



Greenfield Environmental Multistate Trust LLC
Trustee of the Multistate Environmental Response Trust
Greenfield Environmental Trust Group, Inc., Member
P.O. Box 723, Durham, NH 03824
(602) 312-6993
tl@g-etg.com

February 8, 2022

By E-mail — charlene.fitch@dnr.mo.gov

Ms. Charlene Fitch, P.E.—Chief, Engineering Section
Missouri Department of Natural Resources
Waste Management Program
1730 E. Elm Street
Jefferson City, MO 65102-0176

**Subject: Greene County Highway Department (GCHD) Northwest Stormwater Basin Soil
Sampling Report
2065 N. Clifton Ave., Springfield, Missouri**

Dear Ms. Fitch:

Greenfield Environmental Multistate Trust LLC, not individually but solely in its representative capacity as Trustee of the Multistate Environmental Response Trust (the Multistate Trust), respectfully submits the *Greene County Highway Department (GCHD) Northwest Stormwater Basin Soil Sampling Report* for the property located adjacent to the Greenfield Environmental Multistate Trust LLC—Springfield Facility, also known as the Former Tronox/Kerr-McGee Facility located at 2800 West High Street, in Springfield, Missouri with Missouri Hazardous Waste Management Facility Part I Permit No. MOD007129406. This report summarizes the results of the site investigation activities performed on November 3, 2021 pursuant to the Missouri Department of Natural Resources (MoDNR)-approved *GCHD Northwest Stormwater Basin Sampling Field Implementation Work Plan*.

If you have any questions or concerns, please do not hesitate to contact me at (602) 312-6993 or tl@g-etg.com or Babs Garcia at (417) 380-3370 or bgarcia@environmentalworks.com, a representative of the Multistate Trust's third-party contractor, Environmental Works Inc.

Sincerely,

Greenfield Environmental Multistate Trust LLC
Trustee of the Multistate Environmental Response Trust
By: Greenfield Environmental Trust Group, Inc., Member

Tasha Lewis
Portfolio Manager and Project Manager

Enclosure: Greene County Highway Department (GCHD) Northwest Stormwater Basin Soil Sampling Report
(electronic copy and hard copy)

Charlene Fitch
February 8, 2022
Page 2 of 2

cc: Jillian Hunt—Missouri Department of Natural Resources
Nathan Kraus—Missouri Department of Natural Resources
Rich Nussbaum—Missouri Department of Natural Resources
Abby Sawyer—Missouri Department of Natural Resources
Rick Artman—Greene County Highway Department
Jeff Avers—Greene County Highway Department
Tim Davis—Greene County
Cynthia Brooks—Multistate Trust
Craig Kaufman—Multistate Trust
Keith Brodock—Integral Consulting Inc.
Barbara Garcia—Environmental Works Inc.

Greene County Highway (GHCD) Department Northwest Stormwater Basin Soil Sampling Report

Prepared For: Greenfield Environmental Multistate Trust LLC
Trustee of the Multistate Environmental Response Trust

Copy To: Greene County, Greene County Highway Department, and
Missouri Department of Natural Resources

Prepared By: Environmental Works, Inc.

Date: 1/21/2022

Re: Greene County Highway Department (GCHD) Northwest Stormwater Basin Soil
Sampling Report
2065 N. Clifton Ave., Springfield, Missouri

This report summarizes the results of the site investigation activities performed on November 3, 2021, at northwest stormwater basin on the Greene County Highway Department property located adjacent to the Greenfield Environmental Multistate Trust LLC—Springfield Facility, also known as the Former Tronox/Kerr-McGee Facility located at 2800 West High Street in Springfield, Missouri (Facility), with Missouri Hazardous Waste Management Facility (MHWMF) Part I Permit Number MOD007129406 (Permit) (Figure 1, below). Based upon multiple lines of evidence, Facility-related constituents are unlikely to be encountered, or encountered above comparison criteria, during the anticipated Greene County construction activities / soil excavation within the northwest stormwater basin; therefore, a soil management plan or additional health and safety considerations are not necessary at this time.



Sampling Overview

The site investigation activities were implemented pursuant to the *GCHD Northwest Stormwater Basin Sampling Field Implementation Work Plan* (Work Plan; EWI, 2021), dated September 23, 2021, and approved by Missouri Department of Natural Resources (MoDNR) on October 21, 2021. The Work Plan was prepared by Environmental Works, Inc. (EWI) on behalf of Greenfield Environmental Multistate Trust LLC, not individually but solely in its representative capacity as Trustee of the Multistate Environmental Response Trust (Multistate Trust). The Work Plan utilized the field sampling procedures and analytical methods approved by MoDNR in the *Final Greene County Highway Department Site Investigation Work Plan* (GCHD Work Plan; Jacobs, 2019).

The purpose of the site investigation activities was to evaluate the presence, depth, and areal extent of Facility-related dense nonaqueous phase liquids (DNAPL as creosote) and chemicals of concern (COC) potentially in soil beneath the Property's northwestern stormwater basin. The findings would be used (1) to identify specific health and safety considerations, if and when, Greene County and GCHD decide to modify the northwestern stormwater basin and (2) to develop a soil management plan for Facility-related DNAPL as creosote- and COC-impacted soils, if any.

Subsurface soil within the northwest stormwater basin was evaluated to achieve the following Data Quality Objectives:

- Assess the potential for encountering impacted soil (i.e., Facility-related COCs, as defined below) within the planned construction area/depth.
- Evaluate the dominant hydrocarbons present in soil (i.e., evaluate if the contamination is Facility-related).

Soil borings were advanced as described in the Work Plan at locations GC-A through GC-D on November 3, 2021 (Figure 2, below). Soil boring logs and soil core photographs are provided in Appendix A. Soil samples were collected and submitted under standard chain-of-custody procedures to Eurofins Lancaster Laboratory for analysis of Facility-related volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method SW8260C, semivolatile organic compounds (SVOCs) by EPA Methods SW8270D and SW8270D selected ion monitoring (SIM) listed in the Permit (MoDNR 2020), and total petroleum hydrocarbons (TPH), Gasoline Range Organics (GRO), and Diesel Range Organics (DRO) by EPA Method SW8015C. The laboratory reports from Eurofins are provided in Appendix B. Additionally, one sample was also submitted to Alpha Analytical (Mansfield, MA) for fingerprinting evaluation by EPA Method 8015, EPA Method 8270 modified, and EPA Method 8260 modified¹. The fingerprinting evaluation by Newfields Companies, LLC, is presented in Appendix C.

¹ The lighter petroleum fraction (i.e., gasoline range) fingerprint analysis was conducted using a C3-C12 Quantitative Petroleum Characterization (EPA 8260 Modified) or equivalent method. The heavier petroleum fraction (i.e., diesel and motor oil range) fingerprinting analysis was conducted using the following methods: 1) C8-C40 Full Scan Semi-Quantitative Characterization (Modified ASTM D5739) and 2) Parent and Alkylated PAHs (Modified EPA 8270).



Continuous soil cores were collected from ground surface to refusal on limestone bedrock. Each core was visually inspected for the presence of impacted material (staining, sheens) or free-phase creosote (oil globules), and field-screened with a photoionization detector (PID). Following soil sample collection, the borings were abandoned using hydrated bentonite chips and a handheld Global Positioning System was used to collect the location for each soil boring location. Investigation derived waste (IDW), which

was minimal, was added to the IDW from the recent GCHD Phase I Site Investigation field work and will be disposed of with the GCHD Phase I Site Investigation IDW accordingly.

Data Evaluation

The following observations were made of the soil coring and sampling at the four soil boring locations within the northwest stormwater basin:

- Boring depth refusal on limestone 7-9 feet below land surface (ft below land surface [bls]). The depth of investigation effectively targeted the horizon where creosote impacted soils were observed in boring logs on the Facility to the west.
- PID readings, collected every six inches of soil core, were not observed (0.0 parts per million [ppm]).
- Groundwater was not observed. The boreholes were left open until the end of soil sampling activities: no groundwater entered the borings between boring advancement and closure (1-2 hours). The highest observed moisture in each core was within the upper 1 ft of silty topsoil. This observation is consistent with the use of the basin for stormwater retention. Below the uppermost silty soil, the soil in the cores was increasingly stiff and clayey. Within the clayey soils, moisture was present at higher permeability zones around weathered chert and at the sandy weathered limestone at the soil-bedrock interface.
- No indications of staining, odor or other visual signs of Facility-related (creosote) impact were observed.

The berm of the stormwater basin was not evaluated as it was unlikely to be impacted by Facility-related COCs (see the Work Plan for the evaluation).

The laboratory results were tabulated and compared the EPA Regional Screening Levels (RSLs) for Industrial Soil and, for reference purposes for use in a future construction health and safety plan, the Missouri Risk Based Corrective Action (MRBCA) default target levels (DTLs) and risk-based target levels (RBTLs) protective of the Construction Worker exposure pathway ingestion, inhalation and dermal contact (Construction Worker RBTL). Table 1 provides a summary of the results (detected constituents only) with the applicable EPA RSLs (November 2021) and MRBCA RBTLs (MoDNR, 2006).

No Facility-related COC concentrations were present in concentrations exceeding the above comparison criteria. The following eleven compounds were detected above method detection limits:

2-Butanone
Acetone
Gasoline Range Organics (GRO) (not Facility-related)
1-Methylnaphthalene
2-Methylnaphthalene*
Acenaphthene*
Acenaphthylene*
Fluoranthene*
Naphthalene*
Phenanthrene*

Pyrene*

* Indicates Facility-related COC²

Of the eleven individual compounds present in one or more soil boring, 7 are Facility-related COCs, as defined by the Permit. Naphthalene, a key constituent of Facility-related impacts, was detected in low concentrations in two of the four soil samples. Except for acetone, which may be a laboratory contaminant, the other detected chemicals are commonly found in the environment, including in asphalt stormwater runoff.

The report provided by Newfields (Appendix C) concludes that the most likely origin of the hydrocarbons found in the stormwater basin is not creosote (i.e., not Facility-related). The forensic evaluation was conducted on soils at location GC-C. The forensic testing concluded that the soil collected from the GCHD northwest stormwater basin contained trace pyrogenic hydrocarbons of indeterminate origin. Based on the polycyclic aromatic hydrocarbon and volatile aromatic hydrocarbon signatures, the most likely source is soot from vehicular exhaust and not creosote.

Conclusions and Recommendations

Based on the multiple lines of evidence discussed above, Facility-related COCs are unlikely to be encountered, or encountered above comparison criteria, during the anticipated Greene County construction activities / soil excavation within the northwest stormwater basin; therefore, a soil management plan or additional health and safety considerations are not necessary at this time.

The Work Plan was implemented to provide additional data to evaluate the depth and areal extent of creosote and other Facility-related COCs within the subsurface at the GCHD northwest stormwater basin. The Work Plan anticipated that Facility-related COCs may be present in the subsurface of the stormwater basin because, in part, the anticipated depth of construction (3-4 ft bls) is within a horizon where creosote impact was observed in on-Facility boring logs (although creosote-impacted soils were not presented approximately 30 ft east of the northwest stormwater basin). However, field observations from the four soil borings advanced to refusal on weathered limestone showed no indication of creosote impact or indication of groundwater, which the Work Plan anticipated may be found at 6-7 ft bls and may contain Facility-related COCs. Soil samples collected from the soil-bedrock interface at each location submitted for laboratory analysis indicate the presence of several compounds above the method detection levels; however, no compounds, including Facility-related COCs, exceeded the stated EPA and MRBCA comparison criteria. Forensic testing results concluded that the hydrocarbon impacts within the basin are not likely from creosote.

These findings, as well as on-going Facility investigation monitoring conducted by the Multistate Trust, suggest that creosote impact may be constrained by solution features in the shallow epikarst, in particular, along a northeast trending trough that is north of the GCHD northwest stormwater basin. Thus, at this time, a soil management plan or additional health and safety considerations for addressing Facility-related creosote- or COC-impacted media are not necessary. Typical health and safety practices for construction should be employed.

² Groundwater monitoring constituents defined in Table 1 of the Permit (MoDNR, 2020).

Please contact the Multistate Trust and their contracted emergency response contractor, EWI, if work performed in this area of the GCHD property extends below the soil horizon and into the weathered bedrock, or if observations are made of possible creosote impact (such as stained grey or black soils, or observations of creosote or naphthalene [mothball-like] odors).

References

Environmental Works, Inc. (EWI) 2021. Northwest Stormwater Basin Sampling Field Implementation Work Plan September 23.

Missouri Department of Natural Resources (MoDNR). 2006. *Missouri Risk-Based Corrective Action Technical Guidance*. April.

Missouri Department of Natural Resources (MoDNR). 2020. Missouri Department of Natural Resources, Missouri Hazardous Waste Management Facility Permit, Part I, Permit Number MOD007129406, 2800 West High Street, Springfield Missouri. January 30.

Jacobs Engineering Group Inc. (Jacobs). 2019. Final Greene County Highway Department Site Investigation Work Plan. July 26.

Table

Table 1. Summary of Analytical Results (Detected Constituents Only) - GCHD Northwest Stormwater Basin

					Sample ID:	GCHD-SO-A	GCHD-SO-B	GCHD-SO-C	GCHD-SO-D
					Sample Depth (ft bls):	6.5 - 7	8.5 - 9	7.5 - 8	8.5 - 9
					Date Sampled:	11/3/2021	11/3/2021	11/3/2021	11/3/2021
Analyte	Units	EPA RSL, Industrial	MRBCA DTL Soil	MRBCA RBTL Construction Worker	Soil	Soil	Soil	Soil	
2-Butanone	mg/kg	190,000	7.30	297,000	0.0028 J	0.0046 J	<0.003	0.01 J	
Acetone	mg/kg	1,100,000	4.20	208,000	0.024 J	0.033	<0.009	0.094	
GRO	mg/kg	NC	385	1,290,000	0.52 J	<0.39	0.33 J	0.41 J	
1-Methylnaphthalene	mg/kg	730	NC	NC	0.017 J	<0.0053	<0.0051	<0.0049	
2-Methylnaphthalene*	mg/kg	3,000	7.55	1,210	0.034	<0.0079	<0.0076	<0.0074	
Acenaphthene*	mg/kg	45,000	174	31,300	<0.0049	0.0081 J	<0.0051	<0.0049	
Acenaphthylene*	mg/kg	45,000	175	44,700	<0.0059	0.014 J	<0.0061	<0.0059	
Fluoranthene*	mg/kg	30,000	2,280	45,100	<0.0049	0.0071 J	<0.0051	<0.0049	
Naphthalene*	mg/kg	8.60	32.50	21,500	<0.0026	<0.003	<0.003	<0.0031	
Phenanthrene*	mg/kg	NC	158	30,100	0.0067 J	<0.0064	<0.0061	<0.0059	
Pyrene*	mg/kg	23,000	1,500	34,400	0.022 J	0.033	<0.0051	<0.0049	

NOTES:

Detected concentrations are shown in bold font; unbolded concentrations were not detected at the reporting limit shown.

DTL = Default Target Level

EPA RSL, Industrial = EPA Regional Screening Levels (RSLs) - November 2021 (<https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>)

ft bls = feet below land surface

GRO = Gasoline Range Organics

J = Estimated value; concentration is greater than or equal to the Method Detection Limit but less than the Limit of Quantification

mg/kg = milligram per kilogram

MRBCA = Missouri Risk Based Corrective Action (MRBCA) Departmental Guidance (2006)

MRBCA RBTL Construction Worker = MRBCA Risk-Based Target Levels: Construction Worker Soil Type 2 (Silty Soil)

NC = No criterion; Indicates that EPA has not published a Regional Screening Level (RSL) or MoDNR has not established a target level for this parameter

Appendix A



ENVIRONMENTAL WORKS
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1455 East Chestnut Expressway
Springfield, Missouri 65802
Phone: 417-890-9500 Fax: 417-823-9659
www.environmentalworks.com

Boring Number : GC-A

Sheet 1 of 1

Project : Former Kerr-McGee/Tronox Facility, Springfield, MO
Location : 2065 N. Clifton Avenue; Greene County Highway Department
City/County/State : Springfield/Greene County/ Missouri
Drilled By : EWI
Logged By : Barbara Garcia, RG
Drilling Method: Geoprobe 3230
Sampling Method : 5 ft Acetate Liner

Project Number : R150683.21 Task 5B-2
Date Drilled : 11/3/2021
Inspected by : Barbara Garcia, RG
Drafted by : Craig Rowden
Boring Depth : 7 ft below land surface (bls)
Ground Surface Elevation (ft amsl) : Approx. 1280
Water Level - Static : See Notes Below

DEPTH BELOW	LITHOLOGY			SAMPLING AND WELL DATA						
	LITHOLOGIC SYMBOL	GEOLOGIC DESCRIPTION OF SOIL AND ROCK STRATA	Recovery	Sample ID	PID Value	PID			WELL CONSTRUCTION	
					0	50	100			
0		0 - 0.5ft TOPSOIL: Silty, very moist, low plasticity	70%		0				0	
		0.5 - 0.75ft CHERT GRAVEL with minor asphalt			0					
		0.75 - 4.75ft SILTY CLAY: Dark brown, stiff, medium plasticity, damp moist			0					
2		Compression in core: poor recovery			0					
					0					
					0					
4					0					
					0					
					0					
					0					
		4.75 - 5ft CHERT GRAVEL	100%		0				5	
		5 - 6ft SANDY CLAY with Chert: Reddish brown				0				
6		6 - 6.75ft SILTY CLAY: Reddish-brown, stiff, high plasticity			0					
		6.75 - 7ft WEATHERED LIMESTONE SAND: Gray silt, very damp to wet			0					
		Refusal at 7 ft.			0					
8										
10									10	

GCHD-SO-A:
6.5-7' 1100

Notes : No groundwater observed in open borehole after 2.5 hours.

Well Notes : Boring abandoned with hydrated bentonite chips.



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Boring Number : GC-B

Sheet 1 of 1

Project : Former Kerr-McGee/Tronox Facility, Springfield, MO
Location : 2065 N. Clifton Avenue; Greene County Highway Department
City/County/State : Springfield/Greene County/ Missouri
Drilled By : EWI
Logged By : Barbara Garcia, RG
Drilling Method: Geoprobe 3230
Sampling Method : 5 ft Acetate Liner

Project Number : R150683.21 Task 5B-2
Date Drilled : 11/3/2021
Inspected by : Barbara Garcia, RG
Drafted by : Craig Rowden
Boring Depth : 9 ft below land surface (bls)
Ground Surface Elevation (ft msl) : Approx. 1280
Water Level - Static : See Notes Below

DEPTH BELOW	LITHOLOGY			SAMPLING AND WELL DATA				
	LITHOLOGIC SYMBOL	GEOLOGIC DESCRIPTION OF SOIL AND ROCK STRATA	Recovery	Sample ID	PID Value	PID		WELL CONSTRUCTION
					0	50	100	
0		0 - 0.5ft TOPSOIL: Silty, soft, wet, dark brown	50%		0			0
0.5		0.5 - 5ft SILTY CLAY: Medium plasticity, damp, brown. Compression of core; poor recovery						
2					0			
4					0			
5		5 - 6ft SILTY CLAY with Weathered Chert Gravel: wet at 6.5'	100%		0			5
6		6 - 8ft SILTY CLAY: high plasticity, stiff, silty, reddish-brown, softens at last 2"						
8		8 - 9ft WEATHERED LIMESTONE SAND: Gray silt, very damp to wet			0			
9		Refusal at 9 ft.			0			
10					0			10

GCHD-SO-B:
8.5-9' 1130

Bentonite

Notes : No groundwater observed in open borehole after 1.5 hours.

Well Notes : Boring abandoned with hydrated bentonite chips.



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Boring Number : GC-C

Sheet 1 of 1

Project : Former Kerr-McGee/Tronox Facility, Springfield, MO
Location : 2065 N. Clifton Avenue; Greene County Highway Department
City/County/State : Springfield/Greene County/ Missouri
Drilled By : EWI
Logged By : Barbara Garcia, RG
Drilling Method: Geoprobe 3230
Sampling Method : 5 ft Acetate Liner

Project Number : R150683.21 Task 5B-2
Date Drilled : 11/3/2021
Inspected by : Barbara Garcia, RG
Drafted by : Craig Rowden
Boring Depth : 8 ft below land surface (bls)
Ground Surface Elevation (ft msl) : Approx. 1280
Water Level - Static : See Notes Below

DEPTH BELOW	LITHOLOGY			SAMPLING AND WELL DATA							
	LITHOLOGIC SYMBOL	GEOLOGIC DESCRIPTION OF SOIL AND ROCK STRATA	Recovery	Sample ID	PID Value	PID			WELL CONSTRUCTION		
					0	50	100				
0		0 - 0.5ft TOPSOIL: Silty, wet, low plasticity	40%		0				0		Bentonite
		0.5 - 5ft SANDY CLAY with Chert. Compression of core; poor recovery.				0					
2		5 - 7.75ft SILTY CLAY: Reddish-brown, little to no chert, stiff, damp, high plasticity, minor chert at base	100%		0						
4		7.75 - 8ft WEATHERED LIMESTONE SAND: Gray silt, very damp to wet			0						
6		Refusal at 8 ft.			0						
8					0						
10					0						

GCHD-SO-C:
7.5-8' 1150

Notes : No groundwater observed in open borehole after 1.25 hours.

Well Notes : Boring abandoned with hydrated bentonite chips.



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Boring Number : GC-D

Sheet 1 of 1

Project : Former Kerr-McGee/Tronox Facility, Springfield, MO
Location : 2065 N. Clifton Avenue; Greene County Highway Department
City/County/State : Springfield/Greene County/ Missouri
Drilled By : EWI
Logged By : Barbara Garcia, RG
Drilling Method: Geoprobe 3230
Sampling Method : 5 ft Acetate Liner

Project Number : R150683.21 Task 5B-2
Date Drilled : 11/3/2021
Inspected by : Barbara Garcia, RG
Drafted by : Craig Rowden
Boring Depth : 8 ft below land surface (bls)
Ground Surface Elevation (ft msl) : Approx. 1280
Water Level - Static : See Notes Below

DEPTH BELOW	LITHOLOGY			SAMPLING AND WELL DATA				
	LITHOLOGIC SYMBOL	GEOLOGIC DESCRIPTION OF SOIL AND ROCK STRATA	Recovery	Sample ID	PID Value	PID		
					0	50	100	
0		0 - 1ft TOPSOIL: Silty, wet, low plasticity			0			
1		1 - 2ft CHERT with Silty Clay			0			
2		2 - 5ft SILTY CLAY: Reddish-brown, stiff, high plasticity	40%		0			
		Compression in core: poor recovery			0			
4		5 - 8.75ft SILTY CLAY: Reddish-brown, stiff, damp, high plasticity, minor chert at 7ft, softens at 8.5ft	75%		0			
6					0			
8					0			
		8.75 - 9ft WEATHERED LIMESTONE SAND: Gray silt, very damp to wet		GCHD-SO-D: 8.5-9' 1230	0			
10		Refusal at 9 ft			0			

Bentonite

Notes : No groundwater observed in open borehole after 0.75 hours.

Well Notes : Boring abandoned with hydrated bentonite chips.

**Greenfield Environmental Multistate Trust LLC - Springfield Facility
Former Tronox/Kerr-McGee Facility, Springfield, Missouri
2800 West High St. Springfield, MO
MHWMF Part I Permit NO. / EPA I.D. No. MOD007129406
GCHD NW Stormwater Basin Soil Sampling**

**Photographed by: EWI
11/3/2021 and 11/4/2021**



1. GCHD NW Stormwater Basin, view to the northeast. Note saturated soil in southwest corner and along western side of basin.



2. GCHD NW Stormwater Basin; view to the south showing minor ruts from track-mounted Geoprobe drilling rig.

**Greenfield Environmental Multistate Trust LLC - Springfield Facility
Former Tronox/Kerr-McGee Facility, Springfield, Missouri
2800 West High St. Springfield, MO
MHWMF Part I Permit NO. / EPA I.D. No. MOD007129406
GCHD NW Stormwater Basin Soil Sampling
Photographed by: EWI
11/3/2021 and 11/4/2021**



3. Soil core for GC-A



4. Soil core for GC-B

Greenfield Environmental Multistate Trust LLC - Springfield Facility
Former Tronox/Kerr-McGee Facility, Springfield, Missouri
2800 West High St. Springfield, MO
MHWMF Part I Permit NO. / EPA I.D. No. MOD007129406
GCHD NW Stormwater Basin Soil Sampling
Photographed by: EWI
11/3/2021 and 11/4/2021



5. Soil core for GC-C



6. Soil core for GC-D

Appendix B

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-61928-1
Client Project/Site: GCHD NW tormwater Basin

For:
Environmental Works, Inc.
1455 East Chestnut Expressway
Springfield, Missouri 65802

Attn: Barbara Garcia



Authorized for release by:
11/15/2021 11:53:44 AM

Hannah Cottman, Operations Support Specialist
(717)556-7383
Hannah.Cottman@eurofinset.com

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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A handwritten signature in black ink, appearing to read "Hannah L. Cottman".

Hannah Cottman
Operations Support Specialist
11/15/2021 11:53:44 AM



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Definitions/Glossary

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Definitions/Glossary

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Job ID: 410-61928-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-61928-1

Receipt

The samples were received on 11/4/2021 11:02 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C

GC/MS VOA

Method 8260C: The continuing calibration verification (CCV) analyzed on 410-192723 is compliant under 8260C/D method criteria for 2-Butanone. The software does not display the % Drift data to the whole number as is listed in the method (i.e. limit of 20%). When applying the evaluation to a whole number, the check passes the criteria with a value of 20% Drift.

Method 8260C: The continuing calibration verification (CCV) associated with batch 410-192723 recovered outside acceptance criteria, low biased, for Cyclohexane, 2-Hexanone and Methylcyclohexane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Non-detections of the affected analytes are reported. Any detections are considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

Method 8270D: The continuing calibration verification (CCV) analyzed in batch 410-194708 was below the method criteria for the following analyte(s): Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: Surrogate recovery for the following sample was outside control limits: GCHD-SO-C:7.5-8'_112021 (410-61928-2). Re-extraction was performed and surrogate recovery was outside control limits. Both sets of data are reporting

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gasoline Range Organics

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-B: 8.5-9'_112021

Lab Sample ID: 410-61928-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone	4.6	J	15	3.0	ug/Kg	1	✳	8260C	Total/NA
Acetone	33		30	9.0	ug/Kg	1	✳	8260C	Total/NA
Acenaphthene	8.1	J	26	5.3	ug/Kg	1	✳	8270D	Total/NA
Acenaphthylene	14	J	26	6.4	ug/Kg	1	✳	8270D	Total/NA
Fluoranthene	7.1	J	26	5.3	ug/Kg	1	✳	8270D	Total/NA
Naphthalene	13	J	26	11	ug/Kg	1	✳	8270D	Total/NA
Pyrene	33		26	5.3	ug/Kg	1	✳	8270D	Total/NA

Client Sample ID: GCHD-SO-C:7.5-8'_112021

Lab Sample ID: 410-61928-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
TPH-GRO (Gasoline Range Organics) (1C)	0.33	J	1.9	0.33	mg/Kg	25	✳	8015C	Total/NA

Client Sample ID: GCHD-SO-D:8.5-9'_112021

Lab Sample ID: 410-61928-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone	10	J	15	3.1	ug/Kg	1	✳	8260C	Total/NA
Acetone	94		31	9.2	ug/Kg	1	✳	8260C	Total/NA
TPH-GRO (Gasoline Range Organics) (1C)	0.41	J	1.9	0.34	mg/Kg	25	✳	8015C	Total/NA

Client Sample ID: TRIP BLANK-1_112021

Lab Sample ID: 410-61928-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-B: 8.5-9'_112021

Lab Sample ID: 410-61928-1

Date Collected: 11/03/21 11:30

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 62.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,1,1,2-Tetrachloroethane	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,1,2-Trichloroethane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,1-Dichloroethane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,1-Dichloroethene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,2,4-Trichlorobenzene	15	U	15	7.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,2,4-Trimethylbenzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,2-Dibromo-3-Chloropropane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,2-Dibromoethane	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,2-Dichlorobenzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,2-Dichloroethane	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,2-Dichloropropane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,3,5-Trimethylbenzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,3-Dichlorobenzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
1,4-Dichlorobenzene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
2-Butanone	4.6	J	15	3.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
2-Hexanone	15	U	15	1.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
4-Methyl-2-pentanone	15	U	15	1.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Acetone	33		30	9.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Benzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Bromodichloromethane	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Bromoform	15	U	15	7.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Bromomethane	7.5	U	7.5	1.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Carbon disulfide	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Carbon tetrachloride	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Chlorobenzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Chloroethane	7.5	U	7.5	1.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Chloroform	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Chloromethane	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
cis-1,2-Dichloroethene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
cis-1,3-Dichloropropene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Cyclohexane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Dibromochloromethane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Dichlorodifluoromethane	7.5	U *+	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Ethylbenzene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Freon 113	15	U	15	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Isopropylbenzene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
m&p-Xylene	7.5	U	7.5	1.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Methyl acetate	7.5	U	7.5	1.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Methyl tertiary butyl ether	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Methylcyclohexane	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Methylene Chloride	7.5	U	7.5	3.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Naphthalene	7.5	U	7.5	3.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
o-Xylene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Styrene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Tetrachloroethene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Toluene	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
trans-1,2-Dichloroethene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
trans-1,3-Dichloropropene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-B: 8.5-9'_112021

Lab Sample ID: 410-61928-1

Date Collected: 11/03/21 11:30

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 62.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Trichlorofluoromethane	7.5	U	7.5	1.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Vinyl chloride	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Xylenes, Total	15	U	15	2.1	ug/Kg	☼	11/04/21 19:27	11/09/21 00:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		54 - 135				11/04/21 19:27	11/09/21 00:22	1
4-Bromofluorobenzene (Surr)	103		50 - 131				11/04/21 19:27	11/09/21 00:22	1
Dibromofluoromethane (Surr)	105		50 - 141				11/04/21 19:27	11/09/21 00:22	1
Toluene-d8 (Surr)	98		52 - 141				11/04/21 19:27	11/09/21 00:22	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
1,4-Dioxane	260	U	260	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
1-Methylnaphthalene	26	U	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2,2'-oxybis[1-chloropropane]	69	U	69	32	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2,4,5-Trichlorophenol	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2,4,6-Trichlorophenol	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2,4-Dichlorophenol	69	U	69	32	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2,4-Dimethylphenol	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2,4-Dinitrophenol	1600	U	1600	260	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2,4-Dinitrotoluene	260	U	260	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2,6-Dinitrotoluene	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2-Chloronaphthalene	53	U	53	21	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2-Chlorophenol	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2-Methylnaphthalene	26	U	26	7.9	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2-Methylphenol	79	U	79	32	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2-Nitroaniline	79	U	79	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
2-Nitrophenol	79	U	79	32	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
3,3'-Dichlorobenzidine	260	U	260	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
3-Nitroaniline	260	U	260	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
4,6-Dinitro-2-methylphenol	790	U	790	260	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
4-Bromophenyl-phenylether	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
4-Chloro-3-methylphenol	79	U	79	32	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
4-Chloroaniline	260	U	260	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
4-Chlorophenyl-phenyl ether	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
4-Methylphenol	79	U	79	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
4-Nitroaniline	260	U	260	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
4-Nitrophenol	790	U	790	260	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Acenaphthene	8.1	J	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Acenaphthylene	14	J	26	6.4	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Acetophenone	79	U	79	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Anthracene	26	U	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Atrazine	260	U	260	110	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Benzaldehyde	260	U	260	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Benzo[a]anthracene	26	U	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Benzo[a]pyrene	26	U	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Benzo[b]fluoranthene	26	U	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Benzo[g,h,i]perylene	26	U	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-B: 8.5-9'_112021

Lab Sample ID: 410-61928-1

Date Collected: 11/03/21 11:30

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 62.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	26	U	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Bis(2-chloroethoxy)methane	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Bis(2-chloroethyl)ether	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Bis(2-ethylhexyl) phthalate	260	U	260	110	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Butylbenzylphthalate	260	U	260	110	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Caprolactam	260	U	260	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Carbazole	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Chrysene	26	U	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Dibenz(a,h)anthracene	26	U	26	11	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Dibenzofuran	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Diethyl phthalate	260	U	260	110	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Dimethyl phthalate	260	U	260	110	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Di-n-butyl phthalate	260	U	260	110	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Di-n-octyl phthalate	260	U	260	110	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Fluoranthene	7.1	J	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Fluorene	26	U	26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Hexachlorobenzene	26	U	26	11	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Hexachlorobutadiene	79	U	79	32	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Hexachlorocyclopentadiene	790	U	790	260	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Hexachloroethane	260	U	260	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Indeno[1,2,3-cd]pyrene	26	U	26	6.4	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Isophorone	110	U	110	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Naphthalene	13	J	26	11	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Nitrobenzene	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
N-Nitrosodimethylamine	260	U	260	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
N-Nitrosodi-n-propylamine	110	U	110	53	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
N-Nitrosodiphenylamine	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Pentachlorophenol	260	U	260	110	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Phenanthrene	26	U	26	6.4	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Phenol	58	U	58	26	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1
Pyrene	33		26	5.3	ug/Kg	☼	11/07/21 16:26	11/15/21 10:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	69		13 - 121	11/07/21 16:26	11/15/21 10:56	1
2-Fluorobiphenyl (Surr)	85		39 - 100	11/07/21 16:26	11/15/21 10:56	1
2-Fluorophenol (Surr)	79		26 - 96	11/07/21 16:26	11/15/21 10:56	1
Nitrobenzene-d5 (Surr)	73		32 - 97	11/07/21 16:26	11/15/21 10:56	1
Phenol-d5 (Surr)	81		27 - 104	11/07/21 16:26	11/15/21 10:56	1
p-Terphenyl-d14 (Surr)	98		45 - 108	11/07/21 16:26	11/15/21 10:56	1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH-GRO (Gasoline Range Organics) (1C)	2.2	U	2.2	0.39	mg/Kg	☼	11/04/21 18:39	11/11/21 17:12	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	74		50 - 142	11/04/21 18:39	11/11/21 17:12	25

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28) (1C)	19	U	19	7.9	mg/Kg	☼	11/07/21 16:44	11/09/21 00:30	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-B: 8.5-9'_112021

Lab Sample ID: 410-61928-1

Date Collected: 11/03/21 11:30

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 62.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-terphenyl (Surr) (1C)</i>	93		42 - 143	11/07/21 16:44	11/09/21 00:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	37.7		1.0	1.0	%			11/04/21 17:49	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-C:7.5-8'_112021

Lab Sample ID: 410-61928-2

Date Collected: 11/03/21 11:50

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 65.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,1,1,2-Tetrachloroethane	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,1,2-Trichloroethane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,1-Dichloroethane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,1-Dichloroethene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,2,4-Trichlorobenzene	15	U	15	7.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,2,4-Trimethylbenzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,2-Dibromo-3-Chloropropane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,2-Dibromoethane	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,2-Dichlorobenzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,2-Dichloroethane	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,2-Dichloropropane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,3,5-Trimethylbenzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,3-Dichlorobenzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
1,4-Dichlorobenzene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
2-Butanone	15	U	15	3.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
2-Hexanone	15	U	15	1.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
4-Methyl-2-pentanone	15	U	15	1.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Acetone	30	U	30	9.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Benzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Bromodichloromethane	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Bromoform	15	U	15	7.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Bromomethane	7.5	U	7.5	1.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Carbon disulfide	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Carbon tetrachloride	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Chlorobenzene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Chloroethane	7.5	U	7.5	1.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Chloroform	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Chloromethane	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
cis-1,2-Dichloroethene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
cis-1,3-Dichloropropene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Cyclohexane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Dibromochloromethane	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Dichlorodifluoromethane	7.5	U *+	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Ethylbenzene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Freon 113	15	U	15	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Isopropylbenzene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
m&p-Xylene	7.5	U	7.5	1.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Methyl acetate	7.5	U	7.5	1.5	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Methyl tertiary butyl ether	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Methylcyclohexane	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Methylene Chloride	7.5	U	7.5	3.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Naphthalene	7.5	U	7.5	3.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
o-Xylene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Styrene	7.5	U	7.5	0.60	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Tetrachloroethene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Toluene	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
trans-1,2-Dichloroethene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
trans-1,3-Dichloropropene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-C:7.5-8'_112021

Lab Sample ID: 410-61928-2

Date Collected: 11/03/21 11:50

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 65.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	7.5	U	7.5	0.75	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Trichlorofluoromethane	7.5	U	7.5	1.0	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Vinyl chloride	7.5	U	7.5	0.90	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Xylenes, Total	15	U	15	2.1	ug/Kg	☼	11/04/21 19:27	11/09/21 00:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		54 - 135				11/04/21 19:27	11/09/21 00:44	1
4-Bromofluorobenzene (Surr)	103		50 - 131				11/04/21 19:27	11/09/21 00:44	1
Dibromofluoromethane (Surr)	104		50 - 141				11/04/21 19:27	11/09/21 00:44	1
Toluene-d8 (Surr)	98		52 - 141				11/04/21 19:27	11/09/21 00:44	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
1,4-Dioxane	250	U	250	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
1-Methylnaphthalene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2,2'-oxybis[1-chloropropane]	66	U	66	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2,4,5-Trichlorophenol	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2,4,6-Trichlorophenol	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2,4-Dichlorophenol	66	U	66	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2,4-Dimethylphenol	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2,4-Dinitrophenol	1500	U	1500	250	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2,4-Dinitrotoluene	250	U	250	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2,6-Dinitrotoluene	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2-Chloronaphthalene	51	U	51	20	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2-Chlorophenol	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2-Methylnaphthalene	25	U	25	7.6	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2-Methylphenol	76	U	76	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2-Nitroaniline	76	U	76	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
2-Nitrophenol	76	U	76	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
3,3'-Dichlorobenzidine	250	U	250	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
3-Nitroaniline	250	U	250	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
4,6-Dinitro-2-methylphenol	760	U	760	250	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
4-Bromophenyl-phenylether	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
4-Chloro-3-methylphenol	76	U	76	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
4-Chloroaniline	250	U	250	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
4-Chlorophenyl-phenyl ether	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
4-Methylphenol	76	U	76	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
4-Nitroaniline	250	U	250	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
4-Nitrophenol	760	U	760	250	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Acenaphthene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Acenaphthylene	25	U	25	6.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Acetophenone	76	U	76	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Anthracene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Atrazine	250	U	250	100	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Benzaldehyde	250	U	250	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Benzo[a]anthracene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Benzo[a]pyrene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Benzo[b]fluoranthene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Benzo[g,h,i]perylene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-C:7.5-8'_112021

Lab Sample ID: 410-61928-2

Date Collected: 11/03/21 11:50

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 65.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Bis(2-chloroethoxy)methane	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Bis(2-chloroethyl)ether	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Bis(2-ethylhexyl) phthalate	250	U	250	100	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Butylbenzylphthalate	250	U	250	100	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Caprolactam	250	U	250	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Carbazole	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Chrysene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Dibenz(a,h)anthracene	25	U	25	10	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Dibenzofuran	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Diethyl phthalate	250	U	250	100	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Dimethyl phthalate	250	U	250	100	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Di-n-butyl phthalate	250	U	250	100	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Di-n-octyl phthalate	250	U	250	100	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Fluoranthene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Fluorene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Hexachlorobenzene	25	U	25	10	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Hexachlorobutadiene	76	U	76	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Hexachlorocyclopentadiene	760	U	760	250	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Hexachloroethane	250	U	250	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Indeno[1,2,3-cd]pyrene	25	U	25	6.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Isophorone	100	U	100	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Naphthalene	25	U	25	10	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Nitrobenzene	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
N-Nitrosodimethylamine	250	U	250	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
N-Nitrosodi-n-propylamine	100	U	100	51	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
N-Nitrosodiphenylamine	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Pentachlorophenol	250	U	250	100	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Phenanthrene	25	U	25	6.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Phenol	56	U	56	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1
Pyrene	25	U	25	5.1	ug/Kg	☼	11/07/21 16:26	11/15/21 11:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	28		13 - 121	11/07/21 16:26	11/15/21 11:20	1
2-Fluorobiphenyl (Surr)	8	S1-	39 - 100	11/07/21 16:26	11/15/21 11:20	1
2-Fluorophenol (Surr)	35		26 - 96	11/07/21 16:26	11/15/21 11:20	1
Nitrobenzene-d5 (Surr)	26	S1-	32 - 97	11/07/21 16:26	11/15/21 11:20	1
Phenol-d5 (Surr)	28		27 - 104	11/07/21 16:26	11/15/21 11:20	1
p-Terphenyl-d14 (Surr)	53		45 - 108	11/07/21 16:26	11/15/21 11:20	1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH-GRO (Gasoline Range Organics) (1C)	0.33	J	1.9	0.33	mg/Kg	☼	11/04/21 18:39	11/11/21 17:51	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	121		50 - 142	11/04/21 18:39	11/11/21 17:51	25

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28) (1C)	18	U	18	7.5	mg/Kg	☼	11/07/21 16:44	11/09/21 00:50	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-C:7.5-8'_112021

Lab Sample ID: 410-61928-2

Date Collected: 11/03/21 11:50

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 65.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-terphenyl (Surr) (1C)</i>	80		42 - 143	11/07/21 16:44	11/09/21 00:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	34.1		1.0	1.0	%			11/04/21 17:49	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-D:8.5-9'_112021

Lab Sample ID: 410-61928-3

Date Collected: 11/03/21 12:30

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 66.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	7.7	U	7.7	0.92	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,1,2,2-Tetrachloroethane	7.7	U	7.7	0.61	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,1,2-Trichloroethane	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,1-Dichloroethane	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,1-Dichloroethene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,2,4-Trichlorobenzene	15	U	15	7.7	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,2,4-Trimethylbenzene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,2-Dibromo-3-Chloropropane	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,2-Dibromoethane	7.7	U	7.7	0.61	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,2-Dichlorobenzene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,2-Dichloroethane	7.7	U	7.7	0.92	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,2-Dichloropropane	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,3,5-Trimethylbenzene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,3-Dichlorobenzene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
1,4-Dichlorobenzene	7.7	U	7.7	0.61	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
2-Butanone	10	J	15	3.1	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
2-Hexanone	15	U	15	1.5	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
4-Methyl-2-pentanone	15	U	15	1.5	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Acetone	94		31	9.2	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Benzene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Bromodichloromethane	7.7	U	7.7	0.61	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Bromoform	15	U	15	7.7	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Bromomethane	7.7	U	7.7	1.1	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Carbon disulfide	7.7	U	7.7	0.92	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Carbon tetrachloride	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Chlorobenzene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Chloroethane	7.7	U	7.7	1.5	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Chloroform	7.7	U	7.7	0.92	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Chloromethane	7.7	U	7.7	0.92	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
cis-1,2-Dichloroethene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
cis-1,3-Dichloropropene	7.7	U	7.7	0.61	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Cyclohexane	7.7	U **	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Dibromochloromethane	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Dichlorodifluoromethane	7.7	U	7.7	0.92	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Ethylbenzene	7.7	U	7.7	0.61	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Freon 113	15	U **	15	0.92	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Isopropylbenzene	7.7	U	7.7	0.61	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
m&p-Xylene	7.7	U	7.7	1.5	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Methyl acetate	7.7	U	7.7	1.5	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Methyl tertiary butyl ether	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Methylcyclohexane	7.7	U **	7.7	0.92	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Methylene Chloride	7.7	U	7.7	3.1	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Naphthalene	7.7	U	7.7	3.1	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
o-Xylene	7.7	U	7.7	0.61	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Styrene	7.7	U	7.7	0.61	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Tetrachloroethene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Toluene	7.7	U	7.7	0.92	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
trans-1,2-Dichloroethene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
trans-1,3-Dichloropropene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-D:8.5-9'_112021

