

Incident ID	nAPP2202549943
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>>115</u> (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: Each of the following items must be included in the report.

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

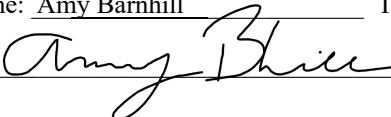
State of New Mexico
Oil Conservation Division

Page 4

Incident ID	nAPP2202549943
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Amy Barnhill Title: Lead Environmental Specialist

Signature:  Date: 3-2-23

email: ABarnhill@chevron.com Telephone: 432-687-7723

OCD Only

Received by: _____ Date: _____

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Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

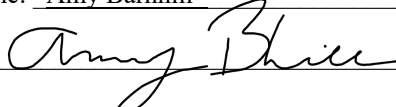
- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Amy Barnhill Title: Lead Environmental Specialist

Signature:  Date: 3-2-23

email: ABarnhill@chevron.com Telephone: 432-687-7723

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

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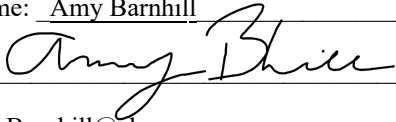
Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Amy Barnhill Title: Lead Environmental Specialist
Signature:  Date: 3-2-23
email: ABarnhill@chevron.com Telephone: 432-687-7723

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  Date: 03/13/2023
Printed Name: Jennifer Nobui Title: Environmental Specialist A

Tracking Numbers: nRM2032861231 & nAPP2202549943

**Closure Report
Maelstrom 15-1 SWD
Produced Water Releases
Lea County, New Mexico**

Latitude: N 32.041072°
Longitude: W -103.659396°

LAI Project No. 20-0107-23 & 22-0105-02

February 28, 2023

Prepared for:
Chevron USA Inc.
6301 Deauville Blvd.
Midland, Texas 79706

Prepared by:
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507 North Marienfeld Street, Suite 202
Midland, Texas 79701



Mark J. Larson, P.G.

Certified Professional Geologist #10490



Robert Nelson
Sr. Geoscientist

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Table of Contents

1.0	INTRODUCTION	4
1.1	Background	4
1.2	Physical Setting	4
1.3	Remediation Standards	4
2.0	DELINEATION	5
3.0	REMEDICATION	6
4.0	CLOSURE/DEFERRAL REQUEST.....	7

Tables

Table 1a	Delineation Soil Sample Analytical Data Summary (nRM2032861231)
Table 1b	Delineation Soil Sample Analytical Data Summary (nAPP2202549943)
Table 2	Confirmation Soil Sample Analytical Data Summary

Figures

Figure 1	Topographic Map (nRM2032861231 & nAPP2202549943)
Figure 2a	Aerial Map Showing Sample Locations (nRM2032861231)
Figure 2b	Aerial Map Showing Sample Locations (nAPP2202549943)
Figure 3	Aerial Map Showing Boring Hole Location
Figure 4a	Aerial Map Showing Excavation Area and Confirmation Samples (nRM2032861231)
Figure 4b	Aerial Map Showing Excavation Area and Confirmation Samples (nAPP2202549943)
Figure 5	Aerial Map Showing Deferral Area (nAPP2202549943)

Appendices

Appendix A	Initial C-141's and Chevron Spill Calculations
Appendix B	Karst Risk Potential
Appendix C	Boring Log
Appendix D	NMOCD Communications
Appendix E	Laboratory Reports
Appendix F	Photographs

Tracking Numbers: nRM2032861231 & nAPP2202549943

Closure Report

Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023

1.0 INTRODUCTION

Larson & Associates, Inc. (LAI), has prepared this closure report on behalf of Chevron USA Inc. (Chevron) for submittal to the New Mexico Oil Conservation Division (NMOCD) District I for two (2) produced water releases at the Maelstrom 15-1 SWD (Site) located in Unit J (NW/4, SE/4), Section 15, Township 26 South, Range 32 East, in Lea County, New Mexico. The geodetic position is North 32.041072° and West - 103.659396°. Figure 1 presents a topographic map.

1.1 Background

The first release was discovered on November 4, 2020, due to an inlet line leaking underground. Chevron reported that 5.87 barrels (bbls) of produced water were released, with 3 bbls of fluid recovered. The initial C-141 was submitted to NMOCD District 1 on November 10, 2020 and assigned incident number nRM2032861231. Figure 2a presents an aerial map (nRM2032861231).

The second release was discovered on January 19, 2022, due to a pinhole leak in the 4-inch suction expansion joint. Chevron reported that 6.8 bbls of produced water were released, with no recovery. The initial C-141 was submitted to the NMOCD District 1 on January 25, 2022, and assigned incident number nAPP2202549943. Figure 2b presents an aerial map (nAPP2202549943). Appendix A presents the initial C-141's and Chevron spill calculations.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 3,173 feet above mean sea level (msl).
- The surface elevation gradually decreases to the southwest.
- There are no surface water features within 1,000 feet of the Site.
- Karst data provided by the USGS describes the Site as "Medium Risk" potential.
- The soils are predominately (57.7 %) designated as Pyote and Maljamar fine sands, consisting of 0 to 30 inches fine sand, underlain by 30 to 60 inches of fine sandy loam.
- Surface geology is Quaternary deposits (Holocene) and consists of sand and silt in sheets, locally includes cover sand.
- Groundwater occurs at a depth greater than 115 feet below ground surface (bgs) based on depth to groundwater measurements 72 hours after drilling a soil bore (BH-1).

Figure 3 presents an aerial map showing the boring location. Appendix B presents USGS data depicting karst risk potential. Appendix C presents the boring log (BH-1)

1.3 Remediation Standards

The following remediation standards are based on closure criteria for soils impacted by a release as presented in Table 1 of 19.15.29 NMAC:

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 2,500 mg/Kg
- Chloride 20,000 mg/Kg

Tracking Numbers: nRM2032861231 & nAPP2202549943

Closure Report

Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023

Further, 19.15.29.13 NMAC (Restoration, Reclamation and Re-Vegetation) requires the operator to restore the impacted surface area that existed prior to the release or their final land use.

2.0 DELINEATION

The first release (nRM2032861231) was fully delineated between January 12, 2021, and February 8, 2021. The delineation was reported to the NMOCD in the document titled "Tracking Number: nRM2032861231, Delineation Report and Remediation Plan, Maelstrom 15-1 Federal SWD #001 Produced Water Release, Lea County, New Mexico, February 19, 2021" and recommended the following remediation:

- Excavate soil from an area measuring approximately 1,334 square feet encompassing S-2, S-5, and S-9 to a depth of 2 feet bgs.
- Excavate soil from an area measuring approximately 759 square feet encompassing S-7 to a depth of approximately 4.1 feet bgs.
- Collect five (5) point composite bottom and sidewall confirmation soil samples every 200 square feet and analyze for BTEX, TPH, and chloride.
- Backfill excavation with clean topsoil within the ROW assuming achievement of OCD remediation levels.
- Seed the backfilled area with BLM mix #2.
- Prepare report with photographs for submittal to OCD district 1.

