO. 09-24982C



SOURCE:
RANDOLPH COUNTY GIS
AERIAL PHOTOGRAPH, DATED 2014

NTS

FIGURE 3
BORING LOCATION MAP
PARCEL 4
LIBERTY MEGA SITE
HIGHWAY 421
LIBERTY, NORTH CAROLINA

ECS PROJECT NO. 09-24982C

SOURCE:
RANDOLPH COUNTY GIS
AERIAL PHOTOGRAPH, DATED 2014

NTS

FIGURE 4
BORING LOCATION MAP
PARCEL 6
LIBERTY MEGA SITE
HIGHWAY 421
LIBERTY, NORTH CAROLINA

ECS PROJECT NO. 09-24982C

SOURCE:
RANDOLPH COUNTY GIS
AERIAL PHOTOGRAPH, DATED 2014

NTS

FIGURE 5
BORING LOCATION MAP
PARCEL 30
LIBERTY MEGA SITE
HIGHWAY 421
LIBERTY, NORTH CAROLINA

ECS PROJECT NO. 09-24982C

SOURCE:
RANDOLPH COUNTY GIS
AERIAL PHOTOGRAPH, DATED 2014

NTS

FIGURE 6
BORING LOCATION MAP
PARCEL 56
LIBERTY MEGA SITE
HIGHWAY 421
LIBERTY, NORTH CAROLINA

ECS PROJECT NO. 09-24982C

TABLES

TABLE 1: SUMMARY OF SOIL ANALYTICAL RESULTS

Parcel Number	Parcel 4				Parcel 6	Parcel 30		Parcel 56				State Action Level	Soil-to-Groundwater MSCC	Residential MSCC
Collection Date	03/24/15													
Sample ID	P4-1	P4-2	P4-3	P4-4	P6-1	P30-1	P30-2	P56-1	P56-2	P56-3	P56-4			
Collection Depth (ft bgs)	5.0	5.0	5.0	5.0	2.0	2.0	2.0	5.0	5.0	5.0	5.0			
Semi-Volatile Organic Compounds by EPA Method 8270 BNA														
All Compounds	BQL	BQL	BQL	BQL	NA	NA	NA	BQL	BQL	BQL	BQL	--	--	--
Volatile and Extractable Petroleum Hydrocarbons by EPA Method 8260														
All Compounds	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	--	--	--
Total Petroleum Hydrocarbons by Method 8015 following a 3550 and 5035 preparation														
DRO	BQL	BQL	BQL	BQL	**11.6**	**23.1**	BQL	BQL	BQL	BQL	BQL	10	--	--
GRO	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	10	--	--

Notes:
Bold = Concentration Exceeds State Action Level
NA = Not Analyzed
BQL = Below Quantitive Limit
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
NA = Not Analyzed by This Method

APPENDIX A

(Laboratory Data Sheets And Chain of Custody Records)

Research & Analytical Laboratories, Inc.
Analytical/Process Consultations

RESEARCH & ANALYTICAL LABS. SIDNEY L. CHAMPION NC #34 DIRECTOR CERTIFIED ANALYSIS

Chemical Analysis for Selected Parameters and Sampling Locations Identified as Liberty Mega Silk
(An ECS Carolinas, LLP Project #24982C, collected 24 March 2015)

I. Volatile Organics EPA Method 8260 B Parameter	Quantitation Limit (mg/kg)	P56-1 (mg/kg)	P56-02 (mg/kg)	P56-3 (mg/kg)	P56-4 (mg/kg)
Acetone	0.100	BQL	BQL	BQL	BQL
Benzene	0.005	BQL	BQL	BQL	BQL
Bromobenzene	0.005	BQL	BQL	BQL	BQL
Bromochloromethane	0.005	BQL	BQL	BQL	BQL
Bromodichloromethane	0.005	BQL	BQL	BQL	BQL
Bromoform	0.005	BQL	BQL	BQL	BQL
Bromomethane	0.010	BQL	BQL	BQL	BQL
2-Butanone	0.100	BQL	BQL	BQL	BQL
N-Butylbenzene	0.005	BQL	BQL	BQL	BQL
Sec-Butylbenzene	0.005	BQL	BQL	BQL	BQL
Tert-Butylbenzene	0.005	BQL	BQL	BQL	BQL
Carbon Tetrachloride	0.010	BQL	BQL	BQL	BQL
Chlorobenzene	0.005	BQL	BQL	BQL	BQL
Dibromochloromethane	0.005	BQL	BQL	BQL	BQL
Chloroethane	0.010	BQL	BQL	BQL	BQL
Chloroform	0.005	BQL	BQL	BQL	BQL
Chloromethane	0.010	BQL	BQL	BQL	BQL
2-Chlorotoluene	0.005	BQL	BQL	BQL	BQL
4-Chlorotoluene	0.005	BQL	BQL	BQL	BQL
1,2-Dibromoethane (EDB)	0.005	BQL	BQL	BQL	BQL
1,2-Dichlorobenzene	0.005	BQL	BQL	BQL	BQL
1,3-Dichlorobenzene	0.005	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	0.005	BQL	BQL	BQL	BQL
Dichlorodifluoromethane	0.005	BQL	BQL	BQL	BQL
1,1-Dichloroethane	0.005	BQL	BQL	BQL	BQL
1,2-Dichloroethane	0.005	BQL	BQL	BQL	BQL
1,1-Dichloroethene	0.005	BQL	BQL	BQL	BQL
Cis-1,2-Dichloroethene	0.005	BQL	BQL	BQL	BQL
Trans-1,2-Dichloroethene	0.005	BQL	BQL	BQL	BQL
1,2-Dichloropropane	0.005	BQL	BQL	BQL	BQL
1,3-Dichloropropane	0.005	BQL	BQL	BQL	BQL
2,2-Dichloropropane	0.005	BQL	BQL	BQL	BQL
1,1-Dichloropropane	0.005	BQL	BQL	BQL	BQL
Cis-1,3-Dichloropropene	0.010	BQL	BQL	BQL	BQL
Trans-1,3-Dichloropropene	0.010	BQL	BQL	BQL	BQL
Ethyl Acetate	0.010	BQL	BQL	BQL	BQL
Ethyl Benzene	0.005	BQL	BQL	BQL	BQL
2-Hexanone	0.050	BQL	BQL	BQL	BQL
I-Propylbenzene	0.005	BQL	BQL	BQL	BQL
Isopropyl ether (IPE)	0.010	BQL	BQL	BQL	BQL
p-Isopropyltoluene	0.005	BQL	BQL	BQL	BQL
Methylene Chloride	0.020	BQL	BQL	BQL	BQL
4-Methyl-2-Pentanone	0.100	BQL	BQL	BQL	BQL
Methyl-Tert-Butyl ether (MTBE)	0.010	BQL	BQL	BQL	BQL
Naphthalene	0.010	BQL	BQL	BQL	BQL
N-Propylbenzene	0.005	BQL	BQL	BQL	BQL
Styrene	0.010	BQL	BQL	BQL	BQL
1,1,2,2-Tetrachloroethane	0.005	BQL	BQL	BQL	BQL
Tetrachloroethene	0.005	BQL	BQL	BQL	BQL
Toluene	0.005	BQL	BQL	BQL	BQL
1,1,1-Trichloroethane	0.005	BQL	BQL	BQL	BQL
1,1,2-Trichloroethane	0.005	BQL	BQL	BQL	BQL
Trichloroethene	0.005	BQL	BQL	BQL	BQL
Trichlorofluoromethane	0.005	BQL	BQL	BQL	BQL
1,2,3-Trichlorobenzene	0.005	BQL	BQL	BQL	BQL
1,2,4-Trichlorobenzene	0.005	BQL	BQL	BQL	BQL
1,2,3-Trichloropropane	0.015	BQL	BQL	BQL	BQL
1,2,4-Trimethylbenzene	0.005	BQL	BQL	BQL	BQL
1,3,5-Trimethylbenzene	0.005	BQL	BQL	BQL	BQL
Vinyl Acetate	0.050	BQL	BQL	BQL	BQL
Vinyl Chloride	0.010	BQL	BQL	BQL	BQL
Total Xylenes	0.005	BQL	BQL	BQL	BQL
Carbon Disulfide	0.100	BQL	BQL	BQL	BQL
Acrylonitrile	0.200	BQL	BQL	BQL	BQL
Trans-1,4-Dichloro-2-butene	0.100	BQL	BQL	BQL	BQL
Methyl Iodide	0.010	BQL	BQL	BQL	BQL
Dibromomethane	0.010	BQL	BQL	BQL	BQL
1,1,1,2-Tetrachloroethane	0.005	BQL	BQL	BQL	BQL
1,2-Dibromo-3-Chloropropane(DBCP)	0.025	BQL	BQL	BQL	BQL
Dilution Factor		1	1	1	1
Sample Number		2378-01	2378-02	2378-03	2378-04
Sample Date		03/24/15	03/24/15	03/24/15	03/24/15
Sample Time (hrs)		1100	1110	1120	1130
Date Analyzed		03/31/15	03/31/15	04/01/15	03/31/15
Time Analyzed		1758	1829	1435	1930
Surrogate Recovery (DBFM)	Range (70-130%)	112%	105%	113%	119%
Surrogate Recovery (Toluene-d8)	Range (70-130%)	97%	99%	102%	98%
Surrogate Recovery (4-BFB)	Range (70-130%)	101%	96%	102%	101%

