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SOIL/SEDIMENT SAMPLING REPORT

AGENCY INTEREST NO. 104421
Chickasaw Park Lake Rehabilitation
1200 Southwestern Parkway
Louisville, KY

ATC PROJECT NO. LOUEN19016

May 10, 2019

Prepared For:

Mr. Brent Cary
Kentucky Energy and Environmental Cabinet
Department for Environmental Protection
300 Sower Boulevard
Frankfort, Kentucky 40601

On Behalf of:

Louisville Metro Government
Develop Louisville
444 S. 5th Street
Louisville, KY 40202

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May 10, 2019

Mr. Brent Cary
Kentucky Energy and Environmental Cabinet
Department for Environmental Protection
300 Sower Boulevard
Frankfort, Kentucky 40601

Re: Soil/Sediment Sampling Report
Chickasaw Park Lake Rehabilitation
1200 Southwestern Parkway
Louisville, KY 40211
Agency Interest No. 104421
ATC Project No. LOUEN19016

Dear Mr. Cary:

On behalf of Louisville Metro Government (Louisville Metro), ATC Group Services LLC (ATC) is pleased to submit this sampling report documenting soil and sediment sampling activities conducted at the above referenced site. ATC conducted the sampling actvities in general accordance with our approved Chickasaw Park Lake Rehabilitation Sampling Plan dated March 19, 2019. The work performed, findings, and conclusions of the sampling event are provided in the attached report.

We appreciate the opportunity to be of service to you on this project. Please contact either of the undersigned if you have any questions or comments.

Sincerely,
ATC Group Services LLC

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Environmental Scientist
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1.0 Introduction

ATC Group Services, LLC (ATC) was retained by Louisville Metro – Develop Louisville to perform sampling and analysis of soil and sediment with the proposed and existing footprint of the Chickasaw Park lake, located at 1200 Southwestern Parkway, Louisville, Kentucky, herein referred to as ("the site"). A Vicinity Map depicting the site location is included as **Figure 1**.

1.1 Background Information

Chickasaw Park lake was reportedly constructed in 1936, currently covers approximately 1.5 acres, and ranges in approximate depth from 1.6 feet to 4.6 feet. Site investigation activities conducted in the 1990s identified elevated concentrations of polychlorinated biphenyls (PCBs), Resource Conservation and Recovery Act (RCRA) metal mercury, and volatile organic compounds (VOCs) in the lake sediment. Elevated concentrations of dioxins were also detected in previous samples extracted from the lake's fish population. As a result, fish were reportedly removed from the lake in 1996. Restocking of fish in the lake occurred in 1998.

Louisville Metro has developed a plan for lake rehabilitation that includes increasing the depth and areal extent of the lake. To achieve rehabilitation, sediment/soil removal would average 6.5 feet to 12 feet within the proposed lake footprint. This plan will require removal of the existing lake bottom sediments and additional surrounding soil that is beyond the existing banks of the lake. As part of the rehabilitation project, Louisville Metro's desired sediment/soil disposal option is reuse of spoils at Chickasaw Park (onsite) for fill and slope shoring/stabilization purposes.

2.0 Work Performed

Prior to the start of field activities, ATC contacted Kentucky811 to request underground utility location. ATC placed the soil boring locations as necessary to avoid potentially contacting underground utilities. Additionally, a site-specific health and safety plan was prepared and reviewed with all field personnel before commencing field activities.

2.1 Sediment Sampling Activities

On April 4, 2019, ATC collected five sediment samples (SED-1 through SED-5) from five designated sections of the lake. Five aliquots were randomly located and collected from within each designated section using a plastic soil sampling tube fitted with a sediment catcher. A new/designated sampling tube was used within each lake section, and the sampling tube was directly pushed into the upper depths of the lake bottom. The five aliquots collected were composited into one sample per each designated section of the lake. Sediment sample locations are indicated on **Figure 2**.

Each composite sediment sample was placed into laboratory-supplied sample containers, labelled with a unique identification, placed in a cooler with ice, and transported to Pace Analytical Services, Inc. under standard chain-of-custody protocols.

The sediment samples collected were analysed for volatile organic compounds (VOCs) using United States Environmental Protection Agency (US EPA) SW-846 Method 8260, polynuclear aromatic hydrocarbons (PAHs) via Method 8270SIM, Resource Conservation and Recovery Act (RCRA) metals via Method 6010/7471, PCBs via Method 8082, and Dioxins via method 8280.

2.2 Soil Sampling Activities

On April 11, 2019, ATC collected six soil samples (B-1 through B-6) in various locations outside the existing lake and within the proposed areas of lake expansion. Soil samples were collected using a Geoprobe® direct-push unit equipped with five-foot long, nominal two-inch diameter Macro-core® samplers. The Macro-core samplers were equipped with new plastic internal liners prior to collection of each sample. The soil sample locations are indicated on **Figure 2**.

Soil samples were continuously collected in two-foot depth intervals to a terminal depth in each boring. An environmental professional visually inspected each soil sample in the field for physical evidence of environmental impact such as staining, odors, free product, etc. Headspace screening was conducted on each sample utilizing a calibrated photoionization detector (PID). Each sample interval was composited into one sample and submitted for lab analysis. Soil boring logs documenting the soil classification are provided in Appendix A.

One composite soil sample was collected for laboratory analysis from each soil boring. Groundwater was not encountered in any borings. The composite soil samples were placed into laboratory-supplied sample containers, labelled with a unique identification, placed in a cooler with ice, and transported to Pace Analytical Services, Inc. under standard chain-of-custody protocols.

Soil samples collected were analysed for volatile organic compounds (VOCs) using United States EPA SW-846 Method 8260, PAHs via Method 8270SIM, and RCRA metals via Method 6010/7471.

3.0 Findings

3.1 Sediment and Soil Screening Results

The lake sediment material encountered generally consisted of dark brown sediment with organic odor. The sediment borings were terminated at a depth of approximately one to 3 feet below grade surface (bgs).

The subsurface soil in the areas of the proposed lake expansion generally consisted of brown, moist, clay to an approximate depth of 10 feet bgs in the borings. Between 10 feet to 12 feet the brown clay became mottled grey clay. Between 12 feet to 15 feet the clay appeared wet with sand. Each boring was terminated at a depth of 15 feet below grade.

3.2 Sediment Analytical Results

The sediment analytical results were compared to the USEPA Residential and Industrial Regional Screening Levels (RSLs, November 2018) as typically regulated by the Kentucky Division of Waste Management (KDWM) Superfund Branch. RSLs have not been established for all potential contaminants of concern (sampled compounds). A summary of the soil laboratory analysis is provided in **Table 1**. The laboratory analytical report is included in Appendix B.

Based on laboratory analysis, VOC and PCB compounds were not detected above the laboratory method detection limits in the collected sediment samples. PAH compounds anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(a)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, and indeno(1,2,3-cd)pyrene in sample SED-5; and naphthalene and 2-methylnaphthalene in sample SED-1 were detected at concentrations above the laboratory method detection limits, but did not exceed the Residential RSLs.

Based on laboratory analysis, RCRA metals arsenic, barium, cadmium, chromium, and lead were detected at concentrations above the laboratory method detection limits in each of the sediment samples, but do not exceed the Residential RSLs with the exception of arsenic. Per KDWM, in order for an inorganic constituent to not be considered a contaminant of concern at the site, the following three tests must be passed:

- Mean site concentration for the constituent must be below the 95% Upper Confidence Limit (UCL) of the mean concentration of background data (or the generic statewide value in the KDWM's guidance document); and,

- At least half the sample values must be less than the 60th percentile of the background data (or the generic statewide value in the regulation's guidance document); and,

- No sample value can be above the upper bound value (95th percentile) of the background data (or the generic statewide value in the regulation's guidance document).

This methodology was applied to the arsenic concentrations reported as detected during the sampling activities. Per KDWM guidelines, site arsenic concentrations were compared to the Bluegrass Province-specific background arsenic range, which was established from the collection and analysis of 219 soil samples collected throughout the province. The site arsenic in sediment samples mean concentration (3.74 mg/kg), which does not exceeds the 95% UCL of the Generic Bluegrass Province Ambient Background mean arsenic concentration of 13.12 mg/kg. Also, no sediment samples analysed exceed the 60th percentile concentration (10.6 mg/kg) of the Bluegrass Province study.

The arsenic concentrations reported for the sediment samples from the site do meet the above described criteria to be considered within Bluegrass Province background levels.

Based on laboratory analysis, dioxin and furan compounds were not detected in the sediment samples with the exception of octachlorodibenzo-p-dioxin (OCDD) in sediment samples SED-2 and SED-5 with concentrations of 8.9 mg/kg and 0.013 mg/kg, respectively. OCDD is a by-product of combustion of other manufactured chemicals and may be dispersed in the environment via air currents. It does not have an established RSL. As such, it is ATCs opinion that this OCDD detection in samples SED-2 and SED-5 do not represent an environmental risk.

3.3 Soil Analytical Results

The soil analytical results were compared to the USEPA Residential and Industrial scenario RSLs (November 2018) as typically regulated by the KDWM Superfund Branch. RSLs have not been established for all potential contaminants of concern. A summary of the soil laboratory analysis is provided in **Table 2**. The laboratory analytical report is included in Appendix B.

Based on laboratory analysis, VOC and PAH compounds were not detected above the laboratory method detection limits in the soil samples collected.

RCRA metals arsenic, barium, chromium, and lead were detected at concentrations above the laboratory method detection limits in each of the soil samples. Of these detections, the arsenic concentrations exceeded the Industrial RSLs in each soil sample collected. The arsenic concentrations were evaluated per the background study test described in Section 3.2. The site's arithmetic mean concentration of 10.13 mg/kg, does not exceed the 95% UCL of the Generic Bluegrass Province Ambient Background mean arsenic concentration of 13.12 mg/kg. In addition, no soil samples analyzed exceed the 60th percentile concentration (10.6 mg/kg) of the Bluegrass Province study. Therefore, the arsenic concentrations reported for the soil samples from the site appear to be within the Bluegrass Province (statewide) background levels.

4.0 Conclusions and Recommendations

Based on the scope of services described in this report and subject to the limitations described herein, ATC concludes the following:

- RCRA metals arsenic, barium, chromium, and lead were detected at concentrations above the laboratory method detection limits, but do not exceed the RSLs with the exception of arsenic. However, both the sediment and soil samples collected met the criteria to be considered within statewide background levels for arsenic.
- VOC compounds were not detected in the sediment or soil samples collected during this sampling event above the laboratory method detection limits or the RSLs.
- PAH compounds were detected in the sediment samples collected during this sampling event above the laboratory method detection limits; however, the detected concentrations do not exceed the RSLs.
- Dioxin compound OCDD was detected in two sediment samples; however, OCDD does not have an established RSL.

Based on the laboratory analytical results of the samples collected, it appears the lake sediments and surrounding soil do not exceed regulatory screening levels; therefore, restrictions for onsite use of the soil/sediment per the proposed lake rehabilitation plan, do not appear to be necessary.

5.0 Qualifications

ATC's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. ATC makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that ATC does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These sampling services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and approved Sampling Plan dated March 19, 2019.

The work performed in conjunction with this assessment, and the data developed, are intended as a description of available information at the dates and locations given. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type, or at a location not investigated, nor against future operations or conditions.

Tables

Table 1
Summary of Sediment Analytical Results
Chickasaw Park
Louisville, Kentucky
ATC Project No. LOUEN19016

Sample ID and Depth			SED-1	SED-2	SED-3	SED-4	SED-5
Collect Date			4/4/2019	4/4/2019	4/4/2019	4/4/2019	4/4/2019
Parameter	Residential RSL (mg/kg)	Industrial RSL (mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOCs (Method 8260)							
VOCs were not detected above laboratory detection limits							
SVOCs (8270-SIM)							
Anthracene	**18,000**	**230,000**	<0.005	<0.005	<0.005	<0.005	**0.0062**
Benzo(a)anthracene	**1.1**	**21.0**	<0.005	<0.005	<0.005	<0.005	**0.019**
Benzo(a)pyrene	**0.11**	**2.10**	<0.005	<0.005	<0.005	<0.005	**0.016**
Benzo(b)fluoranthene	**1.1**	**21.0**	<0.005	<0.005	<0.005	<0.005	**0.017**
Benzo(g,h,i)perylene	**1,700**	**17,000**	<0.005	<0.005	<0.005	<0.005	**0.0098**
Benzo(k)fluoranthene	**11.0**	**210**	<0.005	<0.005	<0.005	<0.005	**0.015**
Chrysene	**110**	**2,100**	<0.005	<0.005	<0.005	<0.005	**0.024**
Fluoranthene	**2,400**	**30,000**	<0.005	<0.005	<0.005	<0.005	**0.05**
Indeno(1,2,3-cd)pyrene	**1.1**	**21.0**	<0.005	<0.005	<0.005	<0.005	**0.0095**
Naphthalene	**3.8**	**17**	**0.016**	<0.005	<0.005	<0.005	<0.005
2-Methylnaphthalene	**240**	**3,000**	**0.006**	<0.005	<0.005	<0.005	<0.005
PCBs (8082)							
PCBs were not detected above laboratory detection limits							
Metals/PAHs (Method 6010)							
Arsenic	**1**	**3,000**	**5**	**4.3**	**3.9**	**5.5**	**0.0062**
Barium	**15,000**	**220,000**	**55.4**	**81.5**	**70**	**49.8**	**137**
Chromium	**120,000**	**1,800,000**	**12.6**	**14.5**	**13.8**	**13.4**	**15.2**
Lead	**82**	**380.0**	**7.8**	**7.6**	**7.3**	**15.7**	**10.5**
Dioxins and Furans							
OCDD	**N/A**	**N/A**	<0.0025	<0.0025	<0.0025	<0.0025	**0.013**

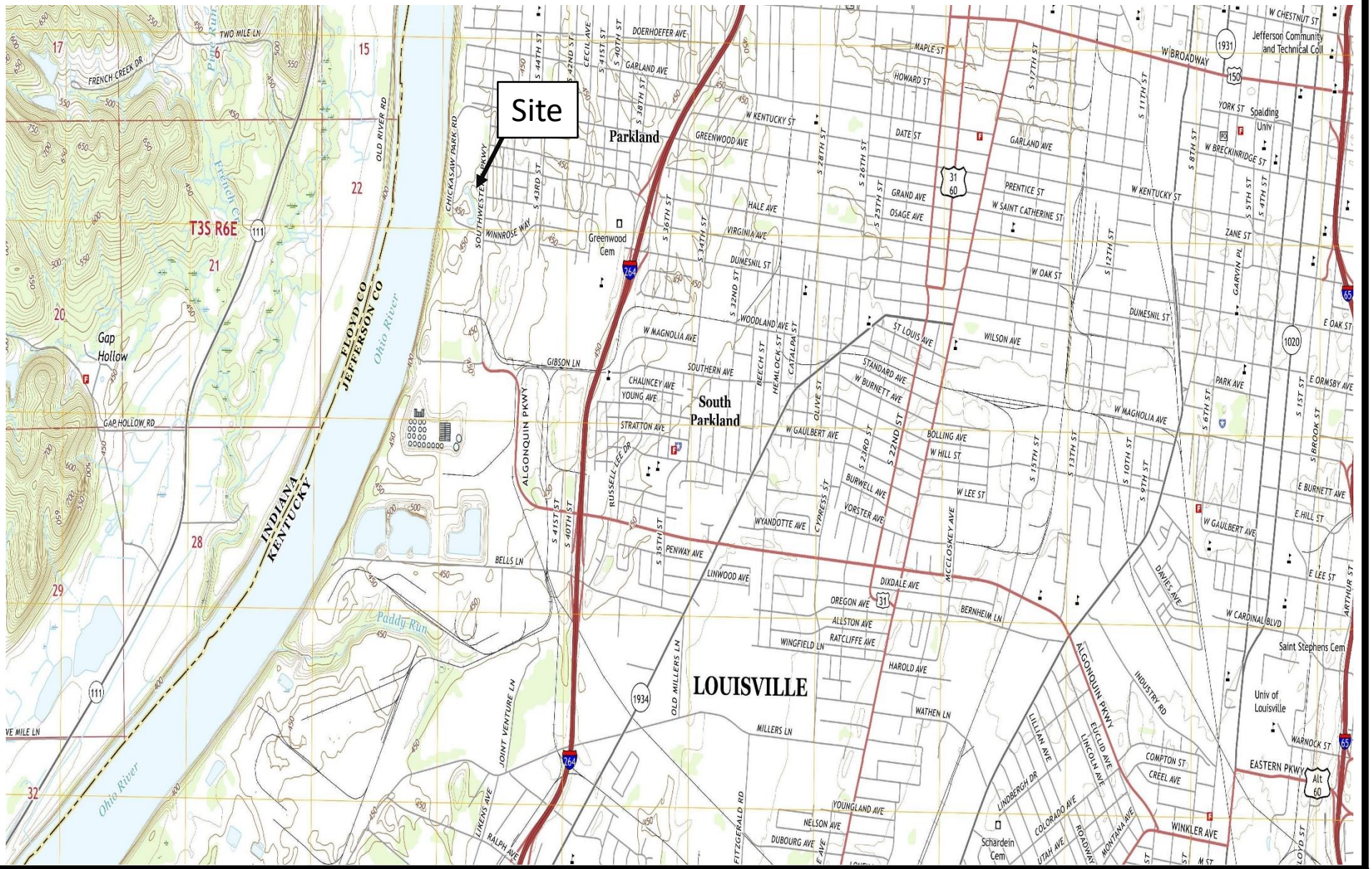
Only detected compounds listed
KCS = Kentucky Cleanup Standard per DEP 7097C (Sept. 2011)
RSL = USEPA Regional Screening Level (November 2018)
VOC = Volatile Organic Compounds
TPH = Total Petroleum Hydrocarbons
SVOC = Semi Volatile Organic Compounds
PCB = Polychlorinated Biphenyls
PAH = Polynuclear Aromatic Hydrocarbons

Table 2
Summary of Soil Analytical Results
Chickasaw Park
Louisville, Kentucky
ATC Project No. LOUEN19016

Sample ID and Depth			B-1	B-2	B-3	B-4	B-5	B-6
Collect Date			4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019
Parameter	Residential RSL (mg/kg)	Industrial RSL (mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOCs (Method 8260)								
VOCs were not detected above laboratory detection limits								
SVOCs (8270-SIM)								
PAHs were not detected above laboratory detection limits								
Metals/PAHs (Method 6010)								
Arsenic	1	3,000	9.4	7.4	8.2	8.7	19.2	7.9
Barium	15,000	220,000	76.2	72.2	60.9	55.9	67.6	52.6
Chromium	120,000	1,800,000	12.0	11.5	11.9	15.1	17.4	10.1
Lead	82	380.0	10.6	8.7	9.2	10.4	19.3	8.1

Only detected compounds listed
KCS = Kentucky Cleanup Standard per DEP 7097C (Sept. 2011)
RSL = USEPA Regional Screening Level (November 2018)
VOC = Volatile Organic Compounds
TPH = Total Petroleum Hydrocarbons
SVOC = Semi Volatile Organic Compounds
PCB = Polychlorinated Biphenyls
PAH = Polynuclear Aromatic Hydrocarbons