NMOCD conditionally approved the remediation plan on June 28, 2021, stating *"The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine depth to groundwater"*.

The second release (nAPP2202549943) was fully delineated between March 9, 2022 and May 3, 2022. The delineation was reported to the NMOCD in the document titled "Tracking Number: nAPP2202549943, Delineation Report and Remediation Plan, Maelstrom 15-1 SWD Produced Water Release, Lea County, New Mexico, May 12, 2022" and recommended the following remediation:

- Excavate soil from an area measuring approximately 47 square feet encompassing S-7 to a depth of approximately three (3) feet bgs.
- Excavate soil from an area measuring approximately 327 square feet encompassing sample locations S-1, S-2, and S-3 to a depth of approximately 4.1 feet bgs.
- Excavate soil from an area measuring approximately 47 square feet encompassing sample locations S-4 to a depth of approximately five (5) feet bgs.
- Collect five (5) point composite bottom and sidewall confirmation soil samples every 200 square feet and analyze for BTEX, TPH, and chloride.

Tracking Numbers: nRM2032861231 & nAPP2202549943

Closure Report

Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023

- Backfill excavation with clean caliche assuming achievement of OCD remediation levels.
- Seed the backfilled area with BLM mix #2.
- Prepare report with photographs for submittal to OCD district 1.

NMOCD conditionally approved the report on June 1, 2022, stating "Remediation Plan Approved with Conditions. The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ miles away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater". Table 1a and 1b present the delineation soil sample analytical data summary for the two (2) releases nRM2032861231 and nAPP2202549943, respectively. Appendix D presents NMOCD communications.

3.0 REMEDIATION

On October 24, 2022, Warrior Technologies, LLC (Warrior), under supervision from LAI personnel began to hydrovac excavate soil from the southern spill area (nRM2032861231). Soil was excavated to a depth of approximately 4.1 feet bgs encompassing sample location S-7. Hydrovac media (i.e., soil rock, water) was contained in vac boxes prior to being hauled to R360 Halfway disposal. Throughout October, November and December 2022, the remaining areas were hydrovac excavated according to the conditionally approved delineation reports and remediation plans submitted for incident numbers nRM2032861231 and nAPP2202549943.

From October 31, 2022 to January 10, 2023, LAI personnel collected thirteen (13) bottom (C-1 through C-13) and ten (10) sidewall (SW-1 through SW-11) confirmation soil samples from within the excavated areas. Sidewall soil sample ID SW-6 was not used. The soil samples were delivered under chain of custody and preservation to the Eurofins-Xenco Laboratories (Xenco) in Midland, Texas. The laboratory analyzed the samples for BTEX, TPH, and chloride by EPA SW-846 Methods 8021B, 8015M, and 300.0E, respectively. Benzene, BTEX, and TPH were reported below the NMOCD remediation standards in all confirmation composite soil samples. Chloride reported above the NMOCD remediation standard of 600 mg/Kg from sidewall samples SW-4, SW-5, and SW-8.

On December 15, 2022, Warrior excavated an additional one (1) from the sidewalls encompassing sample locations SW-4 and SW-5. Laboratory analysis reported benzene, BTEX, TPH, and chloride below the NMOCD remediation standards in all confirmation soil samples listed in Table 1 of 19.15.29 NMAC. Figure 4a presents the soil excavation areas and confirmation sample locations for nRM2032861231 and 4b presents the soil excavation areas and confirmation sample locations for nAPP2202549943. Table 2 presents the confirmation and backfill analytical data summary. Appendix E presents the laboratory reports.

On January 19, 2022, SDR Enterprises (SDR) backfilled the excavations with clean topsoil within the Right of Way (ROW) and clean caliche on the pad. LAI personnel collected two (2) composite samples (BF-1 and

Tracking Numbers: nRM2032861231 & nAPP2202549943

Closure Report

Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023

BF-2) of clean caliche from a nearby burrow pit. Xenco analyzed the sample for BTEX, TPH, and chloride. Benzene, BTEX, and TPH were below the analytical method reporting Limits (RLs) and chloride was less than 600 mg/Kg.

4.0 CLOSURE/DEFERRAL REQUEST

Chevron requests no further action for nRM2032861231.

Chevron requests a deferral for chloride at sidewall sample location SW-8 for the second release (nAPP2202549943) where a support for aboveground flow lines and injection pump is located. Further excavation of this area risks jeopardizing the integrity of the flow line and/or injection pump resulting in additional environmental impacts. Figure 5 presents an aerial map showing the deferral area.

Tables

Table 1
Soil Sample Analytical Data Summary
Maelstrom 15-1 SWD (nRM2032861231)
Lea County, New Mexico
32° 2' 28.43" North, 103° 39' 35.87" West

Page 1 of 3

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				10	50	100				600
S-1	0.5	1/12/2021	In-Situ	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	433
	1	1/12/2021	In-Situ	<0.00200	0.0526	<49.9	<49.9	<49.9	<49.9	23.9
S-2	0.5	1/12/2021	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	1,670
	1	1/12/2021	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	3,220
	1	2/8/2021	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<4.95
	3	2/8/2021	In-Situ	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	75.4
	5	2/8/2021	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	72.5
	10	2/8/2021	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<5.00
S-3	0.5	1/12/2021	In-Situ	0.0378	0.293	<50.0	<50.0	<50.0	<50.0	24.2
	1	1/12/2021	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	16.1
S-4	0.5	1/12/2021	In-Situ	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	13.0
	1	1/12/2021	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	13.5
S-5	0.5	1/12/2021	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	4,850
	1	1/12/2021	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	3,990
	1	2/8/2021	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<5.00
	3	2/8/2021	In-Situ	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<5.00
	5	2/8/2021	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<5.02
	10	2/8/2021	In-Situ	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<5.00
S-6	0.5	1/12/2021	In-Situ	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	14.9
	1	1/12/2021	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	16.3

Table 1
Soil Sample Analytical Data Summary
Maelstrom 15-1 SWD (nRM2032861231)
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32° 2' 28.43" North, 103° 39' 35.87" West

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Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				10	50	100			600	
S-7	0.5	1/12/2021	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	8,890
	1	1/12/2021	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	2,670
	1	2/8/2021	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	1,350
	3	2/8/2021	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	1,540
	5	2/8/2021	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	956
	10	2/8/2021	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	596
S-8	0.5	1/12/2021	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	35.3
	1	1/12/2021	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	18.0
S-9	0.5	1/12/2021	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	640
	1	1/12/2021	In-Situ	0.00472	0.0232	<49.9	<49.9	<49.9	<49.9	361
S-10	0.5	1/12/2021	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	42.1
	1	1/12/2021	In-Situ	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	13.3
S-11	0.5	2/8/2021	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	15.2
	1	2/8/2021	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<4.97
S-12	0.5	2/8/2021	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	90.2
	1	2/8/2021	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	28.8