mg/kg = milligrams per kilogram = parts per million (ppm)

BQL = Below Quantitation Limits

Research & Analytical Laboratories, Inc.
Analytical/Process Consultations

Chemical Analysis for Selected Parameters and Sampling Locations Identified as Liberty Mega Silk
(An ECS Carolinas, LLP Project #24982C, collected 24 March 2015)

II. Semi-Volatile Organics EPA Method 8270 BNA Parameter	Quantitation Limit (mg/kg)	P56-1 (mg/kg)	P56-02 (mg/kg)	P56-3 (mg/kg)	P56-4 (mg/kg)
Acenaphthene	0.33	BQL	BQL	BQL	BQL
Acenaphthylene	0.33	BQL	BQL	BQL	BQL
Anthracene	0.33	BQL	BQL	BQL	BQL
Benzoic Acid	6.67	BQL	BQL	BQL	BQL
Benzo(a)anthracene	0.33	BQL	BQL	BQL	BQL
Benzo(b)fluoranthene	0.33	BQL	BQL	BQL	BQL
Benzo(k)fluoranthene	0.33	BQL	BQL	BQL	BQL
Benzo(ghi)perylene	0.33	BQL	BQL	BQL	BQL
Benzo(a)pyrene	0.33	BQL	BQL	BQL	BQL
Benzyl Alcohol	3.33	BQL	BQL	BQL	BQL
Bis(2-chloroethoxy)methane	0.33	BQL	BQL	BQL	BQL
Bis(2-chloroethyl)ether	0.33	BQL	BQL	BQL	BQL
Bis(2-chloroisopropyl)ether	0.33	BQL	BQL	BQL	BQL
Bis(2-ethyl-hexyl)phthalate	0.33	BQL	BQL	BQL	BQL
4-Bromophenyl phenyl ether	0.33	BQL	BQL	BQL	BQL
Benzyl butyl phthalate	0.33	BQL	BQL	BQL	BQL
4-Chloroaniline	1.65	BQL	BQL	BQL	BQL
4-Chloro-3-methylphenol	0.33	BQL	BQL	BQL	BQL
2-Chloronaphthalene	0.33	BQL	BQL	BQL	BQL
2-Chlorophenol	0.33	BQL	BQL	BQL	BQL
4-Chlorophenyl phenyl ether	0.33	BQL	BQL	BQL	BQL
Chrysene	0.33	BQL	BQL	BQL	BQL
Dibenzo(a,h)anthracene	0.33	BQL	BQL	BQL	BQL
Dibenzofuran	0.33	BQL	BQL	BQL	BQL
Di-N-Butyl phthalate	0.33	BQL	BQL	BQL	BQL
1,2-Dichlorobenzene	0.33	BQL	BQL	BQL	BQL
1,3-Dichlorobenzene	0.33	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	0.33	BQL	BQL	BQL	BQL
3,3-Dichlorobenzidine	0.66	BQL	BQL	BQL	BQL
2,4-Dichlorophenol	0.33	BQL	BQL	BQL	BQL
Diethyl phthalate	0.33	BQL	BQL	BQL	BQL
2,4-Dimethylphenol	0.33	BQL	BQL	BQL	BQL
Dimethyl phthalate	0.33	BQL	BQL	BQL	BQL
4,6-Dinitro-2-methylphenol	1.65	BQL	BQL	BQL	BQL
2,4-Dinitrophenol	1.65	BQL	BQL	BQL	BQL
2,4-Dinitrotoluene	0.33	BQL	BQL	BQL	BQL
2,6-Dinitrotoluene	0.33	BQL	BQL	BQL	BQL
Di-N-Octyl phthalate	0.33	BQL	BQL	BQL	BQL
Azobenzene	3.33	BQL	BQL	BQL	BQL
Fluoranthene	0.33	BQL	BQL	BQL	BQL
Fluorene	0.33	BQL	BQL	BQL	BQL
Hexachlorobenzene	0.33	BQL	BQL	BQL	BQL
Hexachlorobutadiene	0.33	BQL	BQL	BQL	BQL
Hexachlorocyclopentadiene	0.33	BQL	BQL	BQL	BQL
Hexachloroethane	0.33	BQL	BQL	BQL	BQL
Indeno(1,2,3-cd) pyrene	0.33	BQL	BQL	BQL	BQL
Isophorone	0.33	BQL	BQL	BQL	BQL
2-Methylnaphthalene	0.33	BQL	BQL	BQL	BQL
2-Methylphenol	1.65	BQL	BQL	BQL	BQL
4-Methylphenol	1.65	BQL	BQL	BQL	BQL
Nitrobenzene	0.33	BQL	BQL	BQL	BQL
2-Nitrophenol	0.33	BQL	BQL	BQL	BQL
4-Nitrophenol	1.65	BQL	BQL	BQL	BQL
N-Nitrosodiphenylamine	0.33	BQL	BQL	BQL	BQL
N-nitrosodi-n-propylamine	0.33	BQL	BQL	BQL	BQL
Pentachlorophenol	1.65	BQL	BQL	BQL	BQL
Phenanthrene	0.33	BQL	BQL	BQL	BQL
Phenol	0.33	BQL	BQL	BQL	BQL
Pyrene	0.33	BQL	BQL	BQL	BQL
1,2,4-Trichlorobenzene	0.33	BQL	BQL	BQL	BQL
2,4,6-Trichlorophenol	0.33	BQL	BQL	BQL	BQL
2-Methyl-4,6-dinitrophenol	1.65	BQL	BQL	BQL	BQL
Benzidine	1.65	BQL	BQL	BQL	BQL
1,2-Diphenylhydrazine	1.65	BQL	BQL	BQL	BQL
N-Nitrosodimethylamine	0.33	BQL	BQL	BQL	BQL
Dilution Factor		1	1	1	1
Sample Number		2378-01	2378-02	2378-03	2378-04
Sample Date		03/24/15	03/24/15	03/24/15	03/24/15
Sample Time (hrs)		1100	1110	1120	1130
Date Extracted		03/30/15	03/30/15	03/30/15	03/30/15
Date Analyzed		04/01/15	04/01/15	04/01/15	04/01/15
Time Analyzed		1630	1658	1725	1752
Surrogate Recovery	**Range**				
(2-Fluorophenol)	(21-110%)	69%	66%	59%	58%
(Phenol-d6)	(10-110%)	59%	57%	52%	51%
(Nitrobenzene-d5)	(35-114%)	81%	86%	72%	71%
(2,4,6-Tribromophenol)	(10-123%)	67%	76%	67%	62%
(2-Fluorobiphenyl)	(43-116%)	79%	85%	78%	75%
(4-Terphenyl-d14)	(33-141%)	74%	78%	72%	74%

mg/kg = milligrams per kilogram = parts per million (ppm) BNA = Base-Neutral Acid Extractables BQL = Below Quantitation Limits

Research & Analytical Laboratories, Inc.