Lab Sample ID: 410-61928-3

Date Collected: 11/03/21 12:30

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 66.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	7.7	U	7.7	0.77	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Trichlorofluoromethane	7.7	U	7.7	1.1	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Vinyl chloride	7.7	U	7.7	0.92	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Xylenes, Total	15	U	15	2.2	ug/Kg	☼	11/04/21 18:28	11/10/21 02:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		54 - 135				11/04/21 18:28	11/10/21 02:57	1
4-Bromofluorobenzene (Surr)	99		50 - 131				11/04/21 18:28	11/10/21 02:57	1
Dibromofluoromethane (Surr)	100		50 - 141				11/04/21 18:28	11/10/21 02:57	1
Toluene-d8 (Surr)	102		52 - 141				11/04/21 18:28	11/10/21 02:57	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
1,4-Dioxane	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
1-Methylnaphthalene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2,2'-oxybis[1-chloropropane]	64	U	64	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2,4,5-Trichlorophenol	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2,4,6-Trichlorophenol	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2,4-Dichlorophenol	64	U	64	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2,4-Dimethylphenol	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2,4-Dinitrophenol	1500	U	1500	250	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2,4-Dinitrotoluene	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2,6-Dinitrotoluene	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2-Chloronaphthalene	49	U	49	20	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2-Chlorophenol	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2-Methylnaphthalene	25	U	25	7.4	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2-Methylphenol	74	U	74	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2-Nitroaniline	74	U	74	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
2-Nitrophenol	74	U	74	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
3,3'-Dichlorobenzidine	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
3-Nitroaniline	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
4,6-Dinitro-2-methylphenol	740	U	740	250	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
4-Bromophenyl-phenylether	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
4-Chloro-3-methylphenol	74	U	74	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
4-Chloroaniline	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
4-Chlorophenyl-phenyl ether	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
4-Methylphenol	74	U	74	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
4-Nitroaniline	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
4-Nitrophenol	740	U	740	250	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Acenaphthene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Acenaphthylene	25	U	25	5.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Acetophenone	74	U	74	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Anthracene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Atrazine	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Benzaldehyde	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Benzo[a]anthracene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Benzo[a]pyrene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Benzo[b]fluoranthene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Benzo[g,h,i]perylene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-D:8.5-9'_112021

Lab Sample ID: 410-61928-3

Date Collected: 11/03/21 12:30

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 66.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Bis(2-chloroethoxy)methane	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Bis(2-chloroethyl)ether	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Bis(2-ethylhexyl) phthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Butylbenzylphthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Caprolactam	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Carbazole	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Chrysene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Dibenz(a,h)anthracene	25	U	25	9.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Dibenzofuran	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Diethyl phthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Dimethyl phthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Di-n-butyl phthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Di-n-octyl phthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Fluoranthene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Fluorene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Hexachlorobenzene	25	U	25	9.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Hexachlorobutadiene	74	U	74	30	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Hexachlorocyclopentadiene	740	U	740	250	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Hexachloroethane	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Indeno[1,2,3-cd]pyrene	25	U	25	5.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Isophorone	99	U	99	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Naphthalene	25	U	25	9.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Nitrobenzene	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
N-Nitrosodimethylamine	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
N-Nitrosodi-n-propylamine	99	U	99	49	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
N-Nitrosodiphenylamine	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Pentachlorophenol	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Phenanthrene	25	U	25	5.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Phenol	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1
Pyrene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 11:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	92		13 - 121	11/07/21 16:26	11/15/21 11:44	1
2-Fluorobiphenyl (Surr)	83		39 - 100	11/07/21 16:26	11/15/21 11:44	1
2-Fluorophenol (Surr)	77		26 - 96	11/07/21 16:26	11/15/21 11:44	1
Nitrobenzene-d5 (Surr)	77		32 - 97	11/07/21 16:26	11/15/21 11:44	1
Phenol-d5 (Surr)	78		27 - 104	11/07/21 16:26	11/15/21 11:44	1
p-Terphenyl-d14 (Surr)	98		45 - 108	11/07/21 16:26	11/15/21 11:44	1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH-GRO (Gasoline Range Organics) (1C)	0.41	J	1.9	0.34	mg/Kg	☼	11/04/21 18:39	11/11/21 18:29	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	134		50 - 142	11/04/21 18:39	11/11/21 18:29	25

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28) (1C)	18	U	18	7.5	mg/Kg	☼	11/07/21 16:44	11/09/21 00:10	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-D:8.5-9'_112021

Lab Sample ID: 410-61928-3

Date Collected: 11/03/21 12:30

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 66.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-terphenyl (Surr) (1C)</i>	94		42 - 143	11/07/21 16:44	11/09/21 00:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	33.4		1.0	1.0	%			11/04/21 17:49	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: TRIP BLANK-1_112021

Lab Sample ID: 410-61928-4

Date Collected: 11/03/21 00:00

Matrix: Water

Date Received: 11/04/21 11:02

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
1,1,2-Trichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
1,1-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
1,2,4-Trichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 23:26	1
1,2,4-Trimethylbenzene	5.0	U	5.0	1.0	ug/L			11/09/21 23:26	1
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	0.30	ug/L			11/09/21 23:26	1
1,2-Dibromoethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
1,2-Dichlorobenzene	5.0	U	5.0	0.20	ug/L			11/09/21 23:26	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.30	ug/L			11/09/21 23:26	1
1,3-Dichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 23:26	1
1,4-Dichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 23:26	1
2-Butanone	10	U	10	0.50	ug/L			11/09/21 23:26	1
2-Hexanone	10	U	10	0.40	ug/L			11/09/21 23:26	1
4-Methyl-2-pentanone	10	U	10	0.50	ug/L			11/09/21 23:26	1
Acetone	20	U	20	0.70	ug/L			11/09/21 23:26	1
Benzene	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
Bromodichloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
Bromoform	4.0	U	4.0	1.0	ug/L			11/09/21 23:26	1
Bromomethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
Carbon disulfide	5.0	U	5.0	0.30	ug/L			11/09/21 23:26	1
Carbon tetrachloride	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
Chlorobenzene	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
Chloroethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
Chloroform	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
Cyclohexane	5.0	U	5.0	1.0	ug/L			11/09/21 23:26	1
Dibromochloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
Dichlorodifluoromethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
Ethylbenzene	1.0	U	1.0	0.40	ug/L			11/09/21 23:26	1
Freon 113	10	U	10	0.30	ug/L			11/09/21 23:26	1
Isopropylbenzene	5.0	U	5.0	0.20	ug/L			11/09/21 23:26	1
m&p-Xylene	5.0	U	5.0	2.0	ug/L			11/09/21 23:26	1
Methyl acetate	5.0	U	5.0	0.30	ug/L			11/09/21 23:26	1
Methyl tertiary butyl ether	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
Methylcyclohexane	5.0	U	5.0	0.50	ug/L			11/09/21 23:26	1
Methylene Chloride	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
Naphthalene	5.0	U	5.0	1.0	ug/L			11/09/21 23:26	1
o-Xylene	1.0	U	1.0	0.40	ug/L			11/09/21 23:26	1
Styrene	5.0	U	5.0	0.30	ug/L			11/09/21 23:26	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
Toluene	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: TRIP BLANK-1_112021

Lab Sample ID: 410-61928-4

Date Collected: 11/03/21 00:00

Matrix: Water

Date Received: 11/04/21 11:02

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 23:26	1
Trichlorofluoromethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/09/21 23:26	1
Xylenes, Total	1.0	U	1.0	0.40	ug/L			11/09/21 23:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		80 - 120		11/09/21 23:26	1
4-Bromofluorobenzene (Surr)	91		80 - 120		11/09/21 23:26	1
Dibromofluoromethane (Surr)	110		80 - 120		11/09/21 23:26	1
Toluene-d8 (Surr)	99		80 - 120		11/09/21 23:26	1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH-GRO (Gasoline Range Organics) (1C)	50	U	50	23	ug/L			11/05/21 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	97		63 - 135		11/05/21 18:08	1

Surrogate Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (54-135)	BFB (50-131)	DBFM (50-141)	TOL (52-141)
410-61928-1	GCHD-SO-B: 8.5-9'_112021	111	103	105	98
410-61928-2	GCHD-SO-C:7.5-8'_112021	108	103	104	98
410-61928-3	GCHD-SO-D:8.5-9'_112021	99	99	100	102
LCS 410-192184/6	Lab Control Sample	104	102	101	98
LCS 410-192680/4	Lab Control Sample	101	101	100	100
LCSD 410-192184/7	Lab Control Sample Dup	103	101	101	98
LCSD 410-192680/5	Lab Control Sample Dup	99	101	99	100
MB 410-192184/9	Method Blank	103	101	101	99
MB 410-192680/7	Method Blank	98	100	99	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	BFB (80-120)	DBFM (80-120)	TOL (80-120)
410-61928-4	TRIP BLANK-1_112021	113	91	110	99
LCS 410-192723/4	Lab Control Sample	106	99	104	102
MB 410-192723/6	Method Blank	108	94	106	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (13-121)	FBP (39-100)	2FP (26-96)	NBZ (32-97)	PHL (27-104)	TPHd14 (45-108)
410-61928-1	GCHD-SO-B: 8.5-9'_112021	69	85	79	73	81	98
410-61928-2	GCHD-SO-C:7.5-8'_112021	28	8 S1-	35	26 S1-	28	53
410-61928-3	GCHD-SO-D:8.5-9'_112021	92	83	77	77	78	98
LCS 410-191771/2-A	Lab Control Sample	108	90	86	85	85	110 S1+
LCSD 410-191771/3-A	Lab Control Sample Dup	103	87	82	80	81	107
MB 410-191771/1-A	Method Blank	73	78	71	72	73	99

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Surrogate Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	TFT-F1 (50-142)
410-61928-1	GCHD-SO-B: 8.5-9'_112021	74
410-61928-2	GCHD-SO-C:7.5-8'_112021	121
410-61928-3	GCHD-SO-D:8.5-9'_112021	134
LCS 410-193554/5	Lab Control Sample	110
LCSD 410-193554/6	Lab Control Sample Dup	104
MB 410-193554/4	Method Blank	106
Surrogate Legend		
TFT-F = a,a,a-Trifluorotoluene (fid)		

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	TFT-F1 (63-135)
410-61928-4	TRIP BLANK-1_112021	97
LCS 410-191354/5	Lab Control Sample	90
LCSD 410-191354/6	Lab Control Sample Dup	93
MB 410-191354/4	Method Blank	98
Surrogate Legend		
TFT-F = a,a,a-Trifluorotoluene (fid)		

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	OTP1 (42-143)
410-61928-1	GCHD-SO-B: 8.5-9'_112021	93
410-61928-2	GCHD-SO-C:7.5-8'_112021	80
410-61928-3	GCHD-SO-D:8.5-9'_112021	94
LCS 410-191775/2-A	Lab Control Sample	101
MB 410-191775/1-A	Method Blank	93
Surrogate Legend		
OTP = o- terphenyl (Surr)		

QC Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-192184/9

Matrix: Solid

Analysis Batch: 192184

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
1,1,2,2-Tetrachloroethane	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
1,1,2-Trichloroethane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,1-Dichloroethane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,1-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,2,4-Trichlorobenzene	10	U	10	5.0	ug/Kg			11/08/21 21:18	1
1,2,4-Trimethylbenzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,2-Dibromoethane	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
1,2-Dichlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,2-Dichloroethane	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
1,2-Dichloropropane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,3-Dichlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,4-Dichlorobenzene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
2-Butanone	10	U	10	2.0	ug/Kg			11/08/21 21:18	1
2-Hexanone	10	U	10	1.0	ug/Kg			11/08/21 21:18	1
4-Methyl-2-pentanone	10	U	10	1.0	ug/Kg			11/08/21 21:18	1
Acetone	20	U	20	6.0	ug/Kg			11/08/21 21:18	1
Benzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Bromodichloromethane	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
Bromoform	10	U	10	5.0	ug/Kg			11/08/21 21:18	1
Bromomethane	5.0	U	5.0	0.70	ug/Kg			11/08/21 21:18	1
Carbon disulfide	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
Carbon tetrachloride	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Chlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Chloroethane	5.0	U	5.0	1.0	ug/Kg			11/08/21 21:18	1
Chloroform	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
Chloromethane	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
cis-1,2-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
cis-1,3-Dichloropropene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
Cyclohexane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Dibromochloromethane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Dichlorodifluoromethane	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
Ethylbenzene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
Freon 113	10	U	10	0.60	ug/Kg			11/08/21 21:18	1
Isopropylbenzene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
m&p-Xylene	5.0	U	5.0	1.0	ug/Kg			11/08/21 21:18	1
Methyl acetate	5.0	U	5.0	1.0	ug/Kg			11/08/21 21:18	1
Methyl tertiary butyl ether	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Methylcyclohexane	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
Methylene Chloride	5.0	U	5.0	2.0	ug/Kg			11/08/21 21:18	1
Naphthalene	5.0	U	5.0	2.0	ug/Kg			11/08/21 21:18	1
o-Xylene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
Styrene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
Tetrachloroethene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Toluene	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
trans-1,2-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-192184/9

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192184

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
trans-1,3-Dichloropropene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Trichloroethene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Trichlorofluoromethane	5.0	U	5.0	0.70	ug/Kg			11/08/21 21:18	1
Vinyl chloride	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
Xylenes, Total	10	U	10	1.4	ug/Kg			11/08/21 21:18	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	103		54 - 135		11/08/21 21:18	1
4-Bromofluorobenzene (Surr)	101		50 - 131		11/08/21 21:18	1
Dibromofluoromethane (Surr)	101		50 - 141		11/08/21 21:18	1
Toluene-d8 (Surr)	99		52 - 141		11/08/21 21:18	1

Lab Sample ID: LCS 410-192184/6

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192184

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1,1-Trichloroethane	20.0	21.8		ug/Kg		109	69 - 123
1,1,1,2-Tetrachloroethane	20.0	21.4		ug/Kg		107	69 - 125
1,1,2-Trichloroethane	20.0	20.4		ug/Kg		102	80 - 120
1,1-Dichloroethane	20.0	20.8		ug/Kg		104	79 - 120
1,1-Dichloroethane	20.0	22.7		ug/Kg		114	73 - 129
1,2,4-Trichlorobenzene	20.0	17.0		ug/Kg		85	56 - 130
1,2,4-Trimethylbenzene	20.0	19.4		ug/Kg		97	73 - 120
1,2-Dibromo-3-Chloropropane	20.0	22.1		ug/Kg		110	48 - 134
1,2-Dibromoethane	20.0	20.3		ug/Kg		101	76 - 120
1,2-Dichlorobenzene	20.0	20.7		ug/Kg		104	76 - 120
1,2-Dichloroethane	20.0	20.6		ug/Kg		103	71 - 128
1,2-Dichloropropane	20.0	21.0		ug/Kg		105	80 - 120
1,3,5-Trimethylbenzene	20.0	18.7		ug/Kg		94	73 - 120
1,3-Dichlorobenzene	20.0	20.2		ug/Kg		101	75 - 120
1,4-Dichlorobenzene	20.0	20.5		ug/Kg		103	80 - 120
2-Butanone	250	219		ug/Kg		87	57 - 128
2-Hexanone	250	263		ug/Kg		105	54 - 140
4-Methyl-2-pentanone	250	261		ug/Kg		104	67 - 128
Acetone	250	215		ug/Kg		86	41 - 150
Benzene	20.0	21.2		ug/Kg		106	80 - 120
Bromodichloromethane	20.0	21.5		ug/Kg		107	70 - 120
Bromoform	20.0	21.6		ug/Kg		108	51 - 127
Bromomethane	20.0	20.1		ug/Kg		101	45 - 140
Carbon disulfide	20.0	24.9		ug/Kg		124	64 - 133
Carbon tetrachloride	20.0	22.9		ug/Kg		115	64 - 134
Chlorobenzene	20.0	21.4		ug/Kg		107	80 - 120
Chloroethane	20.0	20.6		ug/Kg		103	43 - 135
Chloroform	20.0	20.5		ug/Kg		102	80 - 120
Chloromethane	20.0	21.0		ug/Kg		105	56 - 120
cis-1,2-Dichloroethene	20.0	21.6		ug/Kg		108	80 - 125
cis-1,3-Dichloropropene	20.0	20.7		ug/Kg		104	66 - 120

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-192184/6

Matrix: Solid

Analysis Batch: 192184

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Cyclohexane	20.0	22.7		ug/Kg		113	58 - 126
Dibromochloromethane	20.0	20.8		ug/Kg		104	69 - 125
Dichlorodifluoromethane	20.0	25.8	*+	ug/Kg		129	21 - 127
Ethylbenzene	20.0	21.9		ug/Kg		109	78 - 120
Freon 113	20.0	25.6		ug/Kg		128	64 - 135
Isopropylbenzene	20.0	19.9		ug/Kg		100	77 - 120
m&p-Xylene	40.0	43.7		ug/Kg		109	80 - 120
Methyl acetate	20.0	22.2		ug/Kg		111	67 - 128
Methyl tertiary butyl ether	20.0	22.2		ug/Kg		111	72 - 120
Methylcyclohexane	20.0	22.5		ug/Kg		112	61 - 124
Methylene Chloride	20.0	21.0		ug/Kg		105	76 - 122
Naphthalene	20.0	20.4		ug/Kg		102	48 - 130
o-Xylene	20.0	22.0		ug/Kg		110	75 - 120
Styrene	20.0	21.9		ug/Kg		110	76 - 120
Tetrachloroethene	20.0	21.7		ug/Kg		108	73 - 120
Toluene	20.0	21.1		ug/Kg		105	80 - 120
trans-1,2-Dichloroethene	20.0	20.7		ug/Kg		104	80 - 126
trans-1,3-Dichloropropene	20.0	21.0		ug/Kg		105	68 - 122
Trichloroethene	20.0	21.5		ug/Kg		108	80 - 120
Trichlorofluoromethane	20.0	21.4		ug/Kg		107	55 - 134
Vinyl chloride	20.0	22.1		ug/Kg		110	52 - 120
Xylenes, Total	60.0	65.7		ug/Kg		110	75 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	104		54 - 135
4-Bromofluorobenzene (Surr)	102		50 - 131
Dibromofluoromethane (Surr)	101		50 - 141
Toluene-d8 (Surr)	98		52 - 141

Lab Sample ID: LCSD 410-192184/7

Matrix: Solid

Analysis Batch: 192184

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
1,1,1-Trichloroethane	20.0	21.2		ug/Kg		106	69 - 123	3	30
1,1,2,2-Tetrachloroethane	20.0	21.4		ug/Kg		107	69 - 125	0	30
1,1,2-Trichloroethane	20.0	21.0		ug/Kg		105	80 - 120	3	30
1,1-Dichloroethane	20.0	20.7		ug/Kg		103	79 - 120	1	30
1,1-Dichloroethene	20.0	22.4		ug/Kg		112	73 - 129	2	30
1,2,4-Trichlorobenzene	20.0	14.2		ug/Kg		71	56 - 130	18	30
1,2,4-Trimethylbenzene	20.0	15.9		ug/Kg		80	73 - 120	20	30
1,2-Dibromo-3-Chloropropane	20.0	19.9		ug/Kg		100	48 - 134	10	30
1,2-Dibromoethane	20.0	20.3		ug/Kg		101	76 - 120	0	30
1,2-Dichlorobenzene	20.0	17.8		ug/Kg		89	76 - 120	15	30
1,2-Dichloroethane	20.0	20.7		ug/Kg		103	71 - 128	0	30
1,2-Dichloropropane	20.0	20.8		ug/Kg		104	80 - 120	1	30
1,3,5-Trimethylbenzene	20.0	15.4		ug/Kg		77	73 - 120	20	30
1,3-Dichlorobenzene	20.0	17.2		ug/Kg		86	75 - 120	16	30

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QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-192184/7

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192184

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Added	Result	Qualifier				Limits		Limit
1,4-Dichlorobenzene	20.0	17.5		ug/Kg		88	80 - 120	16	30
2-Butanone	250	219		ug/Kg		88	57 - 128	0	30
2-Hexanone	250	272		ug/Kg		109	54 - 140	3	30
4-Methyl-2-pentanone	250	268		ug/Kg		107	67 - 128	3	30
Acetone	250	215		ug/Kg		86	41 - 150	0	30
Benzene	20.0	21.1		ug/Kg		105	80 - 120	1	30
Bromodichloromethane	20.0	21.5		ug/Kg		108	70 - 120	0	30
Bromoform	20.0	21.9		ug/Kg		110	51 - 127	2	30
Bromomethane	20.0	20.0		ug/Kg		100	45 - 140	1	30
Carbon disulfide	20.0	24.5		ug/Kg		122	64 - 133	2	30
Carbon tetrachloride	20.0	21.1		ug/Kg		105	64 - 134	8	30
Chlorobenzene	20.0	19.9		ug/Kg		99	80 - 120	8	30
Chloroethane	20.0	20.5		ug/Kg		103	43 - 135	0	30
Chloroform	20.0	20.7		ug/Kg		103	80 - 120	1	30
Chloromethane	20.0	21.3		ug/Kg		107	56 - 120	2	30
cis-1,2-Dichloroethene	20.0	21.1		ug/Kg		106	80 - 125	2	30
cis-1,3-Dichloropropene	20.0	20.8		ug/Kg		104	66 - 120	0	30
Cyclohexane	20.0	22.3		ug/Kg		112	58 - 126	2	30
Dibromochloromethane	20.0	20.9		ug/Kg		105	69 - 125	1	30
Dichlorodifluoromethane	20.0	25.4		ug/Kg		127	21 - 127	2	30
Ethylbenzene	20.0	18.5		ug/Kg		92	78 - 120	17	30
Freon 113	20.0	24.7		ug/Kg		124	64 - 135	3	30
Isopropylbenzene	20.0	16.3		ug/Kg		81	77 - 120	20	30
m&p-Xylene	40.0	37.2		ug/Kg		93	80 - 120	16	30
Methyl acetate	20.0	22.0		ug/Kg		110	67 - 128	1	30
Methyl tertiary butyl ether	20.0	22.2		ug/Kg		111	72 - 120	0	30
Methylcyclohexane	20.0	22.0		ug/Kg		110	61 - 124	2	30
Methylene Chloride	20.0	20.9		ug/Kg		105	76 - 122	0	30
Naphthalene	20.0	17.7		ug/Kg		88	48 - 130	14	30
o-Xylene	20.0	18.6		ug/Kg		93	75 - 120	17	30
Styrene	20.0	19.6		ug/Kg		98	76 - 120	11	30
Tetrachloroethene	20.0	18.1		ug/Kg		91	73 - 120	18	30
Toluene	20.0	19.8		ug/Kg		99	80 - 120	6	30
trans-1,2-Dichloroethene	20.0	20.6		ug/Kg		103	80 - 126	1	30
trans-1,3-Dichloropropene	20.0	21.0		ug/Kg		105	68 - 122	0	30
Trichloroethene	20.0	21.3		ug/Kg		107	80 - 120	1	30
Trichlorofluoromethane	20.0	20.9		ug/Kg		105	55 - 134	2	30
Vinyl chloride	20.0	21.6		ug/Kg		108	52 - 120	2	30
Xylenes, Total	60.0	55.8		ug/Kg		93	75 - 120	16	30

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	103		54 - 135
4-Bromofluorobenzene (Surr)	101		50 - 131
Dibromofluoromethane (Surr)	101		50 - 141
Toluene-d8 (Surr)	98		52 - 141

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-192680/7

Matrix: Solid

Analysis Batch: 192680

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
1,1,2,2-Tetrachloroethane	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
1,1,2-Trichloroethane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,1-Dichloroethane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,1-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,2,4-Trichlorobenzene	10	U	10	5.0	ug/Kg			11/09/21 21:38	1
1,2,4-Trimethylbenzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,2-Dibromoethane	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
1,2-Dichlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,2-Dichloroethane	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
1,2-Dichloropropane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,3-Dichlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,4-Dichlorobenzene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
2-Butanone	10	U	10	2.0	ug/Kg			11/09/21 21:38	1
2-Hexanone	10	U	10	1.0	ug/Kg			11/09/21 21:38	1
4-Methyl-2-pentanone	10	U	10	1.0	ug/Kg			11/09/21 21:38	1
Acetone	20	U	20	6.0	ug/Kg			11/09/21 21:38	1
Benzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Bromodichloromethane	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
Bromoform	10	U	10	5.0	ug/Kg			11/09/21 21:38	1
Bromomethane	5.0	U	5.0	0.70	ug/Kg			11/09/21 21:38	1
Carbon disulfide	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
Carbon tetrachloride	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Chlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Chloroethane	5.0	U	5.0	1.0	ug/Kg			11/09/21 21:38	1
Chloroform	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
Chloromethane	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
cis-1,2-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
cis-1,3-Dichloropropene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
Cyclohexane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Dibromochloromethane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Dichlorodifluoromethane	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
Ethylbenzene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
Freon 113	10	U	10	0.60	ug/Kg			11/09/21 21:38	1
Isopropylbenzene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
m&p-Xylene	5.0	U	5.0	1.0	ug/Kg			11/09/21 21:38	1
Methyl acetate	5.0	U	5.0	1.0	ug/Kg			11/09/21 21:38	1
Methyl tertiary butyl ether	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Methylcyclohexane	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
Methylene Chloride	5.0	U	5.0	2.0	ug/Kg			11/09/21 21:38	1
Naphthalene	5.0	U	5.0	2.0	ug/Kg			11/09/21 21:38	1
o-Xylene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
Styrene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
Tetrachloroethene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Toluene	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
trans-1,2-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-192680/7

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192680

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
trans-1,3-Dichloropropene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Trichloroethene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Trichlorofluoromethane	5.0	U	5.0	0.70	ug/Kg			11/09/21 21:38	1
Vinyl chloride	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
Xylenes, Total	10	U	10	1.4	ug/Kg			11/09/21 21:38	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	98		54 - 135		11/09/21 21:38	1
4-Bromofluorobenzene (Surr)	100		50 - 131		11/09/21 21:38	1
Dibromofluoromethane (Surr)	99		50 - 141		11/09/21 21:38	1
Toluene-d8 (Surr)	100		52 - 141		11/09/21 21:38	1

Lab Sample ID: LCS 410-192680/4

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192680

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1,1-Trichloroethane	20.0	21.5		ug/Kg		107	69 - 123
1,1,1,2-Tetrachloroethane	20.0	20.7		ug/Kg		104	69 - 125
1,1,1,2-Trichloroethane	20.0	20.5		ug/Kg		103	80 - 120
1,1-Dichloroethane	20.0	20.2		ug/Kg		101	79 - 120
1,1-Dichloroethene	20.0	21.9		ug/Kg		110	73 - 129
1,2,4-Trichlorobenzene	20.0	22.8		ug/Kg		114	56 - 130
1,2,4-Trimethylbenzene	20.0	22.6		ug/Kg		113	73 - 120
1,2-Dibromo-3-Chloropropane	20.0	19.0		ug/Kg		95	48 - 134
1,2-Dibromoethane	20.0	20.8		ug/Kg		104	76 - 120
1,2-Dichlorobenzene	20.0	20.7		ug/Kg		103	76 - 120
1,2-Dichloroethane	20.0	20.3		ug/Kg		101	71 - 128
1,2-Dichloropropane	20.0	20.8		ug/Kg		104	80 - 120
1,3,5-Trimethylbenzene	20.0	23.1		ug/Kg		115	73 - 120
1,3-Dichlorobenzene	20.0	21.1		ug/Kg		106	75 - 120
1,4-Dichlorobenzene	20.0	21.2		ug/Kg		106	80 - 120
2-Butanone	250	225		ug/Kg		90	57 - 128
2-Hexanone	250	237		ug/Kg		95	54 - 140
4-Methyl-2-pentanone	250	241		ug/Kg		96	67 - 128
Acetone	250	218		ug/Kg		87	41 - 150
Benzene	20.0	21.0		ug/Kg		105	80 - 120
Bromodichloromethane	20.0	21.1		ug/Kg		106	70 - 120
Bromoform	20.0	20.5		ug/Kg		103	51 - 127
Bromomethane	20.0	19.4		ug/Kg		97	45 - 140
Carbon disulfide	20.0	23.4		ug/Kg		117	64 - 133
Carbon tetrachloride	20.0	22.4		ug/Kg		112	64 - 134
Chlorobenzene	20.0	20.4		ug/Kg		102	80 - 120
Chloroethane	20.0	19.4		ug/Kg		97	43 - 135
Chloroform	20.0	20.6		ug/Kg		103	80 - 120
Chloromethane	20.0	19.8		ug/Kg		99	56 - 120
cis-1,2-Dichloroethene	20.0	21.6		ug/Kg		108	80 - 125
cis-1,3-Dichloropropene	20.0	20.5		ug/Kg		102	66 - 120

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-192680/4

Matrix: Solid

Analysis Batch: 192680

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Cyclohexane	20.0	26.4	*+	ug/Kg		132	58 - 126
Dibromochloromethane	20.0	20.7		ug/Kg		104	69 - 125
Dichlorodifluoromethane	20.0	22.5		ug/Kg		112	21 - 127
Ethylbenzene	20.0	21.5		ug/Kg		107	78 - 120
Freon 113	20.0	27.7	*+	ug/Kg		138	64 - 135
Isopropylbenzene	20.0	23.6		ug/Kg		118	77 - 120
m&p-Xylene	40.0	43.0		ug/Kg		108	80 - 120
Methyl acetate	20.0	20.2		ug/Kg		101	67 - 128
Methyl tertiary butyl ether	20.0	21.2		ug/Kg		106	72 - 120
Methylcyclohexane	20.0	28.9	*+	ug/Kg		145	61 - 124
Methylene Chloride	20.0	20.1		ug/Kg		100	76 - 122
Naphthalene	20.0	19.4		ug/Kg		97	48 - 130
o-Xylene	20.0	20.8		ug/Kg		104	75 - 120
Styrene	20.0	20.5		ug/Kg		103	76 - 120
Tetrachloroethene	20.0	22.6		ug/Kg		113	73 - 120
Toluene	20.0	20.9		ug/Kg		105	80 - 120
trans-1,2-Dichloroethene	20.0	20.3		ug/Kg		101	80 - 126
trans-1,3-Dichloropropene	20.0	21.6		ug/Kg		108	68 - 122
Trichloroethene	20.0	20.8		ug/Kg		104	80 - 120
Trichlorofluoromethane	20.0	19.6		ug/Kg		98	55 - 134
Vinyl chloride	20.0	20.2		ug/Kg		101	52 - 120
Xylenes, Total	60.0	63.8		ug/Kg		106	75 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		54 - 135
4-Bromofluorobenzene (Surr)	101		50 - 131
Dibromofluoromethane (Surr)	100		50 - 141
Toluene-d8 (Surr)	100		52 - 141

Lab Sample ID: LCSD 410-192680/5

Matrix: Solid

Analysis Batch: 192680

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
1,1,1-Trichloroethane	20.0	21.2		ug/Kg		106	69 - 123	1	30
1,1,2,2-Tetrachloroethane	20.0	20.0		ug/Kg		100	69 - 125	3	30
1,1,2-Trichloroethane	20.0	20.0		ug/Kg		100	80 - 120	2	30
1,1-Dichloroethane	20.0	20.0		ug/Kg		100	79 - 120	1	30
1,1-Dichloroethene	20.0	21.6		ug/Kg		108	73 - 129	2	30
1,2,4-Trichlorobenzene	20.0	22.4		ug/Kg		112	56 - 130	2	30
1,2,4-Trimethylbenzene	20.0	22.1		ug/Kg		111	73 - 120	2	30
1,2-Dibromo-3-Chloropropane	20.0	18.0		ug/Kg		90	48 - 134	5	30
1,2-Dibromoethane	20.0	20.4		ug/Kg		102	76 - 120	2	30
1,2-Dichlorobenzene	20.0	20.1		ug/Kg		101	76 - 120	3	30
1,2-Dichloroethane	20.0	20.3		ug/Kg		101	71 - 128	0	30
1,2-Dichloropropane	20.0	20.6		ug/Kg		103	80 - 120	1	30
1,3,5-Trimethylbenzene	20.0	22.8		ug/Kg		114	73 - 120	1	30
1,3-Dichlorobenzene	20.0	21.0		ug/Kg		105	75 - 120	1	30

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-192680/5

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192680

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	20.0	20.9		ug/Kg		104	80 - 120	1	30
2-Butanone	250	224		ug/Kg		90	57 - 128	0	30
2-Hexanone	250	229		ug/Kg		92	54 - 140	3	30
4-Methyl-2-pentanone	250	228		ug/Kg		91	67 - 128	6	30
Acetone	250	218		ug/Kg		87	41 - 150	0	30
Benzene	20.0	20.5		ug/Kg		103	80 - 120	2	30
Bromodichloromethane	20.0	20.8		ug/Kg		104	70 - 120	2	30
Bromoform	20.0	19.8		ug/Kg		99	51 - 127	3	30
Bromomethane	20.0	19.1		ug/Kg		96	45 - 140	2	30
Carbon disulfide	20.0	23.0		ug/Kg		115	64 - 133	2	30
Carbon tetrachloride	20.0	21.9		ug/Kg		110	64 - 134	2	30
Chlorobenzene	20.0	20.3		ug/Kg		101	80 - 120	1	30
Chloroethane	20.0	19.2		ug/Kg		96	43 - 135	1	30
Chloroform	20.0	20.3		ug/Kg		101	80 - 120	1	30
Chloromethane	20.0	19.9		ug/Kg		99	56 - 120	1	30
cis-1,2-Dichloroethene	20.0	21.1		ug/Kg		105	80 - 125	3	30
cis-1,3-Dichloropropene	20.0	19.9		ug/Kg		99	66 - 120	3	30
Cyclohexane	20.0	26.1	*+	ug/Kg		131	58 - 126	1	30
Dibromochloromethane	20.0	20.5		ug/Kg		102	69 - 125	1	30
Dichlorodifluoromethane	20.0	21.9		ug/Kg		109	21 - 127	3	30
Ethylbenzene	20.0	21.4		ug/Kg		107	78 - 120	1	30
Freon 113	20.0	27.1		ug/Kg		135	64 - 135	2	30
Isopropylbenzene	20.0	23.2		ug/Kg		116	77 - 120	2	30
m&p-Xylene	40.0	42.6		ug/Kg		107	80 - 120	1	30
Methyl acetate	20.0	18.9		ug/Kg		95	67 - 128	7	30
Methyl tertiary butyl ether	20.0	20.4		ug/Kg		102	72 - 120	4	30
Methylcyclohexane	20.0	28.2	*+	ug/Kg		141	61 - 124	2	30
Methylene Chloride	20.0	20.1		ug/Kg		101	76 - 122	0	30
Naphthalene	20.0	18.5		ug/Kg		93	48 - 130	4	30
o-Xylene	20.0	20.4		ug/Kg		102	75 - 120	2	30
Styrene	20.0	20.4		ug/Kg		102	76 - 120	0	30
Tetrachloroethene	20.0	22.2		ug/Kg		111	73 - 120	2	30
Toluene	20.0	20.7		ug/Kg		103	80 - 120	1	30
trans-1,2-Dichloroethene	20.0	20.0		ug/Kg		100	80 - 126	1	30
trans-1,3-Dichloropropene	20.0	21.1		ug/Kg		106	68 - 122	2	30
Trichloroethene	20.0	20.3		ug/Kg		102	80 - 120	2	30
Trichlorofluoromethane	20.0	19.6		ug/Kg		98	55 - 134	0	30
Vinyl chloride	20.0	20.3		ug/Kg		101	52 - 120	0	30
Xylenes, Total	60.0	63.0		ug/Kg		105	75 - 120	1	30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		54 - 135
4-Bromofluorobenzene (Surr)	101		50 - 131
Dibromofluoromethane (Surr)	99		50 - 141
Toluene-d8 (Surr)	100		52 - 141

QC Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-192723/6
Matrix: Water
Analysis Batch: 192723

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,1,2-Trichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,1-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,2,4-Trichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
1,2,4-Trimethylbenzene	5.0	U	5.0	1.0	ug/L			11/09/21 21:52	1
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
1,2-Dibromoethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
1,2-Dichlorobenzene	5.0	U	5.0	0.20	ug/L			11/09/21 21:52	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
1,3-Dichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
1,4-Dichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
2-Butanone	10	U	10	0.50	ug/L			11/09/21 21:52	1
2-Hexanone	10	U	10	0.40	ug/L			11/09/21 21:52	1
4-Methyl-2-pentanone	10	U	10	0.50	ug/L			11/09/21 21:52	1
Acetone	20	U	20	0.70	ug/L			11/09/21 21:52	1
Benzene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Bromodichloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Bromoform	4.0	U	4.0	1.0	ug/L			11/09/21 21:52	1
Bromomethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Carbon disulfide	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
Carbon tetrachloride	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Chlorobenzene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Chloroethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Chloroform	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Cyclohexane	5.0	U	5.0	1.0	ug/L			11/09/21 21:52	1
Dibromochloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Dichlorodifluoromethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Ethylbenzene	1.0	U	1.0	0.40	ug/L			11/09/21 21:52	1
Freon 113	10	U	10	0.30	ug/L			11/09/21 21:52	1
Isopropylbenzene	5.0	U	5.0	0.20	ug/L			11/09/21 21:52	1
m&p-Xylene	5.0	U	5.0	2.0	ug/L			11/09/21 21:52	1
Methyl acetate	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
Methyl tertiary butyl ether	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Methylcyclohexane	5.0	U	5.0	0.50	ug/L			11/09/21 21:52	1
Methylene Chloride	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Naphthalene	5.0	U	5.0	1.0	ug/L			11/09/21 21:52	1
o-Xylene	1.0	U	1.0	0.40	ug/L			11/09/21 21:52	1
Styrene	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Toluene	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-192723/6

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 192723

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
trans-1,3-Dichloropropene	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Trichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Trichlorofluoromethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Xylenes, Total	1.0	U	1.0	0.40	ug/L			11/09/21 21:52	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	108		80 - 120		11/09/21 21:52	1
4-Bromofluorobenzene (Surr)	94		80 - 120		11/09/21 21:52	1
Dibromofluoromethane (Surr)	106		80 - 120		11/09/21 21:52	1
Toluene-d8 (Surr)	100		80 - 120		11/09/21 21:52	1

Lab Sample ID: LCS 410-192723/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 192723

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1,1-Trichloroethane	20.0	20.8		ug/L		104	67 - 126
1,1,1,2-Tetrachloroethane	20.0	17.9		ug/L		90	72 - 120
1,1,2-Trichloroethane	20.0	19.0		ug/L		95	80 - 120
1,1-Dichloroethane	20.0	18.7		ug/L		94	80 - 120
1,1-Dichloroethene	20.0	19.0		ug/L		95	80 - 131
1,2,4-Trichlorobenzene	20.0	16.1		ug/L		81	63 - 120
1,2,4-Trimethylbenzene	20.0	17.7		ug/L		89	75 - 120
1,2-Dibromo-3-Chloropropane	20.0	16.2		ug/L		81	47 - 131
1,2-Dibromoethane	20.0	18.4		ug/L		92	77 - 120
1,2-Dichlorobenzene	20.0	18.2		ug/L		91	80 - 120
1,2-Dichloroethane	20.0	20.9		ug/L		104	73 - 124
1,2-Dichloropropane	20.0	18.7		ug/L		94	80 - 120
1,3,5-Trimethylbenzene	20.0	18.1		ug/L		90	75 - 120
1,3-Dichlorobenzene	20.0	17.6		ug/L		88	80 - 120
1,4-Dichlorobenzene	20.0	18.5		ug/L		92	80 - 120
2-Butanone	250	204		ug/L		82	59 - 135
2-Hexanone	250	206		ug/L		82	56 - 135
4-Methyl-2-pentanone	250	208		ug/L		83	62 - 133
Acetone	250	253		ug/L		101	54 - 157
Benzene	20.0	19.2		ug/L		96	80 - 120
Bromodichloromethane	20.0	21.1		ug/L		106	71 - 120
Bromoform	20.0	19.2		ug/L		96	51 - 120
Bromomethane	20.0	17.7		ug/L		88	53 - 128
Carbon disulfide	20.0	18.7		ug/L		94	65 - 128
Carbon tetrachloride	20.0	21.1		ug/L		105	64 - 134
Chlorobenzene	20.0	19.0		ug/L		95	80 - 120
Chloroethane	20.0	17.1		ug/L		85	55 - 123
Chloroform	20.0	19.9		ug/L		99	80 - 120
Chloromethane	20.0	17.3		ug/L		87	56 - 121
cis-1,2-Dichloroethene	20.0	20.0		ug/L		100	80 - 125
cis-1,3-Dichloropropene	20.0	18.3		ug/L		92	75 - 120

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-192723/4

Matrix: Water

Analysis Batch: 192723

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Cyclohexane	20.0	16.4		ug/L		82	68 - 126
Dibromochloromethane	20.0	19.4		ug/L		97	71 - 120
Dichlorodifluoromethane	20.0	22.6		ug/L		113	41 - 127
Ethylbenzene	20.0	18.9		ug/L		94	80 - 120
Freon 113	20.0	19.4		ug/L		97	73 - 139
Isopropylbenzene	20.0	19.0		ug/L		95	80 - 120
m&p-Xylene	40.0	38.9		ug/L		97	80 - 120
Methyl acetate	20.0	17.5		ug/L		87	54 - 136
Methyl tertiary butyl ether	20.0	18.3		ug/L		91	69 - 122
Methylcyclohexane	20.0	17.2		ug/L		86	67 - 121
Methylene Chloride	20.0	18.7		ug/L		94	80 - 120
Naphthalene	20.0	15.5		ug/L		77	53 - 124
o-Xylene	20.0	18.4		ug/L		92	80 - 120
Styrene	20.0	18.7		ug/L		93	80 - 120
Tetrachloroethene	20.0	18.8		ug/L		94	80 - 120
Toluene	20.0	18.7		ug/L		93	80 - 120
trans-1,2-Dichloroethene	20.0	19.3		ug/L		96	80 - 126
trans-1,3-Dichloropropene	20.0	19.1		ug/L		96	67 - 120
Trichloroethene	20.0	19.5		ug/L		97	80 - 120
Trichlorofluoromethane	20.0	19.6		ug/L		98	55 - 135
Vinyl chloride	20.0	17.2		ug/L		86	56 - 120
Xylenes, Total	60.0	57.3		ug/L		96	80 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	106		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	104		80 - 120
Toluene-d8 (Surr)	102		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-191771/1-A

Matrix: Solid

Analysis Batch: 192392

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191771

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1'-Biphenyl	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
1,4-Dioxane	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
1-Methylnaphthalene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,2'-oxybis[1-chloropropane]	43	U	43	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4,5-Trichlorophenol	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4,6-Trichlorophenol	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4-Dichlorophenol	43	U	43	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4-Dimethylphenol	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4-Dinitrophenol	1000	U	1000	170	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4-Dinitrotoluene	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,6-Dinitrotoluene	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2-Chloronaphthalene	33	U	33	13	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2-Chlorophenol	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-191771/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192392

Prep Batch: 191771

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Methylnaphthalene	17	U	17	5.0	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2-Methylphenol	50	U	50	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2-Nitroaniline	50	U	50	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2-Nitrophenol	50	U	50	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
3,3'-Dichlorobenzidine	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
3-Nitroaniline	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4,6-Dinitro-2-methylphenol	500	U	500	170	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Bromophenyl-phenylether	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Chloro-3-methylphenol	50	U	50	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Chloroaniline	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Chlorophenyl-phenyl ether	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Methylphenol	50	U	50	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Nitroaniline	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Nitrophenol	500	U	500	170	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Acenaphthene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Acenaphthylene	17	U	17	4.0	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Acetophenone	50	U	50	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Anthracene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Atrazine	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzaldehyde	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzo[a]anthracene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzo[a]pyrene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzo[b]fluoranthene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzo[g,h,i]perylene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzo[k]fluoranthene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Bis(2-chloroethoxy)methane	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Bis(2-chloroethyl)ether	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Bis(2-ethylhexyl) phthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Butylbenzylphthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Caprolactam	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Carbazole	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Chrysene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Dibenz(a,h)anthracene	17	U	17	6.7	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Dibenzofuran	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Diethyl phthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Dimethyl phthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Di-n-butyl phthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Di-n-octyl phthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Fluoranthene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Fluorene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Hexachlorobenzene	17	U	17	6.7	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Hexachlorobutadiene	50	U	50	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Hexachlorocyclopentadiene	500	U	500	170	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Hexachloroethane	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Indeno[1,2,3-cd]pyrene	17	U	17	4.0	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Isophorone	67	U	67	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Naphthalene	17	U	17	6.7	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Nitrobenzene	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
N-Nitrosodimethylamine	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-191771/1-A

Matrix: Solid

Analysis Batch: 192392

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191771

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
N-Nitrosodi-n-propylamine	67	U	67	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
N-Nitrosodiphenylamine	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Pentachlorophenol	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Phenanthrene	17	U	17	4.0	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Phenol	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Pyrene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol (Surr)	73		13 - 121	11/07/21 16:26	11/09/21 09:54	1
2-Fluorobiphenyl (Surr)	78		39 - 100	11/07/21 16:26	11/09/21 09:54	1
2-Fluorophenol (Surr)	71		26 - 96	11/07/21 16:26	11/09/21 09:54	1
Nitrobenzene-d5 (Surr)	72		32 - 97	11/07/21 16:26	11/09/21 09:54	1
Phenol-d5 (Surr)	73		27 - 104	11/07/21 16:26	11/09/21 09:54	1
p-Terphenyl-d14 (Surr)	99		45 - 108	11/07/21 16:26	11/09/21 09:54	1