Notes: Analysis performed by Xenco Laboratories (Xenco) in Midland, Texas by EPA SW-846 8021B (BTEX), 8015M (TPH), and 300E (Chloride)
 Depth in feet below ground surface (bgs)

Table 1

Soil Sample Analytical Data Summary
Maelstrom 15-1 SWD (nRM2032861231)
Lea County, New Mexico
32° 2' 28.43" North, 103° 39' 35.87" West

Page 3 of 3

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				10	50	100				600

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

<: denotes concentration less than analytical method reporting limit

Bold and Highlighted exceeds OCD remediation action limits

Table 1
Delineation Soil Sample Analytical Data Summary
Maelstrom SWD (nAPP2202549943)
Lea County, New Mexico
32°02'27.94"N 103°39'33.54"W

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				10	50	100				600
S-1	0.5	3/9/2022	In-Situ	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	8,180
	1	3/9/2022	In-Situ	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	7,090
	1	5/3/2022	In-Situ	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	3,400
	3	5/3/2022	In-Situ	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	516
	5	5/3/2022	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	45.3
	10	5/3/2022	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	5.74
S-2	0.5	3/9/2022	In-Situ	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	8,750
	1	3/9/2022	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	8,130
	1	5/3/2022	In-Situ	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	6,950
	3	5/3/2022	In-Situ	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	1,040
	5	5/3/2022	In-Situ	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	87.8
	10	5/3/2022	In-Situ	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	10.8
S-3	0.5	3/9/2022	In-Situ	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	4,230
	1	5/3/2022	In-Situ	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	7,360
	3	5/3/2022	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	907
	5	5/3/2022	In-Situ	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	188
	10	5/3/2022	In-Situ	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	15.8
	15	5/3/2022	In-Situ	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	14.1
S-4	0.5	3/9/2022	In-Situ	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	8,080
	1	3/9/2022	In-Situ	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	5,430
	1	5/3/2022	In-Situ	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	5,080
	2	3/9/2022	In-Situ	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	1,970
	3	3/9/2022	In-Situ	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	576
	3	5/3/2022	In-Situ	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	761
	4.5	3/9/2022	In-Situ	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	982

Table 1
Delineation Soil Sample Analytical Data Summary
Maelstrom SWD (nAPP2202549943)
Lea County, New Mexico
32°02'27.94"N 103°39'33.54"W

	5	5/3/2022	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	185
	10	5/3/2022	In-Situ	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	35.0
S-5	0.5	3/9/2022	In-Situ	<0.00202	<0.00404	<49.8	<49.8	<49.8	<49.8	61.7
	1	3/9/2022	In-Situ	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	39.6
S-6	0.5	3/9/2022	In-Situ	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	23.8
	1	3/9/2022	In-Situ	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	7.01
S-7	0.5	3/9/2022	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	4,550
	1	3/9/2022	In-Situ	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	2,300
	1	5/3/2022	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	3,710
	3	5/3/2022	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	140
	5	5/3/2022	In-Situ	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	96.0
	10	5/3/2022	In-Situ	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	16.8
S-8	0.5	3/9/2022	In-Situ	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	115
	1	3/9/2022	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	106
S-9	0.5	5/3/2022	In-Situ	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	261
	1	5/3/2022	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	48.6

Notes: Analysis performed by and Xenco Laboratories in Midland, Texas by EPA SW-846 8021B (BTEX), 8015M (TPH), and 300E (Chloride)

Depth in feet below ground surface (bgs)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

<: denotes concentration less than analytical method reporting limit

Bold and Highlighted exceeds OCD remediation action limits

Table 2

Confirmation Soil Sample Analytical Data Summary
Chevron USA, Maelstrom 15-1 SWD
Lea County, New Mexico
North 32°02'27.94"N West 103°39'33.54"W

Sample ID	Location	Depth (feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RAL:					10	50	100/2,500				600/20,000
C-1	Bottom	4.1	10/31/2022	In-Situ	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	198
C-2	Bottom	4.1	10/31/2022	In-Situ	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	82.6
C-3	Bottom	4.1	10/31/2022	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	192
C-4	Bottom	2	10/31/2022	In-Situ	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	435
C-5	Bottom	2	10/31/2022	In-Situ	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	344
C-6	Bottom	3	11/4/2022	In-Situ	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	553
C-7	Bottom	4.1	11/4/2022	In-Situ	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	238
C-8	Bottom	4.1	11/4/2022	In-Situ	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	225
C-9	Bottom	2	12/19/2022	In-Situ	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	11.8
C-10	Bottom	2	12/19/2022	In-Situ	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	148
C-11	Bottom	2	12/19/2022	In-Situ	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	231
C-12	Bottom	5	12/20/2022	In-Situ	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	1,260
C-13	Bottom	4.1	1/10/2023	In-Situ	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	137
C-14	Bottom	2	1/10/2023	In-Situ	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	239
SW-1	Sidewall	0 - 4.1	11/1/2022	In-Situ	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	153
SW-2	Sidewall	0 - 4.1	11/1/2022	In-Situ	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	294
SW-3	Sidewall	0 - 4.1	11/1/2022	In-Situ	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	418
SW-4	Sidewall	0 - 2	10/31/2022	Excavated	<0.00202	<0.00404	<49.8	<49.8	<49.8	<49.8	641
			12/20/2022	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	43.4
SW-5	Sidewall	0 - 3	11/4/2022	Excavated	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	603
			12/16/2022	In-Situ	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	480
SW-6	SAMPLE ID NOT USED										
SW-7	Sidewall	0 - 4.1	11/4/2022	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	512
SW-8	Sidewall	0 - 4.1	11/4/2022	In-Situ	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	791
SW-9	Sidewall	0 - 4.1	12/15/2022	In-Situ	<0.00200	0.0184	<49.9	<49.9	<49.9	<49.9	181
SW-10	Sidewall	0 - 2	12/19/2022	In-Situ	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	97.6
SW-11	Sidewall	0 - 2	12/19/2022	In-Situ	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	134
BF-1	--	--	1/10/2023	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	7.47
BF-2	--	--	1/10/2023	In-Situ	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	35.2

Table 2
Confirmation Soil Sample Analytical Data Summary
Chevron USA, Maelstrom 15-1 SWD
Lea County, New Mexico
North 32°02'27.94"N West 103°39'33.54"W