Figures



DATE: May 10, 2019

PROJECT No.: LOUEN18048

DRAWN BY: JA

APPROVED BY: JC

APPROXIMATE SCALE: NOT TOSCALE

N

Figure 1

Site Location Map

Chickasaw Park Lake
1200 Southwestern Parkway
Louisville, Kentucky

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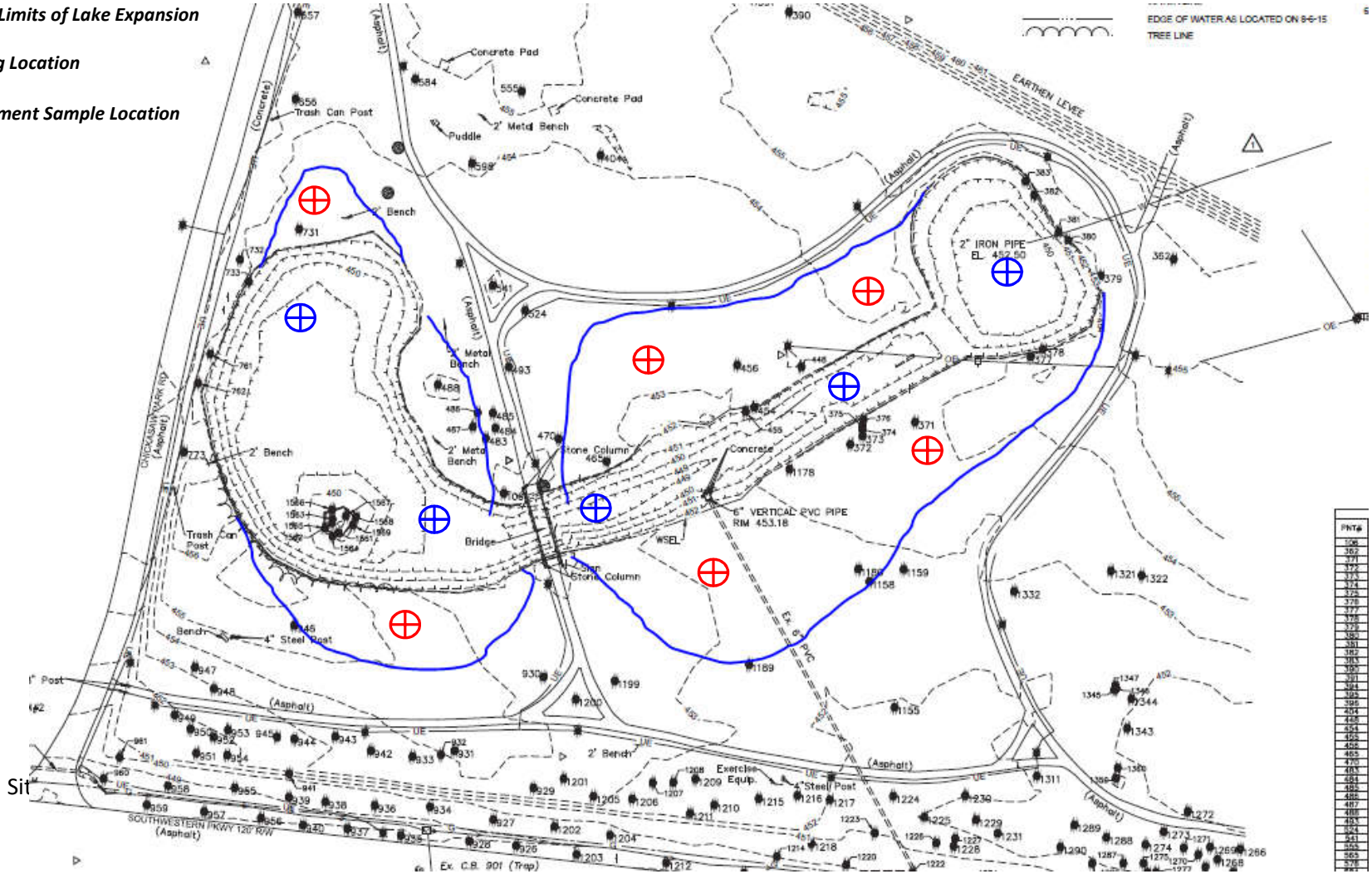
ATC GROUP SERVICES LLC
2724 River Green Circle
Louisville, KY 40206

LEGEND

Proposed Limits of Lake Expansion

Soil Boring Location

Lake Sediment Sample Location



DATE: March 4, 2019

PROJECT No.: LOUEN18048

DRAWN BY: JC

APPROVED BY: JC

APPROXIMATE SCALE: NOT TO SCALE

N

Figure 2
Sample Location Plan

Chickasaw Park Lake
1200 Southwestern Parkway
Louisville, Kentucky

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ATC GROUP SERVICES LLC
2724 River Green Circle
Louisville, KY 40206

Appendix A – Soil Boring Logs

2724 River Green Circle
Louisville, KY 40206
www.atcgroupservices.com
(570) 439-2077

TEST BORING LOG

CLIENT **Louisville Metro**
PROJECT NAME **Chickasaw Park Sediment Sampling**
PROJECT LOCATION **1200 Southwestern Pkwy**
Louisville, Kentucky

BORING # **B-01**
JOB # **LOUEN19016**

DRILLING and SAMPLING INFORMATION

Date Started **4/11/19** Boring Method **Geoprobe**
Date Completed **4/11/19** Sampler OD **2.0** in.
Drill Foreman **GeoLogic** Inspector **S. Rice**

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION	Stratum Depth	Depth Scale	Groundwater	Sampling Notes
TOPSOIL	1.0			
Brown, moist, CLAY (CL)		5		A composite soil sample was collected from this soil boring for laboratory analysis.
- gray mottling between 10 and 12 ft		10		
- wet with some sand below 12 ft			●	
Bottom of Boring at 15 ft	15.0	15		

TPV - Total Photo-Ionization Vapors
TFV - Total Flame-Ionization Vapors
PPM - Parts Per Million
ND - None Detected
PVC - Polyvinyl Chloride
NA - Not Analyzed

Depth to Groundwater
● Noted on Drilling Tools **12.0** ft.
▽ At Completion (open hole) **--** ft.
▼ After **--** hours **--** ft.
Cave Depth **--** ft.

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
HA - Hand Auger
BLR - Bailer
BP - Bladder Pump
PP - Peristaltic Pump
SP - Submersible Pump

ENV_GEOPROBE_STANDARD REV1 LOUEN19016.GPJ ATCENVGE.GDT 4/17/19

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(570) 439-2077

TEST BORING LOG

CLIENT **Louisville Metro**
PROJECT NAME **Chickasaw Park Sediment Sampling**
PROJECT LOCATION **1200 Southwestern Pkwy**
Louisville, Kentucky

BORING # **B-02**
JOB # **LOUEN19016**

DRILLING and SAMPLING INFORMATION

Date Started **4/11/19** Boring Method **Geoprobe**
Date Completed **4/11/19** Sampler OD **2.0** in.
Drill Foreman **GeoLogic** Inspector **S. Rice**

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION	Stratum Depth	Depth Scale	Groundwater	Sampling Notes
TOPSOIL	1.0			
Light brown, moist, CLAY (CL)		5		
- brown below 8.0 ft		10		A composite soil sample was collected from this soil boring for laboratory analysis.
- wet with some sand below 12 ft			●	
Bottom of Boring at 15 ft	15.0	15		

TPV - Total Photo-Ionization Vapors
TFV - Total Flame-Ionization Vapors
PPM - Parts Per Million
ND - None Detected
PVC - Polyvinyl Chloride
NA - Not Analyzed

Depth to Groundwater
● Noted on Drilling Tools **12.0** ft.
▽ At Completion (open hole) **--** ft.
▼ After **--** hours **--** ft.
Cave Depth **--** ft.

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
HA - Hand Auger
BLR - Bailer
BP - Bladder Pump
PP - Peristaltic Pump
SP - Submersible Pump

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TEST BORING LOG

CLIENT **Louisville Metro**
PROJECT NAME **Chickasaw Park Sediment Sampling**
PROJECT LOCATION **1200 Southwestern Pkwy**
Louisville, Kentucky

BORING # **B-03**
JOB # **LOUEN19016**

DRILLING and SAMPLING INFORMATION

Date Started **4/11/19** Boring Method **Geoprobe**
Date Completed **4/11/19** Sampler OD **2.0** in.
Drill Foreman **GeoLogic** Inspector **S. Rice**

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION	Stratum Depth	Depth Scale	Groundwater	Sampling Notes
TOPSOIL	1.0			
Brown, moist, CLAY (CL)		5		A composite soil sample was collected from this soil boring for laboratory analysis.
		10	●	
- wet with some sand below 12 ft	15.0	15		
Bottom of Boring at 15 ft				

TPV - Total Photo-Ionization Vapors
TFV - Total Flame-Ionization Vapors
PPM - Parts Per Million
ND - None Detected
PVC - Polyvinyl Chloride
NA - Not Analyzed

Depth to Groundwater
● Noted on Drilling Tools **12.0** ft.
▽ At Completion (open hole) **--** ft.
▼ After **--** hours **--** ft.
Cave Depth **--** ft.

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
HA - Hand Auger
BLR - Bailer
BP - Bladder Pump
PP - Peristaltic Pump
SP - Submersible Pump

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TEST BORING LOG

CLIENT **Louisville Metro**
PROJECT NAME **Chickasaw Park Sediment Sampling**
PROJECT LOCATION **1200 Southwestern Pkwy**
Louisville, Kentucky

BORING # **B-04**
JOB # **LOUEN19016**

DRILLING and SAMPLING INFORMATION

Date Started **4/11/19** Boring Method **Geoprobe**
Date Completed **4/11/19** Sampler OD **2.0** in.
Drill Foreman **GeoLogic** Inspector **S. Rice**

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION	Stratum Depth	Depth Scale	Groundwater	Sampling Notes
TOPSOIL	1.0			
Gray with brown mottling, moist, CLAY (CL)		5		
- brown below 8.0 ft		10		A composite soil sample was collected from this soil boring for laboratory analysis.
- wet with some sand below 12 ft			●	
Bottom of Boring at 15 ft	15.0	15		

TPV - Total Photo-Ionization Vapors
TFV - Total Flame-Ionization Vapors
PPM - Parts Per Million
ND - None Detected
PVC - Polyvinyl Chloride
NA - Not Analyzed

Depth to Groundwater
● Noted on Drilling Tools **12.0** ft.
▽ At Completion (open hole) **--** ft.
▼ After **--** hours **--** ft.
Cave Depth **--** ft.

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
HA - Hand Auger
BLR - Bailer
BP - Bladder Pump
PP - Peristaltic Pump
SP - Submersible Pump

ENV_GEOPROBE_STANDARD REV1 LOUEN19016.GPJ ATCENVGE.GDT 4/17/19

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TEST BORING LOG

CLIENT **Louisville Metro**
PROJECT NAME **Chickasaw Park Sediment Sampling**
PROJECT LOCATION **1200 Southwestern Pkwy**
Louisville, Kentucky

BORING # **B-05**
JOB # **LOUEN19016**

DRILLING and SAMPLING INFORMATION

Date Started **4/11/19** Boring Method **Geoprobe**
Date Completed **4/11/19** Sampler OD **2.0** in.
Drill Foreman **GeoLogic** Inspector **S. Rice**

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION	Stratum Depth	Depth Scale	Groundwater	Sampling Notes
TOPSOIL	1.0			
Gray with brown mottling, moist, CLAY (CL)		5		
- brown below 6.5 ft				A composite soil sample was collected from this soil boring for laboratory analysis.
- with some sand below 10 ft		10		
- wet below 12 ft			●	
Bottom of Boring at 15 ft	15.0	15		

TPV - Total Photo-Ionization Vapors
TFV - Total Flame-Ionization Vapors
PPM - Parts Per Million
ND - None Detected
PVC - Polyvinyl Chloride
NA - Not Analyzed

Depth to Groundwater
● Noted on Drilling Tools **12.0** ft.
▽ At Completion (open hole) **--** ft.
▼ After **--** hours **--** ft.
Cave Depth **--** ft.

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
HA - Hand Auger
BLR - Bailer
BP - Bladder Pump
PP - Peristaltic Pump
SP - Submersible Pump

ENV_GEOPROBE_STANDARD REV1 LOUEN19016.GPJ ATCENVGE.GDT 4/17/19

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TEST BORING LOG

CLIENT **Louisville Metro**
PROJECT NAME **Chickasaw Park Sediment Sampling**
PROJECT LOCATION **1200 Southwestern Pkwy**
Louisville, Kentucky

BORING # **B-06**
JOB # **LOUEN19016**

DRILLING and SAMPLING INFORMATION

Date Started **4/11/19** Boring Method **Geoprobe**
Date Completed **4/11/19** Sampler OD **2.0** in.
Drill Foreman **GeoLogic** Inspector **S. Rice**

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION	Stratum Depth	Depth Scale	Groundwater	Sampling Notes
TOPSOIL	0.5			
Brown, moist, CLAY (CL)		5		
- with some sand below 8.0 ft		10		A composite soil sample was collected from this soil boring for laboratory analysis.
Brown, wet, SAND (SP)	12.0		●	
Bottom of Boring at 15 ft	15.0	15		

TPV - Total Photo-Ionization Vapors
TFV - Total Flame-Ionization Vapors
PPM - Parts Per Million
ND - None Detected
PVC - Polyvinyl Chloride
NA - Not Analyzed

Depth to Groundwater
● Noted on Drilling Tools **12.0** ft.
▽ At Completion (open hole) **--** ft.
▼ After **--** hours **--** ft.
Cave Depth **--** ft.

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
HA - Hand Auger
BLR - Bailer
BP - Bladder Pump
PP - Peristaltic Pump
SP - Submersible Pump

ENV_GEOPROBE_STANDARD REV1 LOUEN19016.GPJ ATCENVGE.GDT 4/17/19

Appendix B – Laboratory Analytical Reports

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

April 19, 2019

John Case
ATC Group Services
2724 River Green Circle
Louisville, KY 40206

RE: Project: LOUEN19016
Pace Project No.: 50221501

Dear John Case:
Enclosed are the analytical results for sample(s) received by the laboratory on April 05, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Donna S. Spyker

Donna Spyker
donna.spyker@pacelabs.com
(317)228-3100
Project Manager

Enclosures

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(317)228-3100

CERTIFICATIONS

Project: LOUEN19016
Pace Project No.: 50221501

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas/NELAP Certification #: E-10177
Kentucky UST Certification #: 80226
Kentucky WW Certification #: 98019
Michigan Department of Environmental Quality, Laboratory #9050
Ohio VAP Certification #: CL0065
Oklahoma Certification #: 2018-101
Texas Certification #: T104704355
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-16-00257

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SAMPLE SUMMARY

Project: LOUEN19016
Pace Project No.: 50221501

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50221501001	**SED-1**	Solid	04/04/19 10:15	04/05/19 08:35
50221501002	**SED-2**	Solid	04/04/19 10:30	04/05/19 08:35
50221501003	**SED-3**	Solid	04/04/19 10:45	04/05/19 08:35
50221501004	**SED-4**	Solid	04/04/19 11:00	04/05/19 08:35
50221501005	**SED-5**	Solid	04/04/19 11:30	04/05/19 08:35

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SAMPLE ANALYTE COUNT

Project: LOUEN19016
Pace Project No.: 50221501

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50221501001	**SED-1**	EPA 8082	RID	8	PASI-I
		EPA 6010	KJE	7	PASI-I
		EPA 7471	LBT	1	PASI-I
		EPA 8270 by SIM	JCM	20	PASI-I
		EPA 8260	TMW	73	PASI-I
		SM 2540G	WDB	1	PASI-I
50221501002	**SED-2**	EPA 8082	RID	8	PASI-I
		EPA 6010	KJE	7	PASI-I
		EPA 7471	LBT	1	PASI-I
		EPA 8270 by SIM	JCM	20	PASI-I
		EPA 8260	TMW	73	PASI-I
		SM 2540G	WDB	1	PASI-I
50221501003	**SED-3**	EPA 8082	RID	8	PASI-I
		EPA 6010	KJE	7	PASI-I
		EPA 7471	LBT	1	PASI-I
		EPA 8270 by SIM	JCM	20	PASI-I
		EPA 8260	TMW	73	PASI-I
		SM 2540G	WDB	1	PASI-I
50221501004	**SED-4**	EPA 8082	RID	8	PASI-I
		EPA 6010	KJE	7	PASI-I
		EPA 7471	LBT	1	PASI-I
		EPA 8270 by SIM	JCM	20	PASI-I
		EPA 8260	TMW	73	PASI-I
		SM 2540G	WDB	1	PASI-I
50221501005	**SED-5**	EPA 8082	RID	8	PASI-I
		EPA 6010	KJE	7	PASI-I
		EPA 7471	LBT	1	PASI-I
		EPA 8270 by SIM	JCM	20	PASI-I
		EPA 8260	TMW	73	PASI-I
		SM 2540G	WDB	1	PASI-I

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-1 **Lab ID: 50221501001** Collected: 04/04/19 10:15 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.099	1	04/09/19 10:15	04/14/19 23:49	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.099	1	04/09/19 10:15	04/14/19 23:49	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.099	1	04/09/19 10:15	04/14/19 23:49	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.099	1	04/09/19 10:15	04/14/19 23:49	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.099	1	04/09/19 10:15	04/14/19 23:49	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.099	1	04/09/19 10:15	04/14/19 23:49	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.099	1	04/09/19 10:15	04/14/19 23:49	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	54	%.	26-140	1	04/09/19 10:15	04/14/19 23:49	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**5.0**	mg/kg	0.88	1	04/12/19 12:35	04/16/19 15:27	7440-38-2	
Barium	**55.4**	mg/kg	0.88	1	04/12/19 12:35	04/16/19 15:27	7440-39-3	
Cadmium	ND	mg/kg	0.44	1	04/12/19 12:35	04/16/19 15:27	7440-43-9	
Chromium	**12.6**	mg/kg	0.88	1	04/12/19 12:35	04/16/19 15:27	7440-47-3	
Lead	**7.8**	mg/kg	0.88	1	04/12/19 12:35	04/16/19 15:27	7439-92-1	
Selenium	ND	mg/kg	0.88	1	04/12/19 12:35	04/16/19 15:27	7782-49-2	
Silver	ND	mg/kg	0.44	1	04/12/19 12:35	04/16/19 15:27	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.19	1	04/15/19 10:48	04/15/19 18:00	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	83-32-9	
Acenaphthylene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	208-96-8	
Anthracene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	207-08-9	
Chrysene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	53-70-3	
Fluoranthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	206-44-0	
Fluorene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	90-12-0	N2
2-Methylnaphthalene	**0.0060**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	91-57-6	
Naphthalene	**0.016**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	91-20-3	
Phenanthrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	85-01-8	
Pyrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:13	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	69	%.	23-107	1	04/10/19 09:50	04/15/19 05:13	321-60-8	
p-Terphenyl-d14 (S)	65	%.	16-117	1	04/10/19 09:50	04/15/19 05:13	1718-51-0	

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(317)228-3100

ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-1 **Lab ID: 50221501001** Collected: 04/04/19 10:15 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/12/19 22:02	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/12/19 22:02	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/12/19 22:02	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/12/19 22:02	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/12/19 22:02	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/12/19 22:02	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/12/19 22:02	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/12/19 22:02	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/12/19 22:02	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/12/19 22:02	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/12/19 22:02	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/12/19 22:02	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/12/19 22:02	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/12/19 22:02	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/12/19 22:02	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/12/19 22:02	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/12/19 22:02	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/12/19 22:02	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/12/19 22:02	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/12/19 22:02	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/12/19 22:02	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/12/19 22:02	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/12/19 22:02	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/12/19 22:02	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/12/19 22:02	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/12/19 22:02	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/12/19 22:02	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/12/19 22:02	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/12/19 22:02	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/12/19 22:02	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/12/19 22:02	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/12/19 22:02	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/12/19 22:02	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/12/19 22:02	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/12/19 22:02	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/12/19 22:02	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/12/19 22:02	74-88-4	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-1 **Lab ID: 50221501001** Collected: 04/04/19 10:15 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/12/19 22:02	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/12/19 22:02	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/12/19 22:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/12/19 22:02	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/12/19 22:02	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/12/19 22:02	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/12/19 22:02	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/12/19 22:02	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/12/19 22:02	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0050	1		04/12/19 22:02	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/12/19 22:02	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/12/19 22:02	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/12/19 22:02	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/12/19 22:02	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/12/19 22:02	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/12/19 22:02	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:02	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/12/19 22:02	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/12/19 22:02	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/12/19 22:02	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	101	%.	77-131	1		04/12/19 22:02	1868-53-7	
Toluene-d8 (S)	107	%.	77-127	1		04/12/19 22:02	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	65-119	1		04/12/19 22:02	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**62.6**	%	0.10	1		04/11/19 14:39		