Lab Sample ID: LCS 410-191771/2-A

Matrix: Solid

Analysis Batch: 191895

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191771

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1'-Biphenyl	1670	1520		ug/Kg		91	62 - 120
1,4-Dioxane	1670	734		ug/Kg		44	26 - 120
1-Methylnaphthalene	1670	1490		ug/Kg		89	59 - 120
2,2'-oxybis[1-chloropropane]	1670	1010		ug/Kg		61	48 - 120
2,4,5-Trichlorophenol	1670	1660		ug/Kg		100	61 - 120
2,4,6-Trichlorophenol	1670	1700		ug/Kg		102	59 - 120
2,4-Dichlorophenol	1670	1670		ug/Kg		100	62 - 120
2,4-Dimethylphenol	1670	1620		ug/Kg		97	65 - 120
2,4-Dinitrophenol	3330	2990		ug/Kg		90	44 - 120
2,4-Dinitrotoluene	1670	1690		ug/Kg		102	68 - 120
2,6-Dinitrotoluene	1670	1750		ug/Kg		105	67 - 120
2-Chloronaphthalene	1670	1470		ug/Kg		88	61 - 120
2-Chlorophenol	1670	1450		ug/Kg		87	59 - 120
2-Methylnaphthalene	1670	1480		ug/Kg		89	63 - 120
2-Methylphenol	1670	1550		ug/Kg		93	63 - 120
2-Nitroaniline	1670	1830		ug/Kg		110	64 - 120
2-Nitrophenol	1670	1710		ug/Kg		103	55 - 120
3,3'-Dichlorobenzidine	3330	2340		ug/Kg		70	19 - 120
3-Nitroaniline	1670	1240		ug/Kg		74	31 - 120
4,6-Dinitro-2-methylphenol	3330	3680		ug/Kg		111	59 - 120
4-Bromophenyl-phenylether	1670	1700		ug/Kg		102	65 - 120
4-Chloro-3-methylphenol	1670	1640		ug/Kg		98	67 - 120
4-Chloroaniline	1670	1010		ug/Kg		61	10 - 120
4-Chlorophenyl-phenyl ether	1670	1520		ug/Kg		91	64 - 120
4-Methylphenol	1670	1430		ug/Kg		86	56 - 120
4-Nitroaniline	1670	1570		ug/Kg		94	59 - 120
4-Nitrophenol	3330	2550		ug/Kg		77	58 - 120
Acenaphthene	1670	1520		ug/Kg		91	61 - 120

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-191771/2-A

Matrix: Solid

Analysis Batch: 191895

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191771

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	1670	1670		ug/Kg		100	69 - 120
Acetophenone	1670	1280		ug/Kg		77	54 - 120
Anthracene	1670	1630		ug/Kg		98	75 - 120
Atrazine	1670	1760		ug/Kg		106	63 - 127
Benzaldehyde	1670	1040		ug/Kg		62	25 - 120
Benzo[a]anthracene	1670	1740		ug/Kg		104	73 - 120
Benzo[a]pyrene	1670	1620		ug/Kg		97	80 - 123
Benzo[b]fluoranthene	1670	1660		ug/Kg		99	63 - 120
Benzo[g,h,i]perylene	1670	1810		ug/Kg		108	77 - 120
Benzo[k]fluoranthene	1670	1520		ug/Kg		91	68 - 120
Bis(2-chloroethoxy)methane	1670	1400		ug/Kg		84	55 - 120
Bis(2-chloroethyl)ether	1670	1310		ug/Kg		78	49 - 120
Bis(2-ethylhexyl) phthalate	1670	1680		ug/Kg		101	65 - 120
Butylbenzylphthalate	1670	1620		ug/Kg		97	66 - 120
Caprolactam	1670	1640		ug/Kg		99	54 - 120
Carbazole	1670	1640		ug/Kg		99	74 - 120
Chrysene	1670	1600		ug/Kg		96	66 - 120
Dibenz(a,h)anthracene	1670	1880		ug/Kg		113	72 - 120
Dibenzofuran	1670	1530		ug/Kg		92	68 - 120
Diethyl phthalate	1670	1570		ug/Kg		94	65 - 120
Dimethyl phthalate	1670	1570		ug/Kg		94	67 - 120
Di-n-butyl phthalate	1670	1680		ug/Kg		101	65 - 120
Di-n-octyl phthalate	1670	1720		ug/Kg		103	60 - 125
Fluoranthene	1670	1610		ug/Kg		96	71 - 120
Fluorene	1670	1540		ug/Kg		92	68 - 120
Hexachlorobenzene	1670	1760		ug/Kg		106	58 - 120
Hexachlorobutadiene	1670	1450		ug/Kg		87	48 - 120
Hexachlorocyclopentadiene	1670	1460		ug/Kg		87	43 - 120
Hexachloroethane	1670	1210		ug/Kg		72	48 - 120
Indeno[1,2,3-cd]pyrene	1670	1800		ug/Kg		108	71 - 122
Isophorone	1670	1470		ug/Kg		88	62 - 120
Naphthalene	1670	1420		ug/Kg		85	60 - 120
Nitrobenzene	1670	1320		ug/Kg		79	56 - 120
N-Nitrosodimethylamine	1670	1090		ug/Kg		65	49 - 120
N-Nitrosodi-n-propylamine	1670	1290		ug/Kg		78	55 - 120
N-Nitrosodiphenylamine	1420	1430		ug/Kg		101	71 - 120
Pentachlorophenol	3330	2800		ug/Kg		84	41 - 120
Phenanthrene	1670	1580		ug/Kg		95	74 - 120
Phenol	1670	1370		ug/Kg		82	57 - 120
Pyrene	1670	1550		ug/Kg		93	70 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	108		13 - 121
2-Fluorobiphenyl (Surr)	90		39 - 100
2-Fluorophenol (Surr)	86		26 - 96
Nitrobenzene-d5 (Surr)	85		32 - 97
Phenol-d5 (Surr)	85		27 - 104
p-Terphenyl-d14 (Surr)	110	S1+	45 - 108

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-191771/3-A

Matrix: Solid

Analysis Batch: 191895

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 191771

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD
									Limit
1,1'-Biphenyl	1670	1430		ug/Kg		86	62 - 120	6	30
1,4-Dioxane	1670	650		ug/Kg		39	26 - 120	12	30
1-Methylnaphthalene	1670	1420		ug/Kg		85	59 - 120	5	30
2,2'-oxybis[1-chloropropane]	1670	986		ug/Kg		59	48 - 120	2	30
2,4,5-Trichlorophenol	1670	1560		ug/Kg		93	61 - 120	6	30
2,4,6-Trichlorophenol	1670	1610		ug/Kg		97	59 - 120	5	30
2,4-Dichlorophenol	1670	1560		ug/Kg		94	62 - 120	7	30
2,4-Dimethylphenol	1670	1510		ug/Kg		91	65 - 120	7	30
2,4-Dinitrophenol	3330	2700		ug/Kg		81	44 - 120	10	30
2,4-Dinitrotoluene	1670	1600		ug/Kg		96	68 - 120	6	30
2,6-Dinitrotoluene	1670	1670		ug/Kg		100	67 - 120	5	30
2-Chloronaphthalene	1670	1390		ug/Kg		83	61 - 120	5	30
2-Chlorophenol	1670	1370		ug/Kg		82	59 - 120	6	30
2-Methylnaphthalene	1670	1410		ug/Kg		84	63 - 120	5	30
2-Methylphenol	1670	1510		ug/Kg		90	63 - 120	3	30
2-Nitroaniline	1670	1740		ug/Kg		104	64 - 120	5	30
2-Nitrophenol	1670	1650		ug/Kg		99	55 - 120	4	30
3,3'-Dichlorobenzidine	3330	2240		ug/Kg		67	19 - 120	4	30
3-Nitroaniline	1670	1140		ug/Kg		68	31 - 120	9	30
4,6-Dinitro-2-methylphenol	3330	3630		ug/Kg		109	59 - 120	2	30
4-Bromophenyl-phenylether	1670	1630		ug/Kg		98	65 - 120	4	30
4-Chloro-3-methylphenol	1670	1520		ug/Kg		91	67 - 120	7	30
4-Chloroaniline	1670	963		ug/Kg		58	10 - 120	5	30
4-Chlorophenyl-phenyl ether	1670	1470		ug/Kg		88	64 - 120	3	30
4-Methylphenol	1670	1410		ug/Kg		84	56 - 120	2	30
4-Nitroaniline	1670	1400		ug/Kg		84	59 - 120	11	30
4-Nitrophenol	3330	2360		ug/Kg		71	58 - 120	8	30
Acenaphthene	1670	1430		ug/Kg		86	61 - 120	6	30
Acenaphthylene	1670	1560		ug/Kg		94	69 - 120	6	30
Acetophenone	1670	1250		ug/Kg		75	54 - 120	3	30
Anthracene	1670	1600		ug/Kg		96	75 - 120	2	30
Atrazine	1670	1700		ug/Kg		102	63 - 127	4	30
Benzaldehyde	1670	1020		ug/Kg		61	25 - 120	2	30
Benzo[a]anthracene	1670	1670		ug/Kg		100	73 - 120	4	30
Benzo[a]pyrene	1670	1560		ug/Kg		93	80 - 123	4	30
Benzo[b]fluoranthene	1670	1420		ug/Kg		85	63 - 120	15	30
Benzo[g,h,i]perylene	1670	1740		ug/Kg		104	77 - 120	4	30
Benzo[k]fluoranthene	1670	1600		ug/Kg		96	68 - 120	5	30
Bis(2-chloroethoxy)methane	1670	1340		ug/Kg		80	55 - 120	5	30
Bis(2-chloroethyl)ether	1670	1240		ug/Kg		75	49 - 120	5	30
Bis(2-ethylhexyl) phthalate	1670	1630		ug/Kg		98	65 - 120	3	30
Butylbenzylphthalate	1670	1560		ug/Kg		94	66 - 120	4	30
Caprolactam	1670	1600		ug/Kg		96	54 - 120	3	30
Carbazole	1670	1590		ug/Kg		95	74 - 120	3	30
Chrysene	1670	1500		ug/Kg		90	66 - 120	6	30
Dibenz(a,h)anthracene	1670	1760		ug/Kg		106	72 - 120	6	30
Dibenzofuran	1670	1440		ug/Kg		87	68 - 120	6	30
Diethyl phthalate	1670	1500		ug/Kg		90	65 - 120	4	30

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-191771/3-A

Matrix: Solid

Analysis Batch: 191895

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 191771

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Dimethyl phthalate	1670	1490		ug/Kg		89	67 - 120	5	30	
Di-n-butyl phthalate	1670	1640		ug/Kg		99	65 - 120	3	30	
Di-n-octyl phthalate	1670	1650		ug/Kg		99	60 - 125	4	30	
Fluoranthene	1670	1560		ug/Kg		94	71 - 120	3	30	
Fluorene	1670	1480		ug/Kg		89	68 - 120	4	30	
Hexachlorobenzene	1670	1700		ug/Kg		102	58 - 120	4	30	
Hexachlorobutadiene	1670	1360		ug/Kg		81	48 - 120	7	30	
Hexachlorocyclopentadiene	1670	1320		ug/Kg		79	43 - 120	10	30	
Hexachloroethane	1670	1180		ug/Kg		71	48 - 120	2	30	
Indeno[1,2,3-cd]pyrene	1670	1720		ug/Kg		103	71 - 122	4	30	
Isophorone	1670	1380		ug/Kg		83	62 - 120	6	30	
Naphthalene	1670	1330		ug/Kg		80	60 - 120	7	30	
Nitrobenzene	1670	1240		ug/Kg		74	56 - 120	6	30	
N-Nitrosodimethylamine	1670	1150		ug/Kg		69	49 - 120	5	30	
N-Nitrosodi-n-propylamine	1670	1240		ug/Kg		74	55 - 120	4	30	
N-Nitrosodiphenylamine	1420	1400		ug/Kg		99	71 - 120	2	30	
Pentachlorophenol	3330	2710		ug/Kg		81	41 - 120	3	30	
Phenanthrene	1670	1520		ug/Kg		91	74 - 120	3	30	
Phenol	1670	1310		ug/Kg		79	57 - 120	4	30	
Pyrene	1670	1480		ug/Kg		89	70 - 120	4	30	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	103		13 - 121
2-Fluorobiphenyl (Surr)	87		39 - 100
2-Fluorophenol (Surr)	82		26 - 96
Nitrobenzene-d5 (Surr)	80		32 - 97
Phenol-d5 (Surr)	81		27 - 104
p-Terphenyl-d14 (Surr)	107		45 - 108

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Lab Sample ID: MB 410-191354/4

Matrix: Water

Analysis Batch: 191354

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
TPH-GRO (Gasoline Range Organics) (1C)	50	U	50	23	ug/L			11/05/21 16:00	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (fid) (1C)	98		63 - 135		11/05/21 16:00	1

Lab Sample ID: LCS 410-191354/5

Matrix: Water

Analysis Batch: 191354

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	RPD
TPH-GRO (Gasoline Range Organics) (1C)	1100	919		ug/L		84	70 - 123	

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics) (Continued)

Surrogate	LCS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	90		63 - 135

Lab Sample ID: LCSD 410-191354/6
Matrix: Water
Analysis Batch: 191354

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	93		63 - 135

Lab Sample ID: MB 410-193554/4
Matrix: Solid
Analysis Batch: 193554

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
TPH-GRO (Gasoline Range Organics) (1C)	1.0	U	1.0	0.18	mg/Kg			11/11/21 14:39	25

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (fid) (1C)	106		50 - 142		11/11/21 14:39	25

Lab Sample ID: LCS 410-193554/5
Matrix: Solid
Analysis Batch: 193554

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Surrogate	LCS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	110		50 - 142

Lab Sample ID: LCSD 410-193554/6
Matrix: Solid
Analysis Batch: 193554

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	104		50 - 142

QC Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Lab Sample ID: MB 410-191775/1-A
Matrix: Solid
Analysis Batch: 192275

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 191775

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28) (1C)	12	U	12	5.0	mg/Kg	-	11/07/21 16:44	11/08/21 22:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -terphenyl (Surr) (1C)	93		42 - 143	11/07/21 16:44	11/08/21 22:31	1

Lab Sample ID: LCS 410-191775/2-A
Matrix: Solid
Analysis Batch: 192275

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 191775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
DRO (C10-C28) (1C)	133	117		mg/Kg	-	87	72 - 128

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -terphenyl (Surr) (1C)	101		42 - 143

QC Association Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

GC/MS VOA

Prep Batch: 191047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-3	GCHD-SO-D:8.5-9'_112021	Total/NA	Solid	5035	

Prep Batch: 191073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-1	GCHD-SO-B: 8.5-9'_112021	Total/NA	Solid	5035	
410-61928-2	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	5035	

Analysis Batch: 192184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-1	GCHD-SO-B: 8.5-9'_112021	Total/NA	Solid	8260C	191073
410-61928-2	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	8260C	191073
MB 410-192184/9	Method Blank	Total/NA	Solid	8260C	
LCS 410-192184/6	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 410-192184/7	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 192680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-3	GCHD-SO-D:8.5-9'_112021	Total/NA	Solid	8260C	191047
MB 410-192680/7	Method Blank	Total/NA	Solid	8260C	
LCS 410-192680/4	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 410-192680/5	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 192723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-4	TRIP BLANK-1_112021	Total/NA	Water	8260C	
MB 410-192723/6	Method Blank	Total/NA	Water	8260C	
LCS 410-192723/4	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 191771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-1	GCHD-SO-B: 8.5-9'_112021	Total/NA	Solid	3546	
410-61928-2	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	3546	
410-61928-3	GCHD-SO-D:8.5-9'_112021	Total/NA	Solid	3546	
MB 410-191771/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-191771/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 410-191771/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 191895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-191771/2-A	Lab Control Sample	Total/NA	Solid	8270D	191771
LCSD 410-191771/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	191771

Analysis Batch: 192392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-191771/1-A	Method Blank	Total/NA	Solid	8270D	191771

Prep Batch: 193417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-2 - RE	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	3546	

QC Association Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

GC/MS Semi VOA (Continued)

Prep Batch: 193417 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-193417/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-193417/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 193873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-2 - RE	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	8270D	193417
MB 410-193417/1-A	Method Blank	Total/NA	Solid	8270D	193417
LCS 410-193417/2-A	Lab Control Sample	Total/NA	Solid	8270D	193417

Analysis Batch: 194708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-1	GCHD-SO-B: 8.5-9'_112021	Total/NA	Solid	8270D	191771
410-61928-2	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	8270D	191771
410-61928-3	GCHD-SO-D:8.5-9'_112021	Total/NA	Solid	8270D	191771

GC VOA

Prep Batch: 191053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-1	GCHD-SO-B: 8.5-9'_112021	Total/NA	Solid	5035	
410-61928-2	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	5035	
410-61928-3	GCHD-SO-D:8.5-9'_112021	Total/NA	Solid	5035	

Analysis Batch: 191354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-4	TRIP BLANK-1_112021	Total/NA	Water	8015C	
MB 410-191354/4	Method Blank	Total/NA	Water	8015C	
LCS 410-191354/5	Lab Control Sample	Total/NA	Water	8015C	
LCSD 410-191354/6	Lab Control Sample Dup	Total/NA	Water	8015C	

Analysis Batch: 193554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-1	GCHD-SO-B: 8.5-9'_112021	Total/NA	Solid	8015C	191053
410-61928-2	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	8015C	191053
410-61928-3	GCHD-SO-D:8.5-9'_112021	Total/NA	Solid	8015C	191053
MB 410-193554/4	Method Blank	Total/NA	Solid	8015C	
LCS 410-193554/5	Lab Control Sample	Total/NA	Solid	8015C	
LCSD 410-193554/6	Lab Control Sample Dup	Total/NA	Solid	8015C	

GC Semi VOA

Prep Batch: 191775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-1	GCHD-SO-B: 8.5-9'_112021	Total/NA	Solid	3546	
410-61928-2	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	3546	
410-61928-3	GCHD-SO-D:8.5-9'_112021	Total/NA	Solid	3546	
MB 410-191775/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-191775/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 192275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-1	GCHD-SO-B: 8.5-9'_112021	Total/NA	Solid	8015C	191775

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

GC Semi VOA (Continued)

Analysis Batch: 192275 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-2	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	8015C	191775
410-61928-3	GCHD-SO-D:8.5-9'_112021	Total/NA	Solid	8015C	191775
MB 410-191775/1-A	Method Blank	Total/NA	Solid	8015C	191775
LCS 410-191775/2-A	Lab Control Sample	Total/NA	Solid	8015C	191775

General Chemistry

Analysis Batch: 191017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61928-1	GCHD-SO-B: 8.5-9'_112021	Total/NA	Solid	Moisture	
410-61928-2	GCHD-SO-C:7.5-8'_112021	Total/NA	Solid	Moisture	
410-61928-3	GCHD-SO-D:8.5-9'_112021	Total/NA	Solid	Moisture	



Lab Chronicle

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-B: 8.5-9'_112021

Lab Sample ID: 410-61928-1

Date Collected: 11/03/21 11:30

Matrix: Solid

Date Received: 11/04/21 11:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	191017	11/04/21 17:49	OEL4	ELLE

Client Sample ID: GCHD-SO-B: 8.5-9'_112021

Lab Sample ID: 410-61928-1

Date Collected: 11/03/21 11:30

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 62.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			191073	11/04/21 19:27	D8NM	ELLE
Total/NA	Analysis	8260C		1	192184	11/09/21 00:22	FXN6	ELLE
Total/NA	Prep	3546			191771	11/07/21 16:26	D7SW	ELLE
Total/NA	Analysis	8270D		1	194708	11/15/21 10:56	DZ6A	ELLE
Total/NA	Prep	5035			191053	11/04/21 18:39	D8NM	ELLE
Total/NA	Analysis	8015C		25	193554	11/11/21 17:12	JJT8	ELLE
Total/NA	Prep	3546			191775	11/07/21 16:44	D7SW	ELLE
Total/NA	Analysis	8015C		1	192275	11/09/21 00:30	IUSB	ELLE

Client Sample ID: GCHD-SO-C:7.5-8'_112021

Lab Sample ID: 410-61928-2

Date Collected: 11/03/21 11:50

Matrix: Solid

Date Received: 11/04/21 11:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	191017	11/04/21 17:49	OEL4	ELLE

Client Sample ID: GCHD-SO-C:7.5-8'_112021

Lab Sample ID: 410-61928-2

Date Collected: 11/03/21 11:50

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 65.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			191073	11/04/21 19:27	D8NM	ELLE
Total/NA	Analysis	8260C		1	192184	11/09/21 00:44	FXN6	ELLE
Total/NA	Prep	3546	RE		193417	11/11/21 10:06	QTH7	ELLE
Total/NA	Analysis	8270D	RE	1	193873	11/12/21 06:49	DZ6A	ELLE
Total/NA	Prep	3546			191771	11/07/21 16:26	D7SW	ELLE
Total/NA	Analysis	8270D		1	194708	11/15/21 11:20	DZ6A	ELLE
Total/NA	Prep	5035			191053	11/04/21 18:39	D8NM	ELLE
Total/NA	Analysis	8015C		25	193554	11/11/21 17:51	JJT8	ELLE
Total/NA	Prep	3546			191775	11/07/21 16:44	D7SW	ELLE
Total/NA	Analysis	8015C		1	192275	11/09/21 00:50	IUSB	ELLE

Client Sample ID: GCHD-SO-D:8.5-9'_112021

Lab Sample ID: 410-61928-3

Date Collected: 11/03/21 12:30

Matrix: Solid

Date Received: 11/04/21 11:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	191017	11/04/21 17:49	OEL4	ELLE

Lab Chronicle

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Client Sample ID: GCHD-SO-D:8.5-9'_112021

Lab Sample ID: 410-61928-3

Date Collected: 11/03/21 12:30

Matrix: Solid

Date Received: 11/04/21 11:02

Percent Solids: 66.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			191047	11/04/21 18:28	D8NM	ELLE
Total/NA	Analysis	8260C		1	192680	11/10/21 02:57	FXN6	ELLE
Total/NA	Prep	3546			191771	11/07/21 16:26	D7SW	ELLE
Total/NA	Analysis	8270D		1	194708	11/15/21 11:44	DZ6A	ELLE
Total/NA	Prep	5035			191053	11/04/21 18:39	D8NM	ELLE
Total/NA	Analysis	8015C		25	193554	11/11/21 18:29	JJT8	ELLE
Total/NA	Prep	3546			191775	11/07/21 16:44	D7SW	ELLE
Total/NA	Analysis	8015C		1	192275	11/09/21 00:10	IUSB	ELLE

Client Sample ID: TRIP BLANK-1_112021

Lab Sample ID: 410-61928-4

Date Collected: 11/03/21 00:00

Matrix: Water

Date Received: 11/04/21 11:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	192723	11/09/21 23:26	K4WN	ELLE
Total/NA	Analysis	8015C		1	191354	11/05/21 18:08	UMDJ	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Missouri	State	450	01-31-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015C		Water	TPH-GRO (Gasoline Range Organics) (1C)
8015C	3546	Solid	DRO (C10-C28) (1C)
8015C	5035	Solid	TPH-GRO (Gasoline Range Organics) (1C)
8260C		Water	1,1,1-Trichloroethane
8260C		Water	1,1,2,2-Tetrachloroethane
8260C		Water	1,1,2-Trichloroethane
8260C		Water	1,1-Dichloroethane
8260C		Water	1,1-Dichloroethene
8260C		Water	1,2,4-Trichlorobenzene
8260C		Water	1,2,4-Trimethylbenzene
8260C		Water	1,2-Dibromo-3-Chloropropane
8260C		Water	1,2-Dibromoethane
8260C		Water	1,2-Dichlorobenzene
8260C		Water	1,2-Dichloroethane
8260C		Water	1,2-Dichloropropane
8260C		Water	1,3,5-Trimethylbenzene
8260C		Water	1,3-Dichlorobenzene
8260C		Water	1,4-Dichlorobenzene
8260C		Water	2-Butanone
8260C		Water	2-Hexanone
8260C		Water	4-Methyl-2-pentanone
8260C		Water	Acetone
8260C		Water	Benzene
8260C		Water	Bromodichloromethane
8260C		Water	Bromoform
8260C		Water	Bromomethane
8260C		Water	Carbon disulfide
8260C		Water	Carbon tetrachloride
8260C		Water	Chlorobenzene
8260C		Water	Chloroethane
8260C		Water	Chloroform
8260C		Water	Chloromethane
8260C		Water	cis-1,2-Dichloroethene
8260C		Water	cis-1,3-Dichloropropene
8260C		Water	Cyclohexane
8260C		Water	Dibromochloromethane
8260C		Water	Dichlorodifluoromethane
8260C		Water	Ethylbenzene
8260C		Water	Freon 113
8260C		Water	Isopropylbenzene
8260C		Water	m&p-Xylene
8260C		Water	Methyl acetate
8260C		Water	Methyl tertiary butyl ether
8260C		Water	Methylcyclohexane
8260C		Water	Methylene Chloride

Accreditation/Certification Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	Naphthalene
8260C		Water	o-Xylene
8260C		Water	Styrene
8260C		Water	Tetrachloroethene
8260C		Water	Toluene
8260C		Water	trans-1,2-Dichloroethene
8260C		Water	trans-1,3-Dichloropropene
8260C		Water	Trichloroethene
8260C		Water	Trichlorofluoromethane
8260C		Water	Vinyl chloride
8260C		Water	Xylenes, Total
8260C	5035	Solid	1,1,1-Trichloroethane
8260C	5035	Solid	1,1,1,2-Tetrachloroethane
8260C	5035	Solid	1,1,2-Trichloroethane
8260C	5035	Solid	1,1-Dichloroethane
8260C	5035	Solid	1,1-Dichloroethene
8260C	5035	Solid	1,2,4-Trichlorobenzene
8260C	5035	Solid	1,2,4-Trimethylbenzene
8260C	5035	Solid	1,2-Dibromo-3-Chloropropane
8260C	5035	Solid	1,2-Dibromoethane
8260C	5035	Solid	1,2-Dichlorobenzene
8260C	5035	Solid	1,2-Dichloroethane
8260C	5035	Solid	1,2-Dichloropropane
8260C	5035	Solid	1,3,5-Trimethylbenzene
8260C	5035	Solid	1,3-Dichlorobenzene
8260C	5035	Solid	1,4-Dichlorobenzene
8260C	5035	Solid	2-Butanone
8260C	5035	Solid	2-Hexanone
8260C	5035	Solid	4-Methyl-2-pentanone
8260C	5035	Solid	Acetone
8260C	5035	Solid	Benzene
8260C	5035	Solid	Bromodichloromethane
8260C	5035	Solid	Bromoform
8260C	5035	Solid	Bromomethane
8260C	5035	Solid	Carbon disulfide
8260C	5035	Solid	Carbon tetrachloride
8260C	5035	Solid	Chlorobenzene
8260C	5035	Solid	Chloroethane
8260C	5035	Solid	Chloroform
8260C	5035	Solid	Chloromethane
8260C	5035	Solid	cis-1,2-Dichloroethene
8260C	5035	Solid	cis-1,3-Dichloropropene
8260C	5035	Solid	Cyclohexane
8260C	5035	Solid	Dibromochloromethane
8260C	5035	Solid	Dichlorodifluoromethane
8260C	5035	Solid	Ethylbenzene
8260C	5035	Solid	Freon 113

Accreditation/Certification Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C	5035	Solid	Isopropylbenzene
8260C	5035	Solid	m&p-Xylene
8260C	5035	Solid	Methyl acetate
8260C	5035	Solid	Methyl tertiary butyl ether
8260C	5035	Solid	Methylcyclohexane
8260C	5035	Solid	Methylene Chloride
8260C	5035	Solid	Naphthalene
8260C	5035	Solid	o-Xylene
8260C	5035	Solid	Styrene
8260C	5035	Solid	Tetrachloroethene
8260C	5035	Solid	Toluene
8260C	5035	Solid	trans-1,2-Dichloroethene
8260C	5035	Solid	trans-1,3-Dichloropropene
8260C	5035	Solid	Trichloroethene
8260C	5035	Solid	Trichlorofluoromethane
8260C	5035	Solid	Vinyl chloride
8260C	5035	Solid	Xylenes, Total
8270D	3546	Solid	1,1'-Biphenyl
8270D	3546	Solid	1,4-Dioxane
8270D	3546	Solid	1-Methylnaphthalene
8270D	3546	Solid	2,2'-oxybis[1-chloropropane]
8270D	3546	Solid	2,4,5-Trichlorophenol
8270D	3546	Solid	2,4,6-Trichlorophenol
8270D	3546	Solid	2,4-Dichlorophenol
8270D	3546	Solid	2,4-Dimethylphenol
8270D	3546	Solid	2,4-Dinitrophenol
8270D	3546	Solid	2,4-Dinitrotoluene
8270D	3546	Solid	2,6-Dinitrotoluene
8270D	3546	Solid	2-Chloronaphthalene
8270D	3546	Solid	2-Chlorophenol
8270D	3546	Solid	2-Methylnaphthalene
8270D	3546	Solid	2-Methylphenol
8270D	3546	Solid	2-Nitroaniline
8270D	3546	Solid	2-Nitrophenol
8270D	3546	Solid	3,3'-Dichlorobenzidine
8270D	3546	Solid	3-Nitroaniline
8270D	3546	Solid	4,6-Dinitro-2-methylphenol
8270D	3546	Solid	4-Bromophenyl-phenylether
8270D	3546	Solid	4-Chloro-3-methylphenol
8270D	3546	Solid	4-Chloroaniline
8270D	3546	Solid	4-Chlorophenyl-phenyl ether
8270D	3546	Solid	4-Methylphenol
8270D	3546	Solid	4-Nitroaniline
8270D	3546	Solid	4-Nitrophenol
8270D	3546	Solid	Acenaphthene
8270D	3546	Solid	Acenaphthylene
8270D	3546	Solid	Acetophenone

Accreditation/Certification Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8270D	3546	Solid	Anthracene
8270D	3546	Solid	Atrazine
8270D	3546	Solid	Benzaldehyde
8270D	3546	Solid	Benzo[a]anthracene
8270D	3546	Solid	Benzo[a]pyrene
8270D	3546	Solid	Benzo[b]fluoranthene
8270D	3546	Solid	Benzo[g,h,i]perylene
8270D	3546	Solid	Benzo[k]fluoranthene
8270D	3546	Solid	Bis(2-chloroethoxy)methane
8270D	3546	Solid	Bis(2-chloroethyl)ether
8270D	3546	Solid	Bis(2-ethylhexyl) phthalate
8270D	3546	Solid	Butylbenzylphthalate
8270D	3546	Solid	Caprolactam
8270D	3546	Solid	Carbazole
8270D	3546	Solid	Chrysene
8270D	3546	Solid	Dibenz(a,h)anthracene
8270D	3546	Solid	Dibenzofuran
8270D	3546	Solid	Diethyl phthalate
8270D	3546	Solid	Dimethyl phthalate
8270D	3546	Solid	Di-n-butyl phthalate
8270D	3546	Solid	Di-n-octyl phthalate
8270D	3546	Solid	Fluoranthene
8270D	3546	Solid	Fluorene
8270D	3546	Solid	Hexachlorobenzene
8270D	3546	Solid	Hexachlorobutadiene
8270D	3546	Solid	Hexachlorocyclopentadiene
8270D	3546	Solid	Hexachloroethane
8270D	3546	Solid	Indeno[1,2,3-cd]pyrene
8270D	3546	Solid	Isophorone
8270D	3546	Solid	Naphthalene
8270D	3546	Solid	Nitrobenzene
8270D	3546	Solid	N-Nitrosodimethylamine
8270D	3546	Solid	N-Nitrosodi-n-propylamine
8270D	3546	Solid	N-Nitrosodiphenylamine
8270D	3546	Solid	Pentachlorophenol
8270D	3546	Solid	Phenanthrene
8270D	3546	Solid	Phenol
8270D	3546	Solid	Pyrene
Moisture		Solid	Percent Moisture

Method Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	ELLE
8015C	Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)	SW846	ELLE
8015C	Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)	SW846	ELLE
Moisture	Percent Moisture	EPA	ELLE
3546	Microwave Extraction	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
5035	Closed System Purge and Trap	SW846	ELLE

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW stormwater Basin

Job ID: 410-61928-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-61928-1	GCHD-SO-B: 8.5-9'_112021	Solid	11/03/21 11:30	11/04/21 11:02
410-61928-2	GCHD-SO-C:7.5-8'_112021	Solid	11/03/21 11:50	11/04/21 11:02
410-61928-3	GCHD-SO-D:8.5-9'_112021	Solid	11/03/21 12:30	11/04/21 11:02
410-61928-4	TRIP BLANK-1_112021	Water	11/03/21 00:00	11/04/21 11:02

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Chain of Custody Record



410-61928 Chain of Custody

COC No: 410-37062-11600.1 - 1

Page: Page 1 of 1

Job #:

Client Information

Client Contact: **B. Garcia**
 Barbara Garcia
 Phone: **417 380 3370**

Company: Environmental Works, Inc.
 Address: 1455 East Chestnut Expressway
 City: Springfield
 State, Zip: MO, 65802
 Phone: 417-890-9500(Tel)
 Email: bgarcia@environmentalworks.com
 Project Name: GCHD NW Stormwater Basin
 Site: **SPRINGFIELD**

Lab PM: Cottman, Hannah
 E-Mail: Hannah.Cottman@eurofinset.com

Due Date Requested:
 TAT Requested (days): **5 DAY**
 Compliance Project: Yes No
 PO #: Springfield, MO
 WO #:
 Project #: 41008168
 SSOW#:

Analysis Requested

8015C_DRO - Gasoline Range Organics (Soil)
 8260C - VOCs
 8270D, 8270D_SIM (Water)
 8015C_DRO - Diesel Range Organics (C10-C28) (Water)
 8015C_GRO - Gasoline Range Organics (Soil)
 8260C - VOCs (Water)

Preservation Codes:

A - HCL M - Hexane
 B - NaOH N - None
 C - Zn Acetate O - AsNaO2
 D - Nitric Acid P - Na2O4S
 E - NaHSO4 Q - Na2SO3
 F - MeOH R - Na2S2O3
 G - Amchlor S - H2SO4
 H - Ascorbic Acid T - TSP Dodecahydrate
 I - Ice U - Acetone
 J - DI Water V - MCAA
 K - EDTA W - pH 4-5
 L - EDA Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=soil/felt, BT=Tissue, A=Air)
-----------------------	-------------	-------------	------------------------------	--

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=soil/felt, BT=Tissue, A=Air)	8015C_DRO - Gasoline Range Organics (Soil)	8260C - VOCs	8270D, 8270D_SIM (Water)	8015C_DRO - Diesel Range Organics (C10-C28) (Water)	8015C_GRO - Gasoline Range Organics (Soil)	8260C - VOCs (Water)
GCHD-SO-A: 8.5-9' 11/2021										
GCHD-SO-B: 8.5-9' 11/2021	11/3/21	1130	G	SOIL	N	N	X	X	X	X
GCHD-SO-C: 7.5-8' 11/2021	11/3/21	1150	G	SOIL	N	Y	X	X	X	X
GCHD-SO-D: 8.5-9' 11/2021	11/3/21	1230	G	SOIL	N	N	X	X	X	X
TRIP BLANK - 1 - 11/2021	11/3/21	LAB PREP	W	W	N	N		X	X	X

Special Instructions/Note:

of Containers

Possible Hazard Identification

Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____

Relinquished by: **Kent Smith** Date/Time: **10-26-21 14:10** Company: **ELLE**

Relinquished by: **B. Garcia** Date/Time: **11/3/21 16:00** Company: **EWI**

Relinquished by: _____ Date/Time: _____ Company: _____

Received by: **B. Garcia** Date/Time: **11/3/2021 0800** Company: **FWI**

Received by: **MF** Date/Time: **11/4/21 9:02** Company: _____

Custody Seals Intact: Yes No Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: **1.3**

KB

AEM

Login Sample Receipt Checklist

Client: Environmental Works, Inc.

Job Number: 410-61928-1

Login Number: 61928

List Source: Eurofins Lancaster Laboratories Env, LLC

List Number: 1

Creator: Bauer, Kelly

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-61929-1
Client Project/Site: GCHD NW Stormwater Basin

For:
Environmental Works, Inc.
1455 East Chestnut Expressway
Springfield, Missouri 65802

Attn: Barbara Garcia



Authorized for release by:
11/15/2021 12:18:12 PM

Hannah Cottman, Operations Support Specialist
(717)556-7383
Hannah.Cottman@eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Hannah Cottman
Operations Support Specialist
11/15/2021 12:18:12 PM



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Definitions/Glossary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Definitions/Glossary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Job ID: 410-61929-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-61929-1

Receipt

The samples were received on 11/4/2021 10:52 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.8°C

Receipt Exceptions

Three containers of the following sample was collected in an improper container: 40mL MeOH vials EB-1_112021 (410-61929-3). Containers discarded

GC/MS VOA

Method 8260C: The continuing calibration verification (CCV) analyzed on 410-192723 is compliant under 8260C/D method criteria for 2-Butanone. The software does not display the % Drift data to the whole number as is listed in the method (i.e. limit of 20%). When applying the evaluation to a whole number, the check passes the criteria with a value of 20% Drift.

Method 8260C: The continuing calibration verification (CCV) associated with batch 410-192723 recovered outside acceptance criteria, low biased, for Cyclohexane, 2-Hexanone and Methylcyclohexane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Non-detections of the affected analytes are reported. Any detections are considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

Method 8270D: The continuing calibration verification (CCV) analyzed in batch 410-192935 was below the method criteria for the following analyte(s): 2,4-Dinitrophenol, 4-Nitrophenol, Hexachlorocyclopentadiene and Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: The continuing calibration verification (CCV) associated with batch 410-192432 recovered above the upper control limit for 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270D: The continuing calibration verification (CCV) analyzed in batch 410-192432 was below the method criteria for the following analyte(s): 2,2'-oxybis[1-chloropropane] and Hexachlorocyclopentadiene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: The continuing calibration verification (CCV) analyzed in batch 410-194708 was below the method criteria for the following analyte(s): Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gasoline Range Organics

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: GCHD-SO-A:6.5-7'_112021

Lab Sample ID: 410-61929-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
2-Butanone	2.8	J	13	2.6	ug/Kg	1		✳	8260C	Total/NA
Acetone	24	J	26	7.9	ug/Kg	1		✳	8260C	Total/NA
1-Methylnaphthalene	17	J	25	4.9	ug/Kg	1		✳	8270D	Total/NA
2-Methylnaphthalene	34		25	7.4	ug/Kg	1		✳	8270D	Total/NA
Naphthalene	310		25	9.9	ug/Kg	1		✳	8270D	Total/NA
Phenanthrene	6.7	J	25	5.9	ug/Kg	1		✳	8270D	Total/NA
Pyrene	22	J	25	4.9	ug/Kg	1		✳	8270D	Total/NA
TPH-GRO (Gasoline Range Organics) (1C)	0.52	J	1.8	0.33	mg/Kg	25		✳	8015C	Total/NA

Client Sample ID: DUP-01_112021

Lab Sample ID: 410-61929-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
2-Butanone	2.8	J	14	2.8	ug/Kg	1		✳	8260C	Total/NA
Acetone	36		28	8.3	ug/Kg	1		✳	8260C	Total/NA
TPH-GRO (Gasoline Range Organics) (1C)	0.33	J	1.6	0.29	mg/Kg	25		✳	8015C	Total/NA

Client Sample ID: EB-1_112021

Lab Sample ID: 410-61929-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chloroform	2.3		1.0	0.30	ug/L	1			8260C	Total/NA
Bis(2-ethylhexyl) phthalate	0.12	J	1.0	0.050	ug/L	1			8270D SIM	Total/NA
Di-n-butyl phthalate	0.17	J	1.0	0.050	ug/L	1			8270D SIM	Total/NA

Client Sample ID: TRIP BLANK-2

Lab Sample ID: 410-61929-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: GCHD-SO-A:6.5-7'_112021

Lab Sample ID: 410-61929-1

Date Collected: 11/03/21 11:00

Matrix: Solid

Date Received: 11/04/21 10:52

Percent Solids: 66.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	6.6	U	6.6	0.79	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,1,2,2-Tetrachloroethane	6.6	U	6.6	0.53	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,1,2-Trichloroethane	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,1-Dichloroethane	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,1-Dichloroethene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,2,4-Trichlorobenzene	13	U	13	6.6	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,2,4-Trimethylbenzene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,2-Dibromo-3-Chloropropane	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,2-Dibromoethane	6.6	U	6.6	0.53	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,2-Dichlorobenzene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,2-Dichloroethane	6.6	U	6.6	0.79	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,2-Dichloropropane	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,3,5-Trimethylbenzene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,3-Dichlorobenzene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
1,4-Dichlorobenzene	6.6	U	6.6	0.53	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
2-Butanone	2.8	J	13	2.6	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
2-Hexanone	13	U	13	1.3	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
4-Methyl-2-pentanone	13	U	13	1.3	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Acetone	24	J	26	7.9	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Benzene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Bromodichloromethane	6.6	U	6.6	0.53	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Bromoform	13	U	13	6.6	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Bromomethane	6.6	U	6.6	0.92	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Carbon disulfide	6.6	U	6.6	0.79	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Carbon tetrachloride	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Chlorobenzene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Chloroethane	6.6	U	6.6	1.3	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Chloroform	6.6	U	6.6	0.79	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Chloromethane	6.6	U	6.6	0.79	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
cis-1,2-Dichloroethene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
cis-1,3-Dichloropropene	6.6	U	6.6	0.53	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Cyclohexane	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Dibromochloromethane	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Dichlorodifluoromethane	6.6	U *+	6.6	0.79	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Ethylbenzene	6.6	U	6.6	0.53	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Freon 113	13	U	13	0.79	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Isopropylbenzene	6.6	U	6.6	0.53	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
m&p-Xylene	6.6	U	6.6	1.3	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Methyl acetate	6.6	U	6.6	1.3	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Methyl tertiary butyl ether	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Methylcyclohexane	6.6	U	6.6	0.79	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Methylene Chloride	6.6	U	6.6	2.6	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Naphthalene	6.6	U	6.6	2.6	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
o-Xylene	6.6	U	6.6	0.53	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Styrene	6.6	U	6.6	0.53	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Tetrachloroethene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Toluene	6.6	U	6.6	0.79	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
trans-1,2-Dichloroethene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
trans-1,3-Dichloropropene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: GCHD-SO-A:6.5-7'_112021

Lab Sample ID: 410-61929-1

Date Collected: 11/03/21 11:00

Matrix: Solid

Date Received: 11/04/21 10:52

Percent Solids: 66.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	6.6	U	6.6	0.66	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Trichlorofluoromethane	6.6	U	6.6	0.92	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Vinyl chloride	6.6	U	6.6	0.79	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Xylenes, Total	13	U	13	1.8	ug/Kg	☼	11/04/21 19:27	11/08/21 23:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		54 - 135				11/04/21 19:27	11/08/21 23:59	1
4-Bromofluorobenzene (Surr)	99		50 - 131				11/04/21 19:27	11/08/21 23:59	1
Dibromofluoromethane (Surr)	101		50 - 141				11/04/21 19:27	11/08/21 23:59	1
Toluene-d8 (Surr)	99		52 - 141				11/04/21 19:27	11/08/21 23:59	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
1,4-Dioxane	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
1-Methylnaphthalene	17	J	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2,2'-oxybis[1-chloropropane]	64	U	64	30	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2,4,5-Trichlorophenol	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2,4,6-Trichlorophenol	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2,4-Dichlorophenol	64	U	64	30	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2,4-Dimethylphenol	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2,4-Dinitrophenol	1500	U	1500	250	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2,4-Dinitrotoluene	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2,6-Dinitrotoluene	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2-Chloronaphthalene	49	U	49	20	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2-Chlorophenol	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2-Methylnaphthalene	34		25	7.4	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2-Methylphenol	74	U	74	30	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2-Nitroaniline	74	U	74	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
2-Nitrophenol	74	U	74	30	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
3,3'-Dichlorobenzidine	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
3-Nitroaniline	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
4,6-Dinitro-2-methylphenol	740	U	740	250	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
4-Bromophenyl-phenylether	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
4-Chloro-3-methylphenol	74	U	74	30	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
4-Chloroaniline	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
4-Chlorophenyl-phenyl ether	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
4-Methylphenol	74	U	74	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
4-Nitroaniline	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
4-Nitrophenol	740	U	740	250	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Acenaphthene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Acenaphthylene	25	U	25	5.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Acetophenone	74	U	74	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Anthracene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Atrazine	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Benzaldehyde	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Benzo[a]anthracene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Benzo[a]pyrene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Benzo[b]fluoranthene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Benzo[g,h,i]perylene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: GCHD-SO-A:6.5-7'_112021