Notes: analysis performed by Xenco Laboratories (Xenco), Midland, Texas and by EPA SW-846 Methods 8021B (BTEX) and 8015M (TPH), and Method 300 (chloride)

Depth in feet below ground surface (bgs)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

Bold and Highlighted Denotes Conetrations Above OCD Closure Criteria

Figures

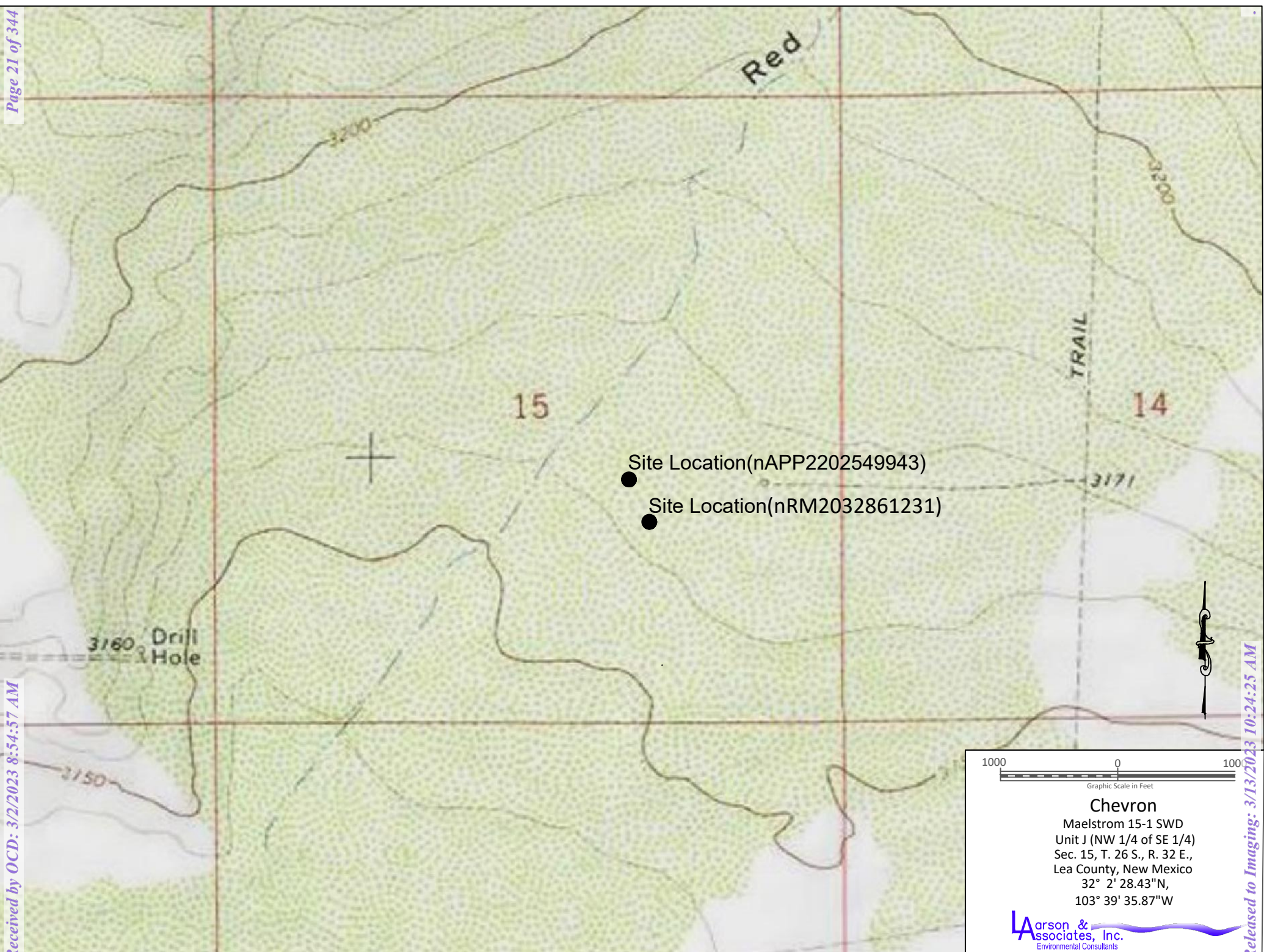
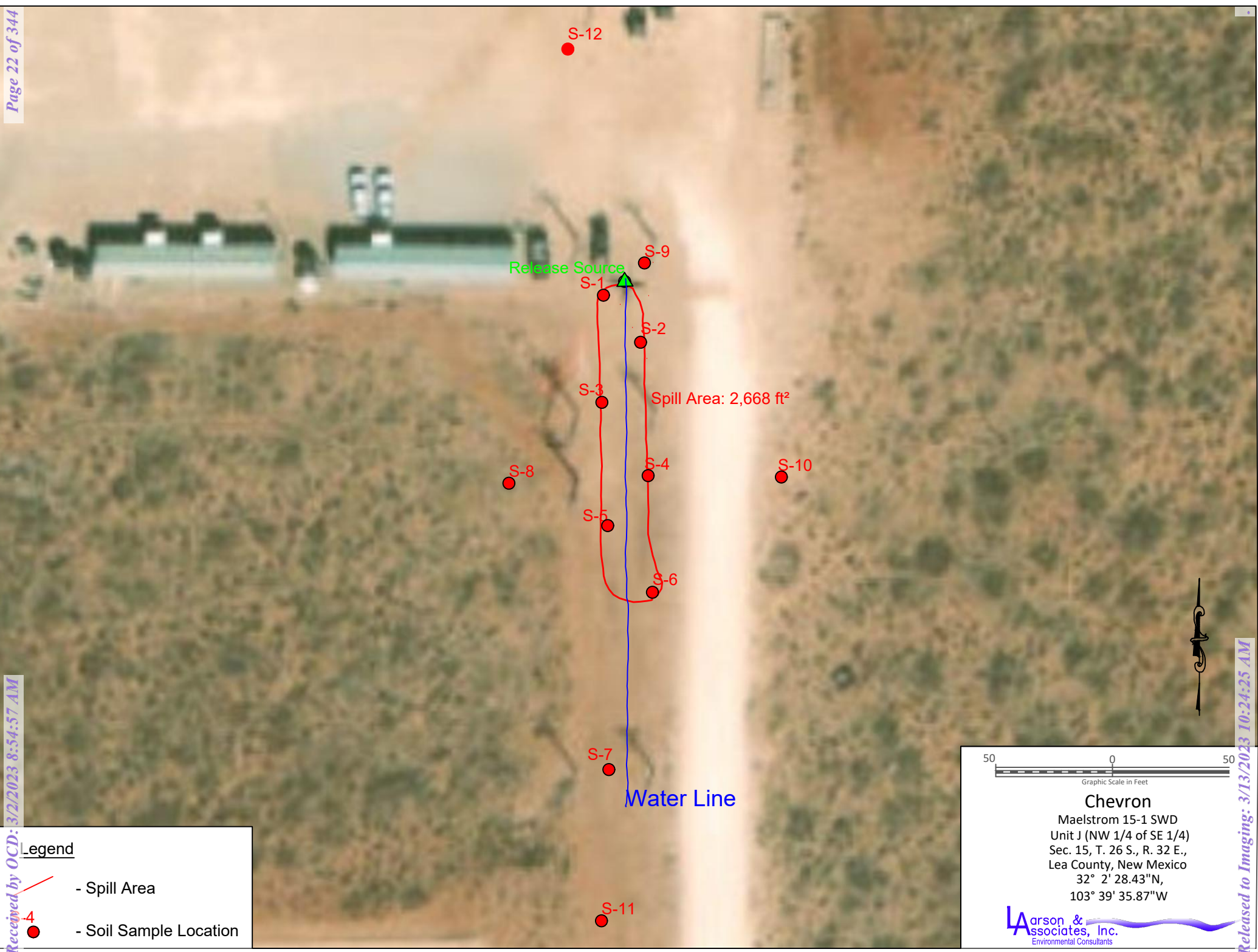