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-2 **Lab ID: 50221501002** Collected: 04/04/19 10:30 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.099	1	04/09/19 10:15	04/11/19 21:26	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.099	1	04/09/19 10:15	04/11/19 21:26	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.099	1	04/09/19 10:15	04/11/19 21:26	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.099	1	04/09/19 10:15	04/11/19 21:26	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.099	1	04/09/19 10:15	04/11/19 21:26	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.099	1	04/09/19 10:15	04/11/19 21:26	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.099	1	04/09/19 10:15	04/11/19 21:26	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	74	%.	26-140	1	04/09/19 10:15	04/11/19 21:26	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**4.3**	mg/kg	0.97	1	04/12/19 12:35	04/16/19 15:29	7440-38-2	
Barium	**81.5**	mg/kg	0.97	1	04/12/19 12:35	04/16/19 15:29	7440-39-3	
Cadmium	ND	mg/kg	0.49	1	04/12/19 12:35	04/16/19 15:29	7440-43-9	
Chromium	**14.5**	mg/kg	0.97	1	04/12/19 12:35	04/16/19 15:29	7440-47-3	
Lead	**7.6**	mg/kg	0.97	1	04/12/19 12:35	04/16/19 15:29	7439-92-1	
Selenium	ND	mg/kg	0.97	1	04/12/19 12:35	04/16/19 15:29	7782-49-2	
Silver	ND	mg/kg	0.49	1	04/12/19 12:35	04/16/19 15:29	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.19	1	04/15/19 10:48	04/15/19 18:06	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	83-32-9	
Acenaphthylene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	208-96-8	
Anthracene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	207-08-9	
Chrysene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	53-70-3	
Fluoranthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	206-44-0	
Fluorene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	91-57-6	
Naphthalene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	91-20-3	
Phenanthrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	85-01-8	
Pyrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:30	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	67	%.	23-107	1	04/10/19 09:50	04/15/19 05:30	321-60-8	
p-Terphenyl-d14 (S)	65	%.	16-117	1	04/10/19 09:50	04/15/19 05:30	1718-51-0	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-2 **Lab ID: 50221501002** Collected: 04/04/19 10:30 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/12/19 22:37	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/12/19 22:37	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/12/19 22:37	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/12/19 22:37	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/12/19 22:37	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/12/19 22:37	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/12/19 22:37	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/12/19 22:37	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/12/19 22:37	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/12/19 22:37	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/12/19 22:37	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/12/19 22:37	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/12/19 22:37	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/12/19 22:37	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/12/19 22:37	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/12/19 22:37	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/12/19 22:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/12/19 22:37	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/12/19 22:37	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/12/19 22:37	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/12/19 22:37	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/12/19 22:37	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/12/19 22:37	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/12/19 22:37	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/12/19 22:37	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/12/19 22:37	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/12/19 22:37	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/12/19 22:37	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/12/19 22:37	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/12/19 22:37	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/12/19 22:37	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/12/19 22:37	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/12/19 22:37	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/12/19 22:37	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/12/19 22:37	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/12/19 22:37	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/12/19 22:37	74-88-4	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-2 **Lab ID: 50221501002** Collected: 04/04/19 10:30 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/12/19 22:37	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/12/19 22:37	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/12/19 22:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/12/19 22:37	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/12/19 22:37	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/12/19 22:37	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/12/19 22:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/12/19 22:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/12/19 22:37	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0050	1		04/12/19 22:37	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/12/19 22:37	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/12/19 22:37	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/12/19 22:37	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/12/19 22:37	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/12/19 22:37	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/12/19 22:37	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/12/19 22:37	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/12/19 22:37	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/12/19 22:37	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/12/19 22:37	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%.	77-131	1		04/12/19 22:37	1868-53-7	
Toluene-d8 (S)	101	%.	77-127	1		04/12/19 22:37	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	65-119	1		04/12/19 22:37	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**23.3**	%	0.10	1		04/11/19 14:39		

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-3 **Lab ID: 50221501003** Collected: 04/04/19 10:45 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.10	1	04/09/19 10:15	04/15/19 00:17	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.10	1	04/09/19 10:15	04/15/19 00:17	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.10	1	04/09/19 10:15	04/15/19 00:17	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.10	1	04/09/19 10:15	04/15/19 00:17	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.10	1	04/09/19 10:15	04/15/19 00:17	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.10	1	04/09/19 10:15	04/15/19 00:17	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.10	1	04/09/19 10:15	04/15/19 00:17	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	61	%.	26-140	1	04/09/19 10:15	04/15/19 00:17	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**3.9**	mg/kg	0.97	1	04/12/19 12:35	04/16/19 15:31	7440-38-2	
Barium	**70.0**	mg/kg	0.97	1	04/12/19 12:35	04/16/19 15:31	7440-39-3	
Cadmium	ND	mg/kg	0.48	1	04/12/19 12:35	04/16/19 15:31	7440-43-9	
Chromium	**13.8**	mg/kg	0.97	1	04/12/19 12:35	04/16/19 15:31	7440-47-3	
Lead	**7.3**	mg/kg	0.97	1	04/12/19 12:35	04/16/19 15:31	7439-92-1	
Selenium	ND	mg/kg	0.97	1	04/12/19 12:35	04/16/19 15:31	7782-49-2	
Silver	ND	mg/kg	0.48	1	04/12/19 12:35	04/16/19 15:31	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.20	1	04/15/19 10:48	04/15/19 18:08	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	83-32-9	
Acenaphthylene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	208-96-8	
Anthracene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	207-08-9	
Chrysene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	53-70-3	
Fluoranthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	206-44-0	
Fluorene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	91-57-6	
Naphthalene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	91-20-3	
Phenanthrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	85-01-8	
Pyrene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 05:46	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	60	%.	23-107	1	04/10/19 09:50	04/15/19 05:46	321-60-8	
p-Terphenyl-d14 (S)	60	%.	16-117	1	04/10/19 09:50	04/15/19 05:46	1718-51-0	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-3 **Lab ID: 50221501003** Collected: 04/04/19 10:45 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/15/19 14:52	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/15/19 14:52	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/15/19 14:52	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/15/19 14:52	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/15/19 14:52	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/15/19 14:52	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/15/19 14:52	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/15/19 14:52	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/15/19 14:52	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/15/19 14:52	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/15/19 14:52	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/15/19 14:52	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/15/19 14:52	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/15/19 14:52	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/15/19 14:52	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/15/19 14:52	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/15/19 14:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/15/19 14:52	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/15/19 14:52	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/15/19 14:52	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/15/19 14:52	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/15/19 14:52	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/15/19 14:52	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/15/19 14:52	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/15/19 14:52	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/15/19 14:52	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/15/19 14:52	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/15/19 14:52	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/15/19 14:52	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/15/19 14:52	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/15/19 14:52	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/15/19 14:52	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/15/19 14:52	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/15/19 14:52	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/15/19 14:52	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/15/19 14:52	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/15/19 14:52	74-88-4	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-3 **Lab ID: 50221501003** Collected: 04/04/19 10:45 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/15/19 14:52	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/15/19 14:52	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/15/19 14:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/15/19 14:52	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/15/19 14:52	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/15/19 14:52	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/15/19 14:52	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/15/19 14:52	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/15/19 14:52	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0050	1		04/15/19 14:52	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/15/19 14:52	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/15/19 14:52	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/15/19 14:52	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/15/19 14:52	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/15/19 14:52	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/15/19 14:52	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:52	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/15/19 14:52	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/15/19 14:52	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/15/19 14:52	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	103	%.	77-131	1		04/15/19 14:52	1868-53-7	
Toluene-d8 (S)	100	%.	77-127	1		04/15/19 14:52	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	65-119	1		04/15/19 14:52	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**22.3**	%	0.10	1		04/11/19 14:39		

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-4 **Lab ID: 50221501004** Collected: 04/04/19 11:00 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:26	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:26	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:26	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:26	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:26	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:26	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:26	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	67	%.	26-140	1	04/09/19 10:15	04/15/19 00:26	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**5.5**	mg/kg	0.85	1	04/12/19 12:35	04/16/19 15:33	7440-38-2	
Barium	**49.8**	mg/kg	0.85	1	04/12/19 12:35	04/16/19 15:33	7440-39-3	
Cadmium	ND	mg/kg	0.42	1	04/12/19 12:35	04/16/19 15:33	7440-43-9	
Chromium	**13.4**	mg/kg	0.85	1	04/12/19 12:35	04/16/19 15:33	7440-47-3	
Lead	**15.7**	mg/kg	0.85	1	04/12/19 12:35	04/16/19 15:33	7439-92-1	
Selenium	ND	mg/kg	0.85	1	04/12/19 12:35	04/16/19 15:33	7782-49-2	
Silver	ND	mg/kg	0.42	1	04/12/19 12:35	04/16/19 15:33	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.19	1	04/15/19 10:48	04/15/19 18:10	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	83-32-9	
Acenaphthylene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	208-96-8	
Anthracene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	207-08-9	
Chrysene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	53-70-3	
Fluoranthene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	206-44-0	
Fluorene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	91-57-6	
Naphthalene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	91-20-3	
Phenanthrene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	85-01-8	
Pyrene	ND	mg/kg	0.0049	1	04/10/19 09:50	04/15/19 06:03	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	61	%.	23-107	1	04/10/19 09:50	04/15/19 06:03	321-60-8	
p-Terphenyl-d14 (S)	71	%.	16-117	1	04/10/19 09:50	04/15/19 06:03	1718-51-0	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-4 **Lab ID: 50221501004** Collected: 04/04/19 11:00 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/15/19 16:01	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/15/19 16:01	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/15/19 16:01	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/15/19 16:01	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/15/19 16:01	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/15/19 16:01	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/15/19 16:01	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/15/19 16:01	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/15/19 16:01	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/15/19 16:01	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/15/19 16:01	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/15/19 16:01	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/15/19 16:01	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/15/19 16:01	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/15/19 16:01	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/15/19 16:01	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/15/19 16:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/15/19 16:01	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/15/19 16:01	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/15/19 16:01	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/15/19 16:01	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/15/19 16:01	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/15/19 16:01	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/15/19 16:01	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/15/19 16:01	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/15/19 16:01	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/15/19 16:01	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/15/19 16:01	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/15/19 16:01	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/15/19 16:01	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/15/19 16:01	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/15/19 16:01	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/15/19 16:01	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/15/19 16:01	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/15/19 16:01	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/15/19 16:01	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/15/19 16:01	74-88-4	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-4 **Lab ID: 50221501004** Collected: 04/04/19 11:00 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/15/19 16:01	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/15/19 16:01	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/15/19 16:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/15/19 16:01	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/15/19 16:01	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/15/19 16:01	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/15/19 16:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/15/19 16:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/15/19 16:01	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0050	1		04/15/19 16:01	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/15/19 16:01	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/15/19 16:01	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/15/19 16:01	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/15/19 16:01	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/15/19 16:01	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/15/19 16:01	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/15/19 16:01	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/15/19 16:01	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/15/19 16:01	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/15/19 16:01	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	108	%.	77-131	1		04/15/19 16:01	1868-53-7	
Toluene-d8 (S)	103	%.	77-127	1		04/15/19 16:01	2037-26-5	
4-Bromofluorobenzene (S)	88	%.	65-119	1		04/15/19 16:01	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**31.5**	%	0.10	1		04/11/19 14:39		

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-5 **Lab ID: 50221501005** Collected: 04/04/19 11:30 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:35	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:35	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:35	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:35	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:35	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:35	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.099	1	04/09/19 10:15	04/15/19 00:35	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	54	%.	26-140	1	04/09/19 10:15	04/15/19 00:35	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**0.91**	mg/kg	0.88	1	04/12/19 12:35	04/16/19 15:35	7440-38-2	
Barium	**137**	mg/kg	0.88	1	04/12/19 12:35	04/16/19 15:35	7440-39-3	
Cadmium	ND	mg/kg	0.44	1	04/12/19 12:35	04/16/19 15:35	7440-43-9	
Chromium	**15.2**	mg/kg	0.88	1	04/12/19 12:35	04/16/19 15:35	7440-47-3	
Lead	**10.5**	mg/kg	0.88	1	04/12/19 12:35	04/16/19 15:35	7439-92-1	
Selenium	ND	mg/kg	0.88	1	04/12/19 12:35	04/16/19 15:35	7782-49-2	
Silver	ND	mg/kg	0.44	1	04/12/19 12:35	04/16/19 15:35	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.19	1	04/15/19 10:48	04/15/19 18:13	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	83-32-9	
Acenaphthylene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	208-96-8	
Anthracene	**0.0062**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	120-12-7	
Benzo(a)anthracene	**0.019**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	56-55-3	
Benzo(a)pyrene	**0.016**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	50-32-8	
Benzo(b)fluoranthene	**0.017**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	205-99-2	
Benzo(g,h,i)perylene	**0.0098**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	191-24-2	
Benzo(k)fluoranthene	**0.015**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	207-08-9	
Chrysene	**0.024**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	53-70-3	
Fluoranthene	**0.050**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	206-44-0	
Fluorene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.0095**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	91-57-6	
Naphthalene	ND	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	91-20-3	
Phenanthrene	**0.023**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	85-01-8	
Pyrene	**0.037**	mg/kg	0.0050	1	04/10/19 09:50	04/15/19 11:21	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	65	%.	23-107	1	04/10/19 09:50	04/15/19 11:21	321-60-8	
p-Terphenyl-d14 (S)	72	%.	16-117	1	04/10/19 09:50	04/15/19 11:21	1718-51-0	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-5 **Lab ID: 50221501005** Collected: 04/04/19 11:30 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/15/19 14:18	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/15/19 14:18	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/15/19 14:18	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/15/19 14:18	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/15/19 14:18	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/15/19 14:18	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/15/19 14:18	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/15/19 14:18	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/15/19 14:18	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/15/19 14:18	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/15/19 14:18	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/15/19 14:18	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/15/19 14:18	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/15/19 14:18	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/15/19 14:18	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/15/19 14:18	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/15/19 14:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/15/19 14:18	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/15/19 14:18	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/15/19 14:18	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/15/19 14:18	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/15/19 14:18	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/15/19 14:18	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/15/19 14:18	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/15/19 14:18	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/15/19 14:18	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/15/19 14:18	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/15/19 14:18	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/15/19 14:18	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/15/19 14:18	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/15/19 14:18	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/15/19 14:18	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/15/19 14:18	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/15/19 14:18	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/15/19 14:18	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/15/19 14:18	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/15/19 14:18	74-88-4	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50221501

Sample: SED-5 **Lab ID: 50221501005** Collected: 04/04/19 11:30 Received: 04/05/19 08:35 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/15/19 14:18	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/15/19 14:18	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/15/19 14:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/15/19 14:18	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/15/19 14:18	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/15/19 14:18	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/15/19 14:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/15/19 14:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/15/19 14:18	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0050	1		04/15/19 14:18	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/15/19 14:18	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/15/19 14:18	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/15/19 14:18	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/15/19 14:18	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/15/19 14:18	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/15/19 14:18	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/15/19 14:18	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/15/19 14:18	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/15/19 14:18	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/15/19 14:18	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	105	%.	77-131	1		04/15/19 14:18	1868-53-7	
Toluene-d8 (S)	99	%.	77-127	1		04/15/19 14:18	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	65-119	1		04/15/19 14:18	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**22.9**	%	0.10	1		04/11/19 14:40		

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

QC Batch: 494064 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 50221501001, 50221501002, 50221501003, 50221501004, 50221501005

METHOD BLANK: 2279904 Matrix: Solid
Associated Lab Samples: 50221501001, 50221501002, 50221501003, 50221501004, 50221501005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	ND	0.20	04/15/19 17:56	

LABORATORY CONTROL SAMPLE: 2279905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	0.48	0.49	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2279906 2279907

Parameter	Units	50221501001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	ND	1.3	1.3	1.5	0.87	111	59	75-125	54	20	1d,M0

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

QC Batch: 493395 | Analysis Method: EPA 6010
QC Batch Method: EPA 3050 | Analysis Description: 6010 MET
Associated Lab Samples: 50221501001, 50221501002, 50221501003, 50221501004, 50221501005

METHOD BLANK: 2276997 | Matrix: Solid
Associated Lab Samples: 50221501001, 50221501002, 50221501003, 50221501004, 50221501005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	1.0	04/16/19 15:00	
Barium	mg/kg	ND	1.0	04/16/19 15:00	
Cadmium	mg/kg	ND	0.50	04/16/19 15:00	
Chromium	mg/kg	ND	1.0	04/16/19 15:00	
Lead	mg/kg	ND	1.0	04/16/19 15:00	
Selenium	mg/kg	ND	1.0	04/16/19 15:00	
Silver	mg/kg	ND	0.50	04/16/19 15:00	

LABORATORY CONTROL SAMPLE: 2276998

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	47.6	95	80-120	
Barium	mg/kg	50	51.0	102	80-120	
Cadmium	mg/kg	50	48.8	98	80-120	
Chromium	mg/kg	50	50.0	100	80-120	
Lead	mg/kg	50	46.6	93	80-120	
Selenium	mg/kg	50	48.9	98	80-120	
Silver	mg/kg	25	23.9	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2276999 2277000

Parameter	Units	50221554002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	4.7	48	51.6	48.9	50.7	92	89	75-125	4	20	
Barium	mg/kg	16.1	48	51.6	59.8	62.5	91	90	75-125	4	20	
Cadmium	mg/kg	ND	48	51.6	45.1	49.1	94	95	75-125	9	20	
Chromium	mg/kg	6.1	48	51.6	50.2	56.3	92	97	75-125	12	20	
Lead	mg/kg	4.6	48	51.6	40.0	43.2	74	75	75-125	8	20	M0
Selenium	mg/kg	ND	48	51.6	43.8	47.6	91	92	75-125	8	20	
Silver	mg/kg	ND	24	25.9	22.5	24.5	94	95	75-125	9	20	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

QC Batch: 494517 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV 5030 Low
Associated Lab Samples: 50221501001, 50221501002

METHOD BLANK: 2282209 | Matrix: Solid
Associated Lab Samples: 50221501001, 50221501002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	0.0050	04/12/19 15:42	
1,1,1-Trichloroethane	mg/kg	ND	0.0050	04/12/19 15:42	
1,1,2,2-Tetrachloroethane	mg/kg	ND	0.0050	04/12/19 15:42	
1,1,2-Trichloroethane	mg/kg	ND	0.0050	04/12/19 15:42	
1,1-Dichloroethane	mg/kg	ND	0.0050	04/12/19 15:42	
1,1-Dichloroethene	mg/kg	ND	0.0050	04/12/19 15:42	
1,1-Dichloropropene	mg/kg	ND	0.0050	04/12/19 15:42	
1,2,3-Trichlorobenzene	mg/kg	ND	0.0050	04/12/19 15:42	
1,2,3-Trichloropropane	mg/kg	ND	0.0050	04/12/19 15:42	
1,2,4-Trichlorobenzene	mg/kg	ND	0.0050	04/12/19 15:42	
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	04/12/19 15:42	
1,2-Dibromoethane (EDB)	mg/kg	ND	0.0050	04/12/19 15:42	
1,2-Dichlorobenzene	mg/kg	ND	0.0050	04/12/19 15:42	
1,2-Dichloroethane	mg/kg	ND	0.0050	04/12/19 15:42	
1,2-Dichloropropane	mg/kg	ND	0.0050	04/12/19 15:42	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	04/12/19 15:42	
1,3-Dichlorobenzene	mg/kg	ND	0.0050	04/12/19 15:42	
1,3-Dichloropropane	mg/kg	ND	0.0050	04/12/19 15:42	
1,4-Dichlorobenzene	mg/kg	ND	0.0050	04/12/19 15:42	
2,2-Dichloropropane	mg/kg	ND	0.0050	04/12/19 15:42	
2-Butanone (MEK)	mg/kg	ND	0.025	04/12/19 15:42	
2-Chlorotoluene	mg/kg	ND	0.0050	04/12/19 15:42	
2-Hexanone	mg/kg	ND	0.10	04/12/19 15:42	
4-Chlorotoluene	mg/kg	ND	0.0050	04/12/19 15:42	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	0.025	04/12/19 15:42	
Acetone	mg/kg	ND	0.10	04/12/19 15:42	
Acrolein	mg/kg	ND	0.10	04/12/19 15:42	
Acrylonitrile	mg/kg	ND	0.10	04/12/19 15:42	
Benzene	mg/kg	ND	0.0050	04/12/19 15:42	
Bromobenzene	mg/kg	ND	0.0050	04/12/19 15:42	
Bromochloromethane	mg/kg	ND	0.0050	04/12/19 15:42	
Bromodichloromethane	mg/kg	ND	0.0050	04/12/19 15:42	
Bromoform	mg/kg	ND	0.0050	04/12/19 15:42	
Bromomethane	mg/kg	ND	0.0050	04/12/19 15:42	
Carbon disulfide	mg/kg	ND	0.010	04/12/19 15:42	
Carbon tetrachloride	mg/kg	ND	0.0050	04/12/19 15:42	
Chlorobenzene	mg/kg	ND	0.0050	04/12/19 15:42	
Chloroethane	mg/kg	ND	0.0050	04/12/19 15:42	
Chloroform	mg/kg	ND	0.0050	04/12/19 15:42	
Chloromethane	mg/kg	ND	0.0050	04/12/19 15:42	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	04/12/19 15:42	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