Analytical / Process Consultations
Phone (336) 996-2841

CHAIN OF CUSTODY RECORD 03549

Client: ECS Greensboro
Address: 4811 Koger Blvd
Address: Greensboro, NC 27407
Quote #:

Project ID: Liberty Mega Site
Contact: Ken Vilagos
Phone: 336-856-7150
Fax: 336-856-7160

Date: 3/26
Turnaround: standard
Job Number: 24982.e
P.O. Number:

Report To: Kvilagos@ecslimited.com
Invoice To:

Sample ID	Date	Time	Matrix	Preservatives: MeOH				Analyses: 8260	8270BNA								Comments: Please specify any special reporting requirements
P56-1	3/24	1100	Soil										2378-01		(4)		8260 @ $95/Sample
P56-2		1110											02				8270 @ $205/Sample
P56-3		1120											03				
P56-4		1130											04				
																	Please Send OH C

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
K Vilagos	3/27	1220	[illegible]	3/27	12:20	3.1	NC ✓ SC ____ Other ____

ORIGINAL

RESEARCH & ANALYTICAL LABORATORIES, INC.

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Four (4) soil samples were received in good condition 27 March 2015. The samples were analyzed without difficulties unless noted below.

04/02/15

Sidney L. Champion **Date**
Director of Laboratory Services

P.O. Box 473 • 106 Short Street • Kernersville, North Carolina 27284 • 336-996-2841 • Fax 336-996-0326
www.randalabs.com

QA/QC Summary

Method: 8260(SOIL)(50/100/500/1000 PPB QC)	FILE NAME: SLC0331

CLIENT: ECS(CAROLINAS) (PROJECT : LIBERTY MEGA SILK: # 24982C)

Sample ID:	2378 – 01 – 02, 04			INSTUMENT: MS-I	Page 1 of 2
Extraction Method	5035				
Date Extracted	N/A				
Weight Extracted	5G/5ML				
Final Extract Volume	5G/5ML				
Date Analyzed	03/31/15				
% Surrogate Recovery	103	103	106		
Acceptance Range	(70-130)	(70-130)	(70-130)		

Compound	MDL mg/kg	Method Blank	LCS % Recovery	LCS Acceptance Range	MS % Rec.	MSD % Rec.	RPD	QC LIMITS RPD	QC LIMITS % REC
DICHLORODIFLUOROMETHANE,	0.00047	ND	87	56-126					
CHLOROMETHANE	0.00050	ND	93	62-133					
VINYL CHLORIDE	0.00059	ND	96	67-136					
BROMOMETHANE	0.00028	ND	95	72-130					
CHLOROETHANE	0.00029	ND	111	73-138					
TRICHLOROFLUOROMETHANE	0.00037	ND	103	78-131					
ACETONE	0.00159	ND	102	62-119					
ACRYLONITRILE	0.00036	ND	103	76-135					
2-BUTANONE	0.00152	ND	102	62-122					
1,1-DICHLOROETHENE	0.00059	ND	102	82-133	93	91	3	14	61-145
METHYL IODIDE	0.00307	ND	106	70-136					
CARBON DISULFIDE	0.00042	ND	102	76-132					
METHYLENE CHLORIDE	0.00138	ND	97	68-135					
TRANS-1,2-DICHLOROETHENE	0.00107	ND	103	80-134					
1,1-DICHLOROETHANE	0.00036	ND	110	74-140					
ISOPROPYL ETHER(IPE)	0.00024	ND	107	67-139					
METHYL-TERT-BUTYL ETHER(MTBE)	0.00032	ND	103	68-131					
VINYL ACETATE	0.00035	ND	104	67-127					
CIS-1,2-DICHLOROETHENE	0.00031	ND	107	78-133					
2,2-DICHLOROPROPANE	0.00029	ND	109	72-123					
BROMOCHLOROMETHANE	0.00049	ND	105	71-139					
CHLOROFORM	0.00029	ND	105	81-126					
1,1,1-TRICHLOROETHANE	0.00028	ND	104	76-129					
CARBON TETRACHLORIDE	0.00081	ND	105	81-133					
1,1-DICHLOROPROPENE	0.00059	ND	105	80-135					
BENZENE	0.00038	ND	108	78-131	110	108	1	11	76-127
ETHYL ACETATE	0.00074	ND	102	63-122					
1,2-DICHLOROETHANE	0.00055	ND	103	72-132					
TRICHLOROETHENE(TCE)	0.00028	ND	106	79-126	102	99	3	14	71-120
1,2-DICHLOROPROPANE	0.00023	ND	103	79-126					
DIBROMOETHANE	0.00043	ND	105	71-129					

COMMENTS:

QA/QC Summary

Method: 8260(SOIL)(50/100/500/1000 PPB QC) | **FILE NAME: SLC0331** |

CLIENT: ECS(CAROLINAS) (PROJECT : LIBERTY MEGA SILK: # 24982C)

SAMPLE ID:	2378 – 01 – 02, 04			LCS Acceptr ange	MS	MSD	RPD	QC LIMITS	
Compound	MDL mg/kg	Method Blank	LCS % Recovery		% Rec.	% Rec.		RPD	% REC
BROMODICHLOROMETHANE	0.00026	ND	109	71-126					
4-METHYL-2-PENTANONE	0.00052	ND	109	67-122					
CIS-1,3-DICHLOROPROPENE	0.00023	ND	109	70-125					
TOLUENE	0.00027	ND	108	65-139	101	103	2	13	76-125
TRANS-1,3-DICHLOROPROPENE	0.00052	ND	106	65-131					
1,1,2-TRICHLOROETHANE	0.00041	ND	106	64-137					
TETRACHLOROETHENE(PCE)	0.00026	ND	108	61-164					
2-HEXANONE	0.00050	ND	106	63-118					
DIBROMOCHLOROMETHANE	0.00037	ND	104	60-138					
1,3-DICHLOROPROPANE	0.00033	ND	115	64-135					
1,2-DIBROMOETHANE(EDB)	0.00074	ND	102	68-131					
CHLOROBENZENE	0.00029	ND	109	87-121	104	103	0	13	75-130
1,1,1,2-TETRACHLOROETHANE	0.00041	ND	114	85-131					
ETHYLBENZENE	0.00028	ND	108	91-121					
TOTAL XYLENES(M&P, O)	0.00056	ND	113	88-127					
STYRENE	0.00037	ND	114	88-124					
BROMOFORM	0.00045	ND	100	66-133					
ISOPROPYLBENZENE	0.00027	ND	110	90-125					
BROMOBENZENE	0.00028	ND	105	81-128					
1,2,3-TRICHLOROPROPANE	0.00043	ND	99	66-132					
TRANS-1,4-DICHLORO-2-BUTENE	0.00050	ND	105	77-120					
N-PROPYLBENZENE	0.00058	ND	110	88-123					
2-CHLOROTOLUENE	0.00050	ND	110	86-126					
4-CHLOROTOLUENE	0.00042	ND	113	82-125					
1,3,5-TRIMETHYLBENZENE	0.00054	ND	113	89-124					
TERT-BUTYLBENZENE	0.00029	ND	114	89-128					
1,2,4-TRIMETHYLBENZENE	0.00056	ND	111	87-125					
SEC-BUTYLBENZENE	0.00042	ND	110	88-127					
1,3-DICHLOROBENZENE	0.00041	ND	108	79-127					
1,1,2,2-TETRACHLOROETHANE	0.00078	ND	113	72-128					
P-ISOPROPYLTOLUENE	0.00048	ND	114	86-128					
1,4-DICHLOROBENZENE	0.00042	ND	113	80-122					
1,2-DICHLOROBENZENE	0.00039	ND	111	80-123					
N-BUTYLBENZENE	0.00033	ND	110	84-127					
1,2-DIBROMO-3-CHLOROPROPANE(DPCP)	0.00067	ND	105	66-125					
1,2,4-TRICHLOROBENZENE	0.00025	ND	114	76-117					
NAPHTHALENE	0.00047	ND	104	79-119					
1,2,3-TRICHLOROBENZENE	0.00036	ND	107	72-118					

COMMENTS:

QA/QC Summary

Method: 8260(SOIL)(50/100/500/1000 PPB QC)				FILE NAME: SLC0401			
CLIENT: ECS(CAROLINAS) (PROJECT : LIBERTY MEGA SILK: # 24982C)							
Sample ID:	2378 – 03				INSTUMENT: MS-I		Page 1 of 2
Extraction Method	5035						
Date Extracted	N/A						
Weight Extracted	5G/5ML						
Final Extract Volume	5G/5ML						
Date Analyzed	04/01/15						
% Surrogate Recovery	99	103	98				
Acceptance Range	(70-130)	(70-130)	(70-130)				

Compound	MDL mg/kg	Method Blank	LCS % Recovery	LCS Acceptance Range	MS % Rec.	MSD % Rec.	RPD	QC LIMITS RPD	QC LIMITS % REC
DICHLORODIFLUOROMETHANE	0.00047	ND	81	56-126					
CHLOROMETHANE	0.00050	ND	93	62-133					
VINYL CHLORIDE	0.00059	ND	97	67-136					
BROMOMETHANE	0.00028	ND	101	72-130					
CHLOROETHANE	0.00029	ND	104	73-138					
TRICHLOROFLUOROMETHANE	0.00037	ND	95	78-131					
ACETONE	0.00159	ND	100	62-119					
ACRYLONITRILE	0.00036	ND	104	76-135					
2-BUTANONE	0.00152	ND	100	62-122					
1,1-DICHLOROETHENE	0.00059	ND	108	82-133	84	77	9	14	61-145
METHYL IODIDE	0.00307	ND	108	70-136					
CARBON DISULFIDE	0.00042	ND	103	76-132					
METHYLENE CHLORIDE	0.00138	ND	90	68-135					
TRANS-1,2-DICHLOROETHENE	0.00107	ND	105	80-134					
1,1-DICHLOROETHANE	0.00036	ND	102	74-140					
ISOPROPYL ETHER(IPE)	0.00024	ND	109	67-139					
METHYL-TERT-BUTYL ETHER(MTBE)	0.00032	ND	106	68-131					
VINYL ACETATE	0.00035	ND	103	67-127					
CIS-1,2-DICHLOROETHENE	0.00031	ND	108	78-133					
2,2-DICHLOROPROPANE	0.00029	ND	106	72-123					
BROMOCHLOROMETHANE	0.00049	ND	101	71-139					
CHLOROFORM	0.00029	ND	104	81-126					
1,1,1-TRICHLOROETHANE	0.00028	ND	104	76-129					
CARBON TETRACHLORIDE	0.00081	ND	103	81-133					
1,1-DICHLOROPROPENE	0.00059	ND	102	80-135					
BENZENE	0.00038	ND	105	78-131	98	95	3	11	76-127
ETHYL ACETATE	0.00074	ND	101	63-122					
1,2-DICHLOROETHANE	0.00055	ND	97	72-132					
TRICHLOROETHENE(TCE)	0.00028	ND	107	79-126	78	81	4	14	71-120
1,2-DICHLOROPROPANE	0.00023	ND	101	79-126					
DIBROMOETHANE	0.00043	ND	105	71-129					

COMMENTS:

QA/QC Summary

Method: 8260(SOIL)(50/100/500/1000 PPB QC) | **FILE NAME: SLC0401** |

CLIENT: ECS(CAROLINAS) (PROJECT : LIBERTY MEGA SILK: # 24982C)

SAMPLE ID:	2378 – 03			LCS Acceptr ange	MS	MSD	RPD	QC LIMITS	
Compound	MDL mg/kg	Method Blank	LCS % Recovery		% Rec.	% Rec.		RPD	% REC
BROMODICHLOROMETHANE	0.00026	ND	108	71-126					
4-METHYL-2-PENTANONE	0.00052	ND	106	67-122					
CIS-1,3-DICHLOROPROPENE	0.00023	ND	106	70-125					
TOLUENE	0.00027	ND	106	65-139	102	98	3	13	76-125
TRANS-1,3-DICHLOROPROPENE	0.00052	ND	108	65-131					
1,1,2-TRICHLOROETHANE	0.00041	ND	102	64-137					
TETRACHLOROETHENE(PCE)	0.00026	ND	103	61-164					
2-HEXANONE	0.00050	ND	102	63-118					
DIBROMOCHLOROMETHANE	0.00037	ND	94	60-138					
1,3-DICHLOROPROPANE	0.00033	ND	109	64-135					
1,2-DIBROMOETHANE(EDB)	0.00074	ND	115	68-131					
CHLOROBENZENE	0.00029	ND	103	87-121	82	87	6	13	75-130
1,1,1,2-TETRACHLOROETHANE	0.00041	ND	104	85-131					
ETHYLBENZENE	0.00028	ND	102	91-121					
TOTAL XYLENES(M&P, O)	0.00056	ND	106	88-127					
STYRENE	0.00037	ND	107	88-124					
BROMOFORM	0.00045	ND	96	66-133					
ISOPROPYLBENZENE	0.00027	ND	105	90-125					
BROMOBENZENE	0.00028	ND	104	81-128					
1,2,3-TRICHLOROPROPANE	0.00043	ND	101	66-132					
TRANS-1,4-DICHLORO-2-BUTENE	0.00050	ND	100	77-120					
N-PROPYLBENZENE	0.00058	ND	104	88-123					
2-CHLOROTOLUENE	0.00050	ND	105	86-126					
4-CHLOROTOLUENE	0.00042	ND	107	82-125					
1,3,5-TRIMETHYLBENZENE	0.00054	ND	106	89-124					
TERT-BUTYLBENZENE	0.00029	ND	109	89-128					
1,2,4-TRIMETHYLBENZENE	0.00056	ND	104	87-125					
SEC-BUTYLBENZENE	0.00042	ND	105	88-127					
1,3-DICHLOROBENZENE	0.00041	ND	104	79-127					
1,1,2,2-TETRACHLOROETHANE	0.00078	ND	104	72-128					
P-ISOPROPYLTOLUENE	0.00048	ND	109	86-128					
1,4-DICHLOROBENZENE	0.00042	ND	101	80-122					
1,2-DICHLOROBENZENE	0.00039	ND	102	80-123					
N-BUTYLBENZENE	0.00033	ND	105	84-127					
1,2-DIBROMO-3-CHLOROPROPANE(DPCP)	0.00067	ND	107	66-125					
1,2,4-TRICHLOROBENZENE	0.00025	ND	106	76-117					
NAPHTHALENE	0.00047	ND	102	79-119					
1,2,3-TRICHLOROBENZENE	0.00036	ND	100	72-118					

COMMENTS:

QA/QC Summary

Method: 8270 (100/200 PPB QC)	FILE NAME: SLC0401-MS1	Page 1 of 2

CLIENT:ECS GREENSBORO (PROJECT:LIBERTY MEGA SITE)

Sample ID:	2378--01-04				INSTUMENT: MS-1				
Extraction Method	3550								
Date Extracted	03/30/15								
Weight Extracted	30G								
Final Extract Volume	1ML								
Date Analyzed	04/01/15								
% Surrogate Recovery	72	79	73	86	88		77		
Acceptance Range	(21 - 110)	(10 - 110)	(35 - 114)	(10 - 123)	(43 - 116)		(33 - 141)		
Compound	MDL mg/kg	Method Blank	LCS % Recovery	LCS Accept. Range	MS % Rec.	MSD % Rec.	RPD	QC LIMITS RPD	QC LIMITS % REC
N-Nitrosodimethylamine	0.047	ND	76	51-108					
Bis(2-chloroethyl)ether	0.066	ND	77	49-110					
Phenol	0.066	ND	79	52-118	63	50	24	42	12-110
2-Chlorophenol	0.060	ND	82	55-111	76	61	21	40	27-123
1,3-Dichlorobenzene	0.085	ND	80	54-108					
1,4-Dichlorobenzene	0.050	ND	75	55-112	66	51	24	28	36-97
1,2-Dichlorobenzene	0.047	ND	81	53-112					
Benzyl Alcohol	0.087	ND	85	47-160					
2-Methylphenol(O-CRESOL)	0.072	ND	83	35-127					
3&4-Methylphenol(M&P CRESOL)	0.063	ND	85	47-132					
Bis(2-chloroisopropyl)ether	0.063	ND	82	37-116					
N-nitrosodi-n-propylamine	0.057	ND	85	45-123	75	62	19	38	41-116
Hexachloroethane	0.069	ND	76	52-107					
2-Nitrophenol	0.066	ND	80	56-117					
2,4-Dimethylphenol	0.079	ND	71	35-118					
Nitrobenzene	0.072	ND	73	50-99					
Isophorone	0.079	ND	66	48-100					
Bis(2-chloroethoxy)methane	0.063	ND	77	51-96					
Benzoic Acid	0.348	ND	98	D-136					
2,4-Dichlorophenol	0.066	ND	78	42-117					
1,2,4-Trichlorobenzene	0.047	ND	74	53-95	96	79	20	28	39-98
4-Chloro-3-methylphenol	0.141	ND	81	49-128	89	76	16	42	23-97
4-Chloroaniline	0.479	ND	77	44-116					
Hexachlorobutadiene	0.057	ND	70	39-121					
2-Methylnaphthalene	0.056	ND	68	63-105					
Dibenzofuran	0.063	ND	93	50-128					
2,4,6-Trichlorophenol	0.044	ND	88	23-167					
2,4,5-Trichlorophenol	0.107	ND	91	32-158					

N/A.