Lab Sample ID: 410-61929-1

Date Collected: 11/03/21 11:00

Matrix: Solid

Date Received: 11/04/21 10:52

Percent Solids: 66.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Bis(2-chloroethoxy)methane	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Bis(2-chloroethyl)ether	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Bis(2-ethylhexyl) phthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Butylbenzylphthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Caprolactam	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Carbazole	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Chrysene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Dibenz(a,h)anthracene	25	U	25	9.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Dibenzofuran	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Diethyl phthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Dimethyl phthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Di-n-butyl phthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Di-n-octyl phthalate	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Fluoranthene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Fluorene	25	U	25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Hexachlorobenzene	25	U	25	9.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Hexachlorobutadiene	74	U	74	30	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Hexachlorocyclopentadiene	740	U	740	250	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Hexachloroethane	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Indeno[1,2,3-cd]pyrene	25	U	25	5.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Isophorone	99	U	99	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Naphthalene	310		25	9.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Nitrobenzene	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
N-Nitrosodimethylamine	250	U	250	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
N-Nitrosodi-n-propylamine	99	U	99	49	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
N-Nitrosodiphenylamine	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Pentachlorophenol	250	U	250	99	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Phenanthrene	6.7 J		25	5.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Phenol	54	U	54	25	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1
Pyrene	22 J		25	4.9	ug/Kg	☼	11/07/21 16:26	11/15/21 12:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	89		13 - 121	11/07/21 16:26	11/15/21 12:09	1
2-Fluorobiphenyl (Surr)	87		39 - 100	11/07/21 16:26	11/15/21 12:09	1
2-Fluorophenol (Surr)	81		26 - 96	11/07/21 16:26	11/15/21 12:09	1
Nitrobenzene-d5 (Surr)	80		32 - 97	11/07/21 16:26	11/15/21 12:09	1
Phenol-d5 (Surr)	82		27 - 104	11/07/21 16:26	11/15/21 12:09	1
p-Terphenyl-d14 (Surr)	100		45 - 108	11/07/21 16:26	11/15/21 12:09	1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH-GRO (Gasoline Range Organics) (1C)	0.52 J		1.8	0.33	mg/Kg	☼	11/04/21 18:39	11/08/21 20:20	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	99		50 - 142	11/04/21 18:39	11/08/21 20:20	25

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28) (1C)	18	U	18	7.4	mg/Kg	☼	11/07/21 16:44	11/09/21 01:10	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: GCHD-SO-A:6.5-7'_112021

Lab Sample ID: 410-61929-1

Date Collected: 11/03/21 11:00

Matrix: Solid

Date Received: 11/04/21 10:52

Percent Solids: 66.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-terphenyl (Surr) (1C)</i>	90		42 - 143	11/07/21 16:44	11/09/21 01:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	33.1		1.0	1.0	%			11/04/21 17:49	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: DUP-01_112021

Lab Sample ID: 410-61929-2

Date Collected: 11/03/21 12:00

Matrix: Solid

Date Received: 11/04/21 10:52

Percent Solids: 69.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	6.9	U	6.9	0.83	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,1,1,2-Tetrachloroethane	6.9	U	6.9	0.55	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,1,2-Trichloroethane	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,1-Dichloroethane	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,1-Dichloroethene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,2,4-Trichlorobenzene	14	U	14	6.9	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,2,4-Trimethylbenzene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,2-Dibromo-3-Chloropropane	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,2-Dibromoethane	6.9	U	6.9	0.55	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,2-Dichlorobenzene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,2-Dichloroethane	6.9	U	6.9	0.83	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,2-Dichloropropane	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,3,5-Trimethylbenzene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,3-Dichlorobenzene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
1,4-Dichlorobenzene	6.9	U	6.9	0.55	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
2-Butanone	2.8	J	14	2.8	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
2-Hexanone	14	U	14	1.4	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
4-Methyl-2-pentanone	14	U	14	1.4	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Acetone	36		28	8.3	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Benzene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Bromodichloromethane	6.9	U	6.9	0.55	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Bromoform	14	U	14	6.9	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Bromomethane	6.9	U	6.9	0.96	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Carbon disulfide	6.9	U	6.9	0.83	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Carbon tetrachloride	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Chlorobenzene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Chloroethane	6.9	U	6.9	1.4	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Chloroform	6.9	U	6.9	0.83	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Chloromethane	6.9	U	6.9	0.83	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
cis-1,2-Dichloroethene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
cis-1,3-Dichloropropene	6.9	U	6.9	0.55	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Cyclohexane	6.9	U **	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Dibromochloromethane	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Dichlorodifluoromethane	6.9	U	6.9	0.83	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Ethylbenzene	6.9	U	6.9	0.55	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Freon 113	14	U **	14	0.83	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Isopropylbenzene	6.9	U	6.9	0.55	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
m&p-Xylene	6.9	U	6.9	1.4	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Methyl acetate	6.9	U	6.9	1.4	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Methyl tertiary butyl ether	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Methylcyclohexane	6.9	U **	6.9	0.83	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Methylene Chloride	6.9	U	6.9	2.8	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Naphthalene	6.9	U	6.9	2.8	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
o-Xylene	6.9	U	6.9	0.55	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Styrene	6.9	U	6.9	0.55	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Tetrachloroethene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Toluene	6.9	U	6.9	0.83	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
trans-1,2-Dichloroethene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
trans-1,3-Dichloropropene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: DUP-01_112021

Lab Sample ID: 410-61929-2

Date Collected: 11/03/21 12:00

Matrix: Solid

Date Received: 11/04/21 10:52

Percent Solids: 69.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	6.9	U	6.9	0.69	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Trichlorofluoromethane	6.9	U	6.9	0.96	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Vinyl chloride	6.9	U	6.9	0.83	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Xylenes, Total	14	U	14	1.9	ug/Kg	☼	11/04/21 18:28	11/10/21 03:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		54 - 135				11/04/21 18:28	11/10/21 03:20	1
4-Bromofluorobenzene (Surr)	101		50 - 131				11/04/21 18:28	11/10/21 03:20	1
Dibromofluoromethane (Surr)	102		50 - 141				11/04/21 18:28	11/10/21 03:20	1
Toluene-d8 (Surr)	99		52 - 141				11/04/21 18:28	11/10/21 03:20	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
1,4-Dioxane	240	U	240	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
1-Methylnaphthalene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2,2'-oxybis[1-chloropropane]	62	U	62	29	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2,4,5-Trichlorophenol	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2,4,6-Trichlorophenol	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2,4-Dichlorophenol	62	U	62	29	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2,4-Dimethylphenol	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2,4-Dinitrophenol	1400	U	1400	240	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2,4-Dinitrotoluene	240	U	240	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2,6-Dinitrotoluene	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2-Chloronaphthalene	48	U	48	19	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2-Chlorophenol	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2-Methylnaphthalene	24	U	24	7.2	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2-Methylphenol	72	U	72	29	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2-Nitroaniline	72	U	72	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
2-Nitrophenol	72	U	72	29	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
3,3'-Dichlorobenzidine	240	U	240	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
3-Nitroaniline	240	U	240	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
4,6-Dinitro-2-methylphenol	720	U	720	240	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
4-Bromophenyl-phenylether	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
4-Chloro-3-methylphenol	72	U	72	29	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
4-Chloroaniline	240	U	240	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
4-Chlorophenyl-phenyl ether	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
4-Methylphenol	72	U	72	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
4-Nitroaniline	240	U	240	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
4-Nitrophenol	720	U	720	240	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Acenaphthene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Acenaphthylene	24	U	24	5.7	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Acetophenone	72	U	72	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Anthracene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Atrazine	240	U	240	96	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Benzaldehyde	240	U	240	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Benzo[a]anthracene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Benzo[a]pyrene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Benzo[b]fluoranthene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Benzo[g,h,i]perylene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: DUP-01_112021

Lab Sample ID: 410-61929-2

Date Collected: 11/03/21 12:00

Matrix: Solid

Date Received: 11/04/21 10:52

Percent Solids: 69.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Bis(2-chloroethoxy)methane	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Bis(2-chloroethyl)ether	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Bis(2-ethylhexyl) phthalate	240	U	240	96	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Butylbenzylphthalate	240	U	240	96	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Caprolactam	240	U	240	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Carbazole	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Chrysene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Dibenz(a,h)anthracene	24	U	24	9.6	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Dibenzofuran	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Diethyl phthalate	240	U	240	96	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Dimethyl phthalate	240	U	240	96	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Di-n-butyl phthalate	240	U	240	96	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Di-n-octyl phthalate	240	U	240	96	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Fluoranthene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Fluorene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Hexachlorobenzene	24	U	24	9.6	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Hexachlorobutadiene	72	U	72	29	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Hexachlorocyclopentadiene	720	U	720	240	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Hexachloroethane	240	U	240	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Indeno[1,2,3-cd]pyrene	24	U	24	5.7	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Isophorone	96	U	96	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Naphthalene	24	U	24	9.6	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Nitrobenzene	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
N-Nitrosodimethylamine	240	U	240	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
N-Nitrosodi-n-propylamine	96	U	96	48	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
N-Nitrosodiphenylamine	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Pentachlorophenol	240	U	240	96	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Phenanthrene	24	U	24	5.7	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Phenol	53	U	53	24	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1
Pyrene	24	U	24	4.8	ug/Kg	☼	11/07/21 16:26	11/09/21 13:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	73		13 - 121	11/07/21 16:26	11/09/21 13:52	1
2-Fluorobiphenyl (Surr)	70		39 - 100	11/07/21 16:26	11/09/21 13:52	1
2-Fluorophenol (Surr)	67		26 - 96	11/07/21 16:26	11/09/21 13:52	1
Nitrobenzene-d5 (Surr)	67		32 - 97	11/07/21 16:26	11/09/21 13:52	1
Phenol-d5 (Surr)	65		27 - 104	11/07/21 16:26	11/09/21 13:52	1
p-Terphenyl-d14 (Surr)	79		45 - 108	11/07/21 16:26	11/09/21 13:52	1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH-GRO (Gasoline Range Organics) (1C)	0.33	J	1.6	0.29	mg/Kg	☼	11/04/21 18:39	11/08/21 20:58	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	98		50 - 142	11/04/21 18:39	11/08/21 20:58	25

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28) (1C)	17	U	17	7.2	mg/Kg	☼	11/07/21 16:44	11/08/21 23:11	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: DUP-01_112021

Lab Sample ID: 410-61929-2

Date Collected: 11/03/21 12:00

Matrix: Solid

Date Received: 11/04/21 10:52

Percent Solids: 69.0

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o-terphenyl (Surr) (1C)</i>	82		42 - 143	11/07/21 16:44	11/08/21 23:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	31.0		1.0	1.0	%			11/04/21 17:49	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: EB-1_112021

Lab Sample ID: 410-61929-3

Date Collected: 11/03/21 12:12

Matrix: Water

Date Received: 11/04/21 10:52

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
1,1,2-Trichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
1,1-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
1,2,4-Trichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 23:48	1
1,2,4-Trimethylbenzene	5.0	U	5.0	1.0	ug/L			11/09/21 23:48	1
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	0.30	ug/L			11/09/21 23:48	1
1,2-Dibromoethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
1,2-Dichlorobenzene	5.0	U	5.0	0.20	ug/L			11/09/21 23:48	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.30	ug/L			11/09/21 23:48	1
1,3-Dichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 23:48	1
1,4-Dichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 23:48	1
2-Butanone	10	U	10	0.50	ug/L			11/09/21 23:48	1
2-Hexanone	10	U	10	0.40	ug/L			11/09/21 23:48	1
4-Methyl-2-pentanone	10	U	10	0.50	ug/L			11/09/21 23:48	1
Acetone	20	U	20	0.70	ug/L			11/09/21 23:48	1
Benzene	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
Bromodichloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
Bromoform	4.0	U	4.0	1.0	ug/L			11/09/21 23:48	1
Bromomethane	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
Carbon disulfide	5.0	U	5.0	0.30	ug/L			11/09/21 23:48	1
Carbon tetrachloride	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
Chlorobenzene	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
Chloroethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
Chloroform	2.3		1.0	0.30	ug/L			11/09/21 23:48	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
Cyclohexane	5.0	U	5.0	1.0	ug/L			11/09/21 23:48	1
Dibromochloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
Dichlorodifluoromethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
Ethylbenzene	1.0	U	1.0	0.40	ug/L			11/09/21 23:48	1
Freon 113	10	U	10	0.30	ug/L			11/09/21 23:48	1
Isopropylbenzene	5.0	U	5.0	0.20	ug/L			11/09/21 23:48	1
m&p-Xylene	5.0	U	5.0	2.0	ug/L			11/09/21 23:48	1
Methyl acetate	5.0	U	5.0	0.30	ug/L			11/09/21 23:48	1
Methyl tertiary butyl ether	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
Methylcyclohexane	5.0	U	5.0	0.50	ug/L			11/09/21 23:48	1
Methylene Chloride	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
Naphthalene	5.0	U	5.0	1.0	ug/L			11/09/21 23:48	1
o-Xylene	1.0	U	1.0	0.40	ug/L			11/09/21 23:48	1
Styrene	5.0	U	5.0	0.30	ug/L			11/09/21 23:48	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
Toluene	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: EB-1_112021

Lab Sample ID: 410-61929-3

Date Collected: 11/03/21 12:12

Matrix: Water

Date Received: 11/04/21 10:52

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 23:48	1
Trichlorofluoromethane	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/09/21 23:48	1
Xylenes, Total	1.0	U	1.0	0.40	ug/L			11/09/21 23:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		11/09/21 23:48	1
4-Bromofluorobenzene (Surr)	95		80 - 120		11/09/21 23:48	1
Dibromofluoromethane (Surr)	109		80 - 120		11/09/21 23:48	1
Toluene-d8 (Surr)	101		80 - 120		11/09/21 23:48	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.30	U	0.30	0.10	ug/L		11/08/21 11:41	11/10/21 10:04	1
1-Methylnaphthalene	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 10:04	1
2-Methylnaphthalene	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 10:04	1
Acenaphthene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Acenaphthylene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Anthracene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Benzo[a]anthracene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Benzo[a]pyrene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Benzo[b]fluoranthene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Benzo[g,h,i]perylene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Benzo[k]fluoranthene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Bis(2-chloroethyl)ether	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 10:04	1
Bis(2-ethylhexyl) phthalate	0.12	J	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 10:04	1
Butylbenzylphthalate	1.0	U	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 10:04	1
Chrysene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Dibenz(a,h)anthracene	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 10:04	1
Dibenzofuran	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Diethyl phthalate	1.0	U	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 10:04	1
Dimethyl phthalate	1.0	U	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 10:04	1
Di-n-butyl phthalate	0.17	J	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 10:04	1
Di-n-octyl phthalate	1.0	U	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 10:04	1
Fluoranthene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Fluorene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1
Hexachlorobenzene	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 10:04	1
Indeno[1,2,3-cd]pyrene	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 10:04	1
Naphthalene	0.070	U	0.070	0.030	ug/L		11/08/21 11:41	11/10/21 10:04	1
N-Nitrosodimethylamine	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 10:04	1
Phenanthrene	0.070	U	0.070	0.030	ug/L		11/08/21 11:41	11/10/21 10:04	1
Pyrene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 10:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene-d10 (Surr)	77		36 - 111	11/08/21 11:41	11/10/21 10:04	1
Benzo(a)pyrene-d12 (Surr)	81		10 - 110	11/08/21 11:41	11/10/21 10:04	1
Fluoranthene-d10 (Surr)	84		47 - 128	11/08/21 11:41	11/10/21 10:04	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: EB-1_112021

Lab Sample ID: 410-61929-3

Date Collected: 11/03/21 12:12

Matrix: Water

Date Received: 11/04/21 10:52

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
2,2'-oxybis[1-chloropropane]	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
2,4,5-Trichlorophenol	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
2,4,6-Trichlorophenol	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
2,4-Dichlorophenol	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
2,4-Dimethylphenol	10	U	10	3.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
2,4-Dinitrophenol	30	U	30	14	ug/L		11/08/21 11:37	11/10/21 16:21	1
2,4-Dinitrotoluene	5.1	U	5.1	1.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
2,6-Dinitrotoluene	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
2-Chloronaphthalene	1.0	U	1.0	0.40	ug/L		11/08/21 11:37	11/10/21 16:21	1
2-Chlorophenol	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
2-Methylphenol	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
2-Nitroaniline	5.1	U	5.1	1.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
2-Nitrophenol	5.1	U	5.1	1.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
3,3'-Dichlorobenzidine	10	U	10	4.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
3-Nitroaniline	5.1	U	5.1	2.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
4,6-Dinitro-2-methylphenol	21	U	21	8.1	ug/L		11/08/21 11:37	11/10/21 16:21	1
4-Bromophenyl-phenylether	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
4-Chloro-3-methylphenol	5.1	U	5.1	1.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
4-Chloroaniline	10	U	10	4.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
4-Chlorophenyl-phenyl ether	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
4-Methylphenol	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
4-Nitroaniline	3.0	U	3.0	0.91	ug/L		11/08/21 11:37	11/10/21 16:21	1
4-Nitrophenol	30	U	30	10	ug/L		11/08/21 11:37	11/10/21 16:21	1
Acetophenone	5.1	U	5.1	1.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
Atrazine	5.1	U	5.1	1.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
Benzaldehyde	5.1	U	5.1	1.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
Bis(2-chloroethoxy)methane	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
Caprolactam	7.1	U	7.1	3.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
Carbazole	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
Hexachlorobutadiene	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
Hexachlorocyclopentadiene	11	U	11	5.1	ug/L		11/08/21 11:37	11/10/21 16:21	1
Hexachloroethane	5.1	U	5.1	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
Isophorone	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
Nitrobenzene	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
N-Nitrosodi-n-propylamine	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
N-Nitrosodiphenylamine	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1
Pentachlorophenol	5.1	U	5.1	1.0	ug/L		11/08/21 11:37	11/10/21 16:21	1
Phenol	2.0	U	2.0	0.51	ug/L		11/08/21 11:37	11/10/21 16:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	81		10 - 150	11/08/21 11:37	11/10/21 16:21	1
2-Fluorobiphenyl (Surr)	68		35 - 100	11/08/21 11:37	11/10/21 16:21	1
2-Fluorophenol (Surr)	39		10 - 78	11/08/21 11:37	11/10/21 16:21	1
Nitrobenzene-d5 (Surr)	69		22 - 117	11/08/21 11:37	11/10/21 16:21	1
Phenol-d5 (Surr)	31		10 - 67	11/08/21 11:37	11/10/21 16:21	1
p-Terphenyl-d14 (Surr)	79		31 - 119	11/08/21 11:37	11/10/21 16:21	1

Client Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: EB-1_112021

Lab Sample ID: 410-61929-3

Date Collected: 11/03/21 12:12

Matrix: Water

Date Received: 11/04/21 10:52

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH-GRO (Gasoline Range Organics) (1C)	50	U	50	23	ug/L			11/05/21 18:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene (fid) (1C)</i>	99		63 - 135					11/05/21 18:34	1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28) (1C)	110	U	110	48	ug/L		11/07/21 18:46	11/08/21 22:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-terphenyl (Surr) (1C)</i>	88		48 - 113				11/07/21 18:46	11/08/21 22:25	1



Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: TRIP BLANK-2

Lab Sample ID: 410-61929-4

Date Collected: 11/03/21 00:00

Matrix: Water

Date Received: 11/04/21 10:52

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
1,1,2-Trichloroethane	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
1,1-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
1,2,4-Trichlorobenzene	5.0	U	5.0	0.30	ug/L			11/10/21 00:11	1
1,2,4-Trimethylbenzene	5.0	U	5.0	1.0	ug/L			11/10/21 00:11	1
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	0.30	ug/L			11/10/21 00:11	1
1,2-Dibromoethane	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
1,2-Dichlorobenzene	5.0	U	5.0	0.20	ug/L			11/10/21 00:11	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.30	ug/L			11/10/21 00:11	1
1,3-Dichlorobenzene	5.0	U	5.0	0.30	ug/L			11/10/21 00:11	1
1,4-Dichlorobenzene	5.0	U	5.0	0.30	ug/L			11/10/21 00:11	1
2-Butanone	10	U	10	0.50	ug/L			11/10/21 00:11	1
2-Hexanone	10	U	10	0.40	ug/L			11/10/21 00:11	1
4-Methyl-2-pentanone	10	U	10	0.50	ug/L			11/10/21 00:11	1
Acetone	20	U	20	0.70	ug/L			11/10/21 00:11	1
Benzene	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
Bromodichloromethane	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
Bromoform	4.0	U	4.0	1.0	ug/L			11/10/21 00:11	1
Bromomethane	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
Carbon disulfide	5.0	U	5.0	0.30	ug/L			11/10/21 00:11	1
Carbon tetrachloride	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
Chlorobenzene	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
Chloroethane	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
Chloroform	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
Cyclohexane	5.0	U	5.0	1.0	ug/L			11/10/21 00:11	1
Dibromochloromethane	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
Dichlorodifluoromethane	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
Ethylbenzene	1.0	U	1.0	0.40	ug/L			11/10/21 00:11	1
Freon 113	10	U	10	0.30	ug/L			11/10/21 00:11	1
Isopropylbenzene	5.0	U	5.0	0.20	ug/L			11/10/21 00:11	1
m&p-Xylene	5.0	U	5.0	2.0	ug/L			11/10/21 00:11	1
Methyl acetate	5.0	U	5.0	0.30	ug/L			11/10/21 00:11	1
Methyl tertiary butyl ether	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
Methylcyclohexane	5.0	U	5.0	0.50	ug/L			11/10/21 00:11	1
Methylene Chloride	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
Naphthalene	5.0	U	5.0	1.0	ug/L			11/10/21 00:11	1
o-Xylene	1.0	U	1.0	0.40	ug/L			11/10/21 00:11	1
Styrene	5.0	U	5.0	0.30	ug/L			11/10/21 00:11	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
Toluene	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1

Client Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: TRIP BLANK-2

Lab Sample ID: 410-61929-4

Date Collected: 11/03/21 00:00

Matrix: Water

Date Received: 11/04/21 10:52

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.30	ug/L			11/10/21 00:11	1
Trichlorofluoromethane	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/10/21 00:11	1
Xylenes, Total	1.0	U	1.0	0.40	ug/L			11/10/21 00:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		11/10/21 00:11	1
4-Bromofluorobenzene (Surr)	96		80 - 120		11/10/21 00:11	1
Dibromofluoromethane (Surr)	107		80 - 120		11/10/21 00:11	1
Toluene-d8 (Surr)	101		80 - 120		11/10/21 00:11	1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH-GRO (Gasoline Range Organics) (1C)	50	U	50	23	ug/L			11/05/21 18:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	100		63 - 135		11/05/21 18:59	1

Surrogate Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (54-135)	BFB (50-131)	DBFM (50-141)	TOL (52-141)
410-61929-1	GCHD-SO-A:6.5-7'_112021	103	99	101	99
410-61929-2	DUP-01_112021	109	101	102	99
LCS 410-192184/6	Lab Control Sample	104	102	101	98
LCS 410-192680/4	Lab Control Sample	101	101	100	100
LCSD 410-192184/7	Lab Control Sample Dup	103	101	101	98
LCSD 410-192680/5	Lab Control Sample Dup	99	101	99	100
MB 410-192184/9	Method Blank	103	101	101	99
MB 410-192680/7	Method Blank	98	100	99	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	BFB (80-120)	DBFM (80-120)	TOL (80-120)
410-61929-3	EB-1_112021	104	95	109	101
410-61929-4	TRIP BLANK-2	104	96	107	101
LCS 410-192723/4	Lab Control Sample	106	99	104	102
MB 410-192723/6	Method Blank	108	94	106	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (13-121)	FBP (39-100)	2FP (26-96)	NBZ (32-97)	PHL (27-104)	TPHd14 (45-108)
410-61929-1	GCHD-SO-A:6.5-7'_112021	89	87	81	80	82	100
410-61929-2	DUP-01_112021	73	70	67	67	65	79
LCS 410-191771/2-A	Lab Control Sample	108	90	86	85	85	110 S1+
LCSD 410-191771/3-A	Lab Control Sample Dup	103	87	82	80	81	107
MB 410-191771/1-A	Method Blank	73	78	71	72	73	99

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Surrogate Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (10-150)	FBP (35-100)	2FP (10-78)	NBZ (22-117)	PHL (10-67)	TPHd14 (31-119)
410-61929-3	EB-1_112021	81	68	39	69	31	79
LCS 410-191849/2-A	Lab Control Sample	100	77	50	74	41	86
MB 410-191849/1-A	Method Blank	90	73	40	73	31	85

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
 FBP = 2-Fluorobiphenyl (Surr)
 2FP = 2-Fluorophenol (Surr)
 NBZ = Nitrobenzene-d5 (Surr)
 PHL = Phenol-d5 (Surr)
 TPHd14 = p-Terphenyl-d14 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		MNPd10 (36-111)	BAPd12 (10-110)	FLN10 (47-128)
410-61929-3	EB-1_112021	77	81	84
LCS 410-191848/2-A	Lab Control Sample	84	90	95
LCSD 410-191848/3-A	Lab Control Sample Dup	77	85	87
MB 410-191848/1-A	Method Blank	88	84	94

Surrogate Legend

MNPd10 = 1-Methylnaphthalene-d10 (Surr)
 BAPd12 = Benzo(a)pyrene-d12 (Surr)
 FLN10 = Fluoranthene-d10 (Surr)

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1 (50-142)
410-61929-1	GCHD-SO-A:6.5-7'_112021	99
410-61929-2	DUP-01_112021	98
LCS 410-192004/6	Lab Control Sample	109
LCSD 410-192004/7	Lab Control Sample Dup	109
MB 410-192004/5	Method Blank	102

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		TFT-F1 (63-135)
410-61929-3	EB-1_112021	99
410-61929-4	TRIP BLANK-2	100
LCS 410-191354/5	Lab Control Sample	90
LCSD 410-191354/6	Lab Control Sample Dup	93

Surrogate Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

(Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT-F1 (63-135)
MB 410-191354/4	Method Blank	98

Surrogate Legend

TFT-F = a,a,a-Trifluorotoluene (fid)

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTP1 (42-143)
410-61929-1	GCHD-SO-A:6.5-7'_112021	90
410-61929-2	DUP-01_112021	82
410-61929-2 DU	DUP-01_112021	87
410-61929-2 MS	DUP-01_112021	97
LCS 410-191775/2-A	Lab Control Sample	101
MB 410-191775/1-A	Method Blank	93

Surrogate Legend

OTP = o- terphenyl (Surr)

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTP1 (48-113)
410-61929-3	EB-1_112021	88
LCS 410-191776/2-A	Lab Control Sample	83
LCSD 410-191776/3-A	Lab Control Sample Dup	95
MB 410-191776/1-A	Method Blank	86

Surrogate Legend

OTP = o- terphenyl (Surr)

QC Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-192184/9

Matrix: Solid

Analysis Batch: 192184

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
1,1,2,2-Tetrachloroethane	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
1,1,2-Trichloroethane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,1-Dichloroethane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,1-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,2,4-Trichlorobenzene	10	U	10	5.0	ug/Kg			11/08/21 21:18	1
1,2,4-Trimethylbenzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,2-Dibromoethane	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
1,2-Dichlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,2-Dichloroethane	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
1,2-Dichloropropane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,3-Dichlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
1,4-Dichlorobenzene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
2-Butanone	10	U	10	2.0	ug/Kg			11/08/21 21:18	1
2-Hexanone	10	U	10	1.0	ug/Kg			11/08/21 21:18	1
4-Methyl-2-pentanone	10	U	10	1.0	ug/Kg			11/08/21 21:18	1
Acetone	20	U	20	6.0	ug/Kg			11/08/21 21:18	1
Benzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Bromodichloromethane	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
Bromoform	10	U	10	5.0	ug/Kg			11/08/21 21:18	1
Bromomethane	5.0	U	5.0	0.70	ug/Kg			11/08/21 21:18	1
Carbon disulfide	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
Carbon tetrachloride	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Chlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Chloroethane	5.0	U	5.0	1.0	ug/Kg			11/08/21 21:18	1
Chloroform	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
Chloromethane	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
cis-1,2-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
cis-1,3-Dichloropropene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
Cyclohexane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Dibromochloromethane	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Dichlorodifluoromethane	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
Ethylbenzene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
Freon 113	10	U	10	0.60	ug/Kg			11/08/21 21:18	1
Isopropylbenzene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
m&p-Xylene	5.0	U	5.0	1.0	ug/Kg			11/08/21 21:18	1
Methyl acetate	5.0	U	5.0	1.0	ug/Kg			11/08/21 21:18	1
Methyl tertiary butyl ether	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Methylcyclohexane	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
Methylene Chloride	5.0	U	5.0	2.0	ug/Kg			11/08/21 21:18	1
Naphthalene	5.0	U	5.0	2.0	ug/Kg			11/08/21 21:18	1
o-Xylene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
Styrene	5.0	U	5.0	0.40	ug/Kg			11/08/21 21:18	1
Tetrachloroethene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Toluene	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
trans-1,2-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-192184/9

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192184

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
trans-1,3-Dichloropropene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Trichloroethene	5.0	U	5.0	0.50	ug/Kg			11/08/21 21:18	1
Trichlorofluoromethane	5.0	U	5.0	0.70	ug/Kg			11/08/21 21:18	1
Vinyl chloride	5.0	U	5.0	0.60	ug/Kg			11/08/21 21:18	1
Xylenes, Total	10	U	10	1.4	ug/Kg			11/08/21 21:18	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	103		54 - 135		11/08/21 21:18	1
4-Bromofluorobenzene (Surr)	101		50 - 131		11/08/21 21:18	1
Dibromofluoromethane (Surr)	101		50 - 141		11/08/21 21:18	1
Toluene-d8 (Surr)	99		52 - 141		11/08/21 21:18	1

Lab Sample ID: LCS 410-192184/6

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192184

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1,1-Trichloroethane	20.0	21.8		ug/Kg		109	69 - 123
1,1,1,2-Tetrachloroethane	20.0	21.4		ug/Kg		107	69 - 125
1,1,2-Trichloroethane	20.0	20.4		ug/Kg		102	80 - 120
1,1-Dichloroethane	20.0	20.8		ug/Kg		104	79 - 120
1,1-Dichloroethene	20.0	22.7		ug/Kg		114	73 - 129
1,2,4-Trichlorobenzene	20.0	17.0		ug/Kg		85	56 - 130
1,2,4-Trimethylbenzene	20.0	19.4		ug/Kg		97	73 - 120
1,2-Dibromo-3-Chloropropane	20.0	22.1		ug/Kg		110	48 - 134
1,2-Dibromoethane	20.0	20.3		ug/Kg		101	76 - 120
1,2-Dichlorobenzene	20.0	20.7		ug/Kg		104	76 - 120
1,2-Dichloroethane	20.0	20.6		ug/Kg		103	71 - 128
1,2-Dichloropropane	20.0	21.0		ug/Kg		105	80 - 120
1,3,5-Trimethylbenzene	20.0	18.7		ug/Kg		94	73 - 120
1,3-Dichlorobenzene	20.0	20.2		ug/Kg		101	75 - 120
1,4-Dichlorobenzene	20.0	20.5		ug/Kg		103	80 - 120
2-Butanone	250	219		ug/Kg		87	57 - 128
2-Hexanone	250	263		ug/Kg		105	54 - 140
4-Methyl-2-pentanone	250	261		ug/Kg		104	67 - 128
Acetone	250	215		ug/Kg		86	41 - 150
Benzene	20.0	21.2		ug/Kg		106	80 - 120
Bromodichloromethane	20.0	21.5		ug/Kg		107	70 - 120
Bromoform	20.0	21.6		ug/Kg		108	51 - 127
Bromomethane	20.0	20.1		ug/Kg		101	45 - 140
Carbon disulfide	20.0	24.9		ug/Kg		124	64 - 133
Carbon tetrachloride	20.0	22.9		ug/Kg		115	64 - 134
Chlorobenzene	20.0	21.4		ug/Kg		107	80 - 120
Chloroethane	20.0	20.6		ug/Kg		103	43 - 135
Chloroform	20.0	20.5		ug/Kg		102	80 - 120
Chloromethane	20.0	21.0		ug/Kg		105	56 - 120
cis-1,2-Dichloroethene	20.0	21.6		ug/Kg		108	80 - 125
cis-1,3-Dichloropropene	20.0	20.7		ug/Kg		104	66 - 120

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-192184/6

Matrix: Solid

Analysis Batch: 192184

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Cyclohexane	20.0	22.7		ug/Kg		113	58 - 126
Dibromochloromethane	20.0	20.8		ug/Kg		104	69 - 125
Dichlorodifluoromethane	20.0	25.8	*+	ug/Kg		129	21 - 127
Ethylbenzene	20.0	21.9		ug/Kg		109	78 - 120
Freon 113	20.0	25.6		ug/Kg		128	64 - 135
Isopropylbenzene	20.0	19.9		ug/Kg		100	77 - 120
m&p-Xylene	40.0	43.7		ug/Kg		109	80 - 120
Methyl acetate	20.0	22.2		ug/Kg		111	67 - 128
Methyl tertiary butyl ether	20.0	22.2		ug/Kg		111	72 - 120
Methylcyclohexane	20.0	22.5		ug/Kg		112	61 - 124
Methylene Chloride	20.0	21.0		ug/Kg		105	76 - 122
Naphthalene	20.0	20.4		ug/Kg		102	48 - 130
o-Xylene	20.0	22.0		ug/Kg		110	75 - 120
Styrene	20.0	21.9		ug/Kg		110	76 - 120
Tetrachloroethene	20.0	21.7		ug/Kg		108	73 - 120
Toluene	20.0	21.1		ug/Kg		105	80 - 120
trans-1,2-Dichloroethene	20.0	20.7		ug/Kg		104	80 - 126
trans-1,3-Dichloropropene	20.0	21.0		ug/Kg		105	68 - 122
Trichloroethene	20.0	21.5		ug/Kg		108	80 - 120
Trichlorofluoromethane	20.0	21.4		ug/Kg		107	55 - 134
Vinyl chloride	20.0	22.1		ug/Kg		110	52 - 120
Xylenes, Total	60.0	65.7		ug/Kg		110	75 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	104		54 - 135
4-Bromofluorobenzene (Surr)	102		50 - 131
Dibromofluoromethane (Surr)	101		50 - 141
Toluene-d8 (Surr)	98		52 - 141

Lab Sample ID: LCSD 410-192184/7

Matrix: Solid

Analysis Batch: 192184

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
1,1,1-Trichloroethane	20.0	21.2		ug/Kg		106	69 - 123	3	30
1,1,2,2-Tetrachloroethane	20.0	21.4		ug/Kg		107	69 - 125	0	30
1,1,2-Trichloroethane	20.0	21.0		ug/Kg		105	80 - 120	3	30
1,1-Dichloroethane	20.0	20.7		ug/Kg		103	79 - 120	1	30
1,1-Dichloroethene	20.0	22.4		ug/Kg		112	73 - 129	2	30
1,2,4-Trichlorobenzene	20.0	14.2		ug/Kg		71	56 - 130	18	30
1,2,4-Trimethylbenzene	20.0	15.9		ug/Kg		80	73 - 120	20	30
1,2-Dibromo-3-Chloropropane	20.0	19.9		ug/Kg		100	48 - 134	10	30
1,2-Dibromoethane	20.0	20.3		ug/Kg		101	76 - 120	0	30
1,2-Dichlorobenzene	20.0	17.8		ug/Kg		89	76 - 120	15	30
1,2-Dichloroethane	20.0	20.7		ug/Kg		103	71 - 128	0	30
1,2-Dichloropropane	20.0	20.8		ug/Kg		104	80 - 120	1	30
1,3,5-Trimethylbenzene	20.0	15.4		ug/Kg		77	73 - 120	20	30
1,3-Dichlorobenzene	20.0	17.2		ug/Kg		86	75 - 120	16	30

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QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-192184/7

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192184

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Added	Result	Qualifier				Limits		Limit
1,4-Dichlorobenzene	20.0	17.5		ug/Kg		88	80 - 120	16	30
2-Butanone	250	219		ug/Kg		88	57 - 128	0	30
2-Hexanone	250	272		ug/Kg		109	54 - 140	3	30
4-Methyl-2-pentanone	250	268		ug/Kg		107	67 - 128	3	30
Acetone	250	215		ug/Kg		86	41 - 150	0	30
Benzene	20.0	21.1		ug/Kg		105	80 - 120	1	30
Bromodichloromethane	20.0	21.5		ug/Kg		108	70 - 120	0	30
Bromoform	20.0	21.9		ug/Kg		110	51 - 127	2	30
Bromomethane	20.0	20.0		ug/Kg		100	45 - 140	1	30
Carbon disulfide	20.0	24.5		ug/Kg		122	64 - 133	2	30
Carbon tetrachloride	20.0	21.1		ug/Kg		105	64 - 134	8	30
Chlorobenzene	20.0	19.9		ug/Kg		99	80 - 120	8	30
Chloroethane	20.0	20.5		ug/Kg		103	43 - 135	0	30
Chloroform	20.0	20.7		ug/Kg		103	80 - 120	1	30
Chloromethane	20.0	21.3		ug/Kg		107	56 - 120	2	30
cis-1,2-Dichloroethene	20.0	21.1		ug/Kg		106	80 - 125	2	30
cis-1,3-Dichloropropene	20.0	20.8		ug/Kg		104	66 - 120	0	30
Cyclohexane	20.0	22.3		ug/Kg		112	58 - 126	2	30
Dibromochloromethane	20.0	20.9		ug/Kg		105	69 - 125	1	30
Dichlorodifluoromethane	20.0	25.4		ug/Kg		127	21 - 127	2	30
Ethylbenzene	20.0	18.5		ug/Kg		92	78 - 120	17	30
Freon 113	20.0	24.7		ug/Kg		124	64 - 135	3	30
Isopropylbenzene	20.0	16.3		ug/Kg		81	77 - 120	20	30
m&p-Xylene	40.0	37.2		ug/Kg		93	80 - 120	16	30
Methyl acetate	20.0	22.0		ug/Kg		110	67 - 128	1	30
Methyl tertiary butyl ether	20.0	22.2		ug/Kg		111	72 - 120	0	30
Methylcyclohexane	20.0	22.0		ug/Kg		110	61 - 124	2	30
Methylene Chloride	20.0	20.9		ug/Kg		105	76 - 122	0	30
Naphthalene	20.0	17.7		ug/Kg		88	48 - 130	14	30
o-Xylene	20.0	18.6		ug/Kg		93	75 - 120	17	30
Styrene	20.0	19.6		ug/Kg		98	76 - 120	11	30
Tetrachloroethene	20.0	18.1		ug/Kg		91	73 - 120	18	30
Toluene	20.0	19.8		ug/Kg		99	80 - 120	6	30
trans-1,2-Dichloroethene	20.0	20.6		ug/Kg		103	80 - 126	1	30
trans-1,3-Dichloropropene	20.0	21.0		ug/Kg		105	68 - 122	0	30
Trichloroethene	20.0	21.3		ug/Kg		107	80 - 120	1	30
Trichlorofluoromethane	20.0	20.9		ug/Kg		105	55 - 134	2	30
Vinyl chloride	20.0	21.6		ug/Kg		108	52 - 120	2	30
Xylenes, Total	60.0	55.8		ug/Kg		93	75 - 120	16	30

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	103		54 - 135
4-Bromofluorobenzene (Surr)	101		50 - 131
Dibromofluoromethane (Surr)	101		50 - 141
Toluene-d8 (Surr)	98		52 - 141

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-192680/7

Matrix: Solid

Analysis Batch: 192680

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
1,1,2,2-Tetrachloroethane	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
1,1,2-Trichloroethane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,1-Dichloroethane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,1-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,2,4-Trichlorobenzene	10	U	10	5.0	ug/Kg			11/09/21 21:38	1
1,2,4-Trimethylbenzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,2-Dibromoethane	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
1,2-Dichlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,2-Dichloroethane	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
1,2-Dichloropropane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,3-Dichlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
1,4-Dichlorobenzene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
2-Butanone	10	U	10	2.0	ug/Kg			11/09/21 21:38	1
2-Hexanone	10	U	10	1.0	ug/Kg			11/09/21 21:38	1
4-Methyl-2-pentanone	10	U	10	1.0	ug/Kg			11/09/21 21:38	1
Acetone	20	U	20	6.0	ug/Kg			11/09/21 21:38	1
Benzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Bromodichloromethane	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
Bromoform	10	U	10	5.0	ug/Kg			11/09/21 21:38	1
Bromomethane	5.0	U	5.0	0.70	ug/Kg			11/09/21 21:38	1
Carbon disulfide	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
Carbon tetrachloride	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Chlorobenzene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Chloroethane	5.0	U	5.0	1.0	ug/Kg			11/09/21 21:38	1
Chloroform	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
Chloromethane	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
cis-1,2-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
cis-1,3-Dichloropropene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
Cyclohexane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Dibromochloromethane	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Dichlorodifluoromethane	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
Ethylbenzene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
Freon 113	10	U	10	0.60	ug/Kg			11/09/21 21:38	1
Isopropylbenzene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
m&p-Xylene	5.0	U	5.0	1.0	ug/Kg			11/09/21 21:38	1
Methyl acetate	5.0	U	5.0	1.0	ug/Kg			11/09/21 21:38	1
Methyl tertiary butyl ether	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Methylcyclohexane	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
Methylene Chloride	5.0	U	5.0	2.0	ug/Kg			11/09/21 21:38	1
Naphthalene	5.0	U	5.0	2.0	ug/Kg			11/09/21 21:38	1
o-Xylene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
Styrene	5.0	U	5.0	0.40	ug/Kg			11/09/21 21:38	1
Tetrachloroethene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Toluene	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
trans-1,2-Dichloroethene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-192680/7

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192680

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
trans-1,3-Dichloropropene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Trichloroethene	5.0	U	5.0	0.50	ug/Kg			11/09/21 21:38	1
Trichlorofluoromethane	5.0	U	5.0	0.70	ug/Kg			11/09/21 21:38	1
Vinyl chloride	5.0	U	5.0	0.60	ug/Kg			11/09/21 21:38	1
Xylenes, Total	10	U	10	1.4	ug/Kg			11/09/21 21:38	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	98		54 - 135		11/09/21 21:38	1
4-Bromofluorobenzene (Surr)	100		50 - 131		11/09/21 21:38	1
Dibromofluoromethane (Surr)	99		50 - 141		11/09/21 21:38	1
Toluene-d8 (Surr)	100		52 - 141		11/09/21 21:38	1