Figure 1 - Topographic Map



Legend

- Spill Area
- Soil Sample Location

Figure 2a - Aerial Map nRM2032861231)



Legend

- Spill Area
- Soil Sample Location

Graphic Scale in Feet

20 0 20

Chevron
Maelstorm 15-1 SWD
Unit J (NW 1/4 of SE 1/4)
Sec. 15, T. 26 S., R. 32 E.
Lea County, New Mexico
32°02'27.94"N
103°39'33.54"W

Larson & Associates, Inc.
Environmental Consultants

Figure 2b - Aerial Map (nAPP2202549943)



Legend

- Groundwater Bore Location

300 0 300
Graphic Scale in Feet

Chevron
Maelstrom 15-1 SWD
Unit J (NW 1/4 of SE 1/4)
Sec. 15, T. 26 S., R. 32 E.,
Lea County, New Mexico
32° 2' 28.43"N,
103° 39' 35.87"W

Larson & Associates, Inc.
Environmental Consultants

Figure 3 - Aerial Map Showing Groundwater Bore Location

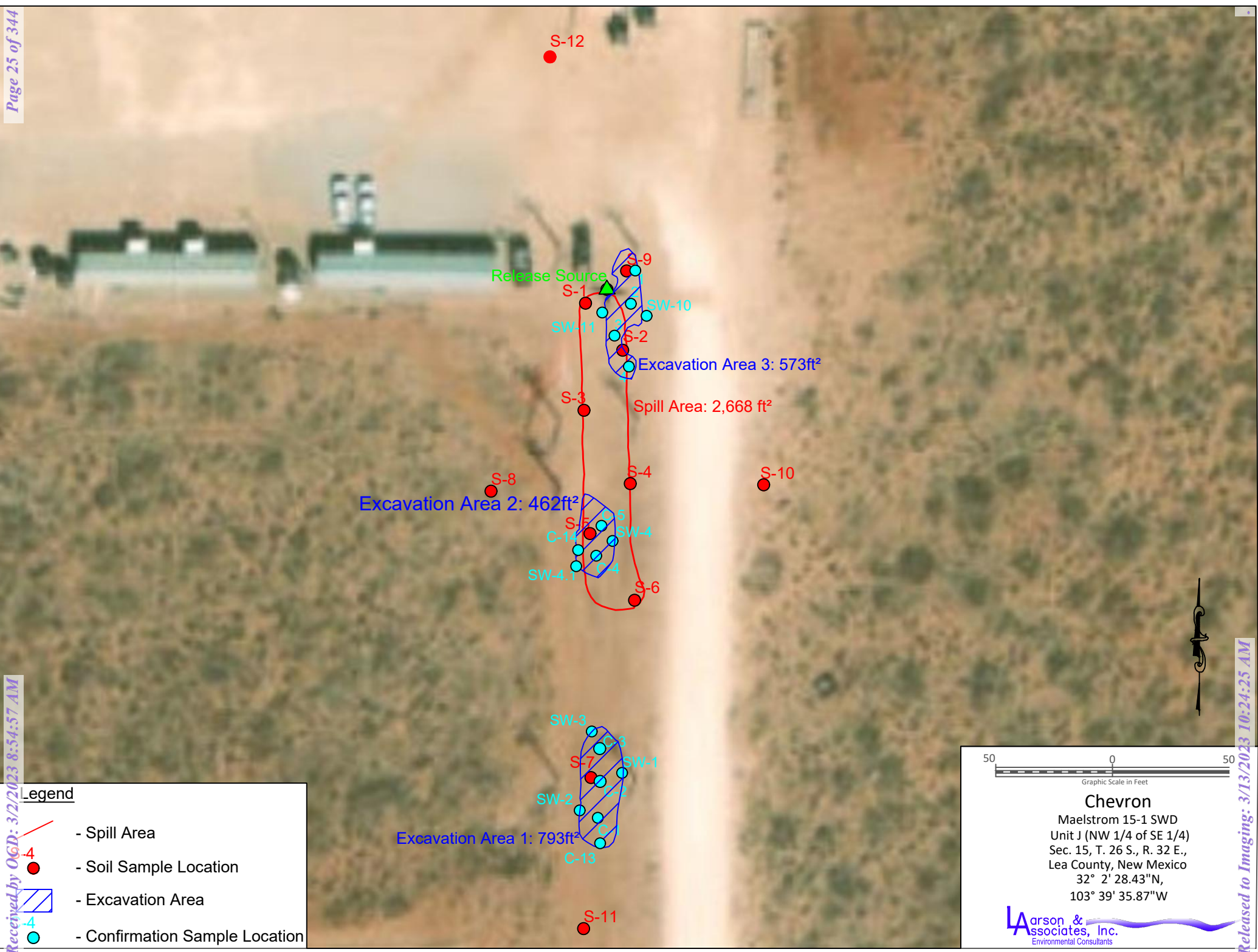
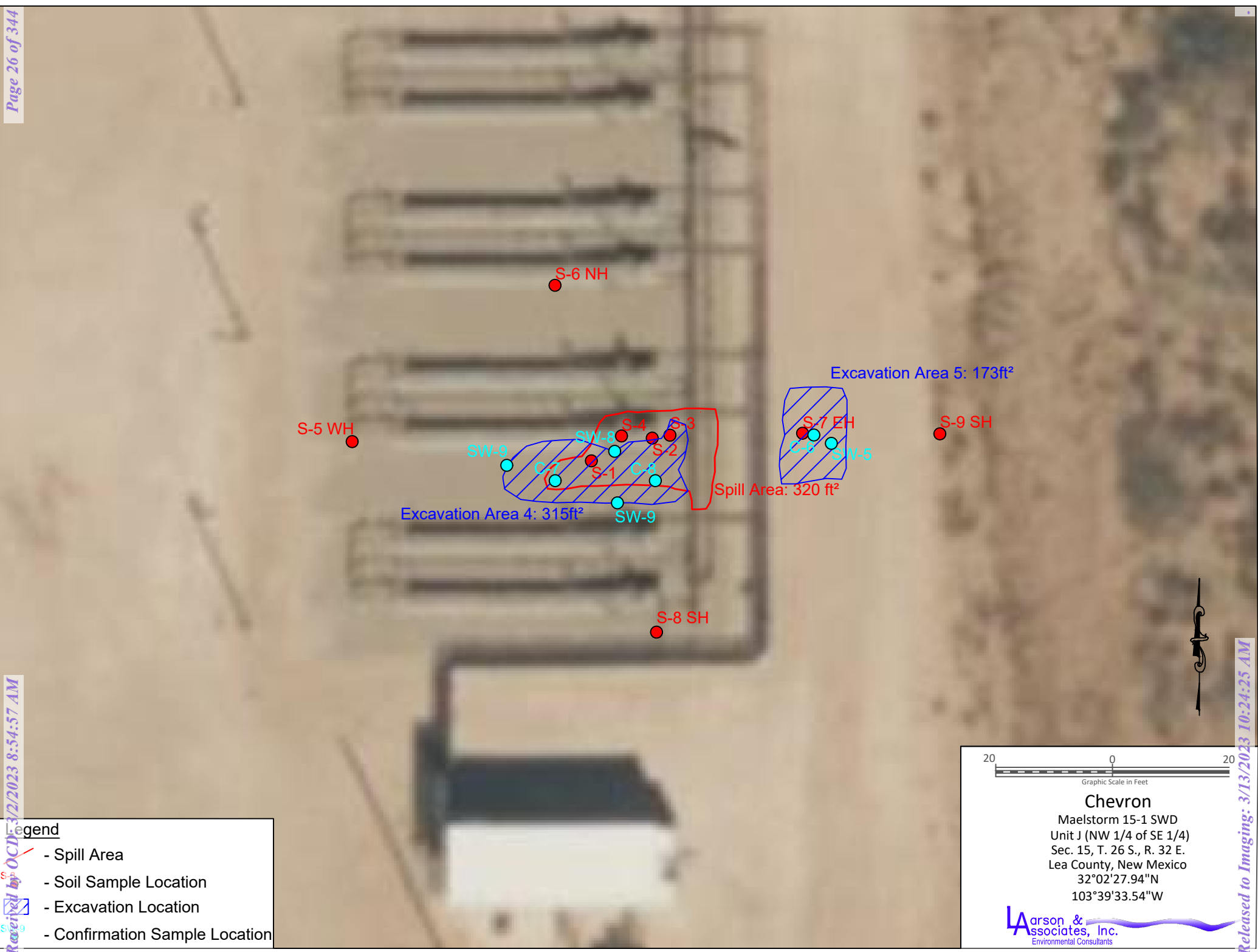