QA/QC Summary

Method: 8270 (100/200 PPB QC) | **FILE NAME: SLC0401-MS1** | **Page 2 of 2**

CLIENT:ECS GREENSBORO (PROJECT:LIBERTY MEGA SITE)

Compound	MDL mg/kg	Method Blank	LCS % Recovery	LCS Acceptr ange	MS % Rec.	MSD % Rec.	RPD	QC LIMITS RPD	QC LIMITS % REC
2-Methyl-4,6-Dinitrophenol	0.170	ND	87	64-140					
4-Nitrophenol	0.232	ND	76	50-140	48	37	25	50	10-80
Hexachlorocyclopentadiene	0.079	ND	63	12-129					
2-Chloronaphthalene	0.046	ND	92	46-127					
Dimethyl phthalate	0.066	ND	81	51-113					
Acenaphthylene	0.066	ND	89	41-128					
2,6-Dinitrotoluene	0.075	ND	101	58-120					
Acenaphthene	0.057	ND	88	49-129	82	61	29	31	46-118
2,4-Dinitrotoluene	0.079	ND	89	53-123	70	58	18	38	24-96
Fluorene	0.060	ND	72	49-127					
Diethyl phthalate	0.072	ND	92	47-117					
4-Chlorophenyl phenyl ether	0.050	ND	78	46-134					
2,4-Dinitrophenol	0.188	ND	98	45-147					
Azobenzene	0.083	ND	90	45-117					
Pentachlorophenol	0.129	ND	86	64-144	65	59	11	50	9-103
N-Nitrosodiphenylamine	0.066	ND	81	2-127					
4-Bromophenyl phenyl ether	0.085	ND	100	50-130					
Hexachlorobenzene	0.069	ND	95	50-131					
Phenanthrene	0.075	ND	80	50-135					
Anthracene	0.072	ND	96	57-131					
Di-N-Butyl phthalate	0.097	ND	88	47-115					
Fluoranthene	0.085	ND	93	47-128					
Benzidine	0.048	ND	33	D-150					
Pyrene	0.038	ND	84	56-120	89	82	8	31	26-127
Benzyl butyl phthalate	0.060	ND	89	55-122					
Benzo(a)anthracene	0.050	ND	89	62-119					
3,3-Dichlorobenzidine	0.122	ND	44	D-114					
Chrysene	0.060	ND	83	60-124					
Bis(2-ethyl-hexyl)phthalate	0.066	ND	76	46-124					
Di-N-Octyl phthalate	0.079	ND	62	49-131					
Benzo(b)fluoranthene	0.122	ND	75	60-132					
Benzo(k)fluoranthene	0.110	ND	52	39-137					
Benzo(a)pyrene	0.047	ND	66	63-126					
Indeno(1,2,3-cd) pyrene	0.094	ND	76	39-159					
Dibenzo(a,h)anthracene	0.088	ND	74	20-158					
Benzo(g,h,i)perylene	0.097	ND	67	40-158					

N/A = Data Not Available *** = OUT OF RANGE**

Research & Analytical Laboratories, Inc.
Analytical/Process Consultations

Chemical Analysis for Selected Parameters and Sampling Locations Identified as Liberty Mega Silk
(An ECS Carolinas, LLP Project #24982C, collected 24 March 2015)

I. Volatile Organics EPA Method 8260 B Parameter	Quantitation Limit (mg/kg)	P4-1 (mg/kg)	P4-2 (mg/kg)	P4-3 (mg/kg)	P4-4 (mg/kg)	P30-1 (mg/kg)	P30-2 (mg/kg)	P6-1 (mg/kg)
Acetone	0.100	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromobenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromochloromethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromodichloromethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromoform	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromomethane	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Butanone	0.100	BQL	BQL	BQL	BQL	BQL	BQL	BQL
N-Butylbenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Sec-Butylbenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Tert-Butylbenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Carbon Tetrachloride	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Dibromochloromethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chloroethane	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chloroform	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chloromethane	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Chlorotoluene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
4-Chlorotoluene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dibromoethane (EDB)	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dichlorobenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,3-Dichlorobenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Dichlorodifluoromethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1-Dichloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dichloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1-Dichloroethene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cis-1,2-Dichloroethene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Trans-1,2-Dichloroethene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dichloropropane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,3-Dichloropropane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2,2-Dichloropropane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1-Dichloropropane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cis-1,3-Dichloropropene	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Trans-1,3-Dichloropropene	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethyl Acetate	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethyl Benzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Hexanone	0.050	BQL	BQL	BQL	BQL	BQL	BQL	BQL
I-Propylbenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Isopropyl ether (IPE)	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
p-Isopropyltoluene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Methylene Chloride	0.020	BQL	BQL	BQL	BQL	BQL	BQL	BQL
4-Methyl-2-Pentanone	0.100	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Methyl-Tert-Butyl ether (MTBE)	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Naphthalene	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
N-Propylbenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Styrene	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1,2,2-Tetrachloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Tetrachloroethene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1,1-Trichloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1,2-Trichloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Trichloroethene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Trichlorofluoromethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2,3-Trichlorobenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2,4-Trichlorobenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2,3-Trichloropropane	0.015	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2,4-Trimethylbenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,3,5-Trimethylbenzene	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Vinyl Acetate	0.050	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Vinyl Chloride	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Carbon Disulfide	0.100	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acrylonitrile	0.200	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Trans-1,4-Dichloro-2-butene	0.100	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Methyl Iodide	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Dibromomethane	0.010	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,1,1,2-Tetrachloroethane	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dibromo-3-Chloropropane(DBCP)	0.025	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Dilution Factor		1	1	1	1	1	1	1
Sample Number		2379-01	2379-02	2379-03	2379-04	2379-05	2379-06	2379-07
Sample Date		03/24/15	03/24/15	03/24/15	03/24/15	03/24/15	03/24/15	03/24/15
Sample Time (hrs)		0900	0930	0940	0945	1015	1020	1030
Date Analyzed		04/01/15	04/01/15	04/01/15	04/01/15	04/01/15	04/01/15	04/01/15
Time Analyzed		1536	1606	1637	1708	1738	1808	1839
Surrogate Recovery (DBFM)	Range (70-130%)	115%	110%	115%	119%	119%	114%	121%
Surrogate Recovery (Toluene-d8)	Range (70-130%)	98%	100%	98%	101%	100%	100%	95%
Surrogate Recovery (4-BFB)	Range (70-130%)	104%	98%	101%	102%	100%	99%	101%

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RESEARCH & ANALYTICAL LABS. SIDNEY L. CHAMPION NC #34 DIRECTOR CERTIFIED ANALYSIS

Chemical Analysis for Selected Parameters and Sampling Locations Identified as Liberty Mega Silk
(An ECS Carolinas, LLP Project #24982C, collected 24 March 2015)