Lab Sample ID: LCS 410-192680/4

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192680

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1,1-Trichloroethane	20.0	21.5		ug/Kg		107	69 - 123
1,1,1,2-Tetrachloroethane	20.0	20.7		ug/Kg		104	69 - 125
1,1,1,2-Trichloroethane	20.0	20.5		ug/Kg		103	80 - 120
1,1-Dichloroethane	20.0	20.2		ug/Kg		101	79 - 120
1,1-Dichloroethene	20.0	21.9		ug/Kg		110	73 - 129
1,2,4-Trichlorobenzene	20.0	22.8		ug/Kg		114	56 - 130
1,2,4-Trimethylbenzene	20.0	22.6		ug/Kg		113	73 - 120
1,2-Dibromo-3-Chloropropane	20.0	19.0		ug/Kg		95	48 - 134
1,2-Dibromoethane	20.0	20.8		ug/Kg		104	76 - 120
1,2-Dichlorobenzene	20.0	20.7		ug/Kg		103	76 - 120
1,2-Dichloroethane	20.0	20.3		ug/Kg		101	71 - 128
1,2-Dichloropropane	20.0	20.8		ug/Kg		104	80 - 120
1,3,5-Trimethylbenzene	20.0	23.1		ug/Kg		115	73 - 120
1,3-Dichlorobenzene	20.0	21.1		ug/Kg		106	75 - 120
1,4-Dichlorobenzene	20.0	21.2		ug/Kg		106	80 - 120
2-Butanone	250	225		ug/Kg		90	57 - 128
2-Hexanone	250	237		ug/Kg		95	54 - 140
4-Methyl-2-pentanone	250	241		ug/Kg		96	67 - 128
Acetone	250	218		ug/Kg		87	41 - 150
Benzene	20.0	21.0		ug/Kg		105	80 - 120
Bromodichloromethane	20.0	21.1		ug/Kg		106	70 - 120
Bromoform	20.0	20.5		ug/Kg		103	51 - 127
Bromomethane	20.0	19.4		ug/Kg		97	45 - 140
Carbon disulfide	20.0	23.4		ug/Kg		117	64 - 133
Carbon tetrachloride	20.0	22.4		ug/Kg		112	64 - 134
Chlorobenzene	20.0	20.4		ug/Kg		102	80 - 120
Chloroethane	20.0	19.4		ug/Kg		97	43 - 135
Chloroform	20.0	20.6		ug/Kg		103	80 - 120
Chloromethane	20.0	19.8		ug/Kg		99	56 - 120
cis-1,2-Dichloroethene	20.0	21.6		ug/Kg		108	80 - 125
cis-1,3-Dichloropropene	20.0	20.5		ug/Kg		102	66 - 120

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-192680/4

Matrix: Solid

Analysis Batch: 192680

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Cyclohexane	20.0	26.4	*+	ug/Kg		132	58 - 126
Dibromochloromethane	20.0	20.7		ug/Kg		104	69 - 125
Dichlorodifluoromethane	20.0	22.5		ug/Kg		112	21 - 127
Ethylbenzene	20.0	21.5		ug/Kg		107	78 - 120
Freon 113	20.0	27.7	*+	ug/Kg		138	64 - 135
Isopropylbenzene	20.0	23.6		ug/Kg		118	77 - 120
m&p-Xylene	40.0	43.0		ug/Kg		108	80 - 120
Methyl acetate	20.0	20.2		ug/Kg		101	67 - 128
Methyl tertiary butyl ether	20.0	21.2		ug/Kg		106	72 - 120
Methylcyclohexane	20.0	28.9	*+	ug/Kg		145	61 - 124
Methylene Chloride	20.0	20.1		ug/Kg		100	76 - 122
Naphthalene	20.0	19.4		ug/Kg		97	48 - 130
o-Xylene	20.0	20.8		ug/Kg		104	75 - 120
Styrene	20.0	20.5		ug/Kg		103	76 - 120
Tetrachloroethene	20.0	22.6		ug/Kg		113	73 - 120
Toluene	20.0	20.9		ug/Kg		105	80 - 120
trans-1,2-Dichloroethene	20.0	20.3		ug/Kg		101	80 - 126
trans-1,3-Dichloropropene	20.0	21.6		ug/Kg		108	68 - 122
Trichloroethene	20.0	20.8		ug/Kg		104	80 - 120
Trichlorofluoromethane	20.0	19.6		ug/Kg		98	55 - 134
Vinyl chloride	20.0	20.2		ug/Kg		101	52 - 120
Xylenes, Total	60.0	63.8		ug/Kg		106	75 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		54 - 135
4-Bromofluorobenzene (Surr)	101		50 - 131
Dibromofluoromethane (Surr)	100		50 - 141
Toluene-d8 (Surr)	100		52 - 141

Lab Sample ID: LCSD 410-192680/5

Matrix: Solid

Analysis Batch: 192680

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
1,1,1-Trichloroethane	20.0	21.2		ug/Kg		106	69 - 123	1	30
1,1,2,2-Tetrachloroethane	20.0	20.0		ug/Kg		100	69 - 125	3	30
1,1,2-Trichloroethane	20.0	20.0		ug/Kg		100	80 - 120	2	30
1,1-Dichloroethane	20.0	20.0		ug/Kg		100	79 - 120	1	30
1,1-Dichloroethene	20.0	21.6		ug/Kg		108	73 - 129	2	30
1,2,4-Trichlorobenzene	20.0	22.4		ug/Kg		112	56 - 130	2	30
1,2,4-Trimethylbenzene	20.0	22.1		ug/Kg		111	73 - 120	2	30
1,2-Dibromo-3-Chloropropane	20.0	18.0		ug/Kg		90	48 - 134	5	30
1,2-Dibromoethane	20.0	20.4		ug/Kg		102	76 - 120	2	30
1,2-Dichlorobenzene	20.0	20.1		ug/Kg		101	76 - 120	3	30
1,2-Dichloroethane	20.0	20.3		ug/Kg		101	71 - 128	0	30
1,2-Dichloropropane	20.0	20.6		ug/Kg		103	80 - 120	1	30
1,3,5-Trimethylbenzene	20.0	22.8		ug/Kg		114	73 - 120	1	30
1,3-Dichlorobenzene	20.0	21.0		ug/Kg		105	75 - 120	1	30

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QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-192680/5

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 192680

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Added	Result	Qualifier				Limits		
1,4-Dichlorobenzene	20.0	20.9		ug/Kg		104	80 - 120	1	30
2-Butanone	250	224		ug/Kg		90	57 - 128	0	30
2-Hexanone	250	229		ug/Kg		92	54 - 140	3	30
4-Methyl-2-pentanone	250	228		ug/Kg		91	67 - 128	6	30
Acetone	250	218		ug/Kg		87	41 - 150	0	30
Benzene	20.0	20.5		ug/Kg		103	80 - 120	2	30
Bromodichloromethane	20.0	20.8		ug/Kg		104	70 - 120	2	30
Bromoform	20.0	19.8		ug/Kg		99	51 - 127	3	30
Bromomethane	20.0	19.1		ug/Kg		96	45 - 140	2	30
Carbon disulfide	20.0	23.0		ug/Kg		115	64 - 133	2	30
Carbon tetrachloride	20.0	21.9		ug/Kg		110	64 - 134	2	30
Chlorobenzene	20.0	20.3		ug/Kg		101	80 - 120	1	30
Chloroethane	20.0	19.2		ug/Kg		96	43 - 135	1	30
Chloroform	20.0	20.3		ug/Kg		101	80 - 120	1	30
Chloromethane	20.0	19.9		ug/Kg		99	56 - 120	1	30
cis-1,2-Dichloroethene	20.0	21.1		ug/Kg		105	80 - 125	3	30
cis-1,3-Dichloropropene	20.0	19.9		ug/Kg		99	66 - 120	3	30
Cyclohexane	20.0	26.1	*+	ug/Kg		131	58 - 126	1	30
Dibromochloromethane	20.0	20.5		ug/Kg		102	69 - 125	1	30
Dichlorodifluoromethane	20.0	21.9		ug/Kg		109	21 - 127	3	30
Ethylbenzene	20.0	21.4		ug/Kg		107	78 - 120	1	30
Freon 113	20.0	27.1		ug/Kg		135	64 - 135	2	30
Isopropylbenzene	20.0	23.2		ug/Kg		116	77 - 120	2	30
m&p-Xylene	40.0	42.6		ug/Kg		107	80 - 120	1	30
Methyl acetate	20.0	18.9		ug/Kg		95	67 - 128	7	30
Methyl tertiary butyl ether	20.0	20.4		ug/Kg		102	72 - 120	4	30
Methylcyclohexane	20.0	28.2	*+	ug/Kg		141	61 - 124	2	30
Methylene Chloride	20.0	20.1		ug/Kg		101	76 - 122	0	30
Naphthalene	20.0	18.5		ug/Kg		93	48 - 130	4	30
o-Xylene	20.0	20.4		ug/Kg		102	75 - 120	2	30
Styrene	20.0	20.4		ug/Kg		102	76 - 120	0	30
Tetrachloroethene	20.0	22.2		ug/Kg		111	73 - 120	2	30
Toluene	20.0	20.7		ug/Kg		103	80 - 120	1	30
trans-1,2-Dichloroethene	20.0	20.0		ug/Kg		100	80 - 126	1	30
trans-1,3-Dichloropropene	20.0	21.1		ug/Kg		106	68 - 122	2	30
Trichloroethene	20.0	20.3		ug/Kg		102	80 - 120	2	30
Trichlorofluoromethane	20.0	19.6		ug/Kg		98	55 - 134	0	30
Vinyl chloride	20.0	20.3		ug/Kg		101	52 - 120	0	30
Xylenes, Total	60.0	63.0		ug/Kg		105	75 - 120	1	30

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		54 - 135
4-Bromofluorobenzene (Surr)	101		50 - 131
Dibromofluoromethane (Surr)	99		50 - 141
Toluene-d8 (Surr)	100		52 - 141

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-192723/6

Matrix: Water

Analysis Batch: 192723

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,1,2-Trichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,1-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,2,4-Trichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
1,2,4-Trimethylbenzene	5.0	U	5.0	1.0	ug/L			11/09/21 21:52	1
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
1,2-Dibromoethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
1,2-Dichlorobenzene	5.0	U	5.0	0.20	ug/L			11/09/21 21:52	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
1,3,5-Trimethylbenzene	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
1,3-Dichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
1,4-Dichlorobenzene	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
2-Butanone	10	U	10	0.50	ug/L			11/09/21 21:52	1
2-Hexanone	10	U	10	0.40	ug/L			11/09/21 21:52	1
4-Methyl-2-pentanone	10	U	10	0.50	ug/L			11/09/21 21:52	1
Acetone	20	U	20	0.70	ug/L			11/09/21 21:52	1
Benzene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Bromodichloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Bromoform	4.0	U	4.0	1.0	ug/L			11/09/21 21:52	1
Bromomethane	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Carbon disulfide	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
Carbon tetrachloride	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Chlorobenzene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Chloroethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Chloroform	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Cyclohexane	5.0	U	5.0	1.0	ug/L			11/09/21 21:52	1
Dibromochloromethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Dichlorodifluoromethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Ethylbenzene	1.0	U	1.0	0.40	ug/L			11/09/21 21:52	1
Freon 113	10	U	10	0.30	ug/L			11/09/21 21:52	1
Isopropylbenzene	5.0	U	5.0	0.20	ug/L			11/09/21 21:52	1
m&p-Xylene	5.0	U	5.0	2.0	ug/L			11/09/21 21:52	1
Methyl acetate	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
Methyl tertiary butyl ether	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Methylcyclohexane	5.0	U	5.0	0.50	ug/L			11/09/21 21:52	1
Methylene Chloride	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Naphthalene	5.0	U	5.0	1.0	ug/L			11/09/21 21:52	1
o-Xylene	1.0	U	1.0	0.40	ug/L			11/09/21 21:52	1
Styrene	5.0	U	5.0	0.30	ug/L			11/09/21 21:52	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Toluene	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-192723/6

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 192723

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
trans-1,3-Dichloropropene	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Trichloroethene	1.0	U	1.0	0.30	ug/L			11/09/21 21:52	1
Trichlorofluoromethane	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/09/21 21:52	1
Xylenes, Total	1.0	U	1.0	0.40	ug/L			11/09/21 21:52	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	108		80 - 120		11/09/21 21:52	1
4-Bromofluorobenzene (Surr)	94		80 - 120		11/09/21 21:52	1
Dibromofluoromethane (Surr)	106		80 - 120		11/09/21 21:52	1
Toluene-d8 (Surr)	100		80 - 120		11/09/21 21:52	1

Lab Sample ID: LCS 410-192723/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 192723

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1,1-Trichloroethane	20.0	20.8		ug/L		104	67 - 126
1,1,1,2-Tetrachloroethane	20.0	17.9		ug/L		90	72 - 120
1,1,2-Trichloroethane	20.0	19.0		ug/L		95	80 - 120
1,1-Dichloroethane	20.0	18.7		ug/L		94	80 - 120
1,1-Dichloroethane	20.0	19.0		ug/L		95	80 - 131
1,2,4-Trichlorobenzene	20.0	16.1		ug/L		81	63 - 120
1,2,4-Trimethylbenzene	20.0	17.7		ug/L		89	75 - 120
1,2-Dibromo-3-Chloropropane	20.0	16.2		ug/L		81	47 - 131
1,2-Dibromoethane	20.0	18.4		ug/L		92	77 - 120
1,2-Dichlorobenzene	20.0	18.2		ug/L		91	80 - 120
1,2-Dichloroethane	20.0	20.9		ug/L		104	73 - 124
1,2-Dichloropropane	20.0	18.7		ug/L		94	80 - 120
1,3,5-Trimethylbenzene	20.0	18.1		ug/L		90	75 - 120
1,3-Dichlorobenzene	20.0	17.6		ug/L		88	80 - 120
1,4-Dichlorobenzene	20.0	18.5		ug/L		92	80 - 120
2-Butanone	250	204		ug/L		82	59 - 135
2-Hexanone	250	206		ug/L		82	56 - 135
4-Methyl-2-pentanone	250	208		ug/L		83	62 - 133
Acetone	250	253		ug/L		101	54 - 157
Benzene	20.0	19.2		ug/L		96	80 - 120
Bromodichloromethane	20.0	21.1		ug/L		106	71 - 120
Bromoform	20.0	19.2		ug/L		96	51 - 120
Bromomethane	20.0	17.7		ug/L		88	53 - 128
Carbon disulfide	20.0	18.7		ug/L		94	65 - 128
Carbon tetrachloride	20.0	21.1		ug/L		105	64 - 134
Chlorobenzene	20.0	19.0		ug/L		95	80 - 120
Chloroethane	20.0	17.1		ug/L		85	55 - 123
Chloroform	20.0	19.9		ug/L		99	80 - 120
Chloromethane	20.0	17.3		ug/L		87	56 - 121
cis-1,2-Dichloroethene	20.0	20.0		ug/L		100	80 - 125
cis-1,3-Dichloropropene	20.0	18.3		ug/L		92	75 - 120

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-192723/4

Matrix: Water

Analysis Batch: 192723

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Cyclohexane	20.0	16.4		ug/L		82	68 - 126
Dibromochloromethane	20.0	19.4		ug/L		97	71 - 120
Dichlorodifluoromethane	20.0	22.6		ug/L		113	41 - 127
Ethylbenzene	20.0	18.9		ug/L		94	80 - 120
Freon 113	20.0	19.4		ug/L		97	73 - 139
Isopropylbenzene	20.0	19.0		ug/L		95	80 - 120
m&p-Xylene	40.0	38.9		ug/L		97	80 - 120
Methyl acetate	20.0	17.5		ug/L		87	54 - 136
Methyl tertiary butyl ether	20.0	18.3		ug/L		91	69 - 122
Methylcyclohexane	20.0	17.2		ug/L		86	67 - 121
Methylene Chloride	20.0	18.7		ug/L		94	80 - 120
Naphthalene	20.0	15.5		ug/L		77	53 - 124
o-Xylene	20.0	18.4		ug/L		92	80 - 120
Styrene	20.0	18.7		ug/L		93	80 - 120
Tetrachloroethene	20.0	18.8		ug/L		94	80 - 120
Toluene	20.0	18.7		ug/L		93	80 - 120
trans-1,2-Dichloroethene	20.0	19.3		ug/L		96	80 - 126
trans-1,3-Dichloropropene	20.0	19.1		ug/L		96	67 - 120
Trichloroethene	20.0	19.5		ug/L		97	80 - 120
Trichlorofluoromethane	20.0	19.6		ug/L		98	55 - 135
Vinyl chloride	20.0	17.2		ug/L		86	56 - 120
Xylenes, Total	60.0	57.3		ug/L		96	80 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	106		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	104		80 - 120
Toluene-d8 (Surr)	102		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-191771/1-A

Matrix: Solid

Analysis Batch: 192392

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191771

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1'-Biphenyl	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
1,4-Dioxane	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
1-Methylnaphthalene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,2'-oxybis[1-chloropropane]	43	U	43	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4,5-Trichlorophenol	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4,6-Trichlorophenol	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4-Dichlorophenol	43	U	43	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4-Dimethylphenol	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4-Dinitrophenol	1000	U	1000	170	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,4-Dinitrotoluene	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2,6-Dinitrotoluene	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2-Chloronaphthalene	33	U	33	13	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2-Chlorophenol	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1

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QC Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-191771/1-A
 Matrix: Solid
 Analysis Batch: 192392

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 191771

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Methylnaphthalene	17	U	17	5.0	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2-Methylphenol	50	U	50	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2-Nitroaniline	50	U	50	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
2-Nitrophenol	50	U	50	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
3,3'-Dichlorobenzidine	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
3-Nitroaniline	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4,6-Dinitro-2-methylphenol	500	U	500	170	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Bromophenyl-phenylether	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Chloro-3-methylphenol	50	U	50	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Chloroaniline	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Chlorophenyl-phenyl ether	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Methylphenol	50	U	50	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Nitroaniline	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
4-Nitrophenol	500	U	500	170	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Acenaphthene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Acenaphthylene	17	U	17	4.0	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Acetophenone	50	U	50	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Anthracene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Atrazine	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzaldehyde	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzo[a]anthracene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzo[a]pyrene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzo[b]fluoranthene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzo[g,h,i]perylene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Benzo[k]fluoranthene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Bis(2-chloroethoxy)methane	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Bis(2-chloroethyl)ether	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Bis(2-ethylhexyl) phthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Butylbenzylphthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Caprolactam	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Carbazole	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Chrysene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Dibenz(a,h)anthracene	17	U	17	6.7	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Dibenzofuran	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Diethyl phthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Dimethyl phthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Di-n-butyl phthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Di-n-octyl phthalate	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Fluoranthene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Fluorene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Hexachlorobenzene	17	U	17	6.7	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Hexachlorobutadiene	50	U	50	20	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Hexachlorocyclopentadiene	500	U	500	170	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Hexachloroethane	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Indeno[1,2,3-cd]pyrene	17	U	17	4.0	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Isophorone	67	U	67	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Naphthalene	17	U	17	6.7	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Nitrobenzene	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
N-Nitrosodimethylamine	170	U	170	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1

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QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-191771/1-A

Matrix: Solid

Analysis Batch: 192392

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191771

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
N-Nitrosodi-n-propylamine	67	U	67	33	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
N-Nitrosodiphenylamine	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Pentachlorophenol	170	U	170	67	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Phenanthrene	17	U	17	4.0	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Phenol	37	U	37	17	ug/Kg		11/07/21 16:26	11/09/21 09:54	1
Pyrene	17	U	17	3.3	ug/Kg		11/07/21 16:26	11/09/21 09:54	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol (Surr)	73		13 - 121	11/07/21 16:26	11/09/21 09:54	1
2-Fluorobiphenyl (Surr)	78		39 - 100	11/07/21 16:26	11/09/21 09:54	1
2-Fluorophenol (Surr)	71		26 - 96	11/07/21 16:26	11/09/21 09:54	1
Nitrobenzene-d5 (Surr)	72		32 - 97	11/07/21 16:26	11/09/21 09:54	1
Phenol-d5 (Surr)	73		27 - 104	11/07/21 16:26	11/09/21 09:54	1
p-Terphenyl-d14 (Surr)	99		45 - 108	11/07/21 16:26	11/09/21 09:54	1

Lab Sample ID: LCS 410-191771/2-A

Matrix: Solid

Analysis Batch: 191895

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191771

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1'-Biphenyl	1670	1520		ug/Kg		91	62 - 120
1,4-Dioxane	1670	734		ug/Kg		44	26 - 120
1-Methylnaphthalene	1670	1490		ug/Kg		89	59 - 120
2,2'-oxybis[1-chloropropane]	1670	1010		ug/Kg		61	48 - 120
2,4,5-Trichlorophenol	1670	1660		ug/Kg		100	61 - 120
2,4,6-Trichlorophenol	1670	1700		ug/Kg		102	59 - 120
2,4-Dichlorophenol	1670	1670		ug/Kg		100	62 - 120
2,4-Dimethylphenol	1670	1620		ug/Kg		97	65 - 120
2,4-Dinitrophenol	3330	2990		ug/Kg		90	44 - 120
2,4-Dinitrotoluene	1670	1690		ug/Kg		102	68 - 120
2,6-Dinitrotoluene	1670	1750		ug/Kg		105	67 - 120
2-Chloronaphthalene	1670	1470		ug/Kg		88	61 - 120
2-Chlorophenol	1670	1450		ug/Kg		87	59 - 120
2-Methylnaphthalene	1670	1480		ug/Kg		89	63 - 120
2-Methylphenol	1670	1550		ug/Kg		93	63 - 120
2-Nitroaniline	1670	1830		ug/Kg		110	64 - 120
2-Nitrophenol	1670	1710		ug/Kg		103	55 - 120
3,3'-Dichlorobenzidine	3330	2340		ug/Kg		70	19 - 120
3-Nitroaniline	1670	1240		ug/Kg		74	31 - 120
4,6-Dinitro-2-methylphenol	3330	3680		ug/Kg		111	59 - 120
4-Bromophenyl-phenylether	1670	1700		ug/Kg		102	65 - 120
4-Chloro-3-methylphenol	1670	1640		ug/Kg		98	67 - 120
4-Chloroaniline	1670	1010		ug/Kg		61	10 - 120
4-Chlorophenyl-phenyl ether	1670	1520		ug/Kg		91	64 - 120
4-Methylphenol	1670	1430		ug/Kg		86	56 - 120
4-Nitroaniline	1670	1570		ug/Kg		94	59 - 120
4-Nitrophenol	3330	2550		ug/Kg		77	58 - 120
Acenaphthene	1670	1520		ug/Kg		91	61 - 120

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-191771/2-A

Matrix: Solid

Analysis Batch: 191895

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191771

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	1670	1670		ug/Kg		100	69 - 120
Acetophenone	1670	1280		ug/Kg		77	54 - 120
Anthracene	1670	1630		ug/Kg		98	75 - 120
Atrazine	1670	1760		ug/Kg		106	63 - 127
Benzaldehyde	1670	1040		ug/Kg		62	25 - 120
Benzo[a]anthracene	1670	1740		ug/Kg		104	73 - 120
Benzo[a]pyrene	1670	1620		ug/Kg		97	80 - 123
Benzo[b]fluoranthene	1670	1660		ug/Kg		99	63 - 120
Benzo[g,h,i]perylene	1670	1810		ug/Kg		108	77 - 120
Benzo[k]fluoranthene	1670	1520		ug/Kg		91	68 - 120
Bis(2-chloroethoxy)methane	1670	1400		ug/Kg		84	55 - 120
Bis(2-chloroethyl)ether	1670	1310		ug/Kg		78	49 - 120
Bis(2-ethylhexyl) phthalate	1670	1680		ug/Kg		101	65 - 120
Butylbenzylphthalate	1670	1620		ug/Kg		97	66 - 120
Caprolactam	1670	1640		ug/Kg		99	54 - 120
Carbazole	1670	1640		ug/Kg		99	74 - 120
Chrysene	1670	1600		ug/Kg		96	66 - 120
Dibenz(a,h)anthracene	1670	1880		ug/Kg		113	72 - 120
Dibenzofuran	1670	1530		ug/Kg		92	68 - 120
Diethyl phthalate	1670	1570		ug/Kg		94	65 - 120
Dimethyl phthalate	1670	1570		ug/Kg		94	67 - 120
Di-n-butyl phthalate	1670	1680		ug/Kg		101	65 - 120
Di-n-octyl phthalate	1670	1720		ug/Kg		103	60 - 125
Fluoranthene	1670	1610		ug/Kg		96	71 - 120
Fluorene	1670	1540		ug/Kg		92	68 - 120
Hexachlorobenzene	1670	1760		ug/Kg		106	58 - 120
Hexachlorobutadiene	1670	1450		ug/Kg		87	48 - 120
Hexachlorocyclopentadiene	1670	1460		ug/Kg		87	43 - 120
Hexachloroethane	1670	1210		ug/Kg		72	48 - 120
Indeno[1,2,3-cd]pyrene	1670	1800		ug/Kg		108	71 - 122
Isophorone	1670	1470		ug/Kg		88	62 - 120
Naphthalene	1670	1420		ug/Kg		85	60 - 120
Nitrobenzene	1670	1320		ug/Kg		79	56 - 120
N-Nitrosodimethylamine	1670	1090		ug/Kg		65	49 - 120
N-Nitrosodi-n-propylamine	1670	1290		ug/Kg		78	55 - 120
N-Nitrosodiphenylamine	1420	1430		ug/Kg		101	71 - 120
Pentachlorophenol	3330	2800		ug/Kg		84	41 - 120
Phenanthrene	1670	1580		ug/Kg		95	74 - 120
Phenol	1670	1370		ug/Kg		82	57 - 120
Pyrene	1670	1550		ug/Kg		93	70 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	108		13 - 121
2-Fluorobiphenyl (Surr)	90		39 - 100
2-Fluorophenol (Surr)	86		26 - 96
Nitrobenzene-d5 (Surr)	85		32 - 97
Phenol-d5 (Surr)	85		27 - 104
p-Terphenyl-d14 (Surr)	110	S1+	45 - 108

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-191771/3-A

Matrix: Solid

Analysis Batch: 191895

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 191771

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
1,1'-Biphenyl	1670	1430		ug/Kg		86	62 - 120	6	30
1,4-Dioxane	1670	650		ug/Kg		39	26 - 120	12	30
1-Methylnaphthalene	1670	1420		ug/Kg		85	59 - 120	5	30
2,2'-oxybis[1-chloropropane]	1670	986		ug/Kg		59	48 - 120	2	30
2,4,5-Trichlorophenol	1670	1560		ug/Kg		93	61 - 120	6	30
2,4,6-Trichlorophenol	1670	1610		ug/Kg		97	59 - 120	5	30
2,4-Dichlorophenol	1670	1560		ug/Kg		94	62 - 120	7	30
2,4-Dimethylphenol	1670	1510		ug/Kg		91	65 - 120	7	30
2,4-Dinitrophenol	3330	2700		ug/Kg		81	44 - 120	10	30
2,4-Dinitrotoluene	1670	1600		ug/Kg		96	68 - 120	6	30
2,6-Dinitrotoluene	1670	1670		ug/Kg		100	67 - 120	5	30
2-Chloronaphthalene	1670	1390		ug/Kg		83	61 - 120	5	30
2-Chlorophenol	1670	1370		ug/Kg		82	59 - 120	6	30
2-Methylnaphthalene	1670	1410		ug/Kg		84	63 - 120	5	30
2-Methylphenol	1670	1510		ug/Kg		90	63 - 120	3	30
2-Nitroaniline	1670	1740		ug/Kg		104	64 - 120	5	30
2-Nitrophenol	1670	1650		ug/Kg		99	55 - 120	4	30
3,3'-Dichlorobenzidine	3330	2240		ug/Kg		67	19 - 120	4	30
3-Nitroaniline	1670	1140		ug/Kg		68	31 - 120	9	30
4,6-Dinitro-2-methylphenol	3330	3630		ug/Kg		109	59 - 120	2	30
4-Bromophenyl-phenylether	1670	1630		ug/Kg		98	65 - 120	4	30
4-Chloro-3-methylphenol	1670	1520		ug/Kg		91	67 - 120	7	30
4-Chloroaniline	1670	963		ug/Kg		58	10 - 120	5	30
4-Chlorophenyl-phenyl ether	1670	1470		ug/Kg		88	64 - 120	3	30
4-Methylphenol	1670	1410		ug/Kg		84	56 - 120	2	30
4-Nitroaniline	1670	1400		ug/Kg		84	59 - 120	11	30
4-Nitrophenol	3330	2360		ug/Kg		71	58 - 120	8	30
Acenaphthene	1670	1430		ug/Kg		86	61 - 120	6	30
Acenaphthylene	1670	1560		ug/Kg		94	69 - 120	6	30
Acetophenone	1670	1250		ug/Kg		75	54 - 120	3	30
Anthracene	1670	1600		ug/Kg		96	75 - 120	2	30
Atrazine	1670	1700		ug/Kg		102	63 - 127	4	30
Benzaldehyde	1670	1020		ug/Kg		61	25 - 120	2	30
Benzo[a]anthracene	1670	1670		ug/Kg		100	73 - 120	4	30
Benzo[a]pyrene	1670	1560		ug/Kg		93	80 - 123	4	30
Benzo[b]fluoranthene	1670	1420		ug/Kg		85	63 - 120	15	30
Benzo[g,h,i]perylene	1670	1740		ug/Kg		104	77 - 120	4	30
Benzo[k]fluoranthene	1670	1600		ug/Kg		96	68 - 120	5	30
Bis(2-chloroethoxy)methane	1670	1340		ug/Kg		80	55 - 120	5	30
Bis(2-chloroethyl)ether	1670	1240		ug/Kg		75	49 - 120	5	30
Bis(2-ethylhexyl) phthalate	1670	1630		ug/Kg		98	65 - 120	3	30
Butylbenzylphthalate	1670	1560		ug/Kg		94	66 - 120	4	30
Caprolactam	1670	1600		ug/Kg		96	54 - 120	3	30
Carbazole	1670	1590		ug/Kg		95	74 - 120	3	30
Chrysene	1670	1500		ug/Kg		90	66 - 120	6	30
Dibenz(a,h)anthracene	1670	1760		ug/Kg		106	72 - 120	6	30
Dibenzofuran	1670	1440		ug/Kg		87	68 - 120	6	30
Diethyl phthalate	1670	1500		ug/Kg		90	65 - 120	4	30

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QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-191771/3-A

Matrix: Solid

Analysis Batch: 191895

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 191771

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Dimethyl phthalate	1670	1490		ug/Kg		89	67 - 120	5	30	
Di-n-butyl phthalate	1670	1640		ug/Kg		99	65 - 120	3	30	
Di-n-octyl phthalate	1670	1650		ug/Kg		99	60 - 125	4	30	
Fluoranthene	1670	1560		ug/Kg		94	71 - 120	3	30	
Fluorene	1670	1480		ug/Kg		89	68 - 120	4	30	
Hexachlorobenzene	1670	1700		ug/Kg		102	58 - 120	4	30	
Hexachlorobutadiene	1670	1360		ug/Kg		81	48 - 120	7	30	
Hexachlorocyclopentadiene	1670	1320		ug/Kg		79	43 - 120	10	30	
Hexachloroethane	1670	1180		ug/Kg		71	48 - 120	2	30	
Indeno[1,2,3-cd]pyrene	1670	1720		ug/Kg		103	71 - 122	4	30	
Isophorone	1670	1380		ug/Kg		83	62 - 120	6	30	
Naphthalene	1670	1330		ug/Kg		80	60 - 120	7	30	
Nitrobenzene	1670	1240		ug/Kg		74	56 - 120	6	30	
N-Nitrosodimethylamine	1670	1150		ug/Kg		69	49 - 120	5	30	
N-Nitrosodi-n-propylamine	1670	1240		ug/Kg		74	55 - 120	4	30	
N-Nitrosodiphenylamine	1420	1400		ug/Kg		99	71 - 120	2	30	
Pentachlorophenol	3330	2710		ug/Kg		81	41 - 120	3	30	
Phenanthrene	1670	1520		ug/Kg		91	74 - 120	3	30	
Phenol	1670	1310		ug/Kg		79	57 - 120	4	30	
Pyrene	1670	1480		ug/Kg		89	70 - 120	4	30	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	103		13 - 121
2-Fluorobiphenyl (Surr)	87		39 - 100
2-Fluorophenol (Surr)	82		26 - 96
Nitrobenzene-d5 (Surr)	80		32 - 97
Phenol-d5 (Surr)	81		27 - 104
p-Terphenyl-d14 (Surr)	107		45 - 108

Lab Sample ID: MB 410-191849/1-A

Matrix: Water

Analysis Batch: 192431

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191849

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1'-Biphenyl	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
2,2'-oxybis[1-chloropropane]	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
2,4,5-Trichlorophenol	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
2,4,6-Trichlorophenol	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
2,4-Dichlorophenol	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
2,4-Dimethylphenol	10	U	10	3.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
2,4-Dinitrophenol	30	U	30	14	ug/L		11/08/21 11:37	11/09/21 14:01	1
2,4-Dinitrotoluene	5.0	U	5.0	1.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
2,6-Dinitrotoluene	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
2-Chloronaphthalene	1.0	U	1.0	0.40	ug/L		11/08/21 11:37	11/09/21 14:01	1
2-Chlorophenol	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
2-Methylphenol	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
2-Nitroaniline	5.0	U	5.0	1.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
2-Nitrophenol	5.0	U	5.0	1.0	ug/L		11/08/21 11:37	11/09/21 14:01	1

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QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-191849/1-A

Matrix: Water

Analysis Batch: 192431

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191849

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
3,3'-Dichlorobenzidine	10	U	10	4.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
3-Nitroaniline	5.0	U	5.0	2.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
4,6-Dinitro-2-methylphenol	21	U	21	8.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
4-Bromophenyl-phenylether	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
4-Chloro-3-methylphenol	5.0	U	5.0	1.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
4-Chloroaniline	10	U	10	4.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
4-Chlorophenyl-phenyl ether	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
4-Methylphenol	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
4-Nitroaniline	3.0	U	3.0	0.90	ug/L		11/08/21 11:37	11/09/21 14:01	1
4-Nitrophenol	30	U	30	10	ug/L		11/08/21 11:37	11/09/21 14:01	1
Acetophenone	5.0	U	5.0	1.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
Atrazine	5.0	U	5.0	1.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
Benzaldehyde	5.0	U	5.0	1.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
Bis(2-chloroethoxy)methane	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
Caprolactam	7.0	U	7.0	3.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
Carbazole	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
Hexachlorobutadiene	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
Hexachlorocyclopentadiene	11	U	11	5.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
Hexachloroethane	5.0	U	5.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
Isophorone	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
Nitrobenzene	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
N-Nitrosodi-n-propylamine	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
N-Nitrosodiphenylamine	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1
Pentachlorophenol	5.0	U	5.0	1.0	ug/L		11/08/21 11:37	11/09/21 14:01	1
Phenol	2.0	U	2.0	0.50	ug/L		11/08/21 11:37	11/09/21 14:01	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol (Surr)	90		10 - 150	11/08/21 11:37	11/09/21 14:01	1
2-Fluorobiphenyl (Surr)	73		35 - 100	11/08/21 11:37	11/09/21 14:01	1
2-Fluorophenol (Surr)	40		10 - 78	11/08/21 11:37	11/09/21 14:01	1
Nitrobenzene-d5 (Surr)	73		22 - 117	11/08/21 11:37	11/09/21 14:01	1
Phenol-d5 (Surr)	31		10 - 67	11/08/21 11:37	11/09/21 14:01	1
p-Terphenyl-d14 (Surr)	85		31 - 119	11/08/21 11:37	11/09/21 14:01	1

Lab Sample ID: LCS 410-191849/2-A

Matrix: Water

Analysis Batch: 192431

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191849

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2'-oxybis[1-chloropropane]	50.0	31.8		ug/L		64	48 - 120
2,4,5-Trichlorophenol	50.0	45.4		ug/L		91	66 - 120
2,4,6-Trichlorophenol	50.0	45.7		ug/L		91	63 - 120
2,4-Dichlorophenol	50.0	44.2		ug/L		88	64 - 120
2,4-Dimethylphenol	50.0	41.1		ug/L		82	64 - 107
2,4-Dinitrophenol	100	87.0		ug/L		87	33 - 132
2,4-Dinitrotoluene	50.0	44.0		ug/L		88	71 - 120
2,6-Dinitrotoluene	50.0	45.6		ug/L		91	72 - 120

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-191849/2-A

Matrix: Water

Analysis Batch: 192431

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191849

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
2-Chloronaphthalene	50.0	36.5		ug/L		73	51 - 120
2-Chlorophenol	50.0	38.3		ug/L		77	57 - 120
2-Methylphenol	50.0	39.0		ug/L		78	51 - 120
2-Nitroaniline	50.0	43.0		ug/L		86	67 - 120
2-Nitrophenol	50.0	42.3		ug/L		85	59 - 120
3,3'-Dichlorobenzidine	100	74.8		ug/L		75	42 - 107
3-Nitroaniline	50.0	35.7		ug/L		71	52 - 120
4,6-Dinitro-2-methylphenol	100	90.8		ug/L		91	53 - 123
4-Bromophenyl-phenylether	50.0	46.7		ug/L		93	66 - 120
4-Chloro-3-methylphenol	50.0	44.0		ug/L		88	60 - 120
4-Chloroaniline	50.0	32.3		ug/L		65	36 - 120
4-Chlorophenyl-phenyl ether	50.0	44.3		ug/L		89	59 - 120
4-Methylphenol	50.0	37.7		ug/L		75	44 - 120
4-Nitroaniline	50.0	36.4		ug/L		73	60 - 120
4-Nitrophenol	100	39.8		ug/L		40	19 - 120
Acetophenone	50.0	39.4		ug/L		79	62 - 120
Atrazine	50.0	48.5		ug/L		97	66 - 122
Benzaldehyde	50.0	39.7		ug/L		79	45 - 120
Bis(2-chloroethoxy)methane	50.0	42.0		ug/L		84	62 - 120
Caprolactam	50.0	12.4		ug/L		25	12 - 120
Carbazole	50.0	42.0		ug/L		84	74 - 120
Hexachlorobutadiene	50.0	32.6		ug/L		65	24 - 120
Hexachlorocyclopentadiene	50.0	13.1		ug/L		26	10 - 120
Hexachloroethane	50.0	27.4		ug/L		55	22 - 120
Isophorone	50.0	42.7		ug/L		85	70 - 120
Nitrobenzene	50.0	38.5		ug/L		77	59 - 120
N-Nitrosodi-n-propylamine	50.0	40.3		ug/L		81	63 - 120
N-Nitrosodiphenylamine	42.5	36.2		ug/L		85	72 - 120
Pentachlorophenol	100	89.3		ug/L		89	48 - 123
Phenol	50.0	21.1		ug/L		42	22 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	100		10 - 150
2-Fluorobiphenyl (Surr)	77		35 - 100
2-Fluorophenol (Surr)	50		10 - 78
Nitrobenzene-d5 (Surr)	74		22 - 117
Phenol-d5 (Surr)	41		10 - 67
p-Terphenyl-d14 (Surr)	86		31 - 119

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-191848/1-A

Matrix: Water

Analysis Batch: 192854

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191848

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	0.30	U	0.30	0.10	ug/L		11/08/21 11:41	11/10/21 06:22	1
1-Methylnaphthalene	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 06:22	1
2-Methylnaphthalene	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 06:22	1

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QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 410-191848/1-A

Matrix: Water

Analysis Batch: 192854

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 191848

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Acenaphthylene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Anthracene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Benzo[a]anthracene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Benzo[a]pyrene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Benzo[b]fluoranthene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Benzo[g,h,i]perylene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Benzo[k]fluoranthene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Bis(2-chloroethyl)ether	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 06:22	1
Bis(2-ethylhexyl) phthalate	1.0	U	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 06:22	1
Butylbenzylphthalate	1.0	U	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 06:22	1
Chrysene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Dibenz(a,h)anthracene	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 06:22	1
Dibenzofuran	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Diethyl phthalate	1.0	U	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 06:22	1
Dimethyl phthalate	1.0	U	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 06:22	1
Di-n-butyl phthalate	1.0	U	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 06:22	1
Di-n-octyl phthalate	1.0	U	1.0	0.050	ug/L		11/08/21 11:41	11/10/21 06:22	1
Fluoranthene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Fluorene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1
Hexachlorobenzene	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 06:22	1
Indeno[1,2,3-cd]pyrene	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 06:22	1
Naphthalene	0.070	U	0.070	0.030	ug/L		11/08/21 11:41	11/10/21 06:22	1
N-Nitrosodimethylamine	0.050	U	0.050	0.020	ug/L		11/08/21 11:41	11/10/21 06:22	1
Phenanthrene	0.070	U	0.070	0.030	ug/L		11/08/21 11:41	11/10/21 06:22	1
Pyrene	0.050	U	0.050	0.010	ug/L		11/08/21 11:41	11/10/21 06:22	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Methylnaphthalene-d10 (Surr)	88		36 - 111	11/08/21 11:41	11/10/21 06:22	1
Benzo(a)pyrene-d12 (Surr)	84		10 - 110	11/08/21 11:41	11/10/21 06:22	1
Fluoranthene-d10 (Surr)	94		47 - 128	11/08/21 11:41	11/10/21 06:22	1

Lab Sample ID: LCS 410-191848/2-A

Matrix: Water

Analysis Batch: 192854

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	1.00	0.840		ug/L		84	23 - 124
2-Methylnaphthalene	1.00	1.08		ug/L		108	20 - 133
Acenaphthene	1.00	0.841		ug/L		84	42 - 120
Acenaphthylene	1.00	0.834		ug/L		83	49 - 120
Anthracene	1.00	0.920		ug/L		92	54 - 121
Benzo[a]anthracene	1.00	0.914		ug/L		91	61 - 122
Benzo[a]pyrene	1.00	0.938		ug/L		94	60 - 120
Benzo[b]fluoranthene	1.00	0.991		ug/L		99	58 - 122
Benzo[g,h,i]perylene	1.00	0.956		ug/L		96	50 - 120
Benzo[k]fluoranthene	1.00	0.925		ug/L		93	57 - 128

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 410-191848/2-A

Matrix: Water

Analysis Batch: 192854

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 191848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
Bis(2-chloroethyl)ether	1.00	0.887		ug/L		89	59 - 130	
Bis(2-ethylhexyl) phthalate	1.00	0.902	J	ug/L		90	14 - 155	
Butylbenzylphthalate	1.00	0.794	J	ug/L		79	10 - 120	
Chrysene	1.00	0.887		ug/L		89	55 - 123	
Dibenz(a,h)anthracene	1.00	0.947		ug/L		95	50 - 121	
Dibenzofuran	1.00	0.849		ug/L		85	48 - 124	
Diethyl phthalate	1.00	0.897	J	ug/L		90	38 - 120	
Dimethyl phthalate	1.00	0.785	J	ug/L		79	10 - 121	
Di-n-butyl phthalate	1.00	1.05		ug/L		105	46 - 125	
Di-n-octyl phthalate	1.00	0.874	J	ug/L		87	22 - 130	
Fluoranthene	1.00	0.953		ug/L		95	61 - 123	
Fluorene	1.00	0.852		ug/L		85	55 - 120	
Hexachlorobenzene	1.00	0.823		ug/L		82	20 - 120	
Indeno[1,2,3-cd]pyrene	1.00	0.985		ug/L		98	47 - 143	
Naphthalene	1.00	0.772		ug/L		77	20 - 120	
N-Nitrosodimethylamine	1.00	0.717		ug/L		72	37 - 120	
Phenanthrene	1.00	0.896		ug/L		90	59 - 120	
Pyrene	1.00	0.852		ug/L		85	46 - 122	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1-Methylnaphthalene-d10 (Surr)	84		36 - 111
Benzo(a)pyrene-d12 (Surr)	90		10 - 110
Fluoranthene-d10 (Surr)	95		47 - 128

Lab Sample ID: LCSD 410-191848/3-A

Matrix: Water

Analysis Batch: 192854

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 191848

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
							Limits		RPD	Limit
1,4-Dioxane	1.00	0.518		ug/L		52	23 - 120	0	30	
1-Methylnaphthalene	1.00	0.778		ug/L		78	23 - 124	8	30	
2-Methylnaphthalene	1.00	1.01		ug/L		101	20 - 133	7	30	
Acenaphthene	1.00	0.805		ug/L		81	42 - 120	4	30	
Acenaphthylene	1.00	0.795		ug/L		79	49 - 120	5	30	
Anthracene	1.00	0.849		ug/L		85	54 - 121	8	30	
Benzo[a]anthracene	1.00	0.869		ug/L		87	61 - 122	5	30	
Benzo[a]pyrene	1.00	0.885		ug/L		89	60 - 120	6	30	
Benzo[b]fluoranthene	1.00	0.908		ug/L		91	58 - 122	9	30	
Benzo[g,h,i]perylene	1.00	0.892		ug/L		89	50 - 120	7	30	
Benzo[k]fluoranthene	1.00	0.851		ug/L		85	57 - 128	8	30	
Bis(2-chloroethyl)ether	1.00	0.895		ug/L		90	59 - 130	1	30	
Bis(2-ethylhexyl) phthalate	1.00	0.885	J	ug/L		88	14 - 155	2	30	
Butylbenzylphthalate	1.00	0.741	J	ug/L		74	10 - 120	7	30	
Chrysene	1.00	0.847		ug/L		85	55 - 123	5	30	
Dibenz(a,h)anthracene	1.00	0.868		ug/L		87	50 - 121	9	30	
Dibenzofuran	1.00	0.811		ug/L		81	48 - 124	5	30	
Diethyl phthalate	1.00	0.838	J	ug/L		84	38 - 120	7	30	
Dimethyl phthalate	1.00	0.720	J	ug/L		72	10 - 121	9	30	