Figure 4a - Aerial Map Showing Excavation Locations and Confirmation Samples (nRM2032861231)



Legend

- Spill Area
- Soil Sample Location
- Excavation Location
- Confirmation Sample Location

20 0 20
Graphic Scale in Feet

Chevron
 Maelstorm 15-1 SWD
 Unit J (NW 1/4 of SE 1/4)
 Sec. 15, T. 26 S., R. 32 E.
 Lea County, New Mexico
 32°02'27.94"N
 103°39'33.54"W

Larson & Associates, Inc.
 Environmental Consultants

Figure 4b - Aerial Map Showing Excavation Locations and Confirmation Samples(nAPP2202549943)

- Legend
- Spill Area
 - Soil Sample Location
 - Excavation Location
 - Confirmation Sample Location
 - Deferral Area

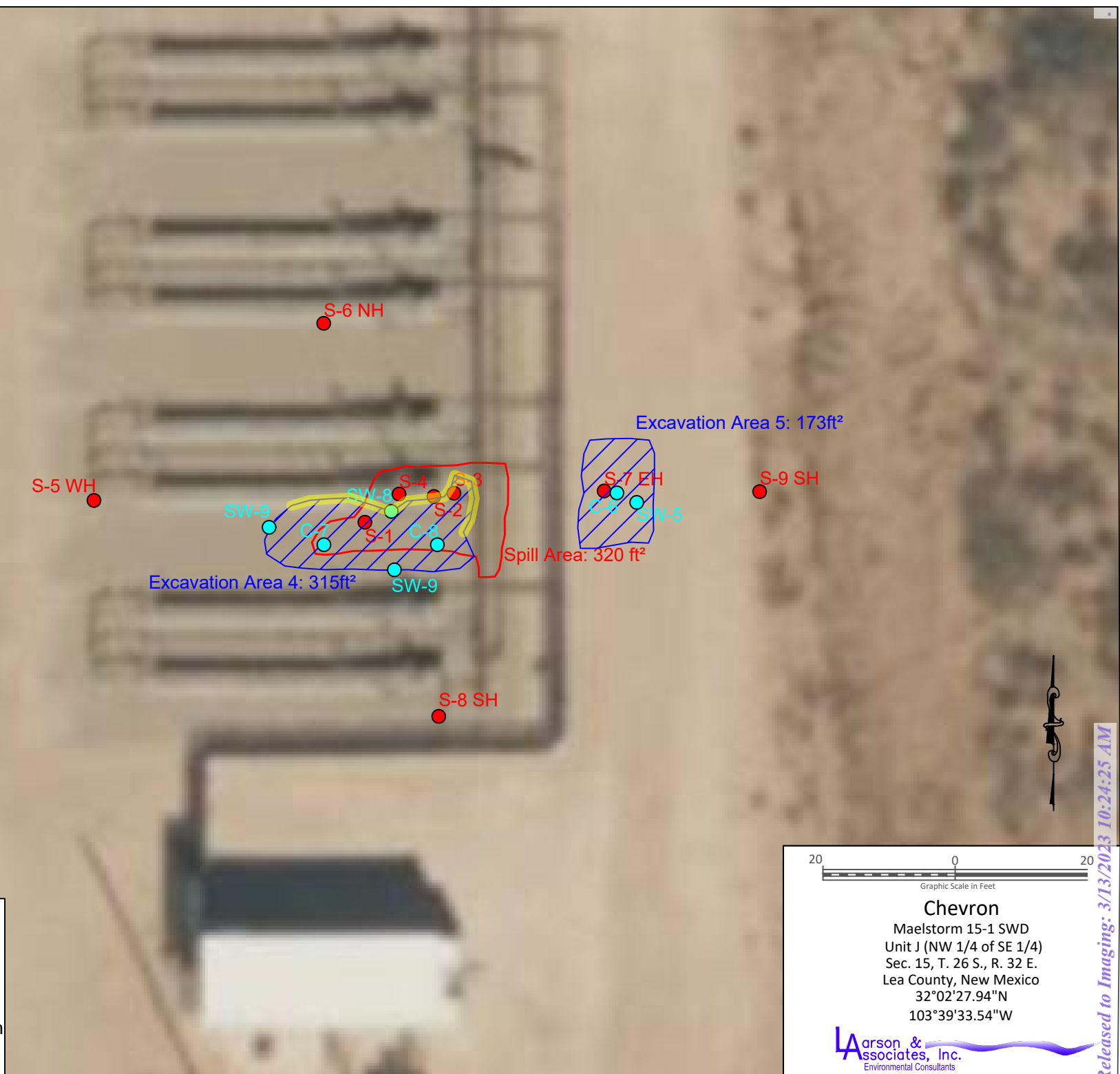


Figure 5 - Aerial Map Showing Deferral Area(nAPP2202549943)

Chevron
Maelstorm 15-1 SWD
Unit J (NW 1/4 of SE 1/4)
Sec. 15, T. 26 S., R. 32 E.
Lea County, New Mexico
32°02'27.94"N
103°39'33.54"W

Larson & Associates, Inc.
Environmental Consultants

Appendix A

Initial C-141's and Chevron Spill Calculations

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	nAPP2202549943
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Chevron USA	OGRID: 4323
Contact Name: Amy Barnhill	Contact Telephone 432-687-7108
Contact email: ABarnhill@chevron.com	Incident # (assigned by OCD)
Contact mailing address: 6301 Deauville Blvd Midland, Tx 79706	

Location of Release Source

Latitude 32.04064265 _____ Longitude -103.65975189 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Salado Draw Maelstrom SWD	Site Type: Produced Water
Date Release Discovered: 1-19-2022	API# (if applicable)

Unit Letter	Section	Township	Range	County
J	15	26S	32E	Lea

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls): 6.8	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

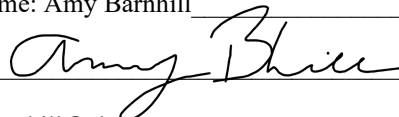
Cause of Release: Pinhole in 4" Suction Expansion Joint

Incident ID	nAPP2202549943
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.	
☒ The impacted area has been secured to protect human health and the environment.	
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: Amy Barnhill	Title: Water Specialist
Signature: 	Date: 1-25-22
email: ABarnhill@chevron.com	Telephone: 432-687-7108
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	nAPP2202549943
District RP	
Facility ID	
Application ID	

Spill Calculations:

Area 1

Shape: Rectangle

Secondary Containment?: No

Standing Liquid Dimensions: 30 ft x 21 ft x .375 in

Standing Liquid Volume: 4.032 bbl

Water Cut: 100%

Oil Volume:.000 bbl

Penetration Depth: .3750 in

Water to Soil Volume: .526 bbl

Water Volume: 4.558 bbl

Area 2

Shape: Rectangle

Secondary Containment?: No

Standing Liquid Dimensions: 42 ft x 6 ft x .500 in

Standing Liquid Volume: 2.081 bbl

Water Cut: 100%

Oil Volume: .000 bbl

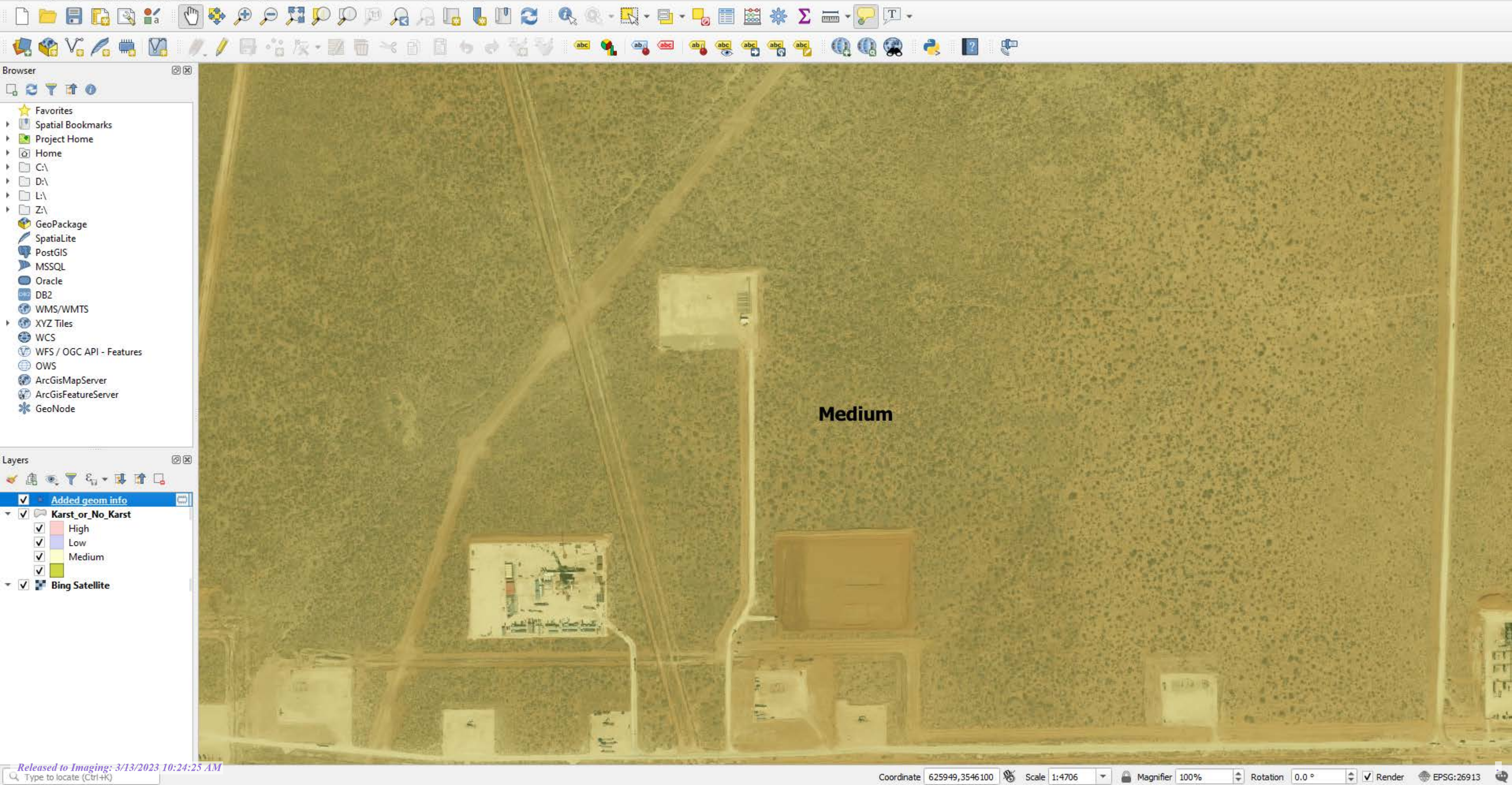
Penetration Depth: .375 in

Water to Soil Volume: .210 bbl

Water Volume: 2.291 bbl

Appendix B

Karst Risk Potential



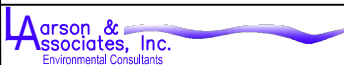
Appendix C

Boring Log

BORING RECORD

GEOLOGIC UNIT	DEPTH	Start: 12:39 Finish: 14:32 DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	PID READING										SAMPLE			REMARKS	
					PPM X _____										NUMBER	PID READING	RECOVERY	DEPTH	BACKGROUND PID READING
					2	4	6	8	10	12	14	16	18						
	0	Caliche, 5YR 8/1, White, Fill	Caliche																
	5	Silty Sand, 5YR 5/6, Yellowish Red, Very Fine Grained Quartz, Poorly Sorted, Grain Imbedded with Caliche below 5', White, 5YR 8/1, Quartz Sand, Medium to Coarse Grade	SM																
	10																		
	15																		
	20	Sand, 7.5YR 5/6, Strong Brown, Very Fine Grained Quartz Sand, Rounded, Poorly Sorted Reddish Brown, 5YR 5/4, Yellowish Red, 5YR 5/6, below 20', Dry	SW												2		20	12:47	
	25																		
	30	Thin Caliche Beds Below 25', Indurated, 5YR 7/0, Pink, Moderately Hard																	
	35	Sandstone Harder Below 30', Hard at 35'-40', Fine to Very Fine Grained Quartz Sand, Very Well Cemented	Sand Stone																
	40	Shale (Red Bed), 2.5YR 4/6, Red, Very Fine Grained, Poorly Sorted, Weakly Cemented, Dry													3		40	13:19	
	45																		
	50																		
	55	Below 50' Interbedded with Thin Sandstone Beds, Moderately Hard, Dry	Shale												4		60	13:39	
	60																		
	65																		

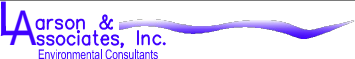
 ONE CONTINUOUS AUGER SAMPLER	 WATER TABLE (TIME OF BORING)	JOB NUMBER : <u>Chevron/ 20-0107-23</u> HOLE DIAMETER : <u>5"</u> LOCATION : <u>Malestorm 15-1 SWD 103°39'35.87"N, 32°2'28.43"W</u> LAI GEOLOGIST : <u>M. Larson</u> DRILLING CONTRACTOR : <u>Scarborough Drilling</u> DRILLING METHOD : <u>Air Rotary</u>
 STANDARD PENETRATION TEST	 LABORATORY TEST LOCATION	
 UNDISTURBED SAMPLE	 PENETROMETER (TONS/ SQ. FT)	
 WATER TABLE (24 HRS)	 NO RECOVERY	

	DRILL DATE : <u>10/12/2022</u>	BORING NUMBER : <u>BH-1</u>
--	--------------------------------	-----------------------------

BORING RECORD

GEOLOGIC UNIT	DEPTH	Start: 12:39 Finish: 14:32 DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	PID READING										SAMPLE				REMARKS		