II. Semi-Volatile Organics EPA Method 8270 BNA Parameter	Quantitation Limit (mg/kg)	P4-1 (mg/kg)	P4-2 (mg/kg)	P4-3 (mg/kg)	P4-4 (mg/kg)
Acenaphthene	0.33	BQL	BQL	BQL	BQL
Acenaphthylene	0.33	BQL	BQL	BQL	BQL
Anthracene	0.33	BQL	BQL	BQL	BQL
Benzoic Acid	6.67	BQL	BQL	BQL	BQL
Benzo(a)anthracene	0.33	BQL	BQL	BQL	BQL
Benzo(b)fluoranthene	0.33	BQL	BQL	BQL	BQL
Benzo(k)fluoranthene	0.33	BQL	BQL	BQL	BQL
Benzo(ghi)perylene	0.33	BQL	BQL	BQL	BQL
Benzo(a)pyrene	0.33	BQL	BQL	BQL	BQL
Benzyl Alcohol	3.33	BQL	BQL	BQL	BQL
Bis(2-chloroethoxy)methane	0.33	BQL	BQL	BQL	BQL
Bis(2-chloroethyl)ether	0.33	BQL	BQL	BQL	BQL
Bis(2-chloroisopropyl)ether	0.33	BQL	BQL	BQL	BQL
Bis(2-ethyl-hexyl)phthalate	0.33	BQL	BQL	BQL	BQL
4-Bromophenyl phenyl ether	0.33	BQL	BQL	BQL	BQL
Benzyl butyl phthalate	0.33	BQL	BQL	BQL	BQL
4-Chloroaniline	1.65	BQL	BQL	BQL	BQL
4-Chloro-3-methylphenol	0.33	BQL	BQL	BQL	BQL
2-Chloronaphthalene	0.33	BQL	BQL	BQL	BQL
2-Chlorophenol	0.33	BQL	BQL	BQL	BQL
4-Chlorophenyl phenyl ether	0.33	BQL	BQL	BQL	BQL
Chrysene	0.33	BQL	BQL	BQL	BQL
Dibenzo(a,h)anthracene	0.33	BQL	BQL	BQL	BQL
Dibenzofuran	0.33	BQL	BQL	BQL	BQL
Di-N-Butyl phthalate	0.33	BQL	BQL	BQL	BQL
1,2-Dichlorobenzene	0.33	BQL	BQL	BQL	BQL
1,3-Dichlorobenzene	0.33	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	0.33	BQL	BQL	BQL	BQL
3,3-Dichlorobenzidine	0.66	BQL	BQL	BQL	BQL
2,4-Dichlorophenol	0.33	BQL	BQL	BQL	BQL
Diethyl phthalate	0.33	BQL	BQL	BQL	BQL
2,4-Dimethylphenol	0.33	BQL	BQL	BQL	BQL
Dimethyl phthalate	0.33	BQL	BQL	BQL	BQL
4,6-Dinitro-2-methylphenol	1.65	BQL	BQL	BQL	BQL
2,4-Dinitrophenol	1.65	BQL	BQL	BQL	BQL
2,4-Dinitrotoluene	0.33	BQL	BQL	BQL	BQL
2,6-Dinitrotoluene	0.33	BQL	BQL	BQL	BQL
Di-N-Octyl phthalate	0.33	BQL	BQL	BQL	BQL
Azobenzene	3.33	BQL	BQL	BQL	BQL
Fluoranthene	0.33	BQL	BQL	BQL	BQL
Fluorene	0.33	BQL	BQL	BQL	BQL
Hexachlorobenzene	0.33	BQL	BQL	BQL	BQL
Hexachlorobutadiene	0.33	BQL	BQL	BQL	BQL
Hexachlorocyclopentadiene	0.33	BQL	BQL	BQL	BQL
Hexachloroethane	0.33	BQL	BQL	BQL	BQL
Indeno(1,2,3-cd) pyrene	0.33	BQL	BQL	BQL	BQL
Isophorone	0.33	BQL	BQL	BQL	BQL
2-Methylnaphthalene	0.33	BQL	BQL	BQL	BQL
2-Methylphenol	1.65	BQL	BQL	BQL	BQL
4-Methylphenol	1.65	BQL	BQL	BQL	BQL
Nitrobenzene	0.33	BQL	BQL	BQL	BQL
2-Nitrophenol	0.33	BQL	BQL	BQL	BQL
4-Nitrophenol	1.65	BQL	BQL	BQL	BQL
N-Nitrosodiphenylamine	0.33	BQL	BQL	BQL	BQL
N-nitrosodi-n-propylamine	0.33	BQL	BQL	BQL	BQL
Pentachlorophenol	1.65	BQL	BQL	BQL	BQL
Phenanthrene	0.33	BQL	BQL	BQL	BQL
Phenol	0.33	BQL	BQL	BQL	BQL
Pyrene	0.33	BQL	BQL	BQL	BQL
1,2,4-Trichlorobenzene	0.33	BQL	BQL	BQL	BQL
2,4,6-Trichlorophenol	0.33	BQL	BQL	BQL	BQL
2-Methyl-4,6-dinitrophenol	1.65	BQL	BQL	BQL	BQL
Benzidine	1.65	BQL	BQL	BQL	BQL
1,2-Diphenylhydrazine	1.65	BQL	BQL	BQL	BQL
N-Nitrosodimethylamine	0.33	BQL	BQL	BQL	BQL
Dilution Factor		1	1	1	1
Sample Number		2379-01	2379-02	2379-03	2379-04
Sample Date		03/24/15	03/24/15	03/24/15	03/24/15
Sample Time (hrs)		0900	0930	0940	0945
Date Extracted		03/30/15	03/30/15	03/30/15	03/30/15
Date Analyzed		04/01/15	04/01/15	04/01/15	04/01/15
Time Analyzed		1820	1847	1914	1942
Surrogate Recovery	**Range**				
(2-Fluorophenol)	(21-110%)	63%	53%	62%	55%
(Phenol-d6)	(10-110%)	56%	47%	55%	48%
(Nitrobenzene-d5)	(35-114%)	74%	59%	76%	68%
(2,4,6-Tribromophenol)	(10-123%)	70%	60%	69%	66%
(2-Fluorobiphenyl)	(43-116%)	79%	50%	76%	70%
(4-Terphenyl-d14)	(33-141%)	76%	72%	76%	72%

mg/kg = milligrams per kilogram = parts per million (ppm) BNA = Base-Neutral Acid Extractables BQL = Below Quantitation Limits

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RESEARCH & ANALYTICAL LABS. SIDNEY L. CHAMPION NC #34 DIRECTOR CERTIFIED ANALYSIS

April 2, 2015

ECS Carolinas, LLP
4811 Koger Blvd.
Greensboro, NC 27407
Attention: Randy Cavallier

Chemical Analysis for Total Petroleum Hydrocarbons (TPH) for Selected Soil Samples Identified as Liberty Mega Site
(An ECS Carolinas, LLP Project #24982C, collected 24 March 2015)

Sample Identification	RAL Sample#	Date Taken	Time (hrs)	Quantitation Limit (mg/kg)	EPA Method 5035 (mg/kg)	Date Analyzed	Time Analyzed	Surrogate Recovery (Flurobenzene)
P30-1	2379-05	03/24/15	1015	10	BQL	03/30/15	1523	96%
P30-2	2379-06	03/24/15	1020	10	BQL	03/30/15	1721	108%
P6-1	2379-07	03/24/15	1030	10	BQL	03/30/15	1748	93%

EPA Method 5035 = Total Petroleum Hydrocarbons as Gasoline
mg/kg = milligrams per kilogram = parts per million (ppm)

BQL = Below Quantitation Limit
Surrogate Recovery Range = 70-130%

NR = Not Requested

Research & Analytical Laboratories, Inc.
Analytical/Process Consultations

RESEARCH & ANALYTICAL LABS. SIDNEY L. CHAMPION NC #34 DIRECTOR CERTIFIED ANALYSIS

April 2, 2015

ECS Carolinas, LLP
4811 Koger Blvd.
Greensboro, NC 27407
Attention: Randy Cavallier

Chemical Analysis for Total Petroleum Hydrocarbons (TPH) for Selected Soil Samples Identified as Liberty Mega Site
(An ECS Carolinas, LLP Project #24982C, collected 24 March 2015)

Sample Identification	RAL Sample#	Date Taken	Time (hrs)	Quantitation Limit (mg/kg)	EPA Method 3550 (mg/kg)	Date Extracted	Date Analyzed	Time Analyzed	Surrogate Recovery (P-Terphenyl d-14)
P30-1	2379-05	03/24/15	1015	10	**23.1**	03/30/15	03/30/15	1430	93%
P30-2	2379-06	03/24/15	1020	10	BQL	03/30/15	03/30/15	1615	86%
P6-1	2379-07	03/24/15	1030	10	**11.6**	03/30/15	03/30/15	1642	103%

EPA Method 3550 = Total Petroleum Hydrocarbons as Diesel
BQL = Below Quantitation Limit

mg/kg = milligrams per kilogram = parts per million (ppm)
Surrogate Recovery Range = 70-130%

NR = Not Requested

Research & Analytical Laboratories, Inc.