METHOD BLANK: 2282209 Matrix: Solid
Associated Lab Samples: 50221501001, 50221501002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	mg/kg	ND	0.0050	04/12/19 15:42	
Dibromochloromethane	mg/kg	ND	0.0050	04/12/19 15:42	
Dibromomethane	mg/kg	ND	0.0050	04/12/19 15:42	
Dichlorodifluoromethane	mg/kg	ND	0.0050	04/12/19 15:42	
Ethyl methacrylate	mg/kg	ND	0.10	04/12/19 15:42	
Ethylbenzene	mg/kg	ND	0.0050	04/12/19 15:42	
Hexachloro-1,3-butadiene	mg/kg	ND	0.0050	04/12/19 15:42	
Iodomethane	mg/kg	ND	0.10	04/12/19 15:42	
Isopropylbenzene (Cumene)	mg/kg	ND	0.0050	04/12/19 15:42	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	04/12/19 15:42	
Methylene Chloride	mg/kg	ND	0.020	04/12/19 15:42	
n-Butylbenzene	mg/kg	ND	0.0050	04/12/19 15:42	
n-Hexane	mg/kg	ND	0.0050	04/12/19 15:42	
n-Propylbenzene	mg/kg	ND	0.0050	04/12/19 15:42	
Naphthalene	mg/kg	ND	0.0050	04/12/19 15:42	
p-Isopropyltoluene	mg/kg	ND	0.0050	04/12/19 15:42	
sec-Butylbenzene	mg/kg	ND	0.0050	04/12/19 15:42	
Styrene	mg/kg	ND	0.0050	04/12/19 15:42	
tert-Butylbenzene	mg/kg	ND	0.0050	04/12/19 15:42	
Tetrachloroethene	mg/kg	ND	0.0050	04/12/19 15:42	
Toluene	mg/kg	ND	0.0050	04/12/19 15:42	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	04/12/19 15:42	
trans-1,3-Dichloropropene	mg/kg	ND	0.0050	04/12/19 15:42	
trans-1,4-Dichloro-2-butene	mg/kg	ND	0.10	04/12/19 15:42	
Trichloroethene	mg/kg	ND	0.0050	04/12/19 15:42	
Trichlorofluoromethane	mg/kg	ND	0.0050	04/12/19 15:42	
Vinyl acetate	mg/kg	ND	0.10	04/12/19 15:42	
Vinyl chloride	mg/kg	ND	0.0050	04/12/19 15:42	
Xylene (Total)	mg/kg	ND	0.010	04/12/19 15:42	
4-Bromofluorobenzene (S)	%.	97	65-119	04/12/19 15:42	
Dibromofluoromethane (S)	%.	102	77-131	04/12/19 15:42	
Toluene-d8 (S)	%.	99	77-127	04/12/19 15:42	

LABORATORY CONTROL SAMPLE: 2282210

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	mg/kg	0.05	0.045	91	72-125	
1,1,2,2-Tetrachloroethane	mg/kg	0.05	0.055	110	70-124	
1,1-Dichloroethene	mg/kg	0.05	0.047	93	70-127	
1,2,4-Trimethylbenzene	mg/kg	0.05	0.042	83	69-117	
1,2-Dibromoethane (EDB)	mg/kg	0.05	0.053	106	77-126	
1,2-Dichloroethane	mg/kg	0.05	0.044	88	72-120	
1,2-Dichloropropane	mg/kg	0.05	0.053	105	77-125	
Benzene	mg/kg	0.05	0.047	94	74-119	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

LABORATORY CONTROL SAMPLE: 2282210

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	mg/kg	0.05	0.045	91	76-113	
Chloroform	mg/kg	0.05	0.045	90	71-117	
cis-1,2-Dichloroethene	mg/kg	0.05	0.048	96	70-122	
Ethylbenzene	mg/kg	0.05	0.045	90	73-118	
Isopropylbenzene (Cumene)	mg/kg	0.05	0.043	86	74-121	
Methyl-tert-butyl ether	mg/kg	0.05	0.051	101	74-131	
Naphthalene	mg/kg	0.05	0.043	86	63-123	
Tetrachloroethene	mg/kg	0.05	0.042	84	70-116	
Toluene	mg/kg	0.05	0.046	92	72-112	
trans-1,2-Dichloroethene	mg/kg	0.05	0.049	98	70-120	
Trichloroethene	mg/kg	0.05	0.045	90	74-120	
Vinyl chloride	mg/kg	0.05	0.039	79	58-133	
Xylene (Total)	mg/kg	0.15	0.13	89	71-119	
4-Bromofluorobenzene (S)	%.			97	65-119	
Dibromofluoromethane (S)	%.			94	77-131	
Toluene-d8 (S)	%.			102	77-127	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

QC Batch: 494812 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5030 Low
Associated Lab Samples: 50221501003, 50221501004, 50221501005

METHOD BLANK: 2283230 Matrix: Solid
Associated Lab Samples: 50221501003, 50221501004, 50221501005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	0.0050	04/15/19 13:09	
1,1,1-Trichloroethane	mg/kg	ND	0.0050	04/15/19 13:09	
1,1,2,2-Tetrachloroethane	mg/kg	ND	0.0050	04/15/19 13:09	
1,1,2-Trichloroethane	mg/kg	ND	0.0050	04/15/19 13:09	
1,1-Dichloroethane	mg/kg	ND	0.0050	04/15/19 13:09	
1,1-Dichloroethene	mg/kg	ND	0.0050	04/15/19 13:09	
1,1-Dichloropropene	mg/kg	ND	0.0050	04/15/19 13:09	
1,2,3-Trichlorobenzene	mg/kg	ND	0.0050	04/15/19 13:09	
1,2,3-Trichloropropane	mg/kg	ND	0.0050	04/15/19 13:09	
1,2,4-Trichlorobenzene	mg/kg	ND	0.0050	04/15/19 13:09	
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	04/15/19 13:09	
1,2-Dibromoethane (EDB)	mg/kg	ND	0.0050	04/15/19 13:09	
1,2-Dichlorobenzene	mg/kg	ND	0.0050	04/15/19 13:09	
1,2-Dichloroethane	mg/kg	ND	0.0050	04/15/19 13:09	
1,2-Dichloropropane	mg/kg	ND	0.0050	04/15/19 13:09	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	04/15/19 13:09	
1,3-Dichlorobenzene	mg/kg	ND	0.0050	04/15/19 13:09	
1,3-Dichloropropane	mg/kg	ND	0.0050	04/15/19 13:09	
1,4-Dichlorobenzene	mg/kg	ND	0.0050	04/15/19 13:09	
2,2-Dichloropropane	mg/kg	ND	0.0050	04/15/19 13:09	
2-Butanone (MEK)	mg/kg	ND	0.025	04/15/19 13:09	
2-Chlorotoluene	mg/kg	ND	0.0050	04/15/19 13:09	
2-Hexanone	mg/kg	ND	0.10	04/15/19 13:09	
4-Chlorotoluene	mg/kg	ND	0.0050	04/15/19 13:09	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	0.025	04/15/19 13:09	
Acetone	mg/kg	ND	0.10	04/15/19 13:09	
Acrolein	mg/kg	ND	0.10	04/15/19 13:09	
Acrylonitrile	mg/kg	ND	0.10	04/15/19 13:09	
Benzene	mg/kg	ND	0.0050	04/15/19 13:09	
Bromobenzene	mg/kg	ND	0.0050	04/15/19 13:09	
Bromochloromethane	mg/kg	ND	0.0050	04/15/19 13:09	
Bromodichloromethane	mg/kg	ND	0.0050	04/15/19 13:09	
Bromoform	mg/kg	ND	0.0050	04/15/19 13:09	
Bromomethane	mg/kg	ND	0.0050	04/15/19 13:09	
Carbon disulfide	mg/kg	ND	0.010	04/15/19 13:09	
Carbon tetrachloride	mg/kg	ND	0.0050	04/15/19 13:09	
Chlorobenzene	mg/kg	ND	0.0050	04/15/19 13:09	
Chloroethane	mg/kg	ND	0.0050	04/15/19 13:09	
Chloroform	mg/kg	ND	0.0050	04/15/19 13:09	
Chloromethane	mg/kg	ND	0.0050	04/15/19 13:09	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	04/15/19 13:09	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

METHOD BLANK: 2283230 Matrix: Solid
Associated Lab Samples: 50221501003, 50221501004, 50221501005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	mg/kg	ND	0.0050	04/15/19 13:09	
Dibromochloromethane	mg/kg	ND	0.0050	04/15/19 13:09	
Dibromomethane	mg/kg	ND	0.0050	04/15/19 13:09	
Dichlorodifluoromethane	mg/kg	ND	0.0050	04/15/19 13:09	
Ethyl methacrylate	mg/kg	ND	0.10	04/15/19 13:09	
Ethylbenzene	mg/kg	ND	0.0050	04/15/19 13:09	
Hexachloro-1,3-butadiene	mg/kg	ND	0.0050	04/15/19 13:09	
Iodomethane	mg/kg	ND	0.10	04/15/19 13:09	
Isopropylbenzene (Cumene)	mg/kg	ND	0.0050	04/15/19 13:09	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	04/15/19 13:09	
Methylene Chloride	mg/kg	ND	0.020	04/15/19 13:09	
n-Butylbenzene	mg/kg	ND	0.0050	04/15/19 13:09	
n-Hexane	mg/kg	ND	0.0050	04/15/19 13:09	
n-Propylbenzene	mg/kg	ND	0.0050	04/15/19 13:09	
Naphthalene	mg/kg	ND	0.0050	04/15/19 13:09	
p-Isopropyltoluene	mg/kg	ND	0.0050	04/15/19 13:09	
sec-Butylbenzene	mg/kg	ND	0.0050	04/15/19 13:09	
Styrene	mg/kg	ND	0.0050	04/15/19 13:09	
tert-Butylbenzene	mg/kg	ND	0.0050	04/15/19 13:09	
Tetrachloroethene	mg/kg	ND	0.0050	04/15/19 13:09	
Toluene	mg/kg	ND	0.0050	04/15/19 13:09	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	04/15/19 13:09	
trans-1,3-Dichloropropene	mg/kg	ND	0.0050	04/15/19 13:09	
trans-1,4-Dichloro-2-butene	mg/kg	ND	0.10	04/15/19 13:09	
Trichloroethene	mg/kg	ND	0.0050	04/15/19 13:09	
Trichlorofluoromethane	mg/kg	ND	0.0050	04/15/19 13:09	
Vinyl acetate	mg/kg	ND	0.10	04/15/19 13:09	
Vinyl chloride	mg/kg	ND	0.0050	04/15/19 13:09	
Xylene (Total)	mg/kg	ND	0.010	04/15/19 13:09	
4-Bromofluorobenzene (S)	%.	94	65-119	04/15/19 13:09	
Dibromofluoromethane (S)	%.	105	77-131	04/15/19 13:09	
Toluene-d8 (S)	%.	98	77-127	04/15/19 13:09	

LABORATORY CONTROL SAMPLE: 2283231

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	mg/kg	0.05	0.047	93	72-125	
1,1,2,2-Tetrachloroethane	mg/kg	0.05	0.053	106	70-124	
1,1-Dichloroethene	mg/kg	0.05	0.050	99	70-127	
1,2,4-Trimethylbenzene	mg/kg	0.05	0.045	89	69-117	
1,2-Dibromoethane (EDB)	mg/kg	0.05	0.053	106	77-126	
1,2-Dichloroethane	mg/kg	0.05	0.046	91	72-120	
1,2-Dichloropropane	mg/kg	0.05	0.053	106	77-125	
Benzene	mg/kg	0.05	0.048	97	74-119	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

LABORATORY CONTROL SAMPLE: 2283231

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	mg/kg	0.05	0.047	94	76-113	
Chloroform	mg/kg	0.05	0.046	93	71-117	
cis-1,2-Dichloroethene	mg/kg	0.05	0.049	99	70-122	
Ethylbenzene	mg/kg	0.05	0.047	94	73-118	
Isopropylbenzene (Cumene)	mg/kg	0.05	0.046	92	74-121	
Methyl-tert-butyl ether	mg/kg	0.05	0.051	102	74-131	
Naphthalene	mg/kg	0.05	0.046	92	63-123	
Tetrachloroethene	mg/kg	0.05	0.045	90	70-116	
Toluene	mg/kg	0.05	0.048	95	72-112	
trans-1,2-Dichloroethene	mg/kg	0.05	0.052	104	70-120	
Trichloroethene	mg/kg	0.05	0.047	94	74-120	
Vinyl chloride	mg/kg	0.05	0.048	96	58-133	
Xylene (Total)	mg/kg	0.15	0.14	95	71-119	
4-Bromofluorobenzene (S)	%.			97	65-119	
Dibromofluoromethane (S)	%.			97	77-131	
Toluene-d8 (S)	%.			101	77-127	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

QC Batch: 493609 Analysis Method: EPA 8082
QC Batch Method: EPA 3546 Analysis Description: 8082 GCS PCB
Associated Lab Samples: 50221501001, 50221501002, 50221501003, 50221501004, 50221501005

METHOD BLANK: 2277603 Matrix: Solid
Associated Lab Samples: 50221501001, 50221501002, 50221501003, 50221501004, 50221501005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	ND	0.099	04/10/19 12:49	
PCB-1221 (Aroclor 1221)	mg/kg	ND	0.099	04/10/19 12:49	
PCB-1232 (Aroclor 1232)	mg/kg	ND	0.099	04/10/19 12:49	
PCB-1242 (Aroclor 1242)	mg/kg	ND	0.099	04/10/19 12:49	
PCB-1248 (Aroclor 1248)	mg/kg	ND	0.099	04/10/19 12:49	
PCB-1254 (Aroclor 1254)	mg/kg	ND	0.099	04/10/19 12:49	
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.099	04/10/19 12:49	
Tetrachloro-m-xylene (S)	%.	94	26-140	04/10/19 12:49	

LABORATORY CONTROL SAMPLE: 2277604

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	0.16	0.15	91	59-119	
PCB-1260 (Aroclor 1260)	mg/kg	0.16	0.15	89	57-119	
Tetrachloro-m-xylene (S)	%.			92	26-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2277605 2277606

Parameter	Units	50221501001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	mg/kg	ND	0.45	0.45	0.33	0.31	75	71	10-159	6	20	
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.45	0.45	0.32	0.30	72	69	11-131	5	20	
Tetrachloro-m-xylene (S)	%.						73	70	26-140			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

QC Batch: 493854 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270 MSSV PAH by SIM
Associated Lab Samples: 50221501001, 50221501002, 50221501003, 50221501004, 50221501005

METHOD BLANK: 2278574 | Matrix: Solid
Associated Lab Samples: 50221501001, 50221501002, 50221501003, 50221501004, 50221501005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	ND	0.0050	04/15/19 02:11	
2-Methylnaphthalene	mg/kg	ND	0.0050	04/15/19 02:11	
Acenaphthene	mg/kg	ND	0.0050	04/15/19 02:11	
Acenaphthylene	mg/kg	ND	0.0050	04/15/19 02:11	
Anthracene	mg/kg	ND	0.0050	04/15/19 02:11	
Benzo(a)anthracene	mg/kg	ND	0.0050	04/15/19 02:11	
Benzo(a)pyrene	mg/kg	ND	0.0050	04/15/19 02:11	
Benzo(b)fluoranthene	mg/kg	ND	0.0050	04/15/19 02:11	
Benzo(g,h,i)perylene	mg/kg	ND	0.0050	04/15/19 02:11	
Benzo(k)fluoranthene	mg/kg	ND	0.0050	04/15/19 02:11	
Chrysene	mg/kg	ND	0.0050	04/15/19 02:11	
Dibenz(a,h)anthracene	mg/kg	ND	0.0050	04/15/19 02:11	
Fluoranthene	mg/kg	ND	0.0050	04/15/19 02:11	
Fluorene	mg/kg	ND	0.0050	04/15/19 02:11	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0050	04/15/19 02:11	
Naphthalene	mg/kg	ND	0.0050	04/15/19 02:11	
Phenanthrene	mg/kg	ND	0.0050	04/15/19 02:11	
Pyrene	mg/kg	ND	0.0050	04/15/19 02:11	
2-Fluorobiphenyl (S)	%.	69	23-107	04/15/19 02:11	
p-Terphenyl-d14 (S)	%.	86	16-117	04/15/19 02:11	

LABORATORY CONTROL SAMPLE: 2278575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	0.33	0.26	79	44-111	
2-Methylnaphthalene	mg/kg	0.33	0.26	78	45-111	
Acenaphthene	mg/kg	0.33	0.25	74	48-109	
Acenaphthylene	mg/kg	0.33	0.23	69	49-108	
Anthracene	mg/kg	0.33	0.25	76	44-104	
Benzo(a)anthracene	mg/kg	0.33	0.26	78	46-122	
Benzo(a)pyrene	mg/kg	0.33	0.24	74	31-156	
Benzo(b)fluoranthene	mg/kg	0.33	0.21	63	29-158	
Benzo(g,h,i)perylene	mg/kg	0.33	0.25	76	35-145	
Benzo(k)fluoranthene	mg/kg	0.33	0.29	88	33-150	
Chrysene	mg/kg	0.33	0.29	87	47-120	
Dibenz(a,h)anthracene	mg/kg	0.33	0.25	75	28-160	
Fluoranthene	mg/kg	0.33	0.29	86	49-121	
Fluorene	mg/kg	0.33	0.25	75	47-116	
Indeno(1,2,3-cd)pyrene	mg/kg	0.33	0.25	75	31-155	
Naphthalene	mg/kg	0.33	0.25	74	47-103	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

LABORATORY CONTROL SAMPLE: 2278575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenanthrene	mg/kg	0.33	0.27	81	50-114	
Pyrene	mg/kg	0.33	0.27	82	49-114	
2-Fluorobiphenyl (S)	%.			70	23-107	
p-Terphenyl-d14 (S)	%.			81	16-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2278576 2278577

Parameter	Units	50221674001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	34.3	0.41	0.41	41.3	46.4	1700	2920	10-145	12	20	M6
2-Methylnaphthalene	mg/kg	67.6	0.41	0.41	81.6	91.2	3390	5690	10-135	11	20	M6
Acenaphthene	mg/kg	0.46	0.41	0.41	0.85	0.75	94	70	10-138	12	20	
Acenaphthylene	mg/kg	0.86	0.41	0.41	1.2	1.2	87	78	11-133	3	20	
Anthracene	mg/kg	1.2	0.41	0.41	1.7	1.9	124	172	10-131	11	20	M1
Benzo(a)anthracene	mg/kg	2.4	0.41	0.41	3.3	3.4	229	243	10-158	2	20	M1
Benzo(a)pyrene	mg/kg	1.8	0.41	0.41	2.4	2.3	139	125	10-174	2	20	
Benzo(b)fluoranthene	mg/kg	2.2	0.41	0.41	2.5	2.5	56	69	10-184	2	20	
Benzo(g,h,i)perylene	mg/kg	1.3	0.41	0.41	1.7	1.9	98	134	10-170	8	20	
Benzo(k)fluoranthene	mg/kg	1.9	0.41	0.41	2.7	2.7	202	198	10-183	0	20	M1
Chrysene	mg/kg	3.8	0.41	0.41	4.8	4.9	255	282	10-147	2	20	M1
Dibenz(a,h)anthracene	mg/kg	0.55	0.41	0.41	0.88	0.81	80	63	10-166	8	20	
Fluoranthene	mg/kg	6.6	0.41	0.41	7.9	8.8	314	529	10-158	11	20	M1
Fluorene	mg/kg	1.2	0.41	0.41	1.8	1.5	133	71	10-142	16	20	
Indeno(1,2,3-cd)pyrene	mg/kg	1.2	0.41	0.41	1.6	1.6	92	92	11-167	0	20	
Naphthalene	mg/kg	40.8	0.41	0.41	50.5	56.5	2340	3770	13-128	11	20	M6
Phenanthrene	mg/kg	6.4	0.41	0.41	7.9	8.2	352	443	10-164	5	20	M1
Pyrene	mg/kg	6.0	0.41	0.41	7.6	7.7	398	426	10-152	2	20	M1
2-Fluorobiphenyl (S)	%.						73	60	23-107			
p-Terphenyl-d14 (S)	%.						83	69	16-117			

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50221501

QC Batch: 494215 | Analysis Method: SM 2540G
QC Batch Method: SM 2540G | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 50221501001, 50221501002, 50221501003, 50221501004, 50221501005

SAMPLE DUPLICATE: 2280649

Parameter	Units	50221486014 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.8	10.8	10	5	R1

SAMPLE DUPLICATE: 2280650

Parameter	Units	50221519008 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	6.7	7.6	13	5	R1

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QUALIFIERS

Project: LOUEN19016
Pace Project No.: 50221501

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

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

TNI - The NELAC Institute.