					PPM X _____										NUMBER	PID READING	RECOVERY	DEPTH	BACKGROUND PID READING SOIL : _____ PPM SOIL : _____ PPM		
					2	4	6	8	10	12	14	16	18								
	70	Sandstone, 2.5YR 5/9, Reddish Brown, Very Fine Grained Quartz Sand, Poorly Sorted, Soft to Moderate, Well Cemented	Sand Stone																		
	75																				
	80	Shale (Red Bed), 2.5YR 4/6 to 5/6, Red to Reddish Brown, Silty, Very Fine Grained Quartz Sand, Dry	Shale													5			80	13:56	
	85																				
	90																				
	95																				
	100																				
	105		Shale																		
	110																				
	115	TD: 115'																			
	120																				
	125																				
	130																				

☐ ONE CONTINUOUS AUGER SAMPLER	☐ WATER TABLE (TIME OF BORING)	JOB NUMBER : <u>Chevron/ 20-0107-23</u> HOLE DIAMETER : <u>5"</u> LOCATION : <u>Malestorm 15-1 SWD 103°39'35.87"N, 32°2'28.43"W</u> LAI GEOLOGIST : <u>M. Larson</u> DRILLING CONTRACTOR : <u>Scarborough Drilling</u> DRILLING METHOD : <u>Air Rotary</u>
☐ STANDARD PENETRATION TEST	☐ LABORATORY TEST LOCATION	
☐ UNDISTURBED SAMPLE	☐ PENETROMETER (TONS/ SQ. FT)	
☐ WATER TABLE (24 HRS)	☐ NO RECOVERY	

	DRILL DATE : 10/12/2022	BORING NUMBER : BH-1
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Appendix D
NMOCD Communications

Robert Nelson

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Tuesday, January 17, 2023 10:52 AM
To: Robert Nelson
Cc: Harimon, Jocelyn, EMNRD; Bratcher, Michael, EMNRD
Subject: RE: [EXTERNAL] Maelstrom 15-1 SWD (nRM2032861231 & nAPP2202549943)
Excavation Backfill Notice

Hello Robert,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks,
Jennifer Nobui

From: Robert Nelson <rnelson@laenvironmental.com>
Sent: Tuesday, January 17, 2023 8:51 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Cc: Barnhill, Amy D. <ABarnhill@chevron.com>; Mark Larson <Mark@laenvironmental.com>
Subject: [EXTERNAL] Maelstrom 15-1 SWD (nRM2032861231 & nAPP2202549943) Excavation Backfill Notice

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Hello Mr. Hamlet and Ms. Nobui,

Larson & Associates, Inc. (LAI), on behalf of Chevron USA, submits the attached confirmation (post remediation) laboratory analytical data and sample location maps to the New Mexico Oil Conservation Division (OCD) District I to provide two (2) business days notification prior to backfilling the excavation at the Maelstrom 15-1 SWD (nRM2032861231 & nAPP2202549943) in Lea County, New Mexico. Please feel free to contact Amy Barnhill with Chevron at (432) 687-7108 or ABarnhill@chevron.com or me with any questions or concerns.

Thank you,

Robert Nelson
Sr. Geologist
Office – 432-687-0901
Cell – 