Analytical / Process Consultations
Phone (336) 996-2841

CHAIN OF CUSTODY RECORD

0368

Client: ECS Greensboro
Address: 4811 Koger Blvd
Address: Greensboro, NC 27407
Quote #:

Project ID: Liberty Mega Site
Contact: Ken Vilcages
Phone: 336-856-7150
Fax: 336-856-7160

Date: 3/26
Turnaround: 5 day standard
Job Number: 24982 C
P.O. Number:

Report To: kvilcages@ecslimited
Invoice To:

Sample ID	Date	Time	Matrix	Preservatives				Analyses: 8015/3550	8015/5035	8260	8270 BNA						Comments: Please specify any special reporting requirements
P4-1	3/24	0900	Soil							✓	✓		2359-01			(4)	3550/5035 @ $85/sample
P4-2		0950								✓	✓			02			8260 @ $95/sample
P4-3		0940								✓	✓			03			8270 BNA Sample
P4-4		0945								✓	✓			04			
P30-1		1015						✓	✓	✓				05		(8)	
P30-2		1020						✓	✓	✓				06			
P6-1		1030						✓	✓	✓				07			
																	Please send QA/QC

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
Ken Vilcages	3/27	1220	[illegible]	3/27	12:20	3.1	NC ✓ SC ____ Other ____

ORIGINAL

RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations

Seven (7) soil samples were received in good condition 27 March 2015. The samples were analyzed without difficulties unless noted below.

04/02/15

Sidney L. Champion **Date**
Director of Laboratory Services

P.O. Box 473 • 106 Short Street • Kernersville, North Carolina 27284 • 336-996-2841 • Fax 336-996-0326
www.randalabs.com

QA/QC Summary

Method: 8260(SOIL)(50/100/500/1000 PPB QC) | **FILE NAME: SLC0401**

CLIENT: ECS(CAROLINAS) (PROJECT : LIBERTY MEGA SILK: # 24982C)

Sample ID:	**2379 – 01 – 07**				**INSTUMENT: MS-I**			**Page 1 of 2**
Extraction Method	5035							
Date Extracted	N/A							
Weight Extracted	5G/5ML							
Final Extract Volume	5G/5ML							
Date Analyzed	04/01/15							
% Surrogate Recovery	99	103	98					
Acceptance Range	(70-130)	(70-130)	(70-130)					

Compound	**MDL** mg/kg	**Method** Blank	**LCS %** Recovery	**LCS** Acceptance Range	**MS** % Rec.	**MSD** % Rec.	**RPD**	**QC LIMITS** RPD	**QC LIMITS** % REC
DICHLORODIFLUOROMETHANE	0.00047	ND	81	56-126					
CHLOROMETHANE	0.00050	ND	93	62-133					
VINYL CHLORIDE	0.00059	ND	97	67-136					
BROMOMETHANE	0.00028	ND	101	72-130					
CHLOROETHANE	0.00029	ND	104	73-138					
TRICHLOROFLUOROMETHANE	0.00037	ND	95	78-131					
ACETONE	0.00159	ND	100	62-119					
ACRYLONITRILE	0.00036	ND	104	76-135					
2-BUTANONE	0.00152	ND	100	62-122					
1,1-DICHLOROETHENE	0.00059	ND	108	82-133	84	77	9	14	61-145
METHYL IODIDE	0.00307	ND	108	70-136					
CARBON DISULFIDE	0.00042	ND	103	76-132					
METHYLENE CHLORIDE	0.00138	ND	90	68-135					
TRANS-1,2-DICHLOROETHENE	0.00107	ND	105	80-134					
1,1-DICHLOROETHANE	0.00036	ND	102	74-140					
ISOPROPYL ETHER(IPE)	0.00024	ND	109	67-139					
METHYL-TERT-BUTYL ETHER(MTBE)	0.00032	ND	106	68-131					
VINYL ACETATE	0.00035	ND	103	67-127					
CIS-1,2-DICHLOROETHENE	0.00031	ND	108	78-133					
2,2-DICHLOROPROPANE	0.00029	ND	106	72-123					
BROMOCHLOROMETHANE	0.00049	ND	101	71-139					
CHLOROFORM	0.00029	ND	104	81-126					
1,1,1-TRICHLOROETHANE	0.00028	ND	104	76-129					
CARBON TETRACHLORIDE	0.00081	ND	103	81-133					
1,1-DICHLOROPROPENE	0.00059	ND	102	80-135					
BENZENE	0.00038	ND	105	78-131	98	95	3	11	76-127
ETHYL ACETATE	0.00074	ND	101	63-122					
1,2-DICHLOROETHANE	0.00055	ND	97	72-132					
TRICHLOROETHENE(TCE)	0.00028	ND	107	79-126	78	81	4	14	71-120
1,2-DICHLOROPROPANE	0.00023	ND	101	79-126					
DIBROMOETHANE	0.00043	ND	105	71-129					

COMMENTS:

QA/QC Summary

Method: 8260(SOIL)(50/100/500/1000 PPB QC) | **FILE NAME: SLC0401** |

CLIENT: ECS(CAROLINAS) (PROJECT : LIBERTY MEGA SILK: # 24982C)

SAMPLE ID:	2379 – 01 – 07			LCS Acceptr ange	MS	MSD	RPD	QC LIMITS	
Compound	MDL mg/kg	Method Blank	LCS % Recovery		% Rec.	% Rec.		RPD	% REC
BROMODICHLOROMETHANE	0.00026	ND	108	71-126					
4-METHYL-2-PENTANONE	0.00052	ND	106	67-122					
CIS-1,3-DICHLOROPROPENE	0.00023	ND	106	70-125					
TOLUENE	0.00027	ND	106	65-139	102	98	3	13	76-125
TRANS-1,3-DICHLOROPROPENE	0.00052	ND	108	65-131					
1,1,2-TRICHLOROETHANE	0.00041	ND	102	64-137					
TETRACHLOROETHENE(PCE)	0.00026	ND	103	61-164					
2-HEXANONE	0.00050	ND	102	63-118					
DIBROMOCHLOROMETHANE	0.00037	ND	94	60-138					
1,3-DICHLOROPROPANE	0.00033	ND	109	64-135					
1,2-DIBROMOETHANE(EDB)	0.00074	ND	115	68-131					
CHLOROBENZENE	0.00029	ND	103	87-121	82	87	6	13	75-130
1,1,1,2-TETRACHLOROETHANE	0.00041	ND	104	85-131					
ETHYLBENZENE	0.00028	ND	102	91-121					
TOTAL XYLENES(M&P, O)	0.00056	ND	106	88-127					
STYRENE	0.00037	ND	107	88-124					
BROMOFORM	0.00045	ND	96	66-133					
ISOPROPYLBENZENE	0.00027	ND	105	90-125					
BROMOBENZENE	0.00028	ND	104	81-128					
1,2,3-TRICHLOROPROPANE	0.00043	ND	101	66-132					
TRANS-1,4-DICHLORO-2-BUTENE	0.00050	ND	100	77-120					
N-PROPYLBENZENE	0.00058	ND	104	88-123					
2-CHLOROTOLUENE	0.00050	ND	105	86-126					
4-CHLOROTOLUENE	0.00042	ND	107	82-125					
1,3,5-TRIMETHYLBENZENE	0.00054	ND	106	89-124					
TERT-BUTYLBENZENE	0.00029	ND	109	89-128					
1,2,4-TRIMETHYLBENZENE	0.00056	ND	104	87-125					
SEC-BUTYLBENZENE	0.00042	ND	105	88-127					
1,3-DICHLOROBENZENE	0.00041	ND	104	79-127					
1,1,2,2-TETRACHLOROETHANE	0.00078	ND	104	72-128					
P-ISOPROPYLTOLUENE	0.00048	ND	109	86-128					
1,4-DICHLOROBENZENE	0.00042	ND	101	80-122					
1,2-DICHLOROBENZENE	0.00039	ND	102	80-123					
N-BUTYLBENZENE	0.00033	ND	105	84-127					
1,2-DIBROMO-3-CHLOROPROPANE(DPCP)	0.00067	ND	107	66-125					
1,2,4-TRICHLOROBENZENE	0.00025	ND	106	76-117					
NAPHTHALENE	0.00047	ND	102	79-119					
1,2,3-TRICHLOROBENZENE	0.00036	ND	100	72-118					