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 410-191848/3-A

Matrix: Water

Analysis Batch: 192854

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 191848

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							Limits	RPD	RPD	Limit
Di-n-butyl phthalate	1.00	0.993	J	ug/L		99	46 - 125	6	30	
Di-n-octyl phthalate	1.00	0.839	J	ug/L		84	22 - 130	4	30	
Fluoranthene	1.00	0.907		ug/L		91	61 - 123	5	30	
Fluorene	1.00	0.805		ug/L		81	55 - 120	6	30	
Hexachlorobenzene	1.00	0.771		ug/L		77	20 - 120	7	30	
Indeno[1,2,3-cd]pyrene	1.00	0.903		ug/L		90	47 - 143	9	30	
Naphthalene	1.00	0.733		ug/L		73	20 - 120	5	30	
N-Nitrosodimethylamine	1.00	0.711		ug/L		71	37 - 120	1	30	
Phenanthrene	1.00	0.849		ug/L		85	59 - 120	5	30	
Pyrene	1.00	0.798		ug/L		80	46 - 122	7	30	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1-Methylnaphthalene-d10 (Surr)	77		36 - 111
Benzo(a)pyrene-d12 (Surr)	85		10 - 110
Fluoranthene-d10 (Surr)	87		47 - 128

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Lab Sample ID: MB 410-191354/4

Matrix: Water

Analysis Batch: 191354

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
TPH-GRO (Gasoline Range Organics) (1C)	50	U	50	23	ug/L			11/05/21 16:00	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (fid) (1C)	98		63 - 135		11/05/21 16:00	1

Lab Sample ID: LCS 410-191354/5

Matrix: Water

Analysis Batch: 191354

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
							Limits	RPD
TPH-GRO (Gasoline Range Organics) (1C)	1100	919		ug/L		84	70 - 123	

Surrogate	LCS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene (fid) (1C)	90		63 - 135

Lab Sample ID: LCSD 410-191354/6

Matrix: Water

Analysis Batch: 191354

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							Limits	RPD	RPD	Limit
TPH-GRO (Gasoline Range Organics) (1C)	1100	1000		ug/L		91	70 - 123	8	30	

QC Sample Results

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics) (Continued)

Lab Sample ID: LCSD 410-191354/6
Matrix: Water
Analysis Batch: 191354

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	93		63 - 135

Lab Sample ID: MB 410-192004/5
Matrix: Solid
Analysis Batch: 192004

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH-GRO (Gasoline Range Organics) (1C)	1.0	U	1.0	0.18	mg/Kg			11/08/21 15:13	25

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid) (1C)	102		50 - 142		11/08/21 15:13	25

Lab Sample ID: LCS 410-192004/6
Matrix: Solid
Analysis Batch: 192004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TPH-GRO (Gasoline Range Organics) (1C)	11.0	9.75		mg/Kg		89	60 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	109		50 - 142

Lab Sample ID: LCSD 410-192004/7
Matrix: Solid
Analysis Batch: 192004

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH-GRO (Gasoline Range Organics) (1C)	11.0	10.4		mg/Kg		95	60 - 132	7	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene (fid) (1C)	109		50 - 142

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Lab Sample ID: MB 410-191775/1-A
Matrix: Solid
Analysis Batch: 192275

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 191775

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28) (1C)	12	U	12	5.0	mg/Kg		11/07/21 16:44	11/08/21 22:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-terphenyl (Surr) (1C)	93		42 - 143	11/07/21 16:44	11/08/21 22:31	1

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QC Sample Results

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)
(Continued)

Lab Sample ID: LCSD 410-191776/3-A
Matrix: Water
Analysis Batch: 192249

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 191776

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (C10-C28) (1C)	600	486		ug/L		81	31 - 115	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
<i>o-terphenyl (Surr) (1C)</i>	95		48 - 113

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

QC Association Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

GC/MS VOA

Prep Batch: 191047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-2	DUP-01_112021	Total/NA	Solid	5035	

Prep Batch: 191073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-1	GCHD-SO-A:6.5-7'_112021	Total/NA	Solid	5035	

Analysis Batch: 192184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-1	GCHD-SO-A:6.5-7'_112021	Total/NA	Solid	8260C	191073
MB 410-192184/9	Method Blank	Total/NA	Solid	8260C	
LCS 410-192184/6	Lab Control Sample	Total/NA	Solid	8260C	
LCS 410-192184/7	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 192680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-2	DUP-01_112021	Total/NA	Solid	8260C	191047
MB 410-192680/7	Method Blank	Total/NA	Solid	8260C	
LCS 410-192680/4	Lab Control Sample	Total/NA	Solid	8260C	
LCS 410-192680/5	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 192723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-3	EB-1_112021	Total/NA	Water	8260C	
410-61929-4	TRIP BLANK-2	Total/NA	Water	8260C	
MB 410-192723/6	Method Blank	Total/NA	Water	8260C	
LCS 410-192723/4	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 191771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-1	GCHD-SO-A:6.5-7'_112021	Total/NA	Solid	3546	
410-61929-2	DUP-01_112021	Total/NA	Solid	3546	
MB 410-191771/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-191771/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 410-191771/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Prep Batch: 191848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-3	EB-1_112021	Total/NA	Water	3510C	
MB 410-191848/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-191848/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 410-191848/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 191849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-3	EB-1_112021	Total/NA	Water	3510C	
MB 410-191849/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-191849/2-A	Lab Control Sample	Total/NA	Water	3510C	

QC Association Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

GC/MS Semi VOA

Analysis Batch: 191895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-191771/2-A	Lab Control Sample	Total/NA	Solid	8270D	191771
LCSD 410-191771/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	191771

Analysis Batch: 192392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-191771/1-A	Method Blank	Total/NA	Solid	8270D	191771

Analysis Batch: 192431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-191849/1-A	Method Blank	Total/NA	Water	8270D	191849
LCS 410-191849/2-A	Lab Control Sample	Total/NA	Water	8270D	191849

Analysis Batch: 192432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-2	DUP-01_112021	Total/NA	Solid	8270D	191771

Analysis Batch: 192854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-3	EB-1_112021	Total/NA	Water	8270D SIM	191848
MB 410-191848/1-A	Method Blank	Total/NA	Water	8270D SIM	191848
LCS 410-191848/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	191848
LCSD 410-191848/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	191848

Analysis Batch: 192935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-3	EB-1_112021	Total/NA	Water	8270D	191849

Analysis Batch: 194708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-1	GCHD-SO-A:6.5-7'_112021	Total/NA	Solid	8270D	191771

GC VOA

Prep Batch: 191053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-1	GCHD-SO-A:6.5-7'_112021	Total/NA	Solid	5035	
410-61929-2	DUP-01_112021	Total/NA	Solid	5035	

Analysis Batch: 191354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-3	EB-1_112021	Total/NA	Water	8015C	
410-61929-4	TRIP BLANK-2	Total/NA	Water	8015C	
MB 410-191354/4	Method Blank	Total/NA	Water	8015C	
LCS 410-191354/5	Lab Control Sample	Total/NA	Water	8015C	
LCSD 410-191354/6	Lab Control Sample Dup	Total/NA	Water	8015C	

Analysis Batch: 192004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-1	GCHD-SO-A:6.5-7'_112021	Total/NA	Solid	8015C	191053
410-61929-2	DUP-01_112021	Total/NA	Solid	8015C	191053
MB 410-192004/5	Method Blank	Total/NA	Solid	8015C	

QC Association Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

GC VOA (Continued)

Analysis Batch: 192004 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-192004/6	Lab Control Sample	Total/NA	Solid	8015C	
LCSD 410-192004/7	Lab Control Sample Dup	Total/NA	Solid	8015C	

GC Semi VOA

Prep Batch: 191775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-1	GCHD-SO-A:6.5-7'_112021	Total/NA	Solid	3546	
410-61929-2	DUP-01_112021	Total/NA	Solid	3546	
MB 410-191775/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-191775/2-A	Lab Control Sample	Total/NA	Solid	3546	
410-61929-2 MS	DUP-01_112021	Total/NA	Solid	3546	
410-61929-2 DU	DUP-01_112021	Total/NA	Solid	3546	

Prep Batch: 191776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-3	EB-1_112021	Total/NA	Water	3510C	
MB 410-191776/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-191776/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-191776/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 192249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-3	EB-1_112021	Total/NA	Water	8015C	191776
MB 410-191776/1-A	Method Blank	Total/NA	Water	8015C	191776
LCS 410-191776/2-A	Lab Control Sample	Total/NA	Water	8015C	191776
LCSD 410-191776/3-A	Lab Control Sample Dup	Total/NA	Water	8015C	191776

Analysis Batch: 192275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-1	GCHD-SO-A:6.5-7'_112021	Total/NA	Solid	8015C	191775
410-61929-2	DUP-01_112021	Total/NA	Solid	8015C	191775
MB 410-191775/1-A	Method Blank	Total/NA	Solid	8015C	191775
LCS 410-191775/2-A	Lab Control Sample	Total/NA	Solid	8015C	191775
410-61929-2 MS	DUP-01_112021	Total/NA	Solid	8015C	191775
410-61929-2 DU	DUP-01_112021	Total/NA	Solid	8015C	191775

General Chemistry

Analysis Batch: 191017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-61929-1	GCHD-SO-A:6.5-7'_112021	Total/NA	Solid	Moisture	
410-61929-2	DUP-01_112021	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: GCHD-SO-A:6.5-7'_112021

Lab Sample ID: 410-61929-1

Date Collected: 11/03/21 11:00

Matrix: Solid

Date Received: 11/04/21 10:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	191017	11/04/21 17:49	OEL4	ELLE

Client Sample ID: GCHD-SO-A:6.5-7'_112021

Lab Sample ID: 410-61929-1

Date Collected: 11/03/21 11:00

Matrix: Solid

Date Received: 11/04/21 10:52

Percent Solids: 66.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			191073	11/04/21 19:27	D8NM	ELLE
Total/NA	Analysis	8260C		1	192184	11/08/21 23:59	FXN6	ELLE
Total/NA	Prep	3546			191771	11/07/21 16:26	D7SW	ELLE
Total/NA	Analysis	8270D		1	194708	11/15/21 12:09	DZ6A	ELLE
Total/NA	Prep	5035			191053	11/04/21 18:39	D8NM	ELLE
Total/NA	Analysis	8015C		25	192004	11/08/21 20:20	JJT8	ELLE
Total/NA	Prep	3546			191775	11/07/21 16:44	D7SW	ELLE
Total/NA	Analysis	8015C		1	192275	11/09/21 01:10	IUSB	ELLE

Client Sample ID: DUP-01_112021

Lab Sample ID: 410-61929-2

Date Collected: 11/03/21 12:00

Matrix: Solid

Date Received: 11/04/21 10:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	191017	11/04/21 17:49	OEL4	ELLE

Client Sample ID: DUP-01_112021

Lab Sample ID: 410-61929-2

Date Collected: 11/03/21 12:00

Matrix: Solid

Date Received: 11/04/21 10:52

Percent Solids: 69.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			191047	11/04/21 18:28	D8NM	ELLE
Total/NA	Analysis	8260C		1	192680	11/10/21 03:20	FXN6	ELLE
Total/NA	Prep	3546			191771	11/07/21 16:26	D7SW	ELLE
Total/NA	Analysis	8270D		1	192432	11/09/21 13:52	P7EB	ELLE
Total/NA	Prep	5035			191053	11/04/21 18:39	D8NM	ELLE
Total/NA	Analysis	8015C		25	192004	11/08/21 20:58	JJT8	ELLE
Total/NA	Prep	3546			191775	11/07/21 16:44	D7SW	ELLE
Total/NA	Analysis	8015C		1	192275	11/08/21 23:11	IUSB	ELLE

Client Sample ID: EB-1_112021

Lab Sample ID: 410-61929-3

Date Collected: 11/03/21 12:12

Matrix: Water

Date Received: 11/04/21 10:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	192723	11/09/21 23:48	K4WN	ELLE
Total/NA	Prep	3510C			191849	11/08/21 11:37	BLX5	ELLE
Total/NA	Analysis	8270D		1	192935	11/10/21 16:21	P7EB	ELLE

Lab Chronicle

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Client Sample ID: EB-1_112021

Lab Sample ID: 410-61929-3

Date Collected: 11/03/21 12:12

Matrix: Water

Date Received: 11/04/21 10:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			191848	11/08/21 11:41	BLX5	ELLE
Total/NA	Analysis	8270D SIM		1	192854	11/10/21 10:04	X3ZL	ELLE
Total/NA	Analysis	8015C		1	191354	11/05/21 18:34	UMDJ	ELLE
Total/NA	Prep	3510C			191776	11/07/21 18:46	L2TS	ELLE
Total/NA	Analysis	8015C		1	192249	11/08/21 22:25	IUSB	ELLE

Client Sample ID: TRIP BLANK-2

Lab Sample ID: 410-61929-4

Date Collected: 11/03/21 00:00

Matrix: Water

Date Received: 11/04/21 10:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	192723	11/10/21 00:11	K4WN	ELLE
Total/NA	Analysis	8015C		1	191354	11/05/21 18:59	UMDJ	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300



Accreditation/Certification Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Missouri	State	450	01-31-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015C		Water	TPH-GRO (Gasoline Range Organics) (1C)
8015C	3510C	Water	DRO (C10-C28) (1C)
8015C	3546	Solid	DRO (C10-C28) (1C)
8015C	5035	Solid	TPH-GRO (Gasoline Range Organics) (1C)
8260C		Water	1,1,1-Trichloroethane
8260C		Water	1,1,2,2-Tetrachloroethane
8260C		Water	1,1,2-Trichloroethane
8260C		Water	1,1-Dichloroethane
8260C		Water	1,1-Dichloroethene
8260C		Water	1,2,4-Trichlorobenzene
8260C		Water	1,2,4-Trimethylbenzene
8260C		Water	1,2-Dibromo-3-Chloropropane
8260C		Water	1,2-Dibromoethane
8260C		Water	1,2-Dichlorobenzene
8260C		Water	1,2-Dichloroethane
8260C		Water	1,2-Dichloropropane
8260C		Water	1,3,5-Trimethylbenzene
8260C		Water	1,3-Dichlorobenzene
8260C		Water	1,4-Dichlorobenzene
8260C		Water	2-Butanone
8260C		Water	2-Hexanone
8260C		Water	4-Methyl-2-pentanone
8260C		Water	Acetone
8260C		Water	Benzene
8260C		Water	Bromodichloromethane
8260C		Water	Bromoform
8260C		Water	Bromomethane
8260C		Water	Carbon disulfide
8260C		Water	Carbon tetrachloride
8260C		Water	Chlorobenzene
8260C		Water	Chloroethane
8260C		Water	Chloroform
8260C		Water	Chloromethane
8260C		Water	cis-1,2-Dichloroethene
8260C		Water	cis-1,3-Dichloropropene
8260C		Water	Cyclohexane
8260C		Water	Dibromochloromethane
8260C		Water	Dichlorodifluoromethane
8260C		Water	Ethylbenzene
8260C		Water	Freon 113
8260C		Water	Isopropylbenzene
8260C		Water	m&p-Xylene
8260C		Water	Methyl acetate
8260C		Water	Methyl tertiary butyl ether
8260C		Water	Methylcyclohexane

Accreditation/Certification Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	Methylene Chloride
8260C		Water	Naphthalene
8260C		Water	o-Xylene
8260C		Water	Styrene
8260C		Water	Tetrachloroethene
8260C		Water	Toluene
8260C		Water	trans-1,2-Dichloroethene
8260C		Water	trans-1,3-Dichloropropene
8260C		Water	Trichloroethene
8260C		Water	Trichlorofluoromethane
8260C		Water	Vinyl chloride
8260C		Water	Xylenes, Total
8260C	5035	Solid	1,1,1-Trichloroethane
8260C	5035	Solid	1,1,1,2-Tetrachloroethane
8260C	5035	Solid	1,1,2-Trichloroethane
8260C	5035	Solid	1,1-Dichloroethane
8260C	5035	Solid	1,1-Dichloroethene
8260C	5035	Solid	1,2,4-Trichlorobenzene
8260C	5035	Solid	1,2,4-Trimethylbenzene
8260C	5035	Solid	1,2-Dibromo-3-Chloropropane
8260C	5035	Solid	1,2-Dibromoethane
8260C	5035	Solid	1,2-Dichlorobenzene
8260C	5035	Solid	1,2-Dichloroethane
8260C	5035	Solid	1,2-Dichloropropane
8260C	5035	Solid	1,3,5-Trimethylbenzene
8260C	5035	Solid	1,3-Dichlorobenzene
8260C	5035	Solid	1,4-Dichlorobenzene
8260C	5035	Solid	2-Butanone
8260C	5035	Solid	2-Hexanone
8260C	5035	Solid	4-Methyl-2-pentanone
8260C	5035	Solid	Acetone
8260C	5035	Solid	Benzene
8260C	5035	Solid	Bromodichloromethane
8260C	5035	Solid	Bromoform
8260C	5035	Solid	Bromomethane
8260C	5035	Solid	Carbon disulfide
8260C	5035	Solid	Carbon tetrachloride
8260C	5035	Solid	Chlorobenzene
8260C	5035	Solid	Chloroethane
8260C	5035	Solid	Chloroform
8260C	5035	Solid	Chloromethane
8260C	5035	Solid	cis-1,2-Dichloroethene
8260C	5035	Solid	cis-1,3-Dichloropropene
8260C	5035	Solid	Cyclohexane
8260C	5035	Solid	Dibromochloromethane
8260C	5035	Solid	Dichlorodifluoromethane
8260C	5035	Solid	Ethylbenzene

Accreditation/Certification Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C	5035	Solid	Freon 113
8260C	5035	Solid	Isopropylbenzene
8260C	5035	Solid	m&p-Xylene
8260C	5035	Solid	Methyl acetate
8260C	5035	Solid	Methyl tertiary butyl ether
8260C	5035	Solid	Methylcyclohexane
8260C	5035	Solid	Methylene Chloride
8260C	5035	Solid	Naphthalene
8260C	5035	Solid	o-Xylene
8260C	5035	Solid	Styrene
8260C	5035	Solid	Tetrachloroethene
8260C	5035	Solid	Toluene
8260C	5035	Solid	trans-1,2-Dichloroethene
8260C	5035	Solid	trans-1,3-Dichloropropene
8260C	5035	Solid	Trichloroethene
8260C	5035	Solid	Trichlorofluoromethane
8260C	5035	Solid	Vinyl chloride
8260C	5035	Solid	Xylenes, Total
8270D	3510C	Water	1,1'-Biphenyl
8270D	3510C	Water	2,2'-oxybis[1-chloropropane]
8270D	3510C	Water	2,4,5-Trichlorophenol
8270D	3510C	Water	2,4,6-Trichlorophenol
8270D	3510C	Water	2,4-Dichlorophenol
8270D	3510C	Water	2,4-Dimethylphenol
8270D	3510C	Water	2,4-Dinitrophenol
8270D	3510C	Water	2,4-Dinitrotoluene
8270D	3510C	Water	2,6-Dinitrotoluene
8270D	3510C	Water	2-Chloronaphthalene
8270D	3510C	Water	2-Chlorophenol
8270D	3510C	Water	2-Methylphenol
8270D	3510C	Water	2-Nitroaniline
8270D	3510C	Water	2-Nitrophenol
8270D	3510C	Water	3,3'-Dichlorobenzidine
8270D	3510C	Water	3-Nitroaniline
8270D	3510C	Water	4,6-Dinitro-2-methylphenol
8270D	3510C	Water	4-Bromophenyl-phenylether
8270D	3510C	Water	4-Chloro-3-methylphenol
8270D	3510C	Water	4-Chloroaniline
8270D	3510C	Water	4-Chlorophenyl-phenyl ether
8270D	3510C	Water	4-Methylphenol
8270D	3510C	Water	4-Nitroaniline
8270D	3510C	Water	4-Nitrophenol
8270D	3510C	Water	Acetophenone
8270D	3510C	Water	Atrazine
8270D	3510C	Water	Benzaldehyde
8270D	3510C	Water	Bis(2-chloroethoxy)methane
8270D	3510C	Water	Caprolactam

Accreditation/Certification Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8270D	3510C	Water	Carbazole
8270D	3510C	Water	Hexachlorobutadiene
8270D	3510C	Water	Hexachlorocyclopentadiene
8270D	3510C	Water	Hexachloroethane
8270D	3510C	Water	Isophorone
8270D	3510C	Water	Nitrobenzene
8270D	3510C	Water	N-Nitrosodi-n-propylamine
8270D	3510C	Water	N-Nitrosodiphenylamine
8270D	3510C	Water	Pentachlorophenol
8270D	3510C	Water	Phenol
8270D	3546	Solid	1,1'-Biphenyl
8270D	3546	Solid	1,4-Dioxane
8270D	3546	Solid	1-Methylnaphthalene
8270D	3546	Solid	2,2'-oxybis[1-chloropropane]
8270D	3546	Solid	2,4,5-Trichlorophenol
8270D	3546	Solid	2,4,6-Trichlorophenol
8270D	3546	Solid	2,4-Dichlorophenol
8270D	3546	Solid	2,4-Dimethylphenol
8270D	3546	Solid	2,4-Dinitrophenol
8270D	3546	Solid	2,4-Dinitrotoluene
8270D	3546	Solid	2,6-Dinitrotoluene
8270D	3546	Solid	2-Chloronaphthalene
8270D	3546	Solid	2-Chlorophenol
8270D	3546	Solid	2-Methylnaphthalene
8270D	3546	Solid	2-Methylphenol
8270D	3546	Solid	2-Nitroaniline
8270D	3546	Solid	2-Nitrophenol
8270D	3546	Solid	3,3'-Dichlorobenzidine
8270D	3546	Solid	3-Nitroaniline
8270D	3546	Solid	4,6-Dinitro-2-methylphenol
8270D	3546	Solid	4-Bromophenyl-phenylether
8270D	3546	Solid	4-Chloro-3-methylphenol
8270D	3546	Solid	4-Chloroaniline
8270D	3546	Solid	4-Chlorophenyl-phenyl ether
8270D	3546	Solid	4-Methylphenol
8270D	3546	Solid	4-Nitroaniline
8270D	3546	Solid	4-Nitrophenol
8270D	3546	Solid	Acenaphthene
8270D	3546	Solid	Acenaphthylene
8270D	3546	Solid	Acetophenone
8270D	3546	Solid	Anthracene
8270D	3546	Solid	Atrazine
8270D	3546	Solid	Benzaldehyde
8270D	3546	Solid	Benzo[a]anthracene
8270D	3546	Solid	Benzo[a]pyrene
8270D	3546	Solid	Benzo[b]fluoranthene
8270D	3546	Solid	Benzo[g,h,i]perylene

Accreditation/Certification Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8270D	3546	Solid	Benzo[k]fluoranthene
8270D	3546	Solid	Bis(2-chloroethoxy)methane
8270D	3546	Solid	Bis(2-chloroethyl)ether
8270D	3546	Solid	Bis(2-ethylhexyl) phthalate
8270D	3546	Solid	Butylbenzylphthalate
8270D	3546	Solid	Caprolactam
8270D	3546	Solid	Carbazole
8270D	3546	Solid	Chrysene
8270D	3546	Solid	Dibenz(a,h)anthracene
8270D	3546	Solid	Dibenzofuran
8270D	3546	Solid	Diethyl phthalate
8270D	3546	Solid	Dimethyl phthalate
8270D	3546	Solid	Di-n-butyl phthalate
8270D	3546	Solid	Di-n-octyl phthalate
8270D	3546	Solid	Fluoranthene
8270D	3546	Solid	Fluorene
8270D	3546	Solid	Hexachlorobenzene
8270D	3546	Solid	Hexachlorobutadiene
8270D	3546	Solid	Hexachlorocyclopentadiene
8270D	3546	Solid	Hexachloroethane
8270D	3546	Solid	Indeno[1,2,3-cd]pyrene
8270D	3546	Solid	Isophorone
8270D	3546	Solid	Naphthalene
8270D	3546	Solid	Nitrobenzene
8270D	3546	Solid	N-Nitrosodimethylamine
8270D	3546	Solid	N-Nitrosodi-n-propylamine
8270D	3546	Solid	N-Nitrosodiphenylamine
8270D	3546	Solid	Pentachlorophenol
8270D	3546	Solid	Phenanthrene
8270D	3546	Solid	Phenol
8270D	3546	Solid	Pyrene
8270D SIM	3510C	Water	1,4-Dioxane
8270D SIM	3510C	Water	1-Methylnaphthalene
8270D SIM	3510C	Water	2-Methylnaphthalene
8270D SIM	3510C	Water	Acenaphthene
8270D SIM	3510C	Water	Acenaphthylene
8270D SIM	3510C	Water	Anthracene
8270D SIM	3510C	Water	Benzo[a]anthracene
8270D SIM	3510C	Water	Benzo[a]pyrene
8270D SIM	3510C	Water	Benzo[b]fluoranthene
8270D SIM	3510C	Water	Benzo[g,h,i]perylene
8270D SIM	3510C	Water	Benzo[k]fluoranthene
8270D SIM	3510C	Water	Bis(2-chloroethyl)ether
8270D SIM	3510C	Water	Bis(2-ethylhexyl) phthalate
8270D SIM	3510C	Water	Butylbenzylphthalate
8270D SIM	3510C	Water	Chrysene
8270D SIM	3510C	Water	Dibenz(a,h)anthracene

Accreditation/Certification Summary

Client: Environmental Works, Inc.
 Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8270D SIM	3510C	Water	Dibenzofuran
8270D SIM	3510C	Water	Diethyl phthalate
8270D SIM	3510C	Water	Dimethyl phthalate
8270D SIM	3510C	Water	Di-n-butyl phthalate
8270D SIM	3510C	Water	Di-n-octyl phthalate
8270D SIM	3510C	Water	Fluoranthene
8270D SIM	3510C	Water	Fluorene
8270D SIM	3510C	Water	Hexachlorobenzene
8270D SIM	3510C	Water	Indeno[1,2,3-cd]pyrene
8270D SIM	3510C	Water	Naphthalene
8270D SIM	3510C	Water	N-Nitrosodimethylamine
8270D SIM	3510C	Water	Phenanthrene
8270D SIM	3510C	Water	Pyrene
Moisture		Solid	Percent Moisture



Method Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	ELLE
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
8015C	Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)	SW846	ELLE
8015C	Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)	SW846	ELLE
Moisture	Percent Moisture	EPA	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3546	Microwave Extraction	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
5035	Closed System Purge and Trap	SW846	ELLE

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300



Sample Summary

Client: Environmental Works, Inc.
Project/Site: GCHD NW Stormwater Basin

Job ID: 410-61929-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-61929-1	GCHD-SO-A:6.5-7'_112021	Solid	11/03/21 11:00	11/04/21 10:52
410-61929-2	DUP-01_112021	Solid	11/03/21 12:00	11/04/21 10:52
410-61929-3	EB-1_112021	Water	11/03/21 12:12	11/04/21 10:52
410-61929-4	TRIP BLANK-2	Water	11/03/21 00:00	11/04/21 10:52

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Eurofins Lancaster Laboratories Env, LLC

2425 New Holland Pike
Lancaster, PA 17601
Phone: 717-656-2300 Fax: 717-656-2681

Chain of Custody Record



eurofins
Environmental Testing
America

Client Information		Sampler B. Garcia		Lab PM Cottman, Hannah L		410-61929 Chain of Custody		JC No 0-37062-11600.1 - 2					
Client Contact Barbara Garcia		Phone 417 380 3370		E-Mail Hannah.Cottman@eurofinset.com				Page 1 of 1					
Company Environmental Works, Inc.		PWSID						Job #					
Address 1455 East Chestnut Expressway		Due Date Requested:				Analysis Requested		Preservation Codes:					
City Springfield		TAT Requested (days): 5 DAY				8016C_DRO - Diesel Range Organics (Soil)		A - HCL M - Hexane					
State, Zip MO, 65802		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No				8016C_GRO - Gasoline Range Organics (Soil)		B - NaOH N - None					
Phone: 417-890-9500(Tel)		PO # Springfield, MO				8260C - VOCs		C - Zn Acetate O - AsNaO2					
Email bgarcia@environmentalworks.com		WO #				8270D, 8270D_SIM (water)		D - Nitric Acid P - Na2O4S					
Project Name GCHD NW Stormwater Basin		Project # 41008168				8016C_DRO - Diesel Range Organics (C10-C28) (water)		E - NaHSO4 Q - Na2SO3					
Site SPRINGFIELD		SSOW#				8016C_GRO - Gasoline Range Organics (water)		F - MeOH R - Na2S2O3					
						8260C - (MOD) VOCs (water)		G - Amchlor S - H2SO4					
								H - Ascorbic Acid T - TSP Dodecahydrate					
								I - Ice U - Acetone					
								J - DI Water V - MCAA					
								K - EDTA W - pH 4-5					
								L - EDA Z - other (specify)					
								Other:					
								Special Instructions/Note:					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wast/oil, BT=Tissue, A=Air)	Preservation Code	8016C_DRO	8260C - (MOD) VOCs	8016C_GRO	8270D, 8270D_SIM	8016C_DRO	8016C_GRO	8260C - (MOD) VOCs	8016C_GRO
GCHD-SO-A:6.5-7-112021	11/3/21	1100	G	SOIL	NX								
GCHD-SO-B													
GCHD-SO-C													
DUP-01-112021	11/3/21	1200	G	SOIL	NX								
EB-01-112021	11/3/21	1515	G	W	NX								
TRIP BLANK-2	11/3/21	LAB PREP	W										
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)								
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months								
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:								
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:							
Relinquished by: <i>Kent M. ...</i>		Date/Time: 10-26-21 19:10		Company: ELLE		Received by: B. Garcia		Date/Time: 11/3/2021 0800		Company: EW1			
Relinquished by: B. Garcia		Date/Time: 11/3/21 1600		Company: EW1		Received by: _____		Date/Time: _____		Company: _____			
Relinquished by: _____		Date/Time: _____		Company: _____		Received by: _____		Date/Time: 11/4/21 1052		Company: _____			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.: 125109		Cooler Temperature(s) °C and Other Remarks: 4.8									

AEH

AEH

Login Sample Receipt Checklist

Client: Environmental Works, Inc.

Job Number: 410-61929-1

Login Number: 61929

List Source: Eurofins Lancaster Laboratories Env, LLC

List Number: 1

Creator: Hess, Anna

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	



Appendix C



December 20, 2021

Jason Smith, President c/o Barbara Garcia
Environmental Works, Inc.
1455 East Chestnut Expressway
Springfield, MO 65804
Phone: (417) 890-9500
E-mail: bgarcia@environmentalworks.com

Subject: 2021 Greene County Highway Department
Stormwater basin Soil Hydrocarbon Characterization
Forensic Report

Dear Ms. Garcia,

This report presents the results of a forensic investigation concerning the origin of hydrocarbons in solid material collected from a storm water stormwater basin on the Greene County Highway Department (GCHD) property proximal to the former Tronox/Kerr-McGee Wood Treating Facility in Springfield, MO. Greenfield Environmental Multistate Trust LLC, not individually but solely in its representative capacity as Trustee of the Multistate Environmental Response Trust (Multistate Trust), contracted this investigation to determine the likely origin(s) of hydrocarbon residues to determine if stormwater basin contains creosote.

This study determined that the stormwater basin contained trace pyrogenic hydrocarbons of indeterminant origin. The most likely source is soot from vehicular exhaust and not creosote based upon the PAH and volatile aromatic hydrocarbon signatures. The following letter report discusses the forensic data and chemical signatures that support these findings.

Background

American Creosoting Corp. operated the Springfield wood treatment plant from 1907 to 1964, before Kerr-McGee Oil Industries, Inc. (Kerr McGee) acquired the facility and continued wood treating operations until 2004. During operations, the facility was generally divided into an untreated wood storage area, a process area and a "black tie" storage area. Wood was treated with creosote tar solutions in large pressure vessels and sold for use as utility poles and railroad ties. The facility was decommissioned in 2004 and changed its name to Tronox, LLC in 2005. The facility currently consists of a warehouse building with an office, a storage area, and a groundwater pre-treatment system, which discharges effluent through an onsite sewer to an offsite municipal sewer that terminates in a publicly owned treatment works (POTW).

The GCHD currently uses the adjacent property for offices, employee parking, salt storage, and truck operations (storage, maintenance, cleaning, and fueling). The subject of this investigation is the stormwater basin located in the northwest corner of the GCHD property, which receives stormwater from the GCHD property.



Sample Collection

Environmental Works, Inc. (EWI), the Multistate Trust's local environmental consultant/contractor, collected soil from the stormwater basin on the GCHD (Table 1, Figures 1 and 2). Field personnel detected no hydrocarbon odors from the field sample when collected. The sample was shipped via overnight courier to Alpha Laboratories (Mansfield, MA) for forensic hydrocarbon testing. The soil samples arrived in good condition between 2°C and 6°C under chain of custody (COC).

Methods

The hydrocarbon analyses were conducted in accordance with EPA methods that were enhanced for forensic purposes (Douglas, *et al.*, 2015). The primary enhancements included lower detection limits, additional quality control samples, and multilevel calibrations for diagnostic hydrocarbon analytes. The methods meet or exceed the quality control provisions of comparable standard EPA methods.

The soil sample contained solids that were dried with sodium sulfate, spiked with surrogate compounds for quality control (QC) monitoring and serially extracted on a shaker table with dichloromethane (DCM). The sample extract was concentrated by Kuderna-Danish apparatus and spiked with internal standards before analysis.

An aliquot of the sample extract was analyzed on a gas chromatograph equipped with a flame ionization detector (GC/FID) using a multilevel calibration curve containing normal alkanes in accordance with EPA Method 8015. The method generated a total petroleum hydrocarbon (TPH) concentration integrated from *n*-nonane (*n*-C₉) to *n*-tetratriacontane (*n*-C₄₄) (Table 2). It also generated a high-resolution hydrocarbon fingerprint. This fingerprint is used to identify crude oils, fuels, lubricants, residual oils, pavement, plant waxes, tars, pitches, and other hydrocarbon materials potentially detected in the field samples.

The sample extract was also analyzed on a gas chromatograph equipped with a mass spectrometer (GC/MS) that was calibrated with multilevel PAHs in accordance with EPA Method 8270 modified (Table 3). The GC/MS data help characterize the hydrocarbon source signatures and determine if the hydrocarbons were derived in part or whole from petroleum or tar products, such as creosote.

An aliquot of the sample was extracted by purge & trap equipment and analyzed by GC/MS operated in scanning mode for volatile hydrocarbon in accordance with EPA Method 8260, modified (Table 4). The volatile hydrocarbon analytes included five compound classes, paraffins, isoparaffins, aromatics, naphthenes, and olefins (PIANO). In addition, various oxygenated compounds commonly found in oxygenated and reformulated gasolines were targeted, viz., tert-butyl alcohol (TBA), methyl-tert-butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl-tert-butyl ether (ETBE), and tert-amyl-methyl ether (TAME). Lead scavengers (1,2-dichloroethane and 1,2-dibromoethane) used historically in formulation of leaded gasoline and various volatile sulfur species were also monitored. These results helped distinguish different types of gasoline, kerosene, tar products, and other light petroleum products, when observed.



Results

The laboratory reports contain the raw concentrations, spectra and associated quality control results that support the forensic interpretation (Attachment 1). Laboratory reference samples provide examples of hydrocarbon signatures representing the potential petroleum and tar products in the study area for comparison purposes. These laboratory data provide both qualitative and quantitative lines of forensic evidence as discussed below.

Dominant Hydrocarbon Types

The high-resolution hydrocarbon fingerprints demonstrate the dominant hydrocarbon types in each sample. The stormwater basin soil sample GCHD-SO-C:7.5-8_112021 contained no detectable TPH C₉-C₄₄ mg/kg dry wt (Table 5a). The reporting limit (sample equivalent of the lowest calibration standard) was 3.17 TPH C₉-C₄₄ mg/kg dry wt and the method detection limit was 0.463 TPH C₉-C₄₄ mg/kg dry wt (Attachment 1). The hydrocarbon fingerprint exhibited no petroleum, creosote, or coal tar products (Figure 3).

PAH Fingerprints

The PAH fingerprints help identify the presence and origin of products refined from tar, petroleum, and other hydrocarbon sources in each sample at lower concentrations than can be detected in the high-resolution hydrocarbon fingerprints, because the analytical method minimizes many interferences. Stormwater basin soil sample GCHD-SO-C:7.5-8_112021 contained 1.81 EPAPAH16 mg/kg dry wt (Table 5a).

The high proportion of parent PAHs demonstrates a pyrogenic PAH pattern ¹ (Figure 4). The ratio of FL0/PY0 (0.88) was less than 1.0, which is not consistent with coal tar or creosote products (Emsbo-Mattingly and Litman, 2018). Given the site location, this FL0/PY0 ratio is most likely derived from vehicular emissions and soot.

Volatile Hydrocarbon (PIANO) Fingerprints

The stormwater basin soil was tested for volatile hydrocarbons to evaluate the possible presence of more volatile or water-soluble constituents of creosote. Sample GCHD-SO-C:7.5-8_112021 contained trace amounts of total volatile hydrocarbons (PIANO) equal to 0.78 mg/kg (Table 5b). The PIANO fingerprints for sample GCHD-SO-C:7.5-8_112021 feature high proportions of aromatics of indeterminant origin (Figure 5). Although indane (INDA) was detected, low proportions of styrene (STY) was not consistent with creosote residues.

¹ The concentration and distribution of polycyclic aromatic hydrocarbons (PAHs) provided greater detail and specificity about the type of petroleum, tar, and urban background in the field samples. For example, pyrogenic PAHs form during the partial combustion or pyrolysis of organic matter. A pyrogenic PAH pattern exhibits high abundance of parent PAHs relative to the alkylated PAHs; e.g., N0 > N1 > N2, before weathering. By contrast, petroleum possesses a petrogenic PAH pattern consisting of low parent PAH abundance relative to the alkylated PAHs; e.g., N0 < N1 < N2. Finally, diagenetic PAHs, like retene and perylene, form naturally in soils containing specific types of decayed vegetation. Forensic scientists study the distribution and relative abundances of diagnostic PAH assemblages to help identify the presence of PAHs from these various sources (Douglas et al., 2007).



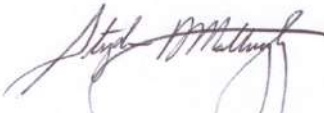
Summary of Results

This environmental forensic investigation characterized the origin of hydrocarbons observed in a forensic sample collected from a stormwater basin on the GCHD property in Springfield, MO. The forensic testing results support the following specific conclusions:

- The stormwater basin soil sample GCHD-SO-C:7.5-8_112021 contained trace hydrocarbon concentrations likely from vehicular emissions and soot.
 - The total extractable hydrocarbon concentration was below detection.
 - Low proportions of fluoranthene relative to pyrene (FL0/PY0 < 1) was consistent with vehicular emissions and ambient background PAHs, but not with creosote.
 - The trace detections of volatile aromatic hydrocarbons were not source specific; however, the absence of styrene was not consistent with creosote.

Please let me know if you have any questions about this report.

Sincerely,



Stephen Mattingly
Senior Scientist

Attachment 1 – Alpha Laboratory Report ETR L2160537



References

Douglas, D.S., S.D. Emsbo-Mattingly, S.A. Sout, A.D. Uhler, and K.J. McCarthy (2015) "Hydrocarbon Fingerprinting Methods." In: Introduction to Environmental Forensics, 3rd Edition, Eds: B. Murphy and R. Morrison. Academic Press, Burlington, MA. pp 201-309.

Emsbo-Mattingly, S.D. and Litman, E. (2018) "Forensic identification of historical and ongoing tar oil releases in nearshore environments." In: Oil Spill Environmental Forensics Case Studies, S.A. Stout and Z. Wang, Eds., Butterworth-Heinemann, Cambridge, MA. ISBN 978012804434-6.



Table 1. Field Sample Information.

Client ID	Lab ID	Sewer Vault Location	Matrix	Date Collected	Date Received	High Resolution Hydrocarbon Fingerprint EPA8015M GC/FID	Parent & Alkylated PAHs EPA8270M GC/MS	Volatile Hydrocarbons PIANO EPA8260M PT GC/MS
GCHD-SO-C:7.5-8_112021	L2160537-01	Stormwater Basin	Soil	11/3/2021	11/4/2021	X	X	X
Total						1	1	1



Table 2. Saturated Hydrocarbon Analytes.

Analyte	Abbrev	SHC	Normal Alkane	Isoprenoid Hydrocarbon
n-Butane	C4	X	X	
n-Pentane	C5	X	X	
n-Hexane	C6	X	X	
n-Heptane	C7	X	X	
n-Octane	C8	X	X	
n-Nonane	C9	X	X	
n-Decane	C10	X	X	
n-Undecane	C11	X	X	
n-Dodecane	C12	X	X	
n-Tridecane	C13	X	X	
n-Tetradecane	C14	X	X	
n-Pentadecane	C15	X	X	
n-Hexadecane	C16	X	X	
n-Heptadecane	C17	X	X	
n-Octadecane	C18	X	X	
n-Nonadecane	C19	X	X	
n-Eicosane	C20	X	X	
n-Heneicosane	C21	X	X	
n-Docosane	C22	X	X	
n-Tricosane	C23	X	X	
n-Tetracosane	C24	X	X	
n-Pentacosane	C25	X	X	
n-Hexacosane	C26	X	X	
n-Heptacosane	C27	X	X	
n-Octacosane	C28	X	X	
n-Nonacosane	C29	X	X	
n-Triacontane	C30	X	X	
n-Hentriacontane	C31	X	X	
n-Dotriacontane	C32	X	X	
n-Tritriacontane	C33	X	X	
n-Tetratriacontane	C34	X	X	
n-Pentatriacontane	C35	X	X	
n-Hexatriacontane	C36	X	X	
n-Heptatriacontane	C37	X	X	
n-Octatriacontane	C38	X	X	
n-Nonatriacontane	C39	X	X	
n-Tetracontane	C40	X	X	
n-Hentetracontane	C41	X	X	
n-Dotetracontane	C42	X	X	
n-Tritetracontane	C43	X	X	
n-Tetratetracontane	C44	X	X	
n-Pentatetracontane	C45	X	X	
2,6,10 Trimethyldodecane	1380	X		X
2,6,10 Trimethyltridecane	1470	X		X
Norpristane	1650	X		X
Pristane	Pr	X		X
Phytane	Ph	X		X
Total		47	42	5



Table 3. Parent and Alkylated PAH Analytes.

Analytes	Abbrev	Rings	1° Ion	TPAH49	EPAPAH16	Parent	Alkylated	Diagenetic
Naphthalene	N0	2	128	X	X	X		
C1-Naphthalenes	N1	2	142	X			X	
C2-Naphthalenes	N2	2	156	X			X	
C3-Naphthalenes	N3	2	170	X			X	
C4-Naphthalenes	N4	2	184	X			X	
Biphenyl	B	2	154	X		X		
Dibenzofuran	DF	3	168	X		X		
Acenaphthylene	AY	3	152	X	X	X		
Acenaphthene	AE	3	153	X	X	X		
Fluorene	F0	3	166	X	X	X		
C1-Fluorenes	F1	3	180	X			X	
C2-Fluorenes	F2	3	194	X			X	
C3-Fluorenes	F3	3	208	X			X	
Anthracene	A0	3	178	X	X	X		
Phenanthrene	P0	3	178	X	X	X		
C1-Phenanthrenes/Anthracenes	PA1	3	192	X			X	
C2-Phenanthrenes/Anthracenes	PA2	3	206	X			X	
C3-Phenanthrenes/Anthracenes	PA3	3	220	X			X	
C4-Phenanthrenes/Anthracenes	PA4	3	234	X			X	
Retene	RET	3	234					X
Dibenzothiophene	DBT0	3	184	X		X		
C1-Dibenzothiophenes	DBT1	3	198	X			X	
C2-Dibenzothiophenes	DBT2	3	212	X			X	
C3-Dibenzothiophenes	DBT3	3	226	X			X	
C4-Dibenzothiophenes	DBT4	3	240	X			X	
Fluoranthene	FL0	4	202	X	X	X		
Pyrene	PY0	4	202	X	X	X		
C1-Fluoranthenes/Pyrenes	FP1	4	216	X			X	
C2-Fluoranthenes/Pyrenes	FP2	4	230	X			X	
C3-Fluoranthenes/Pyrenes	FP3	4	244	X			X	
C4-Fluoranthenes/Pyrenes	FP4	4	258	X			X	
Naphthobenzothiophenes	NBT0	4	234	X		X		
C1-Naphthobenzothiophenes	NBT1	4	248	X			X	
C2-Naphthobenzothiophenes	NBT2	4	262	X			X	
C3-Naphthobenzothiophenes	NBT3	4	276	X			X	
C4-Naphthobenzothiophenes	NBT4	4	290	X			X	
Benz[a]anthracene	BA0	4	228	X	X	X		
Chrysene/Triphenylene	C0	4	228	X	X	X		
C1-Chrysenes	BC1	4	242	X			X	
C2-Chrysenes	BC2	4	256	X			X	
C3-Chrysenes	BC3	4	270	X			X	
C4-Chrysenes	BC4	4	284	X			X	
Benzo[b]fluoranthene	BBF	5	252	X	X	X		
Benzo[k]fluoranthene	BJKF	5	252	X	X	X		
Benzo[a]fluoranthene	BAF	5	252	X		X		
Benzo[e]pyrene	BEP	5	252	X		X		
Benzo[a]pyrene	BAP	5	252	X	X	X		
Perylene	PER	5	252					X
Dibenz[a,h]anthracene	DA	5	278	X	X	X		
Indeno[1,2,3-cd]pyrene	IND	6	276	X	X	X		
Benzo[g,h,i]perylene	GHI	6	276	X	X	X		
Total				49	16	22	27	2



Table 4. Volatile Hydrocarbon Analytes (PIANO PT GC/MS).