LABORATORIES

PASI-I	Pace Analytical Services - Indianapolis

ANALYTE QUALIFIERS

1d	RPD is outside control limits due to sample non-homogeneity.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
R1	RPD value was outside control limits.

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOUEN19016
Pace Project No.: 50221501

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50221501001	**SED-1**	EPA 3546	493609	EPA 8082	493784
50221501002	**SED-2**	EPA 3546	493609	EPA 8082	493784
50221501003	**SED-3**	EPA 3546	493609	EPA 8082	493784
50221501004	**SED-4**	EPA 3546	493609	EPA 8082	493784
50221501005	**SED-5**	EPA 3546	493609	EPA 8082	493784
50221501001	**SED-1**	EPA 3050	493395	EPA 6010	494947
50221501002	**SED-2**	EPA 3050	493395	EPA 6010	494947
50221501003	**SED-3**	EPA 3050	493395	EPA 6010	494947
50221501004	**SED-4**	EPA 3050	493395	EPA 6010	494947
50221501005	**SED-5**	EPA 3050	493395	EPA 6010	494947
50221501001	**SED-1**	EPA 7471	494064	EPA 7471	494848
50221501002	**SED-2**	EPA 7471	494064	EPA 7471	494848
50221501003	**SED-3**	EPA 7471	494064	EPA 7471	494848
50221501004	**SED-4**	EPA 7471	494064	EPA 7471	494848
50221501005	**SED-5**	EPA 7471	494064	EPA 7471	494848
50221501001	**SED-1**	EPA 3546	493854	EPA 8270 by SIM	494670
50221501002	**SED-2**	EPA 3546	493854	EPA 8270 by SIM	494670
50221501003	**SED-3**	EPA 3546	493854	EPA 8270 by SIM	494670
50221501004	**SED-4**	EPA 3546	493854	EPA 8270 by SIM	494670
50221501005	**SED-5**	EPA 3546	493854	EPA 8270 by SIM	494670
50221501001	**SED-1**	EPA 8260	494517		
50221501002	**SED-2**	EPA 8260	494517		
50221501003	**SED-3**	EPA 8260	494812		
50221501004	**SED-4**	EPA 8260	494812		
50221501005	**SED-5**	EPA 8260	494812		
50221501001	**SED-1**	SM 2540G	494215		
50221501002	**SED-2**	SM 2540G	494215		
50221501003	**SED-3**	SM 2540G	494215		
50221501004	**SED-4**	SM 2540G	494215		
50221501005	**SED-5**	SM 2540G	494215		

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical

Section A — Required Client Information:

Company:	ATC Group Services
Address:	2724 River Green Circle
	Louisville, KY 40206
Email:	john.case@atcgs.com
Phone:	(502)722-1401 Fax:
Requested Due Date:	Standard

Section B — Required Project Information:

Report To:	John Case
Copy To:	Jake.allgood@atcgs.com
Purchase Order #:	
Project Name:	LOUEN19016
Project #:	

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	donna.spyker@pacelabs.com,
Pace Profile #:	7348/2

Regulatory Agency	
State / Location	
	KY

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N): VOC by 8260	PAH/Metals	PCB by 8082	Dioxin/Furans	Residual Chlorine (Y/N)	S0221S01
1	SED-1	SL	C	4/4/19	1015				5									X	X	X	X		001
2	SED-2	SL	C	↓	1030				5									X	X	X	X		002
3	SED-3	SL	C	↓	1045				5									X	X	X	X		003
4	SED-4	SL	C	↓	1100				5									X	X	X	X		004
5	SED-5	SL	C	↓	1130				5									X	X	X	X		005
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jake Allgood / ATC	4-4-19	1400	Fedex	4-4-19					
	Fedex	4-5-19	835	[illegible]	4-5-19	835	15.9	y	y	y

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	Jake Allgood
SIGNATURE of SAMPLER:	[signature]
DATE Signed:	4-4-19

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical

SAMPLE CONDITION UPON RECEIPT FORM

Project #: 50221501

Date/Time and Initials of person examining contents: KS 4-5-19 1434

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

Tracking #: 4893 0201 8616

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals Intact: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer: 1 2 3 4 5 6 A B C D E F Ice Type: ☑ Wet ☐ Blue ☐ None | Samples collected today and on ice: ☐ Yes ☐ No ☑ N/A

Cooler Temperature: 5.7/5.9 Ice Visible in Sample Containers?: ☐ Yes ☑ No ☐ N/A

(Initial/Corrected) Temp should be above freezing to 6°C If temp. is Over 6°C or under 0°C, was the PM Notified?: ☐ Yes ☐ No ☑ N/A

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
Are samples from West Virginia? Document any containers out of temp.		✓	All containers needing acid/base pres. Have been checked?: **exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.** All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted. Circle: HNO3 H2SO4 NaOH NaOH/ZnAc			✓
USDA Regulated Soils? (ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓				
Chain of Custody Present:	✓					
Chain of Custody Filled Out:	✓		Dissolved Metals field filtered?:			✓
Short Hold Time Analysis (<72hr)?: Analysis:		✓	Headspace Wisconsin Sulfide			✓
Time 5035A TC placed in Freezer or Short Holds To Lab:				Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
			Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Rush TAT Requested:		✓	Headspace in VOA Vials (>6mm):			✓
Containers Intact?:	✓		Trip Blank Present?:		✓	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Custody Seals?:		✓	

Comments:

Sample Container Count

WO# : 50221501

50221501

CLIENT: ATC

COC PAGE 1 of 1

COC ID#

Project # 50221501

Sample Line Item	DG9H VG9H	AG0U	AG1H	AG1U	AG2U	AG3S	WGFU	SP5T	BP1U	BP2N	BP2S	BP2U	BP3B	BP3N	BP3S	BP3U	Bulk SBS Di Kit R				Matrix (Soil/W Aqueou	pH <2	pH >9	pH>12
1							5														5L			
2							↓														↓			
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

Container Codes

Glass

DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpreserved amber glass
DG9H	40mL HCL amber voa vial	AG1H	1 liter HCL amber glass
DG9M	40mL MeOH clear vial	AG1S	1 liter H2SO4 amber glass
DG9P	40mL TSP amber vial	AG1T	1 liter Na Thiosulfate amber glass
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpreserved amber glass
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass
DG9U	40mL unpreserved **amber** vial	AG2S	500mL H2SO4 amber glass
VG9H	40mL HCL clear vial	AG2U	500mL unpreserved amber glass
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 glass amber
VG9U	40mL unpreserved **clear** vial	AG3U	250mL unpreserved amber glass
VGFX	40mL w/hexane wipe vial	BG1H	1 liter HCL clear glass
VSG	Headspace septa vial & HCL	BG1S	1 liter H2SO4 clear glass
WGKU	8oz unpreserved clear jar	BG1T	1 liter Na Thiosulfate clear glass
WGFU	4oz clear soil jar	BG1U	1 liter unpreserved glass
JGFU	4oz unpreserved amber wide	BG3H	250mL HCl Clear Glass
		BG3U	250mL Unpreserved Clear Glass

Plastic / Misc.

BP1A	1 liter NaOH, Asc Acid plastic	BP3U	250mL unpreserved plastic
BP1N	1 liter HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
BP1S	1 liter H2SO4 plastic		
BP1U	1 liter unpreserved plastic	AF	Air Filter
BP1Z	1 liter NaOH, Zn, Ac	C	Air Cassettes
BP2A	500mL NaOH, Asc Acid plastic	R	Terra core kit
BP2N	500mL HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
BP2O	500mL NaOH plastic	U	Summa Can
BP2S	500mL H2SO4 plastic	ZPLC	Ziploc Bag
BP2U	500mL unpreserved plastic		
BP2Z	500mL NaOH, Zn Ac		
BP3B	250mL NaOH plastic		
BP3N	250mL HNO3 plastic		
BP3S	250mL H2SO4 plastic		

F-IN-Q-270-rev.10,31Aug2017

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Donna Spyker
PACE Indianapolis
7726 Moller Road
Indianapolis IN 46268

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

Pace Project #: 10470099
Sample Receipt Date: 04/09/2019
Client Project #: 50221501
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Carolynne Trout, your Pace Project Manager.

This report has been reviewed by:

April 19, 2019

Carolynne Trout, Project Manager
(612) 607-6351
(612) 607-6444 (fax)
Carolynne.Trout@pacelabs.com

Report Prepared Date:
April 19, 2019

Report of Laboratory Analysis

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

The results relate only to the samples included in this report.

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on five samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8280. The reporting limits were set to 1.0-5.0 ug/Kg as specified in Table 2 of Method 8280 and were not adjusted for sample amount.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 29-101%. All of the labeled standard recoveries obtained for this project were within the 25-150% target range specified in Method 8280. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits. This indicates that the sample preparation procedures did not significantly impact the results reported for the field samples.

A laboratory spike sample was also prepared with the sample batch using clean reference matrix that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 98-127%. These results were all within the target ranges for the method. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Minnesota - Pet	1240
Alabama	40770	Mississippi	MN00064
Alaska - DW	MN00064	Missouri - DW	10100
Alaska - UST	17-009	Montana	CERT0092
Arizona	AZ0014	Nebraska	NE-OS-18-06
Arkansas - DW	MN00064	Nevada	MN00064
Arkansas - WW	88-0680	New Hampshire	2081
CNMI Saipan	MP0003	New Jersey (NE	MN002
California	2929	New York	11647
Colorado	MN00064	North Carolina	27700
Connecticut	PH-0256	North Carolina -	27700
EPA Region 8+	via MN 027-053	North Carolina -	530
Florida (NELAP	E87605	North Dakota	R-036
Georgia	959	Ohio - DW	41244
Guam	17-001r	Ohio - VAP	CL101
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon - Primar	MN300001
Illinois	200011	Oregon - Secon	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
Iowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky - DW	90062	South Dakota	NA
Kentucky - WW	90062	Tennessee	TN02818
Louisiana - DE	03086	Texas	T104704192
Louisiana - DW	MN00064	Utah (NELAP)	MN00064
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Massachusetts	M-MN064	West Virginia -	382
Michigan	9909	West Virginia -	9952C
Minnesota	027-053-137	Wisconsin	999407970
Minnesota - De	via MN 027-053	Wyoming - UST	2926.01

REPORT OF LABORATORY ANALYSIS

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Appendix A

Sample Management

Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: KY
Cert. Needed: ☐ Yes ☐ No
Owner Received Date: 4/5/2019 **Results Requested By:** 4/19/2019

Workorder: 50221501 **Workorder Name:** LOUEN19016

Report To
Donna Spyker
Pace Analytical Indianapolis
7726 Moller Road
Indianapolis, IN 46268
Phone (317)228-3100

Subcontract To
Pace Analytical Minnesota
1700 Elm Street
Suite 200
Minneapolis, MN 55414
Phone (612)607-1700

WO# : 10470099
10470099

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	8280 Tetra-Octa Dioxins/Furans Pace	LAB USE ONLY
1	SED-1	PS	4/4/2019 10:15	50221501001	Solid	1	X	001
2	SED-2	PS	4/4/2019 10:30	50221501002	Solid	1	X	002
3	SED-3	PS	4/4/2019 10:45	50221501003	Solid	1	X	003
4	SED-4	PS	4/4/2019 11:00	50221501004	Solid	1	X	004
5	SED-5	PS	4/4/2019 11:30	50221501005	Solid	1	X	005

Transfers	Released By	Date/Time	Received By	Date/Time
1	Marcia Bennett	4/8/19 1019	[illegible] Pace	4/9/19 08:50
2				
3				

Comments

Cooler Temperature on Receipt 1.6 °C | **Custody Seal** Y or (N) | **Received on Ice** (Y) or N | **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 05Apr2019 Page 1 of 1
	Document No.: **F-MN-L-213-rev.27**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace Indianapolis

Project #: **WO#: 10470099**
PM: CT1 **Due Date: 04/19/19**
CLIENT: PASI-INDI

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exception** ☐

Tracking Number: 4893 0202 4883

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: _____ **Temp Blank?** ☑ Yes ☐ No

Thermometer: ☐ T1(0461) ☐ T2(1336) ☑ T3(0459) ☐ T4(0254) ☐ T5(0048) **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 1.6 °C **Average Corrected Temp (no temp blank only):** _____ °C **See Exceptions** ☐

Correction Factor: True **Cooler Temp Corrected w/temp blank:** 1.6 °C

USDA Regulated Soil: (☐ N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** HE 4/9/19

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☑ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other _____
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No		8.
-Pace Containers Used?	☑ Yes	☐ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. If no, write ID/ Date/Time on Container Below: **See Exception** ☐
Matrix: ☐ Water ☑ Soil ☐ Oil ☐ Other _____				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☑ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **See Exception** ☐
				pH Paper Lot# — Res. Chlorine: 0-6 Roll: ; 0-6 Strip: ; 0-14 Strip:
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	13. **See Exception** ☐
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased): N/A

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____ **Field Data Required?** ☐ Yes ☐ No

Comments/Resolution: _____

Project Manager Review: Carolyne Hunt Date: 4/9/19

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)

Labeled by: EPJ

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

L = Suppressive interference, analyte may be biased low

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

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Appendix B

Sample Analysis Summary

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8280M Sample Analysis Results

Client - PACE Indianapolis

Client's Sample ID	SED-1			
Lab Sample ID	50221501001			
Filename	U190418A_16			
Injected By	SMT			
Total Amount Extracted	1.06 g	Matrix	Solid	
% Moisture	NA	Dilution	NA	
Dry Weight Extracted	NA	Collected	04/04/2019	10:15
ICAL ID	U190403	Received	04/09/2019	08:50
CCal Filename(s)	U190418A_07	Extracted	04/12/2019	18:20
Method Blank ID	BLANK-69834	Analyzed	04/18/2019	19:30

Native Isomers	**Conc** ug/Kg	**EMPC** ug/Kg	**RL** ug/Kg	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	79
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	83
				1,2,3,7,8-PeCDF-13C	2.00	88
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	89
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	101
				1,2,3,4,7,8-HxCDF-13C	2.00	76
1,2,3,7,8-PeCDF	ND	-----	2.5	1,2,3,6,7,8-HxCDF-13C	2.00	80
2,3,4,7,8-PeCDF	ND	-----	2.5	2,3,4,6,7,8-HxCDF-13C	2.00	80
Total PeCDF	ND	-----	2.5	1,2,3,7,8,9-HxCDF-13C	2.00	74
				1,2,3,4,7,8-HxCDD-13C	2.00	79
1,2,3,7,8-PeCDD	ND	-----	2.5	1,2,3,6,7,8-HxCDD-13C	2.00	73
Total PeCDD	ND	-----	2.5	1,2,3,4,6,7,8-HpCDF-13C	2.00	63
				1,2,3,4,7,8,9-HpCDF-13C	2.00	61
1,2,3,4,7,8-HxCDF	ND	-----	2.5	1,2,3,4,6,7,8-HpCDD-13C	2.00	69
1,2,3,6,7,8-HxCDF	ND	-----	2.5	OCDD-13C	4.00	58
2,3,4,6,7,8-HxCDF	ND	-----	2.5			
1,2,3,7,8,9-HxCDF	ND	-----	2.5	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	2.5	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	2.5	2,3,7,8-TCDD-37Cl4	0.20	79
1,2,3,6,7,8-HxCDD	ND	-----	2.5			
1,2,3,7,8,9-HxCDD	ND	-----	2.5			
Total HxCDD	ND	-----	2.5			
1,2,3,4,6,7,8-HpCDF	ND	-----	2.5	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	2.5	Equivalence: 0.00 ug/Kg		
Total HpCDF	ND	-----	2.5	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	2.5			
Total HpCDD	ND	-----	2.5			
OCDF	ND	-----	5.0			
OCDD	ND	-----	5.0			

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EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8280M Sample Analysis Results

Client - PACE Indianapolis

Client's Sample ID	SED-2			
Lab Sample ID	50221501002			
Filename	U190418A_17			
Injected By	SMT			
Total Amount Extracted	1.00 g	Matrix	Solid	
% Moisture	NA	Dilution	NA	
Dry Weight Extracted	NA	Collected	04/04/2019	10:30
ICAL ID	U190403	Received	04/09/2019	08:50
CCal Filename(s)	U190418A_07	Extracted	04/12/2019	18:20
Method Blank ID	BLANK-69834	Analyzed	04/18/2019	20:16

Native Isomers	**Conc** ug/Kg	**EMPC** ug/Kg	**RL** ug/Kg	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	60
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	62
				1,2,3,7,8-PeCDF-13C	2.00	62
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	64
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	73
				1,2,3,4,7,8-HxCDF-13C	2.00	57
1,2,3,7,8-PeCDF	ND	-----	2.5	1,2,3,6,7,8-HxCDF-13C	2.00	60
2,3,4,7,8-PeCDF	ND	-----	2.5	2,3,4,6,7,8-HxCDF-13C	2.00	59
Total PeCDF	ND	-----	2.5	1,2,3,7,8,9-HxCDF-13C	2.00	52
				1,2,3,4,7,8-HxCDD-13C	2.00	54
1,2,3,7,8-PeCDD	ND	-----	2.5	1,2,3,6,7,8-HxCDD-13C	2.00	52
Total PeCDD	ND	-----	2.5	1,2,3,4,6,7,8-HpCDF-13C	2.00	38
				1,2,3,4,7,8,9-HpCDF-13C	2.00	37
1,2,3,4,7,8-HxCDF	ND	-----	2.5	1,2,3,4,6,7,8-HpCDD-13C	2.00	42
1,2,3,6,7,8-HxCDF	ND	-----	2.5	OCDD-13C	4.00	37
2,3,4,6,7,8-HxCDF	ND	-----	2.5			
1,2,3,7,8,9-HxCDF	ND	-----	2.5	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	2.5	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	2.5	2,3,7,8-TCDD-37Cl4	0.20	60
1,2,3,6,7,8-HxCDD	ND	-----	2.5			
1,2,3,7,8,9-HxCDD	ND	-----	2.5			
Total HxCDD	ND	-----	2.5			
1,2,3,4,6,7,8-HpCDF	ND	-----	2.5	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	2.5	Equivalence: 0.0089 ug/Kg		
Total HpCDF	ND	-----	2.5	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	2.5			
Total HpCDD	ND	-----	2.5			
OCDF	ND	-----	5.0			
OCDD	8.9	-----	5.0			

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Tel: 612-607-1700
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Method 8280M Sample Analysis Results

Client - PACE Indianapolis

Client's Sample ID	SED-3			
Lab Sample ID	50221501003			
Filename	U190418A_18			
Injected By	SMT			
Total Amount Extracted	1.02 g	Matrix	Solid	
% Moisture	NA	Dilution	NA	
Dry Weight Extracted	NA	Collected	04/04/2019	10:45
ICAL ID	U190403	Received	04/09/2019	08:50
CCal Filename(s)	U190418A_07	Extracted	04/12/2019	18:20
Method Blank ID	BLANK-69834	Analyzed	04/18/2019	21:01

Native Isomers	**Conc** ug/Kg	**EMPC** ug/Kg	**RL** ug/Kg	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	74
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	77
				1,2,3,7,8-PeCDF-13C	2.00	80
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	81
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	93
				1,2,3,4,7,8-HxCDF-13C	2.00	66
1,2,3,7,8-PeCDF	ND	-----	2.5	1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	ND	-----	2.5	2,3,4,6,7,8-HxCDF-13C	2.00	71
Total PeCDF	ND	-----	2.5	1,2,3,7,8,9-HxCDF-13C	2.00	69
				1,2,3,4,7,8-HxCDD-13C	2.00	71
1,2,3,7,8-PeCDD	ND	-----	2.5	1,2,3,6,7,8-HxCDD-13C	2.00	67
Total PeCDD	ND	-----	2.5	1,2,3,4,6,7,8-HpCDF-13C	2.00	57
				1,2,3,4,7,8,9-HpCDF-13C	2.00	58
1,2,3,4,7,8-HxCDF	ND	-----	2.5	1,2,3,4,6,7,8-HpCDD-13C	2.00	63
1,2,3,6,7,8-HxCDF	ND	-----	2.5	OCDD-13C	4.00	30
2,3,4,6,7,8-HxCDF	ND	-----	2.5			
1,2,3,7,8,9-HxCDF	ND	-----	2.5	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	2.5	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	2.5	2,3,7,8-TCDD-37Cl4	0.20	73
1,2,3,6,7,8-HxCDD	ND	-----	2.5			
1,2,3,7,8,9-HxCDD	ND	-----	2.5			
Total HxCDD	ND	-----	2.5			
1,2,3,4,6,7,8-HpCDF	ND	-----	2.5	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	2.5	Equivalence: 0.00 ug/Kg		
Total HpCDF	ND	-----	2.5	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	2.5			
Total HpCDD	ND	-----	2.5			
OCDF	ND	-----	5.0			
OCDD	ND	-----	5.0			

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Method 8280M Sample Analysis Results

Client - PACE Indianapolis

Client's Sample ID	SED-4			
Lab Sample ID	50221501004			
Filename	U190418A_19			
Injected By	SMT			
Total Amount Extracted	1.01 g	Matrix	Solid	
% Moisture	NA	Dilution	NA	
Dry Weight Extracted	NA	Collected	04/04/2019	11:00
ICAL ID	U190403	Received	04/09/2019	08:50
CCal Filename(s)	U190418A_07	Extracted	04/12/2019	18:20
Method Blank ID	BLANK-69834	Analyzed	04/18/2019	21:46

Native Isomers	**Conc** ug/Kg	**EMPC** ug/Kg	**RL** ug/Kg	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	66
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	68
				1,2,3,7,8-PeCDF-13C	2.00	70
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	70
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	81
				1,2,3,4,7,8-HxCDF-13C	2.00	62
1,2,3,7,8-PeCDF	ND	-----	2.5	1,2,3,6,7,8-HxCDF-13C	2.00	66
2,3,4,7,8-PeCDF	ND	-----	2.5	2,3,4,6,7,8-HxCDF-13C	2.00	65
Total PeCDF	ND	-----	2.5	1,2,3,7,8,9-HxCDF-13C	2.00	58
				1,2,3,4,7,8-HxCDD-13C	2.00	59
1,2,3,7,8-PeCDD	ND	-----	2.5	1,2,3,6,7,8-HxCDD-13C	2.00	57
Total PeCDD	ND	-----	2.5	1,2,3,4,6,7,8-HpCDF-13C	2.00	41
				1,2,3,4,7,8,9-HpCDF-13C	2.00	40
1,2,3,4,7,8-HxCDF	ND	-----	2.5	1,2,3,4,6,7,8-HpCDD-13C	2.00	46
1,2,3,6,7,8-HxCDF	ND	-----	2.5	OCDD-13C	4.00	37
2,3,4,6,7,8-HxCDF	ND	-----	2.5			
1,2,3,7,8,9-HxCDF	ND	-----	2.5	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	2.5	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	2.5	2,3,7,8-TCDD-37Cl4	0.20	65
1,2,3,6,7,8-HxCDD	ND	-----	2.5			
1,2,3,7,8,9-HxCDD	ND	-----	2.5			
Total HxCDD	ND	-----	2.5			
1,2,3,4,6,7,8-HpCDF	ND	-----	2.5	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	2.5	Equivalence: 0.00 ug/Kg		
Total HpCDF	ND	-----	2.5	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	2.5			
Total HpCDD	ND	-----	2.5			
OCDF	ND	-----	5.0			
OCDD	ND	-----	5.0			

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 8280M Sample Analysis Results

Client - PACE Indianapolis

Client's Sample ID	SED-5			
Lab Sample ID	50221501005			
Filename	U190418A_20			
Injected By	SMT			
Total Amount Extracted	1.04 g	Matrix	Solid	
% Moisture	NA	Dilution	NA	
Dry Weight Extracted	NA	Collected	04/04/2019	11:30
ICAL ID	U190403	Received	04/09/2019	08:50
CCal Filename(s)	U190418A_07	Extracted	04/12/2019	18:20
Method Blank ID	BLANK-69834	Analyzed	04/18/2019	22:31

Native Isomers	**Conc** ug/Kg	**EMPC** ug/Kg	**RL** ug/Kg	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	66
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	66
				1,2,3,7,8-PeCDF-13C	2.00	71
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	72
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	80
				1,2,3,4,7,8-HxCDF-13C	2.00	54
1,2,3,7,8-PeCDF	ND	-----	2.5	1,2,3,6,7,8-HxCDF-13C	2.00	57
2,3,4,7,8-PeCDF	ND	-----	2.5	2,3,4,6,7,8-HxCDF-13C	2.00	63
Total PeCDF	ND	-----	2.5	1,2,3,7,8,9-HxCDF-13C	2.00	60
				1,2,3,4,7,8-HxCDD-13C	2.00	59
1,2,3,7,8-PeCDD	ND	-----	2.5	1,2,3,6,7,8-HxCDD-13C	2.00	56
Total PeCDD	ND	-----	2.5	1,2,3,4,6,7,8-HpCDF-13C	2.00	48
				1,2,3,4,7,8,9-HpCDF-13C	2.00	50
1,2,3,4,7,8-HxCDF	ND	-----	2.5	1,2,3,4,6,7,8-HpCDD-13C	2.00	54
1,2,3,6,7,8-HxCDF	ND	-----	2.5	OCDD-13C	4.00	29
2,3,4,6,7,8-HxCDF	ND	-----	2.5			
1,2,3,7,8,9-HxCDF	ND	-----	2.5	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	2.5	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	2.5	2,3,7,8-TCDD-37Cl4	0.20	65
1,2,3,6,7,8-HxCDD	ND	-----	2.5			
1,2,3,7,8,9-HxCDD	ND	-----	2.5			
Total HxCDD	ND	-----	2.5			
1,2,3,4,6,7,8-HpCDF	ND	-----	2.5	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	2.5	Equivalence: 0.013 ug/Kg		
Total HpCDF	ND	-----	2.5	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	2.5			
Total HpCDD	ND	-----	2.5			
OCDF	ND	-----	5.0			
OCDD	13	-----	5.0			

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Method 8280M Blank Analysis Results

Lab Sample Name	DFBLKNP		
Lab Sample ID	BLANK-69834	Matrix	Solid
Filename	F190417A_11	Dilution	NA
Total Amount Extracted	10.2 g	Extracted	04/12/2019 18:20
ICAL ID	F190112	Analyzed	04/17/2019 19:08
CCal Filename(s)	F190416B_17	Injected By	SMT

Native Isomers	**Conc** ng/Kg	**EMPC** ng/Kg	**RL** ng/Kg	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	66
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	66
				1,2,3,7,8-PeCDF-13C	2.00	67
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	66
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	73
				1,2,3,4,7,8-HxCDF-13C	2.00	66
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	73
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	73
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	65
				1,2,3,4,7,8-HxCDD-13C	2.00	66
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	67
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	60
				1,2,3,4,7,8,9-HpCDF-13C	2.00	58
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	60
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	63
2,3,4,6,7,8-HxCDF	ND	-----	5.0			
1,2,3,7,8,9-HxCDF	ND	-----	5.0	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	5.0	2,3,7,8-TCDD-37Cl4	0.20	66
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	5.0			
Total HpCDD	ND	-----	5.0			
OCDF	ND	-----	10			
OCDD	ND	-----	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

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Method 8280M Laboratory Control Spike Results

Lab Sample ID	LCS-69835		
Filename	U190418A_06	Matrix	Solid
Total Amount Extracted	10.0 g	Dilution	NA
ICAL ID	U190403	Extracted	04/12/2019 18:20
CCal Filename(s)	U190418A_01	Analyzed	04/18/2019 11:59
Method Blank ID	BLANK-69834	Injected By	SMT

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.21	103	2,3,7,8-TCDF-13C	2.0	70
Total TCDF				2,3,7,8-TCDD-13C	2.0	75
				1,2,3,7,8-PeCDF-13C	2.0	74
2,3,7,8-TCDD	0.20	0.24	119	2,3,4,7,8-PeCDF-13C	2.0	73
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	87
				1,2,3,4,7,8-HxCDF-13C	2.0	63
1,2,3,7,8-PeCDF	1.0	1.1	105	1,2,3,6,7,8-HxCDF-13C	2.0	67
2,3,4,7,8-PeCDF	1.0	1.1	107	2,3,4,6,7,8-HxCDF-13C	2.0	68
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	65
				1,2,3,4,7,8-HxCDD-13C	2.0	66
1,2,3,7,8-PeCDD	1.0	0.98	98	1,2,3,6,7,8-HxCDD-13C	2.0	61
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	56
				1,2,3,4,7,8,9-HpCDF-13C	2.0	55
1,2,3,4,7,8-HxCDF	1.0	1.1	112	1,2,3,4,6,7,8-HpCDD-13C	2.0	57
1,2,3,6,7,8-HxCDF	1.0	1.1	107	OCDD-13C	4.0	52
2,3,4,6,7,8-HxCDF	1.0	1.0	103			
1,2,3,7,8,9-HxCDF	1.0	1.00	100	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.2	118	2,3,7,8-TCDD-37Cl4	0.20	76
1,2,3,6,7,8-HxCDD	1.0	1.3	127			
1,2,3,7,8,9-HxCDD	1.0	1.1	115			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.2	115			
1,2,3,4,7,8,9-HpCDF	1.0	1.1	106			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	1.0	104			
Total HpCDD						
OCDF	2.0	2.1	105			
OCDD	2.0	2.2	112			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

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7726 Moller Road
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(317)228-3100

April 25, 2019

John Case
ATC Group Services
2724 River Green Circle
Louisville, KY 40206

RE: Project: LOUEN19016
Pace Project No.: 50222085

Dear John Case:
Enclosed are the analytical results for sample(s) received by the laboratory on April 12, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Donna Spyker
donna.spyker@pacelabs.com
(317)228-3100
Project Manager

Enclosures

cc: Samuel Rice, ATC Group Services

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CERTIFICATIONS

Project: LOUEN19016
Pace Project No.: 50222085

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas/NELAP Certification #: E-10177
Kentucky UST Certification #: 80226
Kentucky WW Certification #: 98019
Michigan Department of Environmental Quality, Laboratory #9050
Ohio VAP Certification #: CL0065
Oklahoma Certification #: 2018-101
Texas Certification #: T104704355
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-16-00257

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SAMPLE SUMMARY

Project: LOUEN19016
Pace Project No.: 50222085

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50222085001	**B-1**	Solid	04/11/19 09:30	04/12/19 08:45
50222085002	**B-2**	Solid	04/11/19 10:00	04/12/19 08:45
50222085003	**B-3**	Solid	04/11/19 10:20	04/12/19 08:45
50222085004	**B-4**	Solid	04/11/19 10:50	04/12/19 08:45
50222085005	**B-5**	Solid	04/11/19 11:15	04/12/19 08:45
50222085006	**B-6**	Solid	04/11/19 11:40	04/12/19 08:45

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SAMPLE ANALYTE COUNT

Project: LOUEN19016
Pace Project No.: 50222085

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50222085001	**B-1**	EPA 6010	KJE	7
		EPA 7471	LBT	1
		EPA 8270 by SIM	JCM	20
		EPA 8260	TMW	73
		SM 2540G	MMS	1
50222085002	**B-2**	EPA 6010	KJE	7
		EPA 7471	LBT	1
		EPA 8270 by SIM	JCM	20
		EPA 8260	TMW	73
		SM 2540G	MMS	1
50222085003	**B-3**	EPA 6010	KJE	7
		EPA 7471	LBT	1
		EPA 8270 by SIM	JCM	20
		EPA 8260	TMW	73
		SM 2540G	MMS	1
50222085004	**B-4**	EPA 6010	KJE	7
		EPA 7471	LBT	1
		EPA 8270 by SIM	JCM	20
		EPA 8260	TMW	73
		SM 2540G	MMS	1
50222085005	**B-5**	EPA 6010	KJE	7
		EPA 7471	LBT	1
		EPA 8270 by SIM	JCM	20
		EPA 8260	TMW	73
		SM 2540G	MMS	1
50222085006	**B-6**	EPA 6010	KJE	7
		EPA 7471	LBT	1
		EPA 8270 by SIM	JCM	20
		EPA 8260	TMW	73
		SM 2540G	MMS	1

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-1 **Lab ID: 50222085001** Collected: 04/11/19 09:30 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**9.4**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:02	7440-38-2	
Barium	**76.2**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:02	7440-39-3	
Cadmium	ND	mg/kg	0.44	1	04/20/19 12:52	04/21/19 10:02	7440-43-9	
Chromium	**12.0**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:02	7440-47-3	
Lead	**10.6**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:02	7439-92-1	
Selenium	ND	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:02	7782-49-2	
Silver	ND	mg/kg	0.44	1	04/20/19 12:52	04/21/19 10:02	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.19	1	04/17/19 14:11	04/17/19 17:53	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	83-32-9	
Acenaphthylene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	208-96-8	
Anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	207-08-9	
Chrysene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	53-70-3	
Fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	206-44-0	
Fluorene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	91-57-6	
Naphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	91-20-3	
Phenanthrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	85-01-8	
Pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 09:59	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	71	%.	23-107	1	04/17/19 11:50	04/19/19 09:59	321-60-8	
p-Terphenyl-d14 (S)	83	%.	16-117	1	04/17/19 11:50	04/19/19 09:59	1718-51-0	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/18/19 14:58	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/18/19 14:58	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/18/19 14:58	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/18/19 14:58	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/18/19 14:58	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/18/19 14:58	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/18/19 14:58	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/18/19 14:58	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/18/19 14:58	78-93-3	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-1 **Lab ID: 50222085001** Collected: 04/11/19 09:30 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
n-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/18/19 14:58	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/18/19 14:58	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/18/19 14:58	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/18/19 14:58	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/18/19 14:58	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 14:58	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 14:58	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/18/19 14:58	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/18/19 14:58	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/18/19 14:58	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/18/19 14:58	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/18/19 14:58	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 14:58	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 14:58	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 14:58	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 14:58	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 14:58	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 14:58	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 14:58	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 14:58	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 14:58	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 14:58	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 14:58	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/18/19 14:58	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/18/19 14:58	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/18/19 14:58	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/18/19 14:58	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/18/19 14:58	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/18/19 14:58	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/18/19 14:58	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/18/19 14:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/18/19 14:58	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/18/19 14:58	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/18/19 14:58	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/18/19 14:58	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 14:58	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 14:58	79-34-5	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-1 **Lab ID: 50222085001** Collected: 04/11/19 09:30 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	mg/kg	0.0050	1		04/18/19 14:58	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/18/19 14:58	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 14:58	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 14:58	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/18/19 14:58	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/18/19 14:58	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/18/19 14:58	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 14:58	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/18/19 14:58	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/18/19 14:58	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/18/19 14:58	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%.	77-131	1		04/18/19 14:58	1868-53-7	
Toluene-d8 (S)	99	%.	77-127	1		04/18/19 14:58	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	65-119	1		04/18/19 14:58	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**17.8**	%	0.10	1		04/23/19 14:39		

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-2 **Lab ID: 50222085002** Collected: 04/11/19 10:00 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**7.4**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:04	7440-38-2	
Barium	**72.2**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:04	7440-39-3	
Cadmium	ND	mg/kg	0.44	1	04/20/19 12:52	04/21/19 10:04	7440-43-9	
Chromium	**11.5**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:04	7440-47-3	
Lead	**8.7**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:04	7439-92-1	
Selenium	ND	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:04	7782-49-2	
Silver	ND	mg/kg	0.44	1	04/20/19 12:52	04/21/19 10:04	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.20	1	04/17/19 14:11	04/17/19 17:55	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	83-32-9	
Acenaphthylene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	208-96-8	
Anthracene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	207-08-9	
Chrysene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	53-70-3	
Fluoranthene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	206-44-0	
Fluorene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	91-57-6	
Naphthalene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	91-20-3	
Phenanthrene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	85-01-8	
Pyrene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:15	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	73	%.	23-107	1	04/17/19 11:50	04/19/19 10:15	321-60-8	
p-Terphenyl-d14 (S)	88	%.	16-117	1	04/17/19 11:50	04/19/19 10:15	1718-51-0	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/18/19 15:33	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/18/19 15:33	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/18/19 15:33	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/18/19 15:33	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/18/19 15:33	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/18/19 15:33	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/18/19 15:33	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/18/19 15:33	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/18/19 15:33	78-93-3	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-2 **Lab ID: 50222085002** Collected: 04/11/19 10:00 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
n-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/18/19 15:33	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/18/19 15:33	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/18/19 15:33	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/18/19 15:33	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/18/19 15:33	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 15:33	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 15:33	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/18/19 15:33	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/18/19 15:33	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/18/19 15:33	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/18/19 15:33	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/18/19 15:33	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 15:33	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 15:33	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 15:33	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 15:33	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 15:33	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 15:33	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 15:33	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 15:33	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 15:33	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 15:33	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 15:33	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/18/19 15:33	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/18/19 15:33	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/18/19 15:33	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/18/19 15:33	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/18/19 15:33	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/18/19 15:33	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/18/19 15:33	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/18/19 15:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/18/19 15:33	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/18/19 15:33	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/18/19 15:33	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/18/19 15:33	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 15:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 15:33	79-34-5	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-2 **Lab ID: 50222085002** Collected: 04/11/19 10:00 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	mg/kg	0.0050	1		04/18/19 15:33	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/18/19 15:33	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 15:33	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 15:33	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/18/19 15:33	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/18/19 15:33	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/18/19 15:33	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 15:33	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/18/19 15:33	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/18/19 15:33	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/18/19 15:33	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%.	77-131	1		04/18/19 15:33	1868-53-7	
Toluene-d8 (S)	100	%.	77-127	1		04/18/19 15:33	2037-26-5	
4-Bromofluorobenzene (S)	93	%.	65-119	1		04/18/19 15:33	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**17.7**	%	0.10	1		04/23/19 14:39		

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-3 **Lab ID: 50222085003** Collected: 04/11/19 10:20 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**8.2**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:06	7440-38-2	
Barium	**60.9**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:06	7440-39-3	
Cadmium	ND	mg/kg	0.44	1	04/20/19 12:52	04/21/19 10:06	7440-43-9	
Chromium	**11.9**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:06	7440-47-3	
Lead	**9.2**	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:06	7439-92-1	
Selenium	ND	mg/kg	0.88	1	04/20/19 12:52	04/21/19 10:06	7782-49-2	
Silver	ND	mg/kg	0.44	1	04/20/19 12:52	04/21/19 10:06	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.19	1	04/17/19 14:11	04/17/19 17:57	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	83-32-9	
Acenaphthylene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	208-96-8	
Anthracene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	207-08-9	
Chrysene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	53-70-3	
Fluoranthene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	206-44-0	
Fluorene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	91-57-6	
Naphthalene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	91-20-3	
Phenanthrene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	85-01-8	
Pyrene	ND	mg/kg	0.0050	1	04/17/19 11:50	04/19/19 10:32	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	71	%.	23-107	1	04/17/19 11:50	04/19/19 10:32	321-60-8	
p-Terphenyl-d14 (S)	84	%.	16-117	1	04/17/19 11:50	04/19/19 10:32	1718-51-0	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/18/19 16:08	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/18/19 16:08	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/18/19 16:08	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/18/19 16:08	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/18/19 16:08	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/18/19 16:08	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/18/19 16:08	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/18/19 16:08	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/18/19 16:08	78-93-3	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-3 **Lab ID: 50222085003** Collected: 04/11/19 10:20 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
n-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/18/19 16:08	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/18/19 16:08	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/18/19 16:08	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/18/19 16:08	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/18/19 16:08	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 16:08	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 16:08	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/18/19 16:08	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/18/19 16:08	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/18/19 16:08	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/18/19 16:08	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/18/19 16:08	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 16:08	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 16:08	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 16:08	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 16:08	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 16:08	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 16:08	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 16:08	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 16:08	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 16:08	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 16:08	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 16:08	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/18/19 16:08	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/18/19 16:08	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/18/19 16:08	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/18/19 16:08	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/18/19 16:08	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/18/19 16:08	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/18/19 16:08	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/18/19 16:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/18/19 16:08	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/18/19 16:08	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/18/19 16:08	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/18/19 16:08	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 16:08	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 16:08	79-34-5	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-3 **Lab ID: 50222085003** Collected: 04/11/19 10:20 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	mg/kg	0.0050	1		04/18/19 16:08	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/18/19 16:08	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 16:08	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 16:08	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/18/19 16:08	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/18/19 16:08	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/18/19 16:08	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:08	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/18/19 16:08	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/18/19 16:08	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/18/19 16:08	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	101	%.	77-131	1		04/18/19 16:08	1868-53-7	
Toluene-d8 (S)	100	%.	77-127	1		04/18/19 16:08	2037-26-5	
4-Bromofluorobenzene (S)	93	%.	65-119	1		04/18/19 16:08	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**18.0**	%	0.10	1		04/23/19 14:39		