COMMENTS:

QA/QC Summary

Method: 8270 (100/200 PPB QC)	FILE NAME: SLC0401-MS1	Page 1 of 2

CLIENT:ECS GREENSBORO (PROJECT:LIBERTY MEGA SITE)

Sample ID:	2379--01-04				INSTUMENT: MS-1				
Extraction Method	3550								
Date Extracted	03/30/15								
Weight Extracted	30G								
Final Extract Volume	1ML								
Date Analyzed	04/01/15								
% Surrogate Recovery	72	79	73	86	88		77		
Acceptance Range	(21 - 110)	(10 - 110)	(35 - 114)	(10 - 123)	(43 - 116)		(33 - 141)		
Compound	MDL mg/kg	Method Blank	LCS % Recovery	LCS Accept. Range	MS % Rec.	MSD % Rec.	RPD	QC LIMITS RPD	QC LIMITS % REC
N-Nitrosodimethylamine	0.047	ND	76	51-108					
Bis(2-chloroethyl)ether	0.066	ND	77	49-110					
Phenol	0.066	ND	79	52-118	63	50	24	42	12-110
2-Chlorophenol	0.060	ND	82	55-111	76	61	21	40	27-123
1,3-Dichlorobenzene	0.085	ND	80	54-108					
1,4-Dichlorobenzene	0.050	ND	75	55-112	66	51	24	28	36-97
1,2-Dichlorobenzene	0.047	ND	81	53-112					
Benzyl Alcohol	0.087	ND	85	47-160					
2-Methylphenol(O-CRESOL)	0.072	ND	83	35-127					
3&4-Methylphenol(M&P CRESOL)	0.063	ND	85	47-132					
Bis(2-chloroisopropyl)ether	0.063	ND	82	37-116					
N-nitrosodi-n-propylamine	0.057	ND	85	45-123	75	62	19	38	41-116
Hexachloroethane	0.069	ND	76	52-107					
2-Nitrophenol	0.066	ND	80	56-117					
2,4-Dimethylphenol	0.079	ND	71	35-118					
Nitrobenzene	0.072	ND	73	50-99					
Isophorone	0.079	ND	66	48-100					
Bis(2-chloroethoxy)methane	0.063	ND	77	51-96					
Benzoic Acid	0.348	ND	98	D-136					
2,4-Dichlorophenol	0.066	ND	78	42-117					
1,2,4-Trichlorobenzene	0.047	ND	74	53-95	96	79	20	28	39-98
4-Chloro-3-methylphenol	0.141	ND	81	49-128	89	76	16	42	23-97
4-Chloroaniline	0.479	ND	77	44-116					
Hexachlorobutadiene	0.057	ND	70	39-121					
2-Methylnaphthalene	0.056	ND	68	63-105					
Dibenzofuran	0.063	ND	93	50-128					
2,4,6-Trichlorophenol	0.044	ND	88	23-167					
2,4,5-Trichlorophenol	0.107	ND	91	32-158					

N/A .

QA/QC Summary

Method: 8270 (100/200 PPB QC) | **FILE NAME: SLC0401-MS1** |

CLIENT:ECS GREENSBORO (PROJECT:LIBERTY MEGA SITE)

Compound	MDL mg/kg	Method Blank	LCS % Recovery	LCS Acceptr ange	MS % Rec.	MSD % Rec.	RPD	QC LIMITS RPD	QC LIMITS % REC
2-Methyl-4,6-Dinitrophenol	0.170	ND	87	64-140					
4-Nitrophenol	0.232	ND	76	50-140	48	37	25	50	10-80
Hexachlorocyclopentadiene	0.079	ND	63	12-129					
2-Chloronaphthalene	0.046	ND	92	46-127					
Dimethyl phthalate	0.066	ND	81	51-113					
Acenaphthylene	0.066	ND	89	41-128					
2,6-Dinitrotoluene	0.075	ND	101	58-120					
Acenaphthene	0.057	ND	88	49-129	82	61	29	31	46-118
2,4-Dinitrotoluene	0.079	ND	89	53-123	70	58	18	38	24-96
Fluorene	0.060	ND	72	49-127					
Diethyl phthalate	0.072	ND	92	47-117					
4-Chlorophenyl phenyl ether	0.050	ND	78	46-134					
2,4-Dinitrophenol	0.188	ND	98	45-147					
Azobenzene	0.083	ND	90	45-117					
Pentachlorophenol	0.129	ND	86	64-144	65	59	11	50	9-103
N-Nitrosodiphenylamine	0.066	ND	81	2-127					
4-Bromophenyl phenyl ether	0.085	ND	100	50-130					
Hexachlorobenzene	0.069	ND	95	50-131					
Phenanthrene	0.075	ND	80	50-135					
Anthracene	0.072	ND	96	57-131					
Di-N-Butyl phthalate	0.097	ND	88	47-115					
Fluoranthene	0.085	ND	93	47-128					
Benzidine	0.048	ND	33	D-150					
Pyrene	0.038	ND	84	56-120	89	82	8	31	26-127
Benzyl butyl phthalate	0.060	ND	89	55-122					
Benzo(a)anthracene	0.050	ND	89	62-119					
3,3-Dichlorobenzidine	0.122	ND	44	D-114					
Chrysene	0.060	ND	83	60-124					
Bis(2-ethyl-hexyl)phthalate	0.066	ND	76	46-124					
Di-N-Octyl phthalate	0.079	ND	62	49-131					
Benzo(b)fluoranthene	0.122	ND	75	60-132					
Benzo(k)fluoranthene	0.110	ND	52	39-137					
Benzo(a)pyrene	0.047	ND	66	63-126					
Indeno(1,2,3-cd) pyrene	0.094	ND	76	39-159					
Dibenzo(a,h)anthracene	0.088	ND	74	20-158					
Benzo(g,h,i)perylene	0.097	ND	67	40-158					

N/A = Data Not Available *** = OUT OF RANGE**

QA/QC Summary

Method 5035

Project : ECS Carolinas - Liberty Mega Site

Sample ID	2379-05_07								
Sample Prep Method	5030								
Volume/Used	5 mls								
Final Extract Volume	N/A								
Date Analyzed	03/30/15								
% Surrogate Recovery	110								
Acceptance Limits	**(70-130)**								

Compound	**MDL mg/kg**	**Method Blank**	**Trip/Field Blank**	**LCS % Recovery**	**LCS Acceptance Range**	**Sample**	**Duplicate**	**%RPD**	**Control Limits**
Gasoline	0.57	BQL	N/A	97	72-128	1,300	1,401	7.61	20%

:

N/A = Data Not Available

QA/QC Summary

Method 3550

Project: ECS Carolinas - Liberty Mega Site

Sample ID	2379-05_07								
Sample Prep Method	3550								
Volume/Used	15 g								
Final Extract Volume	10 mls								
Date Analyzed	03/30/15								
% Surrogate Recovery	100								
Acceptance Limits	**(70-130)**								

Compound	**MDL mg/kg**	**Method Blank**	**Trip/Field Blank**	**LCS % Recovery**	**LCS Acceptance Range**	**Sample**	**Duplicate**	**%RPD**	**Control Limits**
Diesel	1.36	BQL	N/A	102	80-120	186	166	11.6	20

N/A = Data Not Available