Analyte	Abbrev	Paraffin	Isoparaffin	Aromatic	Naphthene	Olefin	Thiophene	Gasoline Additive
Pentane	C5	X						
Hexane	C6	X						
Heptane	C7	X						
Octane	C8	X						
Nonane	C9	X						
Decane	C10	X						
Undecane	C11	X						
Dodecane	C12	X						
Tridecane	C13	X						
Isopentane	IP		X					
2,3-Dimethylbutane	23DMB		X					
2-Methylpentane	2MP		X					
3-Methylpentane	3MP		X					
2,2-Dimethylpentane	22DMP		X					
2,4-Dimethylpentane	24DMP		X					
2-Methylhexane	2MHx		X					
2,3-Dimethylpentane	23DMP		X					
3-Methylhexane	3MH		X					
Isooctane	ISO		X					
2,5-Dimethylhexane	25DMH		X					
2,4-Dimethylhexane	24DMH		X					
2,2,3-Trimethylpentane	223TMP		X					
2,3,4-Trimethylpentane	234TMP		X					
2,3,3-Trimethylpentane	233TMP		X					
2,3-Dimethylhexane	23DMH		X					
3-Ethylhexane	3EH		X					
2-Methylheptane	2MHEP		X					
3-Methylheptane	3MHEP		X					
Benzene	B			X				
Toluene	T			X				
Ethylbenzene	EB			X				
p/m-Xylene	MPX			X				
Styrene	STY			X				
o-Xylene	OX			X				
Isopropylbenzene	IPB			X				
n-Propylbenzene	PROP			X				
1-Methyl-3-ethylbenzene	1M3EB			X				
1-Methyl-4-ethylbenzene	1M4EB			X				
1,3,5-Trimethylbenzene	135TMB			X				
1-Methyl-2-ethylbenzene	1M2EB			X				
1,2,4-Trimethylbenzene	124TMB			X				
sec-Butylbenzene	SECBUT			X				
1-Methyl-3-isopropylbenzene	1M3IPB			X				
1-Methyl-4-isopropylbenzene	1M4IPB			X				
1-Methyl-2-isopropylbenzene	1M2IPB			X				
Indan	INDA			X				
1-Methyl-3-propylbenzene	1M3PB			X				
1-Methyl-4-propylbenzene	1M4PB			X				
n-Butylbenzene	BUTB			X				
1,2-Dimethyl-4-ethylbenzene	12DM4EB			X				
1,2-Diethylbenzene	12DEB			X				
1-Methyl-2-propylbenzene	1M2PB			X				
1,4-Dimethyl-2-ethylbenzene	14DM2EB			X				
1,3-Dimethyl-4-ethylbenzene	13DM4EB			X				
1,3-Dimethyl-5-ethylbenzene	13DM5EB			X				
1,3-Dimethyl-2-ethylbenzene	13DM2EB			X				
1,2-Dimethyl-3-ethylbenzene	12DM3EB			X				
1,2,4,5-Tetramethylbenzene	1245TMP			X				
Pentylbenzene	PENTB			X				
Naphthalene	NO			X				
2-Methylnaphthalene	2MN			X				
1-Methylnaphthalene	1MN			X				
Cyclopentane	CYP				X			
Methylcyclopentane	MCYP				X			
Cyclohexane	CH				X			
Methylcyclohexane	MCHx				X			
1-Pentene	1P					X		
2-Methyl-1-butene	2M1B					X		
2-Pentene (trans)	T2P					X		
2-Pentene (cis)	C2P					X		
1-Hexene	1HEX					X		
1-Heptene/1,2-DMCP (trans)	1H					X		
1-Octene	1O					X		
1-Nonene	1N					X		
1-Decene	1D					X		
Thiophene	THIO						X	
2-Methylthiophene	2MTHIO						X	
3-Methylthiophene	3MTHIO						X	
2-Ethylthiophene	2ETHIO						X	
Benzothiophene	BT0						X	
1,2-Dichloroethane	12DCA							X
1,2-Dibromoethane	12DBE							X
MMT	MMT							X
Tertiary butanol	TBA							X
MTBE	MTBE							X
Diisopropyl Ether (DIPE)	DIPE							X
Ethyl Tertiary Butyl Ether (ETBE)	ETBE							X
TAME	TAME							X
Total	88	9	19	34	4	9	5	8



Table 5. Summary of Forensic Results.

a. Semivolatile Hydrocarbons (TPH and PAH)

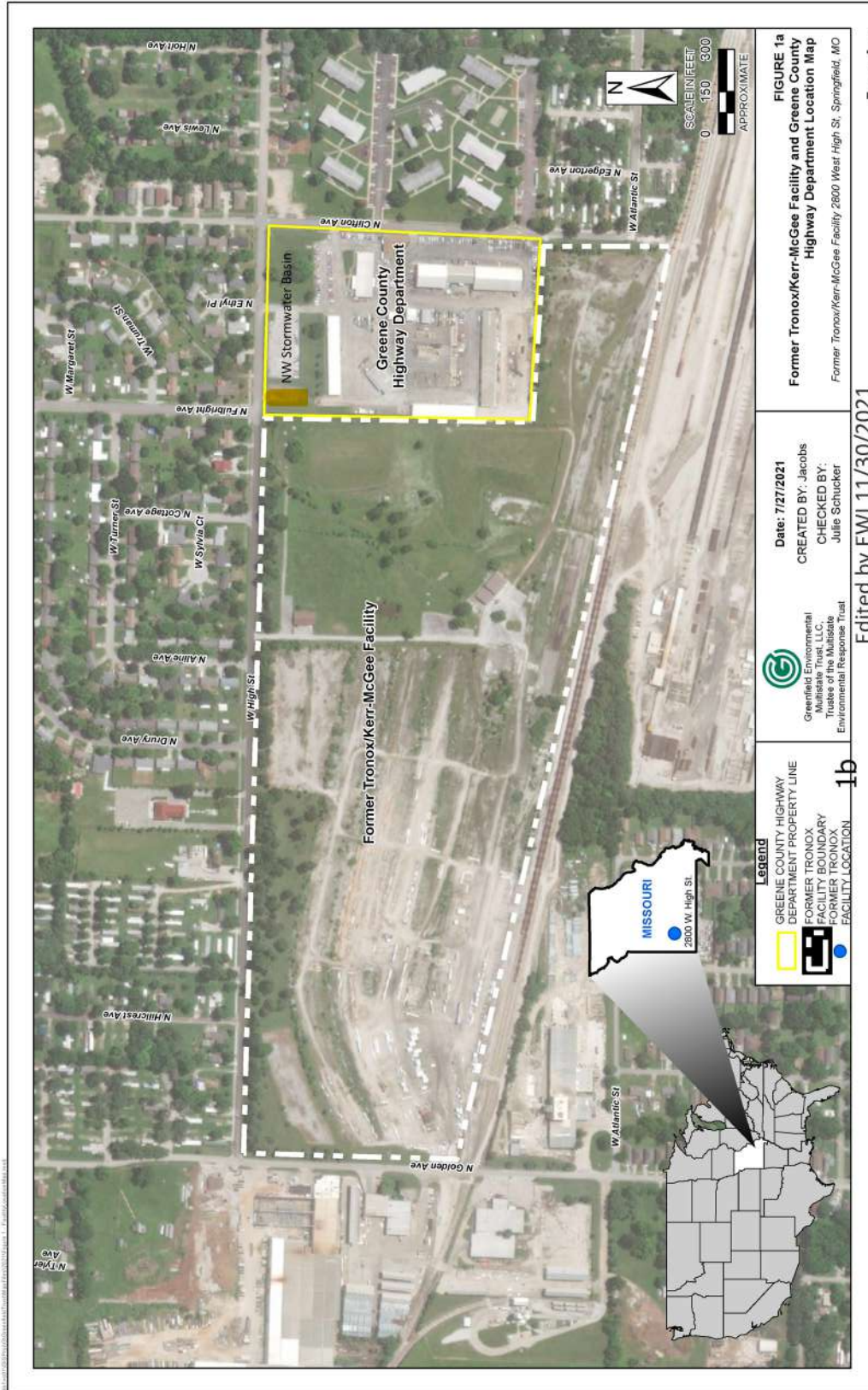
Sample	TPH mg/kg	EPAPAH16 mg/kg	EPAPAH16 TPH	DBT2 PA2	FL0 PY0	Coal Tar/ Creosote	Gasoline	Diesel/ No.2 FO	Residual Range Petroleum
GCHD-SO-C:7.5-8_112021 Catch Basin Solids	nd	1.81	nd	nd	0.88	Unlikely	Not Detected	Not Detected	Not Detected
GCHD-SO-C:7.5-8_112021 LD Laboratory Duplicate	nd	1.98	nd	nd	0.96	Unlikely	Not Detected	Not Detected	Not Detected

b. Volatile Hydrocarbons (PIANO)

Sample	Total PIANO mg/kg	Percent Parafin	Percent Isoparafin	Percent Aromatic	Percent Naphthene	Percent Olefin	Percent Sulfur	Percent Gasoline Additive
GCHD-SO-C:7.5-8_112021 Catch Basin Solids	0.78	0%	0%	94%	0%	0%	6%	0%
GCHD-SO-C:7.5-8_112021 LD Laboratory Duplicate	0.82	0%	0%	100%	0%	0%	0%	0%



Figure 1. Study Area Map.



Jacobs



Figure 2. Sample Location Map.

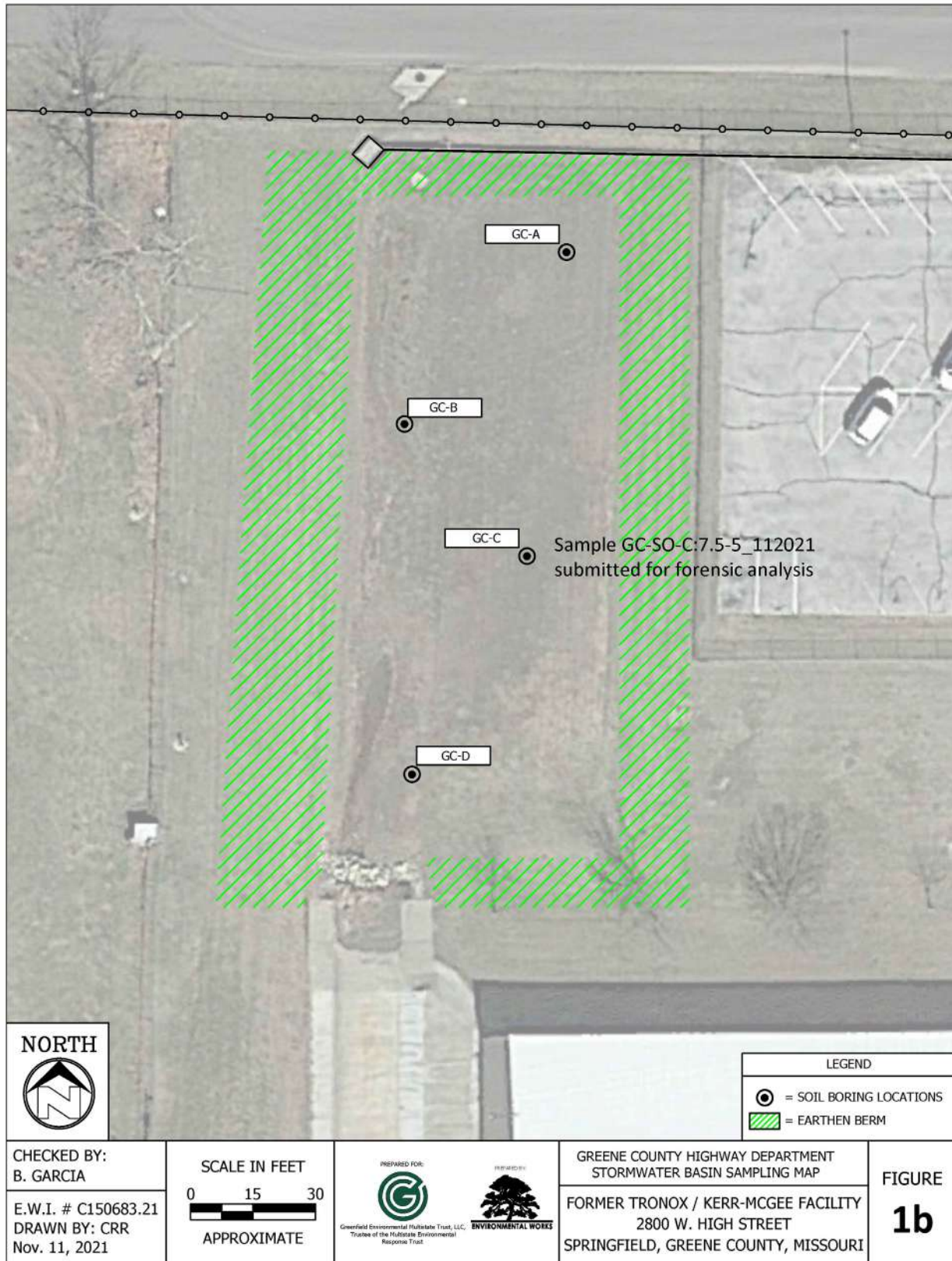




Figure 3. High Resolution Hydrocarbon Fingerprints.

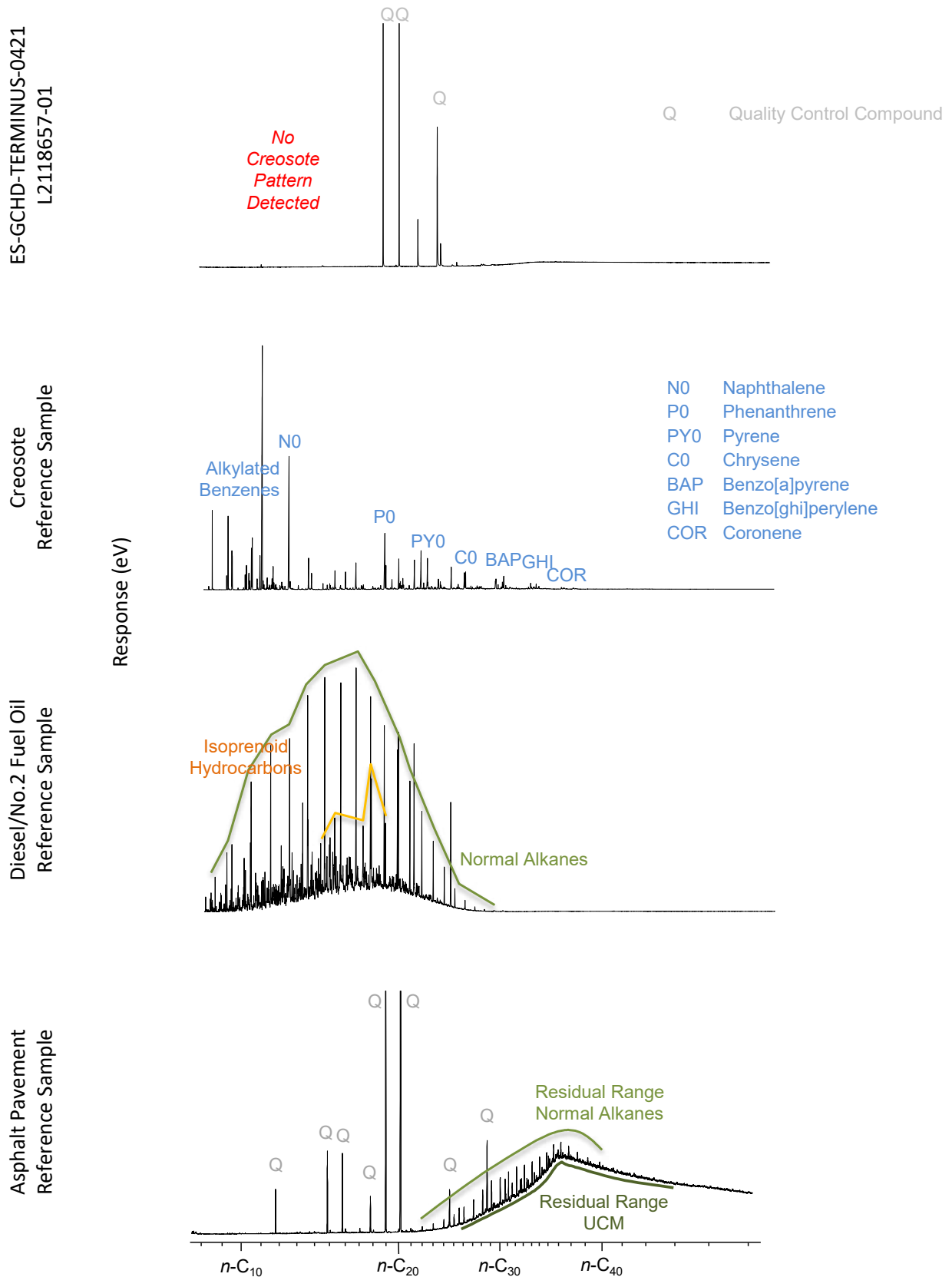
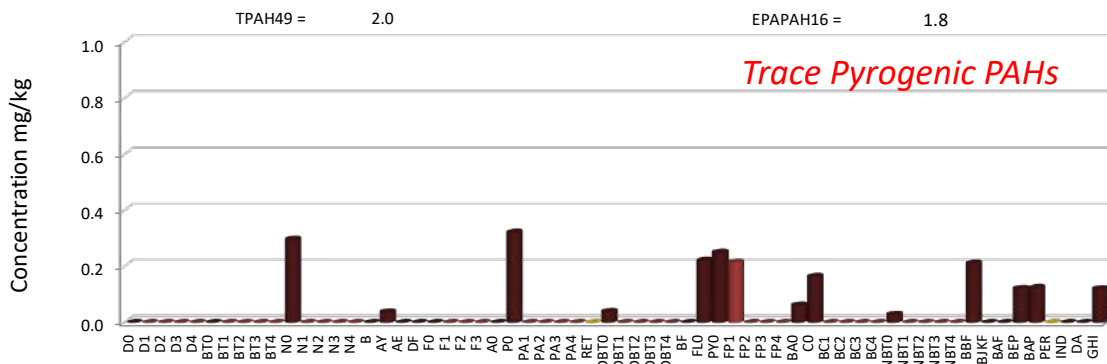


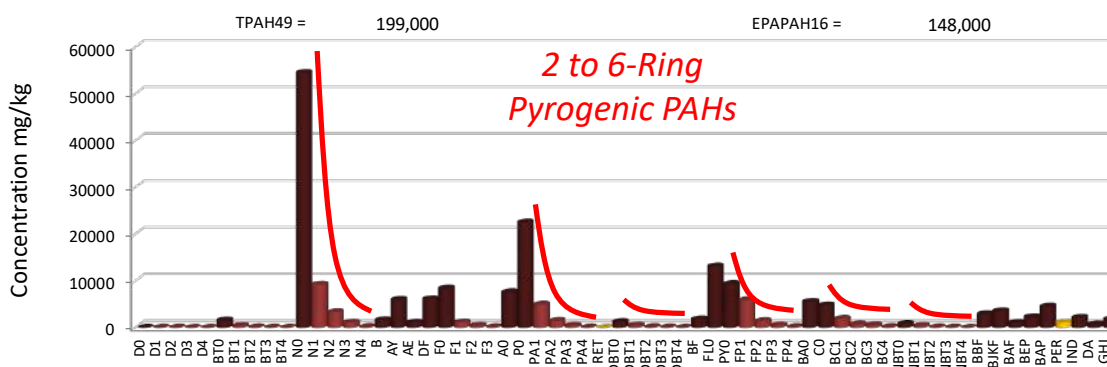


Figure 4. Parent and Alkylated PAH Patterns (GC/MS).

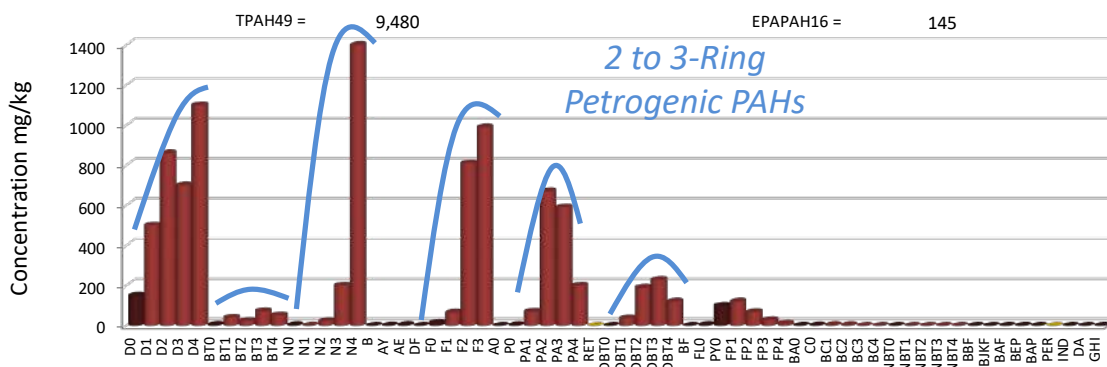
GCHD-SO-C:7.5-8_112021



Creosote Reference



Biodegraded Diesel



Asphalt Pavement

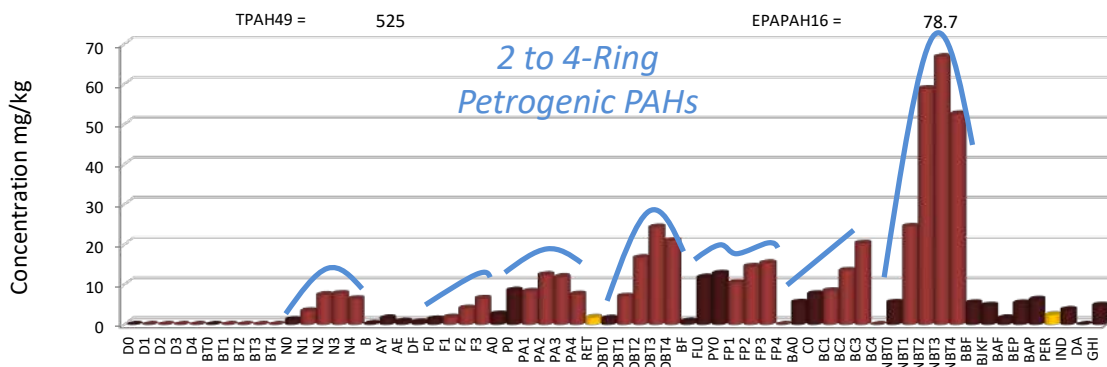
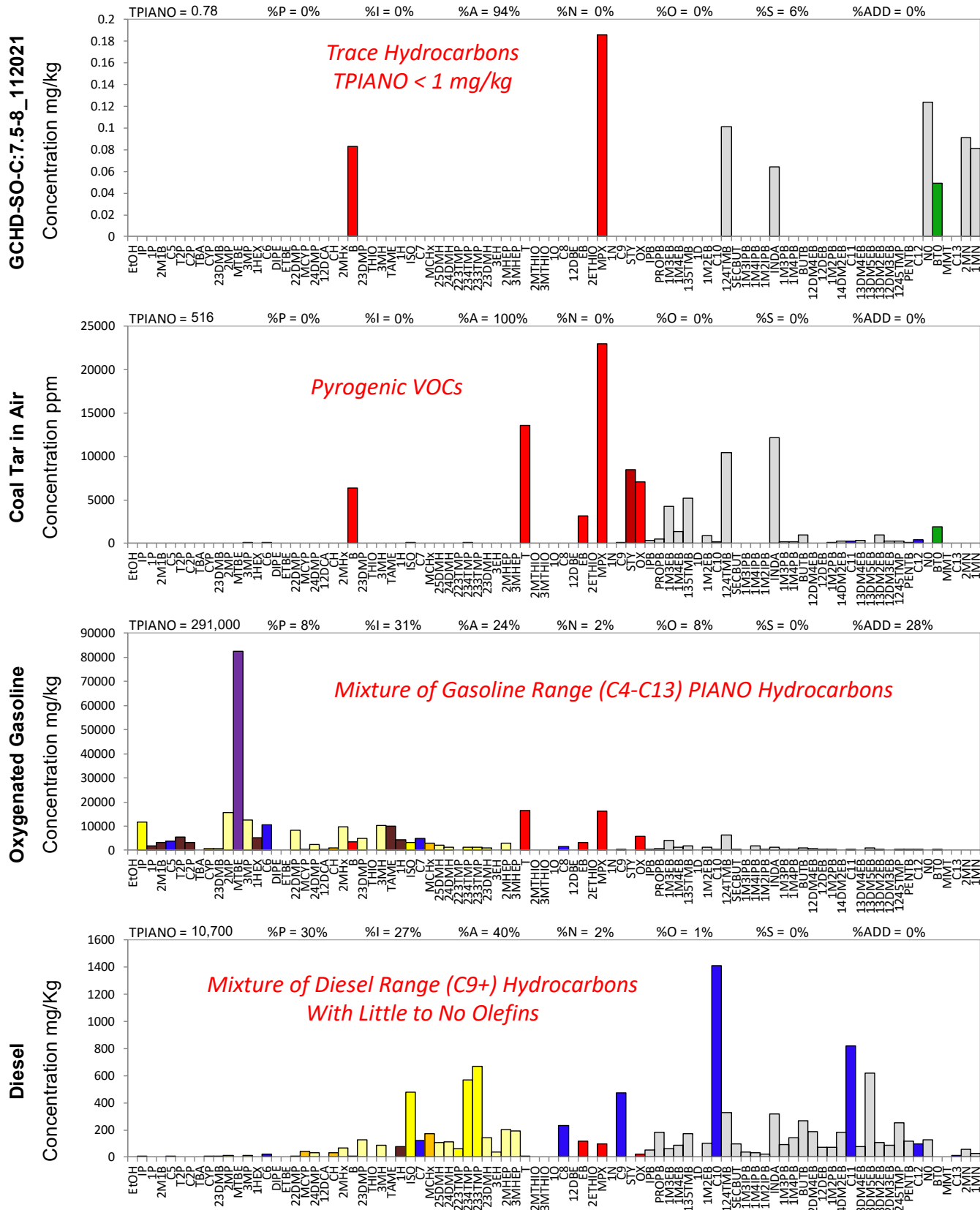




Figure 5. Volatile Hydrocarbons (PIANO PT GC/MS).





Attachment 1.

Alpha Analytical Laboratory Report

ETR L2160537

Stormwater basin Soil

FID PAH PIANO

Table



ANALYTICAL REPORT

Lab Number:	L2160537
Client:	NewFields 300 Ledgewood Place Suite 305 Rockland, MA 02370
ATTN:	Ted Healey
Phone:	(781) 264-4950
Project Name:	MULTISTATE TRUST SPRINGFIELD
Project Number:	C150683.21 5B-2
Report Date:	12/01/21

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2160537-01	GCHD-SO-C:7.5-8_112021	SOIL	MO	11/03/21 11:50	11/04/21

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Case Narrative (continued)

Report Submission

December 1, 2021: This report includes the results of all requested analyses.

November 28, 2021: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics

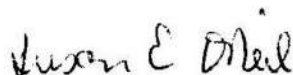
The WG1571364-1 Method Blank, associated with L2160537-01, has concentrations below the reporting limits and "J" qualified. Associated field sample results are "B" qualified if the concentrations are less than 10x the concentrations in the blank.

Petroleum Hydrocarbon Quantitation

The WG1571364-1 Method Blank, associated with L2160537-01, has concentrations below the reporting limits and "J" qualified. Associated field sample results are "B" qualified if the concentrations are less than 10x the concentrations in the blank.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Susan O'Neil

Title: Technical Director/Representative

Date: 12/01/21

ORGANICS

VOLATILES

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

SAMPLE RESULTS

Lab ID: L2160537-01
 Client ID: GCHD-SO-C:7.5-8_112021
 Sample Location: MO

Date Collected: 11/03/21 11:50
 Date Received: 11/04/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260B(M)
 Analytical Date: 11/10/21 00:02
 Analyst: RY
 Percent Solids: 69%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab						
Isopentane	ND		ug/kg	2.46	0.917	1
1-Pentene	ND		ug/kg	2.46	0.762	1
2-Methyl-1-Butene	ND		ug/kg	2.46	0.808	1
Pentane	ND		ug/kg	2.46	0.767	1
trans-2-Pentene	ND		ug/kg	2.46	0.867	1
cis-2-Pentene	ND		ug/kg	2.46	0.645	1
Tertiary Butanol	ND		ug/kg	30.8	9.97	1
Cyclopentane	ND		ug/kg	2.46	0.639	1
2,3-Dimethylbutane	ND		ug/kg	2.46	1.02	1
2-Methylpentane	ND		ug/kg	2.46	0.792	1
Methyl tert butyl ether	ND		ug/kg	2.46	0.766	1
3-Methylpentane	ND		ug/kg	2.46	0.477	1
1-Hexene	ND		ug/kg	2.46	0.706	1
n-Hexane	ND		ug/kg	2.46	0.717	1
Isopropyl Ether	ND		ug/kg	2.46	0.676	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.46	0.642	1
2,2-Dimethylpentane	ND		ug/kg	2.46	0.637	1
Methylcyclopentane	ND		ug/kg	2.46	0.748	1
2,4-Dimethylpentane	ND		ug/kg	2.46	0.646	1
1,2-Dichloroethane	ND		ug/kg	2.46	0.745	1
Cyclohexane	ND		ug/kg	2.46	0.710	1
2-Methylhexane	ND		ug/kg	2.46	0.574	1
Benzene	0.083	J	ug/kg	2.46	0.533	1
2,3-Dimethylpentane	ND		ug/kg	2.46	0.623	1
Thiophene	ND		ug/kg	2.46	0.639	1
3-Methylhexane	ND		ug/kg	2.46	0.648	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.46	0.652	1
1-Heptene/1,2-DMCP (trans)	ND		ug/kg	4.92	1.51	1

Project Name: MULTISTATE TRUST SPRINGFIELD**Lab Number:** L2160537**Project Number:** C150683.21 5B-2**Report Date:** 12/01/21**SAMPLE RESULTS**

Lab ID: L2160537-01
 Client ID: GCHD-SO-C:7.5-8_112021
 Sample Location: MO

Date Collected: 11/03/21 11:50
 Date Received: 11/04/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab						
Isooctane	ND		ug/kg	2.46	0.575	1
Heptane	ND		ug/kg	2.46	0.676	1
Methylcyclohexane	ND		ug/kg	2.46	0.524	1
2,5-Dimethylhexane	ND		ug/kg	2.46	0.589	1
2,4-Dimethylhexane	ND		ug/kg	2.46	0.581	1
2,2,3-Trimethylpentane	ND		ug/kg	2.46	0.616	1
2,3,4-Trimethylpentane	ND		ug/kg	2.46	0.564	1
2,3,3-Trimethylpentane	ND		ug/kg	2.46	0.539	1
2,3-Dimethylhexane	ND		ug/kg	2.46	0.596	1
2-Methylheptane	ND		ug/kg	2.46	0.570	1
3-Methylheptane	ND		ug/kg	2.46	0.739	1
3-Ethylhexane	ND		ug/kg	2.46	0.629	1
Toluene	ND		ug/kg	2.46	0.356	1
2-Methylthiophene	ND		ug/kg	2.46	0.366	1
3-Methylthiophene	ND		ug/kg	2.46	0.379	1
1-Octene	ND		ug/kg	6.15	0.376	1
Octane	ND		ug/kg	2.46	0.521	1
1,2-Dibromoethane	ND		ug/kg	2.46	0.394	1
Ethylbenzene	ND		ug/kg	2.46	0.266	1
2-Ethylthiophene	ND		ug/kg	2.46	0.270	1
p/m-Xylene	0.186	J	ug/kg	4.92	0.693	1
1-Nonene	ND		ug/kg	6.15	0.255	1
Nonane (C9)	ND		ug/kg	2.46	0.538	1
Styrene	ND		ug/kg	2.46	0.342	1
o-Xylene	ND		ug/kg	2.46	0.378	1
Isopropylbenzene	ND		ug/kg	2.46	0.411	1
n-Propylbenzene	ND		ug/kg	2.46	0.464	1
1-Methyl-3-Ethylbenzene	ND		ug/kg	2.46	0.394	1
1-Methyl-4-Ethylbenzene	ND		ug/kg	2.46	0.448	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.46	0.468	1
1-Decene	ND		ug/kg	2.46	0.342	1
1-Methyl-2-Ethylbenzene	ND		ug/kg	2.46	0.504	1
Decane (C10)	ND		ug/kg	2.46	0.376	1
1,2,4-Trimethylbenzene	0.101	J	ug/kg	2.46	0.538	1
sec-Butylbenzene	ND		ug/kg	2.46	0.498	1
1-Methyl-3-Isopropylbenzene	ND		ug/kg	2.46	0.463	1
1-Methyl-4-Isopropylbenzene	ND		ug/kg	2.46	0.564	1

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

SAMPLE RESULTS

Lab ID: L2160537-01
 Client ID: GCHD-SO-C:7.5-8_112021
 Sample Location: MO

Date Collected: 11/03/21 11:50
 Date Received: 11/04/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab						
1-Methyl-2-Isopropylbenzene	ND		ug/kg	2.46	0.675	1
Indane	0.064	J	ug/kg	2.46	0.570	1
1-Methyl-3-N-Propylbenzene	ND		ug/kg	2.46	0.543	1
1-Methyl-4-N-Propylbenzene	ND		ug/kg	2.46	0.578	1
n-Butylbenzene	ND		ug/kg	2.46	0.615	1
1,2-Dimethyl-4-Ethylbenzene	ND		ug/kg	2.46	0.599	1
1,2-Diethylbenzene	ND		ug/kg	2.46	0.569	1
1-Methyl-2-N-Propylbenzene	ND		ug/kg	2.46	0.501	1
1,4-Dimethyl-2-Ethylbenzene	ND		ug/kg	2.46	0.549	1
Undecane	ND		ug/kg	2.46	0.869	1
1,3-Dimethyl-4-Ethylbenzene	ND		ug/kg	2.46	0.527	1
1,3-Dimethyl-5-Ethylbenzene	ND		ug/kg	2.46	0.599	1
1,3-Dimethyl-2-Ethylbenzene	ND		ug/kg	2.46	0.584	1
1,2-Dimethyl-3-Ethylbenzene	ND		ug/kg	2.46	0.536	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.46	0.556	1
N-Pentylbenzene	ND		ug/kg	2.46	0.487	1
Dodecane (C12)	ND		ug/kg	6.15	1.08	1
Naphthalene	0.124	J	ug/kg	2.46	1.03	1
Benzo thiophene	0.049	J	ug/kg	2.46	1.30	1
MMT	ND		ug/kg	6.15	1.58	1
Tridecane	ND		ug/kg	6.15	1.60	1
2-Methylnaphthalene	0.091	J	ug/kg	6.15	1.63	1
1-Methylnaphthalene	0.081	J	ug/kg	6.15	1.80	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 11/09/21 00:17
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab for sample(s): 01 Batch: WG1569759-6					
Isopentane	ND		ug/kg	2.00	0.745
1-Pentene	ND		ug/kg	2.00	0.619
2-Methyl-1-Butene	ND		ug/kg	2.00	0.657
Pentane	ND		ug/kg	2.00	0.623
trans-2-Pentene	ND		ug/kg	2.00	0.704
cis-2-Pentene	ND		ug/kg	2.00	0.524
Tertiary Butanol	ND		ug/kg	25.0	8.10
Cyclopentane	ND		ug/kg	2.00	0.519
2,3-Dimethylbutane	ND		ug/kg	2.00	0.825
2-Methylpentane	ND		ug/kg	2.00	0.644
Methyl tert butyl ether	ND		ug/kg	2.00	0.623
3-Methylpentane	ND		ug/kg	2.00	0.388
1-Hexene	ND		ug/kg	2.00	0.574
n-Hexane	ND		ug/kg	2.00	0.583
Isopropyl Ether	ND		ug/kg	2.00	0.549
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.00	0.521
2,2-Dimethylpentane	ND		ug/kg	2.00	0.518
Methylcyclopentane	ND		ug/kg	2.00	0.608
2,4-Dimethylpentane	ND		ug/kg	2.00	0.525
1,2-Dichloroethane	ND		ug/kg	2.00	0.606
Cyclohexane	ND		ug/kg	2.00	0.577
2-Methylhexane	ND		ug/kg	2.00	0.466
Benzene	ND		ug/kg	2.00	0.433
2,3-Dimethylpentane	ND		ug/kg	2.00	0.506
Thiophene	ND		ug/kg	2.00	0.519
3-Methylhexane	ND		ug/kg	2.00	0.526
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.00	0.529
1-Heptene/1,2-DMCP (trans)	ND		ug/kg	4.00	1.23
Isooctane	ND		ug/kg	2.00	0.467

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 11/09/21 00:17
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab for sample(s): 01 Batch: WG1569759-6					
Heptane	ND		ug/kg	2.00	0.549
Methylcyclohexane	ND		ug/kg	2.00	0.426
2,5-Dimethylhexane	ND		ug/kg	2.00	0.479
2,4-Dimethylhexane	ND		ug/kg	2.00	0.472
2,2,3-Trimethylpentane	ND		ug/kg	2.00	0.501
2,3,4-Trimethylpentane	ND		ug/kg	2.00	0.459
2,3,3-Trimethylpentane	ND		ug/kg	2.00	0.438
2,3-Dimethylhexane	ND		ug/kg	2.00	0.484
2-Methylheptane	ND		ug/kg	2.00	0.463
3-Methylheptane	ND		ug/kg	2.00	0.601
3-Ethylhexane	ND		ug/kg	2.00	0.511
Toluene	ND		ug/kg	2.00	0.289
2-Methylthiophene	ND		ug/kg	2.00	0.298
3-Methylthiophene	ND		ug/kg	2.00	0.308
1-Octene	ND		ug/kg	5.00	0.305
Octane	ND		ug/kg	2.00	0.423
1,2-Dibromoethane	ND		ug/kg	2.00	0.320
Ethylbenzene	ND		ug/kg	2.00	0.216
2-Ethylthiophene	ND		ug/kg	2.00	0.219
p/m-Xylene	ND		ug/kg	4.00	0.563
1-Nonene	ND		ug/kg	5.00	0.207
Nonane (C9)	ND		ug/kg	2.00	0.438
Styrene	ND		ug/kg	2.00	0.278
o-Xylene	ND		ug/kg	2.00	0.307
Isopropylbenzene	ND		ug/kg	2.00	0.334
n-Propylbenzene	ND		ug/kg	2.00	0.377
1-Methyl-3-Ethylbenzene	ND		ug/kg	2.00	0.320
1-Methyl-4-Ethylbenzene	ND		ug/kg	2.00	0.364
1,3,5-Trimethylbenzene	ND		ug/kg	2.00	0.380

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 11/09/21 00:17
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab for sample(s): 01 Batch: WG1569759-6					
1-Decene	ND		ug/kg	2.00	0.278
1-Methyl-2-Ethylbenzene	ND		ug/kg	2.00	0.409
Decane (C10)	ND		ug/kg	2.00	0.305
1,2,4-Trimethylbenzene	ND		ug/kg	2.00	0.437
sec-Butylbenzene	ND		ug/kg	2.00	0.405
1-Methyl-3-Isopropylbenzene	ND		ug/kg	2.00	0.376
1-Methyl-4-Isopropylbenzene	ND		ug/kg	2.00	0.458
1-Methyl-2-Isopropylbenzene	ND		ug/kg	2.00	0.549
Indane	ND		ug/kg	2.00	0.463
1-Methyl-3-N-Propylbenzene	ND		ug/kg	2.00	0.441
1-Methyl-4-N-Propylbenzene	ND		ug/kg	2.00	0.469
n-Butylbenzene	ND		ug/kg	2.00	0.499
1,2-Dimethyl-4-Ethylbenzene	ND		ug/kg	2.00	0.486
1,2-Diethylbenzene	ND		ug/kg	2.00	0.462
1-Methyl-2-N-Propylbenzene	ND		ug/kg	2.00	0.407
1,4-Dimethyl-2-Ethylbenzene	ND		ug/kg	2.00	0.446
Undecane	ND		ug/kg	2.00	0.706
1,3-Dimethyl-4-Ethylbenzene	ND		ug/kg	2.00	0.428
1,3-Dimethyl-5-Ethylbenzene	ND		ug/kg	2.00	0.486
1,3-Dimethyl-2-Ethylbenzene	ND		ug/kg	2.00	0.474
1,2-Dimethyl-3-Ethylbenzene	ND		ug/kg	2.00	0.436
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.00	0.452
N-Pentylbenzene	ND		ug/kg	2.00	0.396
Dodecane (C12)	ND		ug/kg	5.00	0.878
Naphthalene	ND		ug/kg	2.00	0.834
Benzothiophene	ND		ug/kg	2.00	1.06
MMT	ND		ug/kg	5.00	1.28
Tridecane	ND		ug/kg	5.00	1.30
2-Methylnaphthalene	ND		ug/kg	5.00	1.32

Project Name: MULTISTATE TRUST SPRINGFIELD**Lab Number:** L2160537**Project Number:** C150683.21 5B-2**Report Date:** 12/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
 Analytical Date: 11/09/21 00:17
 Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab for sample(s): 01 Batch: WG1569759-6					
1-Methylnaphthalene	ND		ug/kg	5.00	1.47

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	96		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Lab Number: L2160537

Project Number: C150683.21 5B-2

Report Date: 12/01/21

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab Associated sample(s): 01 Batch: WG1569759-3 WG1569759-4								
1-Pentene	97		116		50-130	18		30
Pentane	92		108		50-130	16		30
Tertiary Butanol	90		79		50-130	13		30
Cyclopentane	91		105		50-130	14		30
2-Methylpentane	93		109		50-130	16		30
Methyl tert butyl ether	88		78		50-130	12		30
3-Methylpentane	96		113		50-130	16		30
1-Hexene	93		106		50-130	13		30
n-Hexane	90		104		50-130	14		30
Isopropyl Ether	89		86		50-130	3		30
Ethyl-Tert-Butyl-Ether	85		80		50-130	6		30
Methylcyclopentane	94		108		50-130	14		30
2,4-Dimethylpentane	92		110		50-130	18		30
Cyclohexane	98		113		50-130	14		30
2-Methylhexane	94		108		50-130	14		30
Benzene	93		89		50-130	4		30
2,3-Dimethylpentane	94		108		50-130	14		30
3-Methylhexane	86		101		50-130	16		30
Tertiary-Amyl Methyl Ether	86		71		50-130	19		30
Isooctane	96		110		50-130	14		30
Heptane	102		115		50-130	12		30
Methylcyclohexane	93		105		50-130	12		30
2-Methylheptane	94		103		50-130	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Lab Number: L2160537