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-4 **Lab ID: 50222085004** Collected: 04/11/19 10:50 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**8.7**	mg/kg	0.97	1	04/20/19 12:52	04/21/19 10:08	7440-38-2	
Barium	**55.9**	mg/kg	0.97	1	04/20/19 12:52	04/21/19 10:08	7440-39-3	
Cadmium	ND	mg/kg	0.49	1	04/20/19 12:52	04/21/19 10:08	7440-43-9	
Chromium	**15.1**	mg/kg	0.97	1	04/20/19 12:52	04/21/19 10:08	7440-47-3	
Lead	**10.4**	mg/kg	0.97	1	04/20/19 12:52	04/21/19 10:08	7439-92-1	
Selenium	ND	mg/kg	0.97	1	04/20/19 12:52	04/21/19 10:08	7782-49-2	
Silver	ND	mg/kg	0.49	1	04/20/19 12:52	04/21/19 10:08	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.21	1	04/17/19 14:11	04/17/19 17:59	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	83-32-9	
Acenaphthylene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	208-96-8	
Anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	207-08-9	
Chrysene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	53-70-3	
Fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	206-44-0	
Fluorene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	91-57-6	
Naphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	91-20-3	
Phenanthrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	85-01-8	
Pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 10:48	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	71	%.	23-107	1	04/17/19 11:50	04/19/19 10:48	321-60-8	
p-Terphenyl-d14 (S)	89	%.	16-117	1	04/17/19 11:50	04/19/19 10:48	1718-51-0	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/18/19 16:42	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/18/19 16:42	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/18/19 16:42	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/18/19 16:42	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/18/19 16:42	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/18/19 16:42	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/18/19 16:42	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/18/19 16:42	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/18/19 16:42	78-93-3	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-4 **Lab ID: 50222085004** Collected: 04/11/19 10:50 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
n-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/18/19 16:42	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/18/19 16:42	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/18/19 16:42	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/18/19 16:42	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/18/19 16:42	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 16:42	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 16:42	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/18/19 16:42	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/18/19 16:42	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/18/19 16:42	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/18/19 16:42	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/18/19 16:42	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 16:42	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 16:42	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 16:42	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 16:42	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 16:42	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 16:42	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 16:42	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 16:42	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 16:42	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 16:42	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 16:42	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/18/19 16:42	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/18/19 16:42	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/18/19 16:42	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/18/19 16:42	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/18/19 16:42	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/18/19 16:42	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/18/19 16:42	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/18/19 16:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/18/19 16:42	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/18/19 16:42	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/18/19 16:42	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/18/19 16:42	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 16:42	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 16:42	79-34-5	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-4 **Lab ID: 50222085004** Collected: 04/11/19 10:50 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	mg/kg	0.0050	1		04/18/19 16:42	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/18/19 16:42	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 16:42	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 16:42	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/18/19 16:42	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/18/19 16:42	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/18/19 16:42	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 16:42	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/18/19 16:42	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/18/19 16:42	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/18/19 16:42	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104	%.	77-131	1		04/18/19 16:42	1868-53-7	
Toluene-d8 (S)	101	%.	77-127	1		04/18/19 16:42	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	65-119	1		04/18/19 16:42	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**17.3**	%	0.10	1		04/23/19 14:39		

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-5 **Lab ID: 50222085005** Collected: 04/11/19 11:15 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**19.2**	mg/kg	0.92	1	04/20/19 12:52	04/21/19 10:11	7440-38-2	
Barium	**67.6**	mg/kg	0.92	1	04/20/19 12:52	04/21/19 10:11	7440-39-3	
Cadmium	ND	mg/kg	0.46	1	04/20/19 12:52	04/21/19 10:11	7440-43-9	
Chromium	**17.4**	mg/kg	0.92	1	04/20/19 12:52	04/21/19 10:11	7440-47-3	
Lead	**19.3**	mg/kg	0.92	1	04/20/19 12:52	04/21/19 10:11	7439-92-1	
Selenium	ND	mg/kg	0.92	1	04/20/19 12:52	04/21/19 10:11	7782-49-2	
Silver	ND	mg/kg	0.46	1	04/20/19 12:52	04/21/19 10:11	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.20	1	04/17/19 14:11	04/17/19 18:01	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	83-32-9	
Acenaphthylene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	208-96-8	
Anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	207-08-9	
Chrysene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	53-70-3	
Fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	206-44-0	
Fluorene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	91-57-6	
Naphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	91-20-3	
Phenanthrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	85-01-8	
Pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:05	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	71	%.	23-107	1	04/17/19 11:50	04/19/19 11:05	321-60-8	
p-Terphenyl-d14 (S)	87	%.	16-117	1	04/17/19 11:50	04/19/19 11:05	1718-51-0	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/18/19 17:17	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/18/19 17:17	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/18/19 17:17	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/18/19 17:17	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/18/19 17:17	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/18/19 17:17	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/18/19 17:17	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/18/19 17:17	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/18/19 17:17	78-93-3	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-5 **Lab ID: 50222085005** Collected: 04/11/19 11:15 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
n-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/18/19 17:17	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/18/19 17:17	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/18/19 17:17	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/18/19 17:17	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/18/19 17:17	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 17:17	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 17:17	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/18/19 17:17	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/18/19 17:17	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/18/19 17:17	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/18/19 17:17	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/18/19 17:17	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 17:17	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 17:17	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 17:17	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 17:17	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 17:17	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 17:17	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 17:17	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 17:17	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 17:17	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 17:17	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 17:17	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/18/19 17:17	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/18/19 17:17	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/18/19 17:17	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/18/19 17:17	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/18/19 17:17	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/18/19 17:17	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/18/19 17:17	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/18/19 17:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/18/19 17:17	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/18/19 17:17	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/18/19 17:17	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/18/19 17:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 17:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 17:17	79-34-5	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-5 **Lab ID: 50222085005** Collected: 04/11/19 11:15 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	mg/kg	0.0050	1		04/18/19 17:17	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/18/19 17:17	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 17:17	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 17:17	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/18/19 17:17	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/18/19 17:17	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/18/19 17:17	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:17	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/18/19 17:17	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/18/19 17:17	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/18/19 17:17	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	106	%.	77-131	1		04/18/19 17:17	1868-53-7	
Toluene-d8 (S)	100	%.	77-127	1		04/18/19 17:17	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	65-119	1		04/18/19 17:17	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**18.2**	%	0.10	1		04/23/19 14:39		

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-6 **Lab ID: 50222085006** Collected: 04/11/19 11:40 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**7.9**	mg/kg	0.86	1	04/20/19 12:52	04/21/19 10:13	7440-38-2	
Barium	**52.6**	mg/kg	0.86	1	04/20/19 12:52	04/21/19 10:13	7440-39-3	
Cadmium	ND	mg/kg	0.43	1	04/20/19 12:52	04/21/19 10:13	7440-43-9	
Chromium	**10.1**	mg/kg	0.86	1	04/20/19 12:52	04/21/19 10:13	7440-47-3	
Lead	**8.1**	mg/kg	0.86	1	04/20/19 12:52	04/21/19 10:13	7439-92-1	
Selenium	ND	mg/kg	0.86	1	04/20/19 12:52	04/21/19 10:13	7782-49-2	
Silver	ND	mg/kg	0.43	1	04/20/19 12:52	04/21/19 10:13	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.21	1	04/17/19 14:11	04/17/19 18:03	7439-97-6	
8270 PAH Soil	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	83-32-9	
Acenaphthylene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	208-96-8	
Anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	207-08-9	
Chrysene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	53-70-3	
Fluoranthene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	206-44-0	
Fluorene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	193-39-5	
1-Methylnaphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	91-57-6	
Naphthalene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	91-20-3	
Phenanthrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	85-01-8	
Pyrene	ND	mg/kg	0.0049	1	04/17/19 11:50	04/19/19 11:21	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	71	%.	23-107	1	04/17/19 11:50	04/19/19 11:21	321-60-8	
p-Terphenyl-d14 (S)	85	%.	16-117	1	04/17/19 11:50	04/19/19 11:21	1718-51-0	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Acetone	ND	mg/kg	0.10	1		04/18/19 17:52	67-64-1	
Acrolein	ND	mg/kg	0.10	1		04/18/19 17:52	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		04/18/19 17:52	107-13-1	
Benzene	ND	mg/kg	0.0050	1		04/18/19 17:52	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		04/18/19 17:52	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		04/18/19 17:52	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		04/18/19 17:52	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		04/18/19 17:52	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		04/18/19 17:52	78-93-3	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-6 **Lab ID: 50222085006** Collected: 04/11/19 11:40 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
n-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		04/18/19 17:52	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		04/18/19 17:52	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		04/18/19 17:52	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		04/18/19 17:52	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		04/18/19 17:52	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 17:52	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		04/18/19 17:52	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		04/18/19 17:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		04/18/19 17:52	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		04/18/19 17:52	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		04/18/19 17:52	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		04/18/19 17:52	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 17:52	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		04/18/19 17:52	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 17:52	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 17:52	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		04/18/19 17:52	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 17:52	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 17:52	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		04/18/19 17:52	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 17:52	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 17:52	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		04/18/19 17:52	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		04/18/19 17:52	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		04/18/19 17:52	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		04/18/19 17:52	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		04/18/19 17:52	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		04/18/19 17:52	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		04/18/19 17:52	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		04/18/19 17:52	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		04/18/19 17:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		04/18/19 17:52	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		04/18/19 17:52	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		04/18/19 17:52	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	103-65-1	
Styrene	ND	mg/kg	0.0050	1		04/18/19 17:52	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 17:52	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		04/18/19 17:52	79-34-5	

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ANALYTICAL RESULTS

Project: LOUEN19016
Pace Project No.: 50222085

Sample: B-6 **Lab ID: 50222085006** Collected: 04/11/19 11:40 Received: 04/12/19 08:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Tetrachloroethene	ND	mg/kg	0.0050	1		04/18/19 17:52	127-18-4	
Toluene	ND	mg/kg	0.0050	1		04/18/19 17:52	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 17:52	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		04/18/19 17:52	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		04/18/19 17:52	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		04/18/19 17:52	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		04/18/19 17:52	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		04/18/19 17:52	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		04/18/19 17:52	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		04/18/19 17:52	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		04/18/19 17:52	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104	%.	77-131	1		04/18/19 17:52	1868-53-7	
Toluene-d8 (S)	101	%.	77-127	1		04/18/19 17:52	2037-26-5	
4-Bromofluorobenzene (S)	92	%.	65-119	1		04/18/19 17:52	460-00-4	
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**17.3**	%	0.10	1		04/23/19 14:39		

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50222085

QC Batch: 495262 | Analysis Method: EPA 7471
QC Batch Method: EPA 7471 | Analysis Description: 7471 Mercury
Associated Lab Samples: 50222085001, 50222085002, 50222085003, 50222085004, 50222085005, 50222085006

METHOD BLANK: 2285154 | Matrix: Solid
Associated Lab Samples: 50222085001, 50222085002, 50222085003, 50222085004, 50222085005, 50222085006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	ND	0.21	04/17/19 17:27	

LABORATORY CONTROL SAMPLE: 2285155

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	0.52	0.51	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2285156 2285157

Parameter	Units	50222304001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	ND	0.6	0.56	0.64	0.60	99	100	75-125	6	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50222085

QC Batch: 495453 | Analysis Method: EPA 6010
QC Batch Method: EPA 3050 | Analysis Description: 6010 MET
Associated Lab Samples: 50222085001, 50222085002, 50222085003, 50222085004, 50222085005, 50222085006

METHOD BLANK: 2286055 | Matrix: Solid
Associated Lab Samples: 50222085001, 50222085002, 50222085003, 50222085004, 50222085005, 50222085006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	1.0	04/21/19 09:07	
Barium	mg/kg	ND	1.0	04/21/19 09:07	
Cadmium	mg/kg	ND	0.50	04/21/19 09:07	
Chromium	mg/kg	ND	1.0	04/21/19 09:07	
Lead	mg/kg	ND	1.0	04/21/19 09:07	
Selenium	mg/kg	ND	1.0	04/21/19 09:07	
Silver	mg/kg	ND	0.50	04/21/19 09:07	

LABORATORY CONTROL SAMPLE: 2286056

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	50.4	101	80-120	
Barium	mg/kg	50	52.3	105	80-120	
Cadmium	mg/kg	50	50.2	100	80-120	
Chromium	mg/kg	50	50.8	102	80-120	
Lead	mg/kg	50	49.2	98	80-120	
Selenium	mg/kg	50	51.6	103	80-120	
Silver	mg/kg	25	25.2	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2286057 2286058

Parameter	Units	50222437022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	7.5	57.8	56.9	60.6	58.8	92	90	75-125	3	20	
Barium	mg/kg	72.6	57.8	56.9	147	152	129	140	75-125	3	20	M3
Cadmium	mg/kg	ND	57.8	56.9	52.4	51.1	90	89	75-125	2	20	
Chromium	mg/kg	13.4	57.8	56.9	65.3	66.0	90	93	75-125	1	20	
Lead	mg/kg	15.5	57.8	56.9	64.9	65.1	85	87	75-125	0	20	
Selenium	mg/kg	ND	57.8	56.9	52.0	51.0	90	89	75-125	2	20	
Silver	mg/kg	ND	28.9	28.4	25.8	25.6	89	90	75-125	1	20	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50222085

QC Batch: 495571 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV 5030 Low
Associated Lab Samples: 50222085001, 50222085002, 50222085003, 50222085004, 50222085005, 50222085006

METHOD BLANK: 2286721 | Matrix: Solid
Associated Lab Samples: 50222085001, 50222085002, 50222085003, 50222085004, 50222085005, 50222085006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	0.0050	04/18/19 13:14	
1,1,1-Trichloroethane	mg/kg	ND	0.0050	04/18/19 13:14	
1,1,2,2-Tetrachloroethane	mg/kg	ND	0.0050	04/18/19 13:14	
1,1,2-Trichloroethane	mg/kg	ND	0.0050	04/18/19 13:14	
1,1-Dichloroethane	mg/kg	ND	0.0050	04/18/19 13:14	
1,1-Dichloroethene	mg/kg	ND	0.0050	04/18/19 13:14	
1,1-Dichloropropene	mg/kg	ND	0.0050	04/18/19 13:14	
1,2,3-Trichlorobenzene	mg/kg	ND	0.0050	04/18/19 13:14	
1,2,3-Trichloropropane	mg/kg	ND	0.0050	04/18/19 13:14	
1,2,4-Trichlorobenzene	mg/kg	ND	0.0050	04/18/19 13:14	
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	04/18/19 13:14	
1,2-Dibromoethane (EDB)	mg/kg	ND	0.0050	04/18/19 13:14	
1,2-Dichlorobenzene	mg/kg	ND	0.0050	04/18/19 13:14	
1,2-Dichloroethane	mg/kg	ND	0.0050	04/18/19 13:14	
1,2-Dichloropropane	mg/kg	ND	0.0050	04/18/19 13:14	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	04/18/19 13:14	
1,3-Dichlorobenzene	mg/kg	ND	0.0050	04/18/19 13:14	
1,3-Dichloropropane	mg/kg	ND	0.0050	04/18/19 13:14	
1,4-Dichlorobenzene	mg/kg	ND	0.0050	04/18/19 13:14	
2,2-Dichloropropane	mg/kg	ND	0.0050	04/18/19 13:14	
2-Butanone (MEK)	mg/kg	ND	0.025	04/18/19 13:14	
2-Chlorotoluene	mg/kg	ND	0.0050	04/18/19 13:14	
2-Hexanone	mg/kg	ND	0.10	04/18/19 13:14	
4-Chlorotoluene	mg/kg	ND	0.0050	04/18/19 13:14	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	0.025	04/18/19 13:14	
Acetone	mg/kg	ND	0.10	04/18/19 13:14	
Acrolein	mg/kg	ND	0.10	04/18/19 13:14	
Acrylonitrile	mg/kg	ND	0.10	04/18/19 13:14	
Benzene	mg/kg	ND	0.0050	04/18/19 13:14	
Bromobenzene	mg/kg	ND	0.0050	04/18/19 13:14	
Bromochloromethane	mg/kg	ND	0.0050	04/18/19 13:14	
Bromodichloromethane	mg/kg	ND	0.0050	04/18/19 13:14	
Bromoform	mg/kg	ND	0.0050	04/18/19 13:14	
Bromomethane	mg/kg	ND	0.0050	04/18/19 13:14	
Carbon disulfide	mg/kg	ND	0.010	04/18/19 13:14	
Carbon tetrachloride	mg/kg	ND	0.0050	04/18/19 13:14	
Chlorobenzene	mg/kg	ND	0.0050	04/18/19 13:14	
Chloroethane	mg/kg	ND	0.0050	04/18/19 13:14	
Chloroform	mg/kg	ND	0.0050	04/18/19 13:14	
Chloromethane	mg/kg	ND	0.0050	04/18/19 13:14	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	04/18/19 13:14	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50222085

METHOD BLANK: 2286721 Matrix: Solid
Associated Lab Samples: 50222085001, 50222085002, 50222085003, 50222085004, 50222085005, 50222085006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	mg/kg	ND	0.0050	04/18/19 13:14	
Dibromochloromethane	mg/kg	ND	0.0050	04/18/19 13:14	
Dibromomethane	mg/kg	ND	0.0050	04/18/19 13:14	
Dichlorodifluoromethane	mg/kg	ND	0.0050	04/18/19 13:14	
Ethyl methacrylate	mg/kg	ND	0.10	04/18/19 13:14	
Ethylbenzene	mg/kg	ND	0.0050	04/18/19 13:14	
Hexachloro-1,3-butadiene	mg/kg	ND	0.0050	04/18/19 13:14	
Iodomethane	mg/kg	ND	0.10	04/18/19 13:14	
Isopropylbenzene (Cumene)	mg/kg	ND	0.0050	04/18/19 13:14	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	04/18/19 13:14	
Methylene Chloride	mg/kg	ND	0.020	04/18/19 13:14	
n-Butylbenzene	mg/kg	ND	0.0050	04/18/19 13:14	
n-Hexane	mg/kg	ND	0.0050	04/18/19 13:14	
n-Propylbenzene	mg/kg	ND	0.0050	04/18/19 13:14	
Naphthalene	mg/kg	ND	0.0050	04/18/19 13:14	
p-Isopropyltoluene	mg/kg	ND	0.0050	04/18/19 13:14	
sec-Butylbenzene	mg/kg	ND	0.0050	04/18/19 13:14	
Styrene	mg/kg	ND	0.0050	04/18/19 13:14	
tert-Butylbenzene	mg/kg	ND	0.0050	04/18/19 13:14	
Tetrachloroethene	mg/kg	ND	0.0050	04/18/19 13:14	
Toluene	mg/kg	ND	0.0050	04/18/19 13:14	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	04/18/19 13:14	
trans-1,3-Dichloropropene	mg/kg	ND	0.0050	04/18/19 13:14	
trans-1,4-Dichloro-2-butene	mg/kg	ND	0.10	04/18/19 13:14	
Trichloroethene	mg/kg	ND	0.0050	04/18/19 13:14	
Trichlorofluoromethane	mg/kg	ND	0.0050	04/18/19 13:14	
Vinyl acetate	mg/kg	ND	0.10	04/18/19 13:14	
Vinyl chloride	mg/kg	ND	0.0050	04/18/19 13:14	
Xylene (Total)	mg/kg	ND	0.010	04/18/19 13:14	
4-Bromofluorobenzene (S)	%.	92	65-119	04/18/19 13:14	
Dibromofluoromethane (S)	%.	103	77-131	04/18/19 13:14	
Toluene-d8 (S)	%.	100	77-127	04/18/19 13:14	

LABORATORY CONTROL SAMPLE: 2286722

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	0.05	0.049	99	81-122	
1,1,1-Trichloroethane	mg/kg	0.05	0.048	96	72-125	
1,1,2,2-Tetrachloroethane	mg/kg	0.05	0.047	94	70-124	
1,1,2-Trichloroethane	mg/kg	0.05	0.052	104	77-122	
1,1-Dichloroethane	mg/kg	0.05	0.046	92	69-116	
1,1-Dichloroethene	mg/kg	0.05	0.049	97	70-127	
1,1-Dichloropropene	mg/kg	0.05	0.045	89	72-122	
1,2,3-Trichlorobenzene	mg/kg	0.05	0.043	86	56-118	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50222085

LABORATORY CONTROL SAMPLE: 2286722

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichloropropane	mg/kg	0.05	0.050	99	71-124	
1,2,4-Trichlorobenzene	mg/kg	0.05	0.046	91	50-123	
1,2,4-Trimethylbenzene	mg/kg	0.05	0.045	90	69-117	
1,2-Dibromoethane (EDB)	mg/kg	0.05	0.049	97	77-126	
1,2-Dichlorobenzene	mg/kg	0.05	0.044	87	73-115	
1,2-Dichloroethane	mg/kg	0.05	0.044	89	72-120	
1,2-Dichloropropane	mg/kg	0.05	0.046	92	77-125	
1,3,5-Trimethylbenzene	mg/kg	0.05	0.044	89	69-114	
1,3-Dichlorobenzene	mg/kg	0.05	0.044	88	66-115	
1,3-Dichloropropane	mg/kg	0.05	0.050	100	82-122	
1,4-Dichlorobenzene	mg/kg	0.05	0.043	86	66-114	
2,2-Dichloropropane	mg/kg	0.05	0.046	93	60-126	
2-Butanone (MEK)	mg/kg	0.25	0.23	93	57-145	
2-Chlorotoluene	mg/kg	0.05	0.046	92	71-117	
2-Hexanone	mg/kg	0.25	0.22	88	64-127	
4-Chlorotoluene	mg/kg	0.05	0.043	87	67-115	
4-Methyl-2-pentanone (MIBK)	mg/kg	0.25	0.22	89	60-123	
Acetone	mg/kg	0.25	0.25	101	33-174	
Acrolein	mg/kg	1	1.3	127	11-200	
Acrylonitrile	mg/kg	0.2	0.18	88	64-123	
Benzene	mg/kg	0.05	0.045	90	74-119	
Bromobenzene	mg/kg	0.05	0.040	80	73-114	
Bromochloromethane	mg/kg	0.05	0.046	91	70-118	
Bromodichloromethane	mg/kg	0.05	0.046	92	73-120	
Bromoform	mg/kg	0.05	0.050	100	65-118	
Bromomethane	mg/kg	0.05	0.056	112	37-160	
Carbon disulfide	mg/kg	0.05	0.047	94	65-123	
Carbon tetrachloride	mg/kg	0.05	0.047	93	71-125	
Chlorobenzene	mg/kg	0.05	0.045	90	76-113	
Chloroethane	mg/kg	0.05	0.061	122	59-148	
Chloroform	mg/kg	0.05	0.047	95	71-117	
Chloromethane	mg/kg	0.05	0.046	91	49-112	
cis-1,2-Dichloroethene	mg/kg	0.05	0.048	96	70-122	
cis-1,3-Dichloropropene	mg/kg	0.05	0.052	104	75-120	
Dibromochloromethane	mg/kg	0.05	0.051	102	78-121	
Dibromomethane	mg/kg	0.05	0.050	99	75-125	
Dichlorodifluoromethane	mg/kg	0.05	0.056	112	34-163	
Ethyl methacrylate	mg/kg	0.2	0.21	106	63-132	
Ethylbenzene	mg/kg	0.05	0.044	88	73-118	
Hexachloro-1,3-butadiene	mg/kg	0.05	0.044	89	61-121	
Iodomethane	mg/kg	0.1	0.11	110	71-143	
Isopropylbenzene (Cumene)	mg/kg	0.05	0.044	89	74-121	
Methyl-tert-butyl ether	mg/kg	0.05	0.052	104	74-131	
Methylene Chloride	mg/kg	0.05	0.051	102	67-128	
n-Butylbenzene	mg/kg	0.05	0.042	84	61-116	
n-Hexane	mg/kg	0.05	0.046	91	59-119	
n-Propylbenzene	mg/kg	0.05	0.045	89	70-115	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50222085

LABORATORY CONTROL SAMPLE: 2286722

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	mg/kg	0.05	0.044	88	63-123	
p-Isopropyltoluene	mg/kg	0.05	0.044	88	68-117	
sec-Butylbenzene	mg/kg	0.05	0.044	88	72-117	
Styrene	mg/kg	0.05	0.045	90	75-120	
tert-Butylbenzene	mg/kg	0.05	0.037	75	55-100	
Tetrachloroethene	mg/kg	0.05	0.045	89	70-116	
Toluene	mg/kg	0.05	0.046	91	72-112	
trans-1,2-Dichloroethene	mg/kg	0.05	0.048	96	70-120	
trans-1,3-Dichloropropene	mg/kg	0.05	0.051	102	67-119	
trans-1,4-Dichloro-2-butene	mg/kg	0.2	0.17	83	57-124	
Trichloroethene	mg/kg	0.05	0.046	92	74-120	
Trichlorofluoromethane	mg/kg	0.05	0.051	102	59-139	
Vinyl acetate	mg/kg	0.2	0.17	86	70-134	
Vinyl chloride	mg/kg	0.05	0.057	113	58-133	
Xylene (Total)	mg/kg	0.15	0.13	90	71-119	
4-Bromofluorobenzene (S)	%.			96	65-119	
Dibromofluoromethane (S)	%.			96	77-131	
Toluene-d8 (S)	%.			102	77-127	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50222085

QC Batch: 495222 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270 MSSV PAH by SIM
Associated Lab Samples: 50222085001, 50222085002, 50222085003, 50222085004, 50222085005, 50222085006

METHOD BLANK: 2284701 | Matrix: Solid
Associated Lab Samples: 50222085001, 50222085002, 50222085003, 50222085004, 50222085005, 50222085006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	ND	0.0050	04/17/19 18:53	
2-Methylnaphthalene	mg/kg	ND	0.0050	04/17/19 18:53	
Acenaphthene	mg/kg	ND	0.0050	04/17/19 18:53	
Acenaphthylene	mg/kg	ND	0.0050	04/17/19 18:53	
Anthracene	mg/kg	ND	0.0050	04/17/19 18:53	
Benzo(a)anthracene	mg/kg	ND	0.0050	04/17/19 18:53	
Benzo(a)pyrene	mg/kg	ND	0.0050	04/17/19 18:53	
Benzo(b)fluoranthene	mg/kg	ND	0.0050	04/17/19 18:53	
Benzo(g,h,i)perylene	mg/kg	ND	0.0050	04/17/19 18:53	
Benzo(k)fluoranthene	mg/kg	ND	0.0050	04/17/19 18:53	
Chrysene	mg/kg	ND	0.0050	04/17/19 18:53	
Dibenz(a,h)anthracene	mg/kg	ND	0.0050	04/17/19 18:53	
Fluoranthene	mg/kg	ND	0.0050	04/17/19 18:53	
Fluorene	mg/kg	ND	0.0050	04/17/19 18:53	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0050	04/17/19 18:53	
Naphthalene	mg/kg	ND	0.0050	04/17/19 18:53	
Phenanthrene	mg/kg	ND	0.0050	04/17/19 18:53	
Pyrene	mg/kg	ND	0.0050	04/17/19 18:53	
2-Fluorobiphenyl (S)	%.	67	23-107	04/17/19 18:53	
p-Terphenyl-d14 (S)	%.	94	16-117	04/17/19 18:53	

LABORATORY CONTROL SAMPLE: 2284702

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	0.33	0.28	83	44-111	
2-Methylnaphthalene	mg/kg	0.33	0.27	81	45-111	
Acenaphthene	mg/kg	0.33	0.26	78	48-109	
Acenaphthylene	mg/kg	0.33	0.24	72	49-108	
Anthracene	mg/kg	0.33	0.27	80	44-104	
Benzo(a)anthracene	mg/kg	0.33	0.30	89	46-122	
Benzo(a)pyrene	mg/kg	0.33	0.25	76	31-156	
Benzo(b)fluoranthene	mg/kg	0.33	0.25	74	29-158	
Benzo(g,h,i)perylene	mg/kg	0.33	0.26	79	35-145	
Benzo(k)fluoranthene	mg/kg	0.33	0.26	77	33-150	
Chrysene	mg/kg	0.33	0.33	98	47-120	
Dibenz(a,h)anthracene	mg/kg	0.33	0.26	79	28-160	
Fluoranthene	mg/kg	0.33	0.31	93	49-121	
Fluorene	mg/kg	0.33	0.26	79	47-116	
Indeno(1,2,3-cd)pyrene	mg/kg	0.33	0.26	79	31-155	
Naphthalene	mg/kg	0.33	0.26	78	47-103	

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50222085

LABORATORY CONTROL SAMPLE: 2284702

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenanthrene	mg/kg	0.33	0.29	87	50-114	
Pyrene	mg/kg	0.33	0.31	94	49-114	
2-Fluorobiphenyl (S)	%.			74	23-107	
p-Terphenyl-d14 (S)	%.			91	16-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2284703 2284704

Parameter	Units	50222130007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	ND	0.37	0.37	0.23	0.26	63	71	10-145	12	20	
2-Methylnaphthalene	mg/kg	ND	0.37	0.37	0.23	0.26	62	71	10-135	13	20	
Acenaphthene	mg/kg	ND	0.37	0.37	0.21	0.24	57	64	10-138	13	20	
Acenaphthylene	mg/kg	ND	0.37	0.37	0.19	0.22	51	59	11-133	16	20	
Anthracene	mg/kg	ND	0.37	0.37	0.19	0.23	52	61	10-131	16	20	
Benzo(a)anthracene	mg/kg	ND	0.37	0.37	0.21	0.26	57	72	10-158	24	20	R1
Benzo(a)pyrene	mg/kg	ND	0.37	0.37	0.17	0.21	45	58	10-174	24	20	R1
Benzo(b)fluoranthene	mg/kg	ND	0.37	0.37	0.14	0.18	39	50	10-184	25	20	R1
Benzo(g,h,i)perylene	mg/kg	ND	0.37	0.37	0.16	0.20	44	55	10-170	22	20	R1
Benzo(k)fluoranthene	mg/kg	ND	0.37	0.37	0.20	0.24	53	65	10-183	19	20	
Chrysene	mg/kg	ND	0.37	0.37	0.24	0.29	64	78	10-147	20	20	
Dibenz(a,h)anthracene	mg/kg	ND	0.37	0.37	0.19	0.23	51	61	10-166	19	20	
Fluoranthene	mg/kg	ND	0.37	0.37	0.22	0.27	60	75	10-158	22	20	R1
Fluorene	mg/kg	ND	0.37	0.37	0.21	0.25	57	67	10-142	16	20	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.37	0.37	0.17	0.21	46	57	11-167	22	20	R1
Naphthalene	mg/kg	ND	0.37	0.37	0.23	0.25	62	69	13-128	10	20	
Phenanthrene	mg/kg	ND	0.37	0.37	0.22	0.27	61	72	10-164	17	20	
Pyrene	mg/kg	ND	0.37	0.37	0.22	0.28	61	74	10-152	20	20	
2-Fluorobiphenyl (S)	%.						54	62	23-107			
p-Terphenyl-d14 (S)	%.						56	73	16-117			

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QUALITY CONTROL DATA

Project: LOUEN19016
Pace Project No.: 50222085

QC Batch: 496301 | Analysis Method: SM 2540G
QC Batch Method: SM 2540G | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 50222085001, 50222085002, 50222085003, 50222085004, 50222085005, 50222085006

SAMPLE DUPLICATE: 2289607

Parameter	Units	50222085001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	17.8	18.0	2	5	

SAMPLE DUPLICATE: 2289608

Parameter	Units	50222749004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	14.3	14.4	0	5	

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QUALIFIERS

Project: LOUEN19016
Pace Project No.: 50222085

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
R1	RPD value was outside control limits.

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Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOUEN19016
Pace Project No.: 50222085

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50222085001	**B-1**	EPA 3050	495453	EPA 6010	495976
50222085002	**B-2**	EPA 3050	495453	EPA 6010	495976
50222085003	**B-3**	EPA 3050	495453	EPA 6010	495976
50222085004	**B-4**	EPA 3050	495453	EPA 6010	495976
50222085005	**B-5**	EPA 3050	495453	EPA 6010	495976
50222085006	**B-6**	EPA 3050	495453	EPA 6010	495976
50222085001	**B-1**	EPA 7471	495262	EPA 7471	495390
50222085002	**B-2**	EPA 7471	495262	EPA 7471	495390
50222085003	**B-3**	EPA 7471	495262	EPA 7471	495390
50222085004	**B-4**	EPA 7471	495262	EPA 7471	495390
50222085005	**B-5**	EPA 7471	495262	EPA 7471	495390
50222085006	**B-6**	EPA 7471	495262	EPA 7471	495390
50222085001	**B-1**	EPA 3546	495222	EPA 8270 by SIM	495343
50222085002	**B-2**	EPA 3546	495222	EPA 8270 by SIM	495343
50222085003	**B-3**	EPA 3546	495222	EPA 8270 by SIM	495343
50222085004	**B-4**	EPA 3546	495222	EPA 8270 by SIM	495343
50222085005	**B-5**	EPA 3546	495222	EPA 8270 by SIM	495343
50222085006	**B-6**	EPA 3546	495222	EPA 8270 by SIM	495343
50222085001	**B-1**	EPA 8260	495571		
50222085002	**B-2**	EPA 8260	495571		
50222085003	**B-3**	EPA 8260	495571		
50222085004	**B-4**	EPA 8260	495571		
50222085005	**B-5**	EPA 8260	495571		
50222085006	**B-6**	EPA 8260	495571		
50222085001	**B-1**	SM 2540G	496301		
50222085002	**B-2**	SM 2540G	496301		
50222085003	**B-3**	SM 2540G	496301		
50222085004	**B-4**	SM 2540G	496301		
50222085005	**B-5**	SM 2540G	496301		
50222085006	**B-6**	SM 2540G	496301		

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Pace Analytical

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

Section A — Required Client Information:

Company:	ATC Group Services
Address:	2724 River Green Circle
	Louisville, KY 40206
Email:	john.case@atcgs.com
Phone:	(502)722-1401 Fax:
Requested Due Date:	standard TAT

Section B — Required Project Information:

Report To:	John Case
Copy To:	samuel.rice@atcgs.com
Purchase Order #:	
Project Name:	LOUEN19016
Project #:	

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	donna.spyker@pacelabs.com,
Pace Profile #:	7348/2

Regulatory Agency	
State / Location	
	KY

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

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Requested Analysis Filtered (Y/N)): VOC by 8260	PAH/Metals	PCB by 8082	Dioxin/Furans	Residual Chlorine (Y/N)	
1	B-1	SL	C	4/11	9:30				2									X	X				001
2	B-2	SL	C	↓	10:00				2									X	X				002
3	B-3	SL	C		10:20				2									X	X				003
4	B-4	SL	C		10:50				2									X	X				004
5	B-5	SL	C		11:15				2									X	X				005
6	B-6	SL	C		11:40				2									X	X				006
7																							
8																							
9																							
10																							
11																							
12																							

50222085

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)
	Samuel Rice / ATC	4/11/19	12:30	FedEx						
	FedEx			[signature]	4/12/19	08:45	0.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Samuel Rice

SIGNATURE of SAMPLER: [signature] DATE Signed: 4/11/19

Pace Analytical

SAMPLE CONDITION UPON RECEIPT FORM

Project #: 50222085

Date/Time and Initials of person examining contents: ZL 4/12/19 13:28

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: 4893 0201 8605

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No **Seals Intact:** ☑ Yes ☐ No

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer: 1 2 3 4 5 6 A B C D E F Ice Type: ☑ Wet ☐ Blue ☐ None | Samples collected today and on ice: ☐ Yes ☐ No ☑ N/A

Cooler Temperature: 0.4/0.6 Ice Visible in Sample Containers?: ☐ Yes ☑ No ☐ N/A

(Initial/Corrected) Temp should be above freezing to 6°C If temp. is Over 6°C or under 0°C, was the PM Notified?: ☐ Yes ☐ No ☑ N/A

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
Are samples from West Virginia? Document any containers out of temp.		✓	All containers needing acid/base pres. Have been checked?: **exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.** All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted.			✓
USDA Regulated Soils? (ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓				
Chain of Custody Present:	✓		Circle: HNO3 H2SO4 NaOH NaOH/ZnAc			
Chain of Custody Filled Out:	✓		Dissolved Metals field filtered?:			✓
Short Hold Time Analysis (<72hr)?: Analysis:		✓	Headspace Wisconsin Sulfide			✓
Time 5035A TC placed in Freezer or Short Holds To Lab:				Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
			Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Rush TAT Requested:		✓	Headspace in VOA Vials (>6mm):			✓
Containers Intact?:	✓		Trip Blank Present?:		✓	
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Custody Seals?:		✓	

Comments:

Sample Container Count

WO# : 50222085

50222085

CLIENT: ATC

COC PAGE 1 of 1

COC ID#

Project # 50222085

Sample Line Item	DG9H VG9H	AG0U	AG1H	AG1U	AG2U	AG3S	WGFU	SP5T	BP1U	BP2N	BP2S	BP2U	BP3B	BP3N	BP3S	BP3U	SBS Bulk Kit R				Matrix S (Soil/Wa Aqueou	pH <2	pH >9	pH>12
1							2														S4			
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

Container Codes

Glass

DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpreserved amber glass
DG9H	40mL HCL amber voa vial	AG1H	1 liter HCL amber glass
DG9M	40mL MeOH clear vial	AG1S	1 liter H2SO4 amber glass
DG9P	40mL TSP amber vial	AG1T	1 liter Na Thiosulfate amber glass
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpreserved amber glass
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass
DG9U	40mL unpreserved **amber** vial	AG2S	500mL H2SO4 amber glass
VG9H	40mL HCL clear vial	AG2U	500mL unpreserved amber glass
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 glass amber
VG9U	40mL unpreserved **clear** vial	AG3U	250mL unpreserved amber glass
VGFX	40mL w/hexane wipe vial	BG1H	1 liter HCL clear glass
VSG	Headspace septa vial & HCL	BG1S	1 liter H2SO4 clear glass
WGKU	8oz unpreserved clear jar	BG1T	1 liter Na Thiosulfate clear glass
WGFU	4oz clear soil jar	BG1U	1 liter unpreserved glass
JGFU	4oz unpreserved amber wide	BG3H	250mL HCl Clear Glass
		BG3U	250mL Unpreserved Clear Glass

Plastic / Misc.

BP1A	1 liter NaOH, Asc Acid plastic	BP3U	250mL unpreserved plastic
BP1N	1 liter HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
BP1S	1 liter H2SO4 plastic		
BP1U	1 liter unpreserved plastic	AF	Air Filter
BP1Z	1 liter NaOH, Zn, Ac	C	Air Cassettes
BP2A	500mL NaOH, Asc Acid plastic	R	Terra core kit
BP2N	500mL HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
BP2O	500mL NaOH plastic	U	Summa Can
BP2S	500mL H2SO4 plastic	ZPLC	Ziploc Bag
BP2U	500mL unpreserved plastic		
BP2Z	500mL NaOH, Zn Ac		
BP3B	250mL NaOH plastic		
BP3N	250mL HNO3 plastic		
BP3S	250mL H2SO4 plastic		

F-IN-Q-270-rev.10,31Aug2017