Project Number: C150683.21 5B-2

Report Date: 12/01/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab Associated sample(s): 01 Batch: WG1569759-3 WG1569759-4								
3-Methylheptane	93		102		50-130	9		30
Toluene	92		96		50-130	4		30
Octane	95		104		50-130	9		30
Ethylbenzene	88		92		50-130	4		30
p/m-Xylene	89		93		50-130	4		30
Nonane (C9)	82		88		50-130	7		30
o-Xylene	91		95		50-130	4		30
Isopropylbenzene	88		92		50-130	4		30
n-Propylbenzene	88		91		50-130	3		30
1-Methyl-3-Ethylbenzene	86		90		50-130	5		30
1-Methyl-4-Ethylbenzene	89		93		50-130	4		30
1,3,5-Trimethylbenzene	87		91		50-130	4		30
1-Decene	73		76		50-130	4		30
1-Methyl-2-Ethylbenzene	88		92		50-130	4		30
Decane (C10)	94		100		50-130	6		30
1,2,4-Trimethylbenzene	84		88		50-130	5		30
sec-Butylbenzene	90		95		50-130	5		30
1-Methyl-4-N-Propylbenzene	86		90		50-130	5		30
n-Butylbenzene	87		92		50-130	6		30
1,2-Diethylbenzene	87		91		50-130	4		30
Undecane	92		92		50-130	0		30
N-Pentylbenzene	88		91		50-130	3		30
Dodecane (C12)	111		109		50-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
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PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab Associated sample(s): 01 Batch: WG1569759-3 WG1569759-4

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> <i>Criteria</i>
Dibromofluoromethane	88		74		70-130
Toluene-d8	98		99		70-130
4-Bromofluorobenzene	100		100		70-130

Lab Duplicate Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Project Number: C150683.21 5B-2

Lab Number: L2160537

Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1569759-7 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
Isopentane	ND	ND	ug/kg	NC		30
1-Pentene	ND	ND	ug/kg	NC		30
2-Methyl-1-Butene	ND	ND	ug/kg	NC		30
Pentane	ND	ND	ug/kg	NC		30
trans-2-Pentene	ND	ND	ug/kg	NC		30
cis-2-Pentene	ND	ND	ug/kg	NC		30
Tertiary Butanol	ND	ND	ug/kg	NC		30
Cyclopentane	ND	ND	ug/kg	NC		30
2,3-Dimethylbutane	ND	ND	ug/kg	NC		30
2-Methylpentane	ND	ND	ug/kg	NC		30
Methyl tert butyl ether	ND	ND	ug/kg	NC		30
3-Methylpentane	ND	ND	ug/kg	NC		30
1-Hexene	ND	ND	ug/kg	NC		30
n-Hexane	ND	ND	ug/kg	NC		30
Isopropyl Ether	ND	ND	ug/kg	NC		30
Ethyl-Tert-Butyl-Ether	ND	ND	ug/kg	NC		30
2,2-Dimethylpentane	ND	ND	ug/kg	NC		30
Methylcyclopentane	ND	ND	ug/kg	NC		30
2,4-Dimethylpentane	ND	ND	ug/kg	NC		30
1,2-Dichloroethane	ND	ND	ug/kg	NC		30
Cyclohexane	ND	ND	ug/kg	NC		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Project Number: C150683.21 5B-2

Lab Number: L2160537

Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1569759-7 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
2-Methylhexane	ND	ND	ug/kg	NC		30
Benzene	0.083J	0.093J	ug/kg	NC		30
2,3-Dimethylpentane	ND	ND	ug/kg	NC		30
Thiophene	ND	ND	ug/kg	NC		30
3-Methylhexane	ND	ND	ug/kg	NC		30
Tertiary-Amyl Methyl Ether	ND	ND	ug/kg	NC		30
1-Heptene/1,2-DMCP (trans)	ND	ND	ug/kg	NC		30
Isooctane	ND	ND	ug/kg	NC		30
Heptane	ND	ND	ug/kg	NC		30
Methylcyclohexane	ND	ND	ug/kg	NC		30
2,5-Dimethylhexane	ND	ND	ug/kg	NC		30
2,4-Dimethylhexane	ND	ND	ug/kg	NC		30
2,2,3-Trimethylpentane	ND	ND	ug/kg	NC		30
2,3,4-Trimethylpentane	ND	ND	ug/kg	NC		30
2,3,3-Trimethylpentane	ND	ND	ug/kg	NC		30
2,3-Dimethylhexane	ND	ND	ug/kg	NC		30
2-Methylheptane	ND	ND	ug/kg	NC		30
3-Methylheptane	ND	ND	ug/kg	NC		30
3-Ethylhexane	ND	ND	ug/kg	NC		30
Toluene	ND	ND	ug/kg	NC		30
2-Methylthiophene	ND	ND	ug/kg	NC		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Project Number: C150683.21 5B-2

Lab Number: L2160537

Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1569759-7 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
3-Methylthiophene	ND	ND	ug/kg	NC		30
1-Octene	ND	ND	ug/kg	NC		30
Octane	ND	ND	ug/kg	NC		30
1,2-Dibromoethane	ND	ND	ug/kg	NC		30
Ethylbenzene	ND	0.082J	ug/kg	NC		30
2-Ethylthiophene	ND	ND	ug/kg	NC		30
p/m-Xylene	0.186J	0.170J	ug/kg	NC		30
1-Nonene	ND	ND	ug/kg	NC		30
Nonane (C9)	ND	ND	ug/kg	NC		30
Styrene	ND	ND	ug/kg	NC		30
o-Xylene	ND	0.067J	ug/kg	NC		30
Isopropylbenzene	ND	ND	ug/kg	NC		30
n-Propylbenzene	ND	ND	ug/kg	NC		30
1-Methyl-3-Ethylbenzene	ND	ND	ug/kg	NC		30
1-Methyl-4-Ethylbenzene	ND	ND	ug/kg	NC		30
1,3,5-Trimethylbenzene	ND	ND	ug/kg	NC		30
1-Decene	ND	ND	ug/kg	NC		30
1-Methyl-2-Ethylbenzene	ND	ND	ug/kg	NC		30
Decane (C10)	ND	ND	ug/kg	NC		30
1,2,4-Trimethylbenzene	0.101J	0.098J	ug/kg	NC		30
sec-Butylbenzene	ND	ND	ug/kg	NC		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Project Number: C150683.21 5B-2

Lab Number: L2160537

Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1569759-7 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
1-Methyl-3-Isopropylbenzene	ND	ND	ug/kg	NC		30
1-Methyl-4-Isopropylbenzene	ND	ND	ug/kg	NC		30
1-Methyl-2-Isopropylbenzene	ND	ND	ug/kg	NC		30
Indane	0.064J	0.069J	ug/kg	NC		30
1-Methyl-3-N-Propylbenzene	ND	ND	ug/kg	NC		30
1-Methyl-4-N-Propylbenzene	ND	ND	ug/kg	NC		30
n-Butylbenzene	ND	ND	ug/kg	NC		30
1,2-Dimethyl-4-Ethylbenzene	ND	ND	ug/kg	NC		30
1,2-Diethylbenzene	ND	ND	ug/kg	NC		30
1-Methyl-2-N-Propylbenzene	ND	ND	ug/kg	NC		30
1,4-Dimethyl-2-Ethylbenzene	ND	ND	ug/kg	NC		30
Undecane	ND	ND	ug/kg	NC		30
1,3-Dimethyl-4-Ethylbenzene	ND	ND	ug/kg	NC		30
1,3-Dimethyl-5-Ethylbenzene	ND	ND	ug/kg	NC		30
1,3-Dimethyl-2-Ethylbenzene	ND	ND	ug/kg	NC		30
1,2-Dimethyl-3-Ethylbenzene	ND	ND	ug/kg	NC		30
1,2,4,5-Tetramethylbenzene	ND	ND	ug/kg	NC		30
N-Pentylbenzene	ND	ND	ug/kg	NC		30
Dodecane (C12)	ND	ND	ug/kg	NC		30
Naphthalene	0.124J	0.125J	ug/kg	NC		30
Benzothiophene	0.049J	ND	ug/kg	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by EPA 5035 Low - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1569759-7 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
MMT	ND	ND	ug/kg	NC		30
Tridecane	ND	ND	ug/kg	NC		30
2-Methylnaphthalene	0.091J	0.068J	ug/kg	NC		30
1-Methylnaphthalene	0.081J	0.045J	ug/kg	NC		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	98		97		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	100		100		70-130



SEMIVOLATILES

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

SAMPLE RESULTS

Lab ID: L2160537-01
 Client ID: GCHD-SO-C:7.5-8_112021
 Sample Location: MO

Date Collected: 11/03/21 11:50
 Date Received: 11/04/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D-SIM(M)
 Analytical Date: 11/22/21 21:39
 Analyst: MJS
 Percent Solids: 69%

Extraction Method: ALPHA OP-013
 Extraction Date: 11/15/21 08:47
 Cleanup Method: EPA 3611B
 Cleanup Date: 11/19/21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
Cis/Trans-Decalin	ND		ug/kg	0.480	0.362	1
C1-Decalins	ND		ug/kg	0.961	0.362	1
C2-Decalins	ND		ug/kg	0.961	0.362	1
C3-Decalins	ND		ug/kg	0.961	0.362	1
C4-Decalins	ND		ug/kg	0.961	0.362	1
Naphthalene	0.296	JB	ug/kg	0.961	0.414	1
C1-Naphthalenes	ND		ug/kg	0.961	0.414	1
C2-Naphthalenes	ND		ug/kg	0.961	0.414	1
C3-Naphthalenes	ND		ug/kg	0.961	0.414	1
C4-Naphthalenes	ND		ug/kg	0.961	0.414	1
2-Methylnaphthalene	ND		ug/kg	0.961	0.372	1
1-Methylnaphthalene	ND		ug/kg	0.961	0.454	1
Benzothiophene	ND		ug/kg	0.961	0.451	1
C1-Benzo(b)thiophenes	ND		ug/kg	0.961	0.451	1
C2-Benzo(b)thiophenes	ND		ug/kg	0.961	0.451	1
C3-Benzo(b)thiophenes	ND		ug/kg	0.961	0.451	1
C4-Benzo(b)thiophenes	ND		ug/kg	0.961	0.451	1
Biphenyl	ND		ug/kg	0.961	0.445	1
2,6-Dimethylnaphthalene	ND		ug/kg	0.961	0.342	1
Dibenzofuran	ND		ug/kg	0.961	0.454	1
Acenaphthylene	0.038	J	ug/kg	0.961	0.275	1
Acenaphthene	ND		ug/kg	0.961	0.254	1
2,3,5-Trimethylnaphthalene	ND		ug/kg	0.961	0.236	1
Fluorene	ND		ug/kg	0.961	0.384	1
C1-Fluorenes	ND		ug/kg	0.961	0.384	1
C2-Fluorenes	ND		ug/kg	0.961	0.384	1
C3-Fluorenes	ND		ug/kg	0.961	0.384	1
Dibenzothiophene	0.040	J	ug/kg	0.961	0.397	1

Project Name: MULTISTATE TRUST SPRINGFIELD**Lab Number:** L2160537**Project Number:** C150683.21 5B-2**Report Date:** 12/01/21**SAMPLE RESULTS**

Lab ID: L2160537-01
 Client ID: GCHD-SO-C:7.5-8_112021
 Sample Location: MO

Date Collected: 11/03/21 11:50
 Date Received: 11/04/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
4-Methyldibenzothiophene(4MDT)	ND		ug/kg	0.961	0.397	1
2/3-Methyldibenzothiophene(2MDT)	ND		ug/kg	0.961	0.397	1
1-Methyldibenzothiophene(1MDT)	ND		ug/kg	0.961	0.397	1
C1-Dibenzothiophenes	ND		ug/kg	0.961	0.397	1
C2-Dibenzothiophenes	ND		ug/kg	0.961	0.397	1
C3-Dibenzothiophenes	ND		ug/kg	0.961	0.397	1
C4-Dibenzothiophenes	ND		ug/kg	0.961	0.397	1
Phenanthrene	0.322	JB	ug/kg	0.961	0.477	1
3-Methylphenanthrene (3MP)	ND		ug/kg	0.961	0.477	1
2-Methylphenanthrene (2MP)	ND		ug/kg	0.961	0.477	1
2-Methylanthracene (2MA)	ND		ug/kg	0.961	0.477	1
9/4-Methylphenanthrene (9MP)	ND		ug/kg	0.961	0.477	1
1-Methylphenanthrene (1MP)	ND		ug/kg	0.961	0.477	1
C1-Phenanthrenes/Anthracenes	ND		ug/kg	0.961	0.477	1
C2-Phenanthrenes/Anthracenes	ND		ug/kg	0.961	0.477	1
C3-Phenanthrenes/Anthracenes	ND		ug/kg	0.961	0.477	1
C4-Phenanthrenes/Anthracenes	ND		ug/kg	0.961	0.477	1
Retene	ND		ug/kg	0.961	0.354	1
Anthracene	ND		ug/kg	0.961	0.297	1
Carbazole	ND		ug/kg	0.961	0.471	1
Fluoranthene	0.221	J	ug/kg	0.961	0.458	1
Benzo(b)fluorene	ND		ug/kg	0.961	0.417	1
Pyrene	0.250	J	ug/kg	0.961	0.379	1
C1-Fluoranthenes/Pyrenes	0.215	J	ug/kg	0.961	0.379	1
C2-Fluoranthenes/Pyrenes	ND		ug/kg	0.961	0.379	1
C3-Fluoranthenes/Pyrenes	ND		ug/kg	0.961	0.379	1
C4-Fluoranthenes/Pyrenes	ND		ug/kg	0.961	0.379	1
Naphthobenzothiophene	0.029	J	ug/kg	0.961	0.403	1
C1-Naphthobenzothiophenes	ND		ug/kg	0.961	0.403	1
C2-Naphthobenzothiophenes	ND		ug/kg	0.961	0.403	1
C3-Naphthobenzothiophenes	ND		ug/kg	0.961	0.403	1
C4-Naphthobenzothiophenes	ND		ug/kg	0.961	0.403	1
Benz(a)anthracene	0.062	J	ug/kg	0.961	0.294	1
Chrysene/Triphenylene	0.165	J	ug/kg	0.961	0.291	1
C1-Chrysenes	ND		ug/kg	0.961	0.291	1
C2-Chrysenes	ND		ug/kg	0.961	0.291	1
C3-Chrysenes	ND		ug/kg	0.961	0.195	1

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

SAMPLE RESULTS

Lab ID: L2160537-01
 Client ID: GCHD-SO-C:7.5-8_112021
 Sample Location: MO

Date Collected: 11/03/21 11:50
 Date Received: 11/04/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
C4-Chrysenes	ND		ug/kg	0.961	0.291	1
Benzo(b)fluoranthene	0.211	J	ug/kg	0.961	0.375	1
Benzo(j)+(k)Fluoranthene	ND		ug/kg	0.961	0.286	1
Benzo(a)fluoranthene	ND		ug/kg	0.961	0.286	1
Benzo(e)Pyrene	0.122	J	ug/kg	0.961	0.297	1
Benzo(a)pyrene	0.125	J	ug/kg	0.961	0.411	1
Perylene	ND		ug/kg	0.961	0.278	1
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	0.961	0.391	1
Dibenz(a,h)+(a,c)anthracene	ND		ug/kg	0.961	0.389	1
Benzo(ghi)perylene	0.121	J	ug/kg	0.961	0.383	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	58		50-130
Phenanthrene-d10	76		50-130
Benzo(a)pyrene-d12	84		50-130

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 11/22/21 17:24
Analyst: MJS

Extraction Method: ALPHA OP-013
Extraction Date: 11/15/21 08:47
Cleanup Method: EPA 3611B
Cleanup Date: 11/19/21

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG1571364-1					
Cis/Trans-Decalin	ND		ug/kg	0.329	0.248
C1-Decalins	ND		ug/kg	0.658	0.248
C2-Decalins	ND		ug/kg	0.658	0.248
C3-Decalins	ND		ug/kg	0.658	0.248
C4-Decalins	ND		ug/kg	0.658	0.248
Naphthalene	0.035	J	ug/kg	0.658	0.284
C1-Naphthalenes	ND		ug/kg	0.658	0.284
C2-Naphthalenes	ND		ug/kg	0.658	0.284
C3-Naphthalenes	ND		ug/kg	0.658	0.284
C4-Naphthalenes	ND		ug/kg	0.658	0.284
2-Methylnaphthalene	ND		ug/kg	0.658	0.254
1-Methylnaphthalene	ND		ug/kg	0.658	0.311
Benzothiophene	ND		ug/kg	0.658	0.309
C1-Benzo(b)thiophenes	ND		ug/kg	0.658	0.309
C2-Benzo(b)thiophenes	ND		ug/kg	0.658	0.309
C3-Benzo(b)thiophenes	ND		ug/kg	0.658	0.309
C4-Benzo(b)thiophenes	ND		ug/kg	0.658	0.309
Biphenyl	ND		ug/kg	0.658	0.305
2,6-Dimethylnaphthalene	ND		ug/kg	0.658	0.235
Dibenzofuran	ND		ug/kg	0.658	0.311
Acenaphthylene	ND		ug/kg	0.658	0.188
Acenaphthene	ND		ug/kg	0.658	0.174
2,3,5-Trimethylnaphthalene	ND		ug/kg	0.658	0.161
Fluorene	ND		ug/kg	0.658	0.263
C1-Fluorenes	ND		ug/kg	0.658	0.263
C2-Fluorenes	ND		ug/kg	0.658	0.263
C3-Fluorenes	ND		ug/kg	0.658	0.263
Dibenzothiophene	ND		ug/kg	0.658	0.272
4-Methyldibenzothiophene(4MDT)	ND		ug/kg	0.658	0.272

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 11/22/21 17:24
Analyst: MJS

Extraction Method: ALPHA OP-013
Extraction Date: 11/15/21 08:47
Cleanup Method: EPA 3611B
Cleanup Date: 11/19/21

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG1571364-1					
2/3-Methyldibenzothiophene(2MDT)	ND		ug/kg	0.658	0.272
1-Methyldibenzothiophene(1MDT)	ND		ug/kg	0.658	0.272
C1-Dibenzothiophenes	ND		ug/kg	0.658	0.272
C2-Dibenzothiophenes	ND		ug/kg	0.658	0.272
C3-Dibenzothiophenes	ND		ug/kg	0.658	0.272
C4-Dibenzothiophenes	ND		ug/kg	0.658	0.272
Phenanthrene	0.115	J	ug/kg	0.658	0.327
3-Methylphenanthrene (3MP)	ND		ug/kg	0.658	0.327
2-Methylphenanthrene (2MP)	ND		ug/kg	0.658	0.327
2-Methylanthracene (2MA)	ND		ug/kg	0.658	0.327
9/4-Methylphenanthrene (9MP)	ND		ug/kg	0.658	0.327
1-Methylphenanthrene (1MP)	ND		ug/kg	0.658	0.327
C1-Phenanthrenes/Anthracenes	ND		ug/kg	0.658	0.327
C2-Phenanthrenes/Anthracenes	ND		ug/kg	0.658	0.327
C3-Phenanthrenes/Anthracenes	ND		ug/kg	0.658	0.327
C4-Phenanthrenes/Anthracenes	ND		ug/kg	0.658	0.327
Retene	ND		ug/kg	0.658	0.242
Anthracene	ND		ug/kg	0.658	0.203
Carbazole	ND		ug/kg	0.658	0.323
Fluoranthene	ND		ug/kg	0.658	0.314
Benzo(b)fluorene	ND		ug/kg	0.658	0.286
Pyrene	ND		ug/kg	0.658	0.260
C1-Fluoranthenes/Pyrenes	ND		ug/kg	0.658	0.260
C2-Fluoranthenes/Pyrenes	ND		ug/kg	0.658	0.260
C3-Fluoranthenes/Pyrenes	ND		ug/kg	0.658	0.260
C4-Fluoranthenes/Pyrenes	ND		ug/kg	0.658	0.260
Naphthobenzothiophene	ND		ug/kg	0.658	0.276
C1-Naphthobenzothiophenes	ND		ug/kg	0.658	0.276
C2-Naphthobenzothiophenes	ND		ug/kg	0.658	0.276

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 11/22/21 17:24
Analyst: MJS

Extraction Method: ALPHA OP-013
Extraction Date: 11/15/21 08:47
Cleanup Method: EPA 3611B
Cleanup Date: 11/19/21

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 01 Batch: WG1571364-1					
C3-Naphthobenzothiophenes	ND		ug/kg	0.658	0.276
C4-Naphthobenzothiophenes	ND		ug/kg	0.658	0.276
Benz(a)anthracene	ND		ug/kg	0.658	0.201
Chrysene/Triphenylene	ND		ug/kg	0.658	0.200
C1-Chrysenes	ND		ug/kg	0.658	0.200
C2-Chrysenes	ND		ug/kg	0.658	0.200
C3-Chrysenes	ND		ug/kg	0.658	0.134
C4-Chrysenes	ND		ug/kg	0.658	0.200
Benzo(b)fluoranthene	ND		ug/kg	0.658	0.257
Benzo(j)+(k)Fluoranthene	ND		ug/kg	0.658	0.196
Benzo(a)fluoranthene	ND		ug/kg	0.658	0.196
Benzo(e)Pyrene	ND		ug/kg	0.658	0.204
Benzo(a)pyrene	ND		ug/kg	0.658	0.282
Perylene	ND		ug/kg	0.658	0.190
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	0.658	0.268
Dibenz(a,h)+(a,c)anthracene	ND		ug/kg	0.658	0.267
Benzo(ghi)perylene	ND		ug/kg	0.658	0.262

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	71		50-130
Phenanthrene-d10	88		50-130
Benzo(a)pyrene-d12	88		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Lab Number: L2160537

Project Number: C150683.21 5B-2

Report Date: 12/01/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 01 Batch: WG1571364-2 WG1571364-3								
Naphthalene	75		77		50-130	3		30
2-Methylnaphthalene	68		70		50-130	3		30
Acenaphthylene	75		75		50-130	0		30
Acenaphthene	77		78		50-130	1		30
Fluorene	80		80		50-130	0		30
Phenanthrene	88		86		50-130	2		30
Anthracene	84		83		50-130	1		30
Fluoranthene	75		74		50-130	1		30
Pyrene	75		73		50-130	3		30
Benz(a)anthracene	85		86		50-130	1		30
Chrysene/Triphenylene	90		90		50-130	0		30
Benzo(b)fluoranthene	94		94		50-130	0		30
Benzo(j)+(k)Fluoranthene	97		96		50-130	1		30
Benzo(a)pyrene	104		103		50-130	1		30
Indeno(1,2,3-cd)Pyrene	83		82		50-130	1		30
Dibenz(a,h)+(a,c)anthracene	92		90		50-130	2		30
Benzo(ghi)perylene	99		97		50-130	2		30

Lab Control Sample Analysis Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
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Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 01 Batch: WG1571364-2 WG1571364-3

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> Criteria
Naphthalene-d8	74		77		50-130
Phenanthrene-d10	89		88		50-130
Benzo(a)pyrene-d12	93		92		50-130

Lab Duplicate Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Project Number: C150683.21 5B-2

Lab Number: L2160537

Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1571364-4 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
Cis/Trans-Decalin	ND	ND	ug/kg	NC		30
C1-Decalins	ND	ND	ug/kg	NC		30
C2-Decalins	ND	ND	ug/kg	NC		30
C3-Decalins	ND	ND	ug/kg	NC		30
C4-Decalins	ND	ND	ug/kg	NC		30
Naphthalene	0.296JB	0.262JB	ug/kg	NC		30
C1-Naphthalenes	ND	ND	ug/kg	NC		30
C2-Naphthalenes	ND	ND	ug/kg	NC		30
C3-Naphthalenes	ND	ND	ug/kg	NC		30
C4-Naphthalenes	ND	ND	ug/kg	NC		30
2-Methylnaphthalene	ND	ND	ug/kg	NC		30
1-Methylnaphthalene	ND	ND	ug/kg	NC		30
Benzothiophene	ND	ND	ug/kg	NC		30
C1-Benzo(b)thiophenes	ND	ND	ug/kg	NC		30
C2-Benzo(b)thiophenes	ND	ND	ug/kg	NC		30
C3-Benzo(b)thiophenes	ND	ND	ug/kg	NC		30
C4-Benzo(b)thiophenes	ND	ND	ug/kg	NC		30
Biphenyl	ND	ND	ug/kg	NC		30
2,6-Dimethylnaphthalene	ND	ND	ug/kg	NC		30
Dibenzofuran	ND	ND	ug/kg	NC		30
Acenaphthylene	0.038J	0.040J	ug/kg	NC		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Project Number: C150683.21 5B-2

Lab Number: L2160537

Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1571364-4 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
Acenaphthene	ND	0.066J	ug/kg	NC		30
2,3,5-Trimethylnaphthalene	ND	ND	ug/kg	NC		30
Fluorene	ND	ND	ug/kg	NC		30
C1-Fluorenes	ND	ND	ug/kg	NC		30
C2-Fluorenes	ND	ND	ug/kg	NC		30
C3-Fluorenes	ND	ND	ug/kg	NC		30
Dibenzothiophene	0.040J	ND	ug/kg	NC		30
4-Methyldibenzothiophene(4MDT)	ND	ND	ug/kg	NC		30
2/3-Methyldibenzothiophene(2MDT)	ND	ND	ug/kg	NC		30
1-Methyldibenzothiophene(1MDT)	ND	ND	ug/kg	NC		30
C1-Dibenzothiophenes	ND	ND	ug/kg	NC		30
C2-Dibenzothiophenes	ND	ND	ug/kg	NC		30
C3-Dibenzothiophenes	ND	ND	ug/kg	NC		30
C4-Dibenzothiophenes	ND	ND	ug/kg	NC		30
Phenanthrene	0.322JB	0.276JB	ug/kg	NC		30
3-Methylphenanthrene (3MP)	ND	ND	ug/kg	NC		30
2-Methylphenanthrene (2MP)	ND	ND	ug/kg	NC		30
2-Methylantracene (2MA)	ND	ND	ug/kg	NC		30
9/4-Methylphenanthrene (9MP)	ND	ND	ug/kg	NC		30
1-Methylphenanthrene (1MP)	ND	ND	ug/kg	NC		30
C1-Phenanthrenes/Anthracenes	ND	ND	ug/kg	NC		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Project Number: C150683.21 5B-2

Lab Number: L2160537

Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1571364-4 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
C2-Phenanthrenes/Anthracenes	ND	ND	ug/kg	NC		30
C3-Phenanthrenes/Anthracenes	ND	ND	ug/kg	NC		30
C4-Phenanthrenes/Anthracenes	ND	ND	ug/kg	NC		30
Retene	ND	ND	ug/kg	NC		30
Anthracene	ND	ND	ug/kg	NC		30
Carbazole	ND	ND	ug/kg	NC		30
Fluoranthene	0.221J	0.383J	ug/kg	NC		30
Benzo(b)fluorene	ND	0.048J	ug/kg	NC		30
Pyrene	0.250J	0.398J	ug/kg	NC		30
C1-Fluoranthenes/Pyrenes	0.215J	0.329J	ug/kg	NC		30
C2-Fluoranthenes/Pyrenes	ND	ND	ug/kg	NC		30
C3-Fluoranthenes/Pyrenes	ND	ND	ug/kg	NC		30
C4-Fluoranthenes/Pyrenes	ND	ND	ug/kg	NC		30
Naphthobenzothiophene	0.029J	0.033J	ug/kg	NC		30
C1-Naphthobenzothiophenes	ND	ND	ug/kg	NC		30
C2-Naphthobenzothiophenes	ND	ND	ug/kg	NC		30
C3-Naphthobenzothiophenes	ND	ND	ug/kg	NC		30
C4-Naphthobenzothiophenes	ND	ND	ug/kg	NC		30
Benz(a)anthracene	0.062J	0.059J	ug/kg	NC		30
Chrysene/Triphenylene	0.165J	0.126J	ug/kg	NC		30
C1-Chrysenes	ND	ND	ug/kg	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1571364-4 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
C2-Chrysenes	ND	ND	ug/kg	NC		30
C3-Chrysenes	ND	ND	ug/kg	NC		30
C4-Chrysenes	ND	ND	ug/kg	NC		30
Benzo(b)fluoranthene	0.211J	0.213J	ug/kg	NC		30
Benzo(j)+(k)Fluoranthene	ND	ND	ug/kg	NC		30
Benzo(a)fluoranthene	ND	ND	ug/kg	NC		30
Benzo(e)Pyrene	0.122J	0.082J	ug/kg	NC		30
Benzo(a)pyrene	0.125J	0.080J	ug/kg	NC		30
Perylene	ND	ND	ug/kg	NC		30
Indeno(1,2,3-cd)Pyrene	ND	ND	ug/kg	NC		30
Dibenz(a,h)+(a,c)anthracene	ND	ND	ug/kg	NC		30
Benzo(ghi)perylene	0.121J	0.078J	ug/kg	NC		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	58		67		50-130
Phenanthrene-d10	76		82		50-130
Benzo(a)pyrene-d12	84		94		50-130



PETROLEUM HYDROCARBONS

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

SAMPLE RESULTS

Lab ID: L2160537-01
 Client ID: GCHD-SO-C:7.5-8_112021
 Sample Location: MO

Date Collected: 11/03/21 11:50
 Date Received: 11/04/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8015D(M)
 Analytical Date: 11/20/21 12:59
 Analyst: WR
 Percent Solids: 69%

Extraction Method: ALPHA OP-013
 Extraction Date: 11/15/21 08:47
 Cleanup Method: EPA 3611B
 Cleanup Date: 11/19/21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Saturated Hydrocarbons by GC-FID - Mansfield Lab						
n-Nonane (C9)	ND		mg/kg	0.096	0.009	1
n-Decane (C10)	ND		mg/kg	0.096	0.010	1
n-Undecane (C11)	ND		mg/kg	0.096	0.011	1
n-Dodecane (C12)	ND		mg/kg	0.096	0.014	1
n-Tridecane (C13)	ND		mg/kg	0.096	0.056	1
2,6,10-Trimethyldodecane (1380)	ND		mg/kg	0.096	0.010	1
n-Tetradecane (C14)	ND		mg/kg	0.096	0.010	1
2,6,10-Trimethyltridecane (1470)	ND		mg/kg	0.096	0.024	1
n-Pentadecane (C15)	ND		mg/kg	0.096	0.024	1
n-Hexadecane (C16)	ND		mg/kg	0.096	0.009	1
Norpristane (1650)	ND		mg/kg	0.096	0.012	1
n-Heptadecane (C17)	ND		mg/kg	0.096	0.012	1
Pristane	ND		mg/kg	0.096	0.016	1
n-Octadecane (C18)	0.031	JCB	mg/kg	0.096	0.008	1
Phytane	ND		mg/kg	0.096	0.008	1
n-Nonadecane (C19)	ND		mg/kg	0.096	0.008	1
n-Eicosane (C20)	ND		mg/kg	0.096	0.005	1
n-Heneicosane (C21)	ND		mg/kg	0.096	0.006	1
n-Docosane (C22)	ND		mg/kg	0.096	0.004	1
n-Tricosane (C23)	ND		mg/kg	0.096	0.006	1
n-Tetracosane (C24)	ND		mg/kg	0.096	0.009	1
n-Pentacosane (C25)	0.053	JCB	mg/kg	0.096	0.006	1
n-Hexacosane (C26)	0.005	JB	mg/kg	0.096	0.011	1
n-Heptacosane (C27)	0.008	JB	mg/kg	0.096	0.008	1
n-Octacosane (C28)	0.044	JB	mg/kg	0.096	0.032	1
n-Nonacosane (C29)	0.006	JB	mg/kg	0.096	0.009	1
n-Triacontane (C30)	0.003	JB	mg/kg	0.096	0.010	1
n-Hentriacontane (C31)	0.006	JB	mg/kg	0.096	0.010	1

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

SAMPLE RESULTS

Lab ID: L2160537-01
 Client ID: GCHD-SO-C:7.5-8_112021
 Sample Location: MO

Date Collected: 11/03/21 11:50
 Date Received: 11/04/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Saturated Hydrocarbons by GC-FID - Mansfield Lab						
n-Dotriacontane (C32)	0.002	J	mg/kg	0.096	0.011	1
n-Tritriacontane (C33)	0.003	J	mg/kg	0.096	0.010	1
n-Tetatriacontane (C34)	ND		mg/kg	0.096	0.013	1
n-Pentatriacontane (C35)	ND		mg/kg	0.096	0.011	1
n-Hexatriacontane (C36)	ND		mg/kg	0.096	0.010	1
n-Heptatriacontane (C37)	ND		mg/kg	0.096	0.016	1
n-Octatriacontane (C38)	ND		mg/kg	0.096	0.015	1
n-Nonatriacontane (C39)	ND		mg/kg	0.096	0.018	1
n-Tetracontane (C40)	ND		mg/kg	0.096	0.018	1
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	3.17	0.463	1
Total Saturated Hydrocarbons	0.161	JB	mg/kg	0.096	0.004	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
ortho-terphenyl	83		50-130
d50-Tetracosane	85		50-130

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 11/20/21 07:11
Analyst: WR

Extraction Method: ALPHA OP-013
Extraction Date: 11/15/21 08:47
Cleanup Method: EPA 3611B
Cleanup Date: 11/19/21

Parameter	Result	Qualifier	Units	RL	MDL
Saturated Hydrocarbons by GC-FID - Mansfield Lab for sample(s): 01 Batch: WG1571364-1					
Nonane (C9)	ND		mg/kg	0.066	0.006
Decane (C10)	ND		mg/kg	0.066	0.007
Undecane	ND		mg/kg	0.066	0.007
Dodecane (C12)	ND		mg/kg	0.066	0.009
Tridecane	ND		mg/kg	0.066	0.038
2,6,10-Trimethyldodecane (1380)	ND		mg/kg	0.066	0.007
Tetradecane (C14)	ND		mg/kg	0.066	0.007
2,6,10-Trimethyltridecane (1470)	ND		mg/kg	0.066	0.016
n-Pentadecane (C15)	ND		mg/kg	0.066	0.016
Hexadecane (C16)	ND		mg/kg	0.066	0.006
Norpristane (1650)	ND		mg/kg	0.066	0.008
n-Heptadecane (C17)	ND		mg/kg	0.066	0.008
Pristane	ND		mg/kg	0.066	0.011
Octadecane (C18)	0.024	JC	mg/kg	0.066	0.005
Phytane	ND		mg/kg	0.066	0.006
Nonadecane (C19)	ND		mg/kg	0.066	0.005
Eicosane (C20)	ND		mg/kg	0.066	0.004
Heneicosane (C21)	ND		mg/kg	0.066	0.004
Docosane (C22)	ND		mg/kg	0.066	0.003
n-Tricosane (C23)	ND		mg/kg	0.066	0.004
Tetracosane (C24)	ND		mg/kg	0.066	0.006
Pentacosane (C25)	0.034	JC	mg/kg	0.066	0.004
Hexacosane (C26)	0.002	J	mg/kg	0.066	0.007
Heptacosane (C27)	0.002	J	mg/kg	0.066	0.005
Octacosane (C28)	0.018	J	mg/kg	0.066	0.022
Nonacosane (C29)	0.001	J	mg/kg	0.066	0.006
Triacosane (C30)	0.001	J	mg/kg	0.066	0.007
Hentatriacontane (C31)	0.001	J	mg/kg	0.066	0.007
Dotriacontane (C32)	ND		mg/kg	0.066	0.007

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 11/20/21 07:11
Analyst: WR

Extraction Method: ALPHA OP-013
Extraction Date: 11/15/21 08:47
Cleanup Method: EPA 3611B
Cleanup Date: 11/19/21

Parameter	Result	Qualifier	Units	RL	MDL
Saturated Hydrocarbons by GC-FID - Mansfield Lab for sample(s): 01 Batch: WG1571364-1					
Tritriacontane (C33)	ND		mg/kg	0.066	0.007
Tetratriacontane (C34)	ND		mg/kg	0.066	0.009
Pentatriacontane (C35)	ND		mg/kg	0.066	0.007
Hexatriacontane (C36)	ND		mg/kg	0.066	0.007
Heptatriacontane (C37)	ND		mg/kg	0.066	0.011
Octatriacontane (C38)	ND		mg/kg	0.066	0.010
Nonatriacontane (C39)	ND		mg/kg	0.066	0.012
Tetracontane (C40)	ND		mg/kg	0.066	0.012
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	2.17	0.317
Total Saturated Hydrocarbons	0.083	J	mg/kg	0.066	0.003

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	94		50-130
d50-Tetracosane	99		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Saturated Hydrocarbons by GC-FID - Mansfield Lab Associated sample(s): 01 Batch: WG1571364-2 WG1571364-3								
Nonane (C9)	56		57		50-130	2		30
Decane (C10)	61		63		50-130	3		30
Dodecane (C12)	54		56		50-130	4		30
Tetradecane (C14)	74		75		50-130	1		30
Hexadecane (C16)	87		87		50-130	0		30
Octadecane (C18)	95		95		50-130	0		30
Nonadecane (C19)	87		88		50-130	1		30
Eicosane (C20)	88		88		50-130	0		30
Docosane (C22)	93		95		50-130	2		30
Tetracosane (C24)	96		100		50-130	4		30
Hexacosane (C26)	96		100		50-130	4		30
Octacosane (C28)	96		100		50-130	4		30
Triacontane (C30)	97		101		50-130	4		30
Hexatriacontane (C36)	87		91		50-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	95		94		50-130
d50-Tetracosane	96		99		50-130



Lab Duplicate Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Project Number: C150683.21 5B-2

Lab Number: L2160537

Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Saturated Hydrocarbons by GC-FID - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1571364-4 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
Nonane (C9)	ND	ND	mg/kg	NC		30
Decane (C10)	ND	ND	mg/kg	NC		30
Undecane	ND	ND	mg/kg	NC		30
Dodecane (C12)	ND	ND	mg/kg	NC		30
Tridecane	ND	ND	mg/kg	NC		30
2,6,10-Trimethyldodecane (1380)	ND	ND	mg/kg	NC		30
Tetradecane (C14)	ND	ND	mg/kg	NC		30
2,6,10-Trimethyltridecane (1470)	ND	ND	mg/kg	NC		30
n-Pentadecane (C15)	ND	ND	mg/kg	NC		30
Hexadecane (C16)	ND	ND	mg/kg	NC		30
Norpristane (1650)	ND	ND	mg/kg	NC		30
n-Heptadecane (C17)	ND	ND	mg/kg	NC		30
Pristane	ND	ND	mg/kg	NC		30
Octadecane (C18)	0.031JCB	0.034JCB	mg/kg	NC		30
Phytane	ND	ND	mg/kg	NC		30
Nonadecane (C19)	ND	ND	mg/kg	NC		30
Eicosane (C20)	ND	ND	mg/kg	NC		30
Heneicosane (C21)	ND	ND	mg/kg	NC		30
Docosane (C22)	ND	ND	mg/kg	NC		30
n-Tricosane (C23)	ND	ND	mg/kg	NC		30
Tetracosane (C24)	ND	ND	mg/kg	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Saturated Hydrocarbons by GC-FID - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1571364-4 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
Pentacosane (C25)	0.053JCB	0.032JCB	mg/kg	NC		30
Hexacosane (C26)	0.005JB	0.004JB	mg/kg	NC		30
Heptacosane (C27)	0.008JB	0.007JB	mg/kg	NC		30
Octacosane (C28)	0.044JB	0.005JB	mg/kg	NC		30
Nonacosane (C29)	0.006JB	0.005JB	mg/kg	NC		30
Triacontane (C30)	0.003JB	0.003JB	mg/kg	NC		30
Hentatriacontane (C31)	0.006JB	0.005JB	mg/kg	NC		30
Dotriacontane (C32)	0.002J	0.001J	mg/kg	NC		30
Trtriacontane (C33)	0.003J	0.002J	mg/kg	NC		30
Tetratriacontane (C34)	ND	ND	mg/kg	NC		30
Pentatriacontane (C35)	ND	ND	mg/kg	NC		30
Hexatriacontane (C36)	ND	ND	mg/kg	NC		30
Heptatriacontane (C37)	ND	ND	mg/kg	NC		30
Octatriacontane (C38)	ND	ND	mg/kg	NC		30
Nonatriacontane (C39)	ND	ND	mg/kg	NC		30
Tetracontane (C40)	ND	ND	mg/kg	NC		30
Total Petroleum Hydrocarbons (C9-C44)	ND	ND	mg/kg	NC		30
Total Saturated Hydrocarbons	0.161JB	0.099JB	mg/kg	NC		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
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Lab Duplicate Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Project Number: C150683.21 5B-2

Lab Number: L2160537

Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Saturated Hydrocarbons by GC-FID - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1571364-4 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	83		90		50-130
d50-Tetracosane	85		95		50-130

INORGANICS & MISCELLANEOUS

Project Name: MULTISTATE TRUST SPRINGFIELD
Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

SAMPLE RESULTS

Lab ID: L2160537-01
Client ID: GCHD-SO-C:7.5-8_112021
Sample Location: MO

Date Collected: 11/03/21 11:50
Date Received: 11/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	68.5		%	0.100	0.100	1	-	11/19/21 12:06	121,2540G	AE



Lab Duplicate Analysis

Batch Quality Control

Project Name: MULTISTATE TRUST SPRINGFIELD

Project Number: C150683.21 5B-2

Lab Number: L2160537

Report Date: 12/01/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1573490-1 QC Sample: L2160537-01 Client ID: GCHD-SO-C:7.5-8_112021						
Solids, Total	68.5	67.6	%	1		10

Project Name: MULTISTATE TRUST SPRINGFIELD**Lab Number:** L2160537**Project Number:** C150683.21 5B-2**Report Date:** 12/01/21**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2160537-01A	Vial MeOH preserved	A	NA		4.5	Y	Absent		A2-NFPIANO8260HLW(14)
L2160537-01B	Vial water preserved	A	NA		4.5	Y	Absent	04-NOV-21 23:26	A2-NFPIANO8260HLW(14)
L2160537-01C	Vial water preserved	A	NA		4.5	Y	Absent	04-NOV-21 23:26	A2-NFPIANO8260HLW(14)
L2160537-01D	Glass 120ml/4oz unpreserved	A	NA		4.5	Y	Absent		A2-NFSHC(14),A2-NFALKPAHBIOMARKER(14)

Project Name: MULTISTATE TRUST SPRINGFIELD**Lab Number:** L2160537**Project Number:** C150683.21 5B-2**Report Date:** 12/01/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name: MULTISTATE TRUST SPRINGFIELD
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Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: MULTISTATE TRUST SPRINGFIELD
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Data Qualifiers

- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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Project Number: C150683.21 5B-2

Lab Number: L2160537
Report Date: 12/01/21

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

11/4/21

L2160537



Chain of Custody

Environmental Forensics Practice LLC

Hydrocarbon BOLS
Finger Printing BOLS

Proj No C150683.21 582		Proj Name Multistake Trust Springfield, MO			ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"										
SAMPLERS: Signature 					MATRIX (* see below)	GC-MS-PAH (GC)	GCMS-Alkyl PAH (GC)	GCMS-Biomarkers	PIANO - VOA	Organic Lead	METALS	PCB	Pesticides	PRESERVED	Total Number of Containers
DATE	TIME	LAB ID	CLIENT ID	SAMPLE DESCRIPTION											
11/3/21	1150		GCHD-SO-C:75-8-112021	BASIN SOIL SAMPLE SO	X	X		X							
Relinquished by: B. Garcia			Date/Time 11/3/21 1720		Received by: FEDEX			Date/Time							
Relinquished by: FEDEX			Date/Time 11/4/21 10:35am		Received by: 			Date/Time 11/4/21 10:35am							
Relinquished by:			Date/Time		Received by:			Date/Time							
* O=Oil SO=Soil SE=Sediment T=Tissue W=Water				Samples to be shipped to: Alpha Laboratory 320 Forbes Blvd. Mansfield, MA 02048 Tel: (508) 822-4117 Attn: Sue O'Neil				Comments:							

ORIGIN ID:SGFA (417) 890-9500
BARBARA GARCIA

1455 EAST CHESTNUT EXPRESSWAY

SPRINGFIELD, MO 65802
UNITED STATES US

SHIP DATE: 03NOV21
ACTWGT: 20.00 LB
CAD: 114690935/NET4400
DIMS: 18x12x12 IN

BILL SENDER

TO **ATTN: SUE O'NEIL**

**ALPHA LABORATORY
320 FORBES BLVD
MANSFIELD MA 02048**

(508) 822-4117

REF: C1506832158-2

INV
PO: C1506832158-2

DEPT:

55D.09A7EFA4



THU - 04 NOV 4:30P
STANDARD OVERNIGHT

TRK# 7751 1280 9507
0201

U7 PYMA

DSR
02048
MA-US BOS



FedEx Ship Manager - Print Your Label(s)

11/3/21, 5:12 PM

After printing this label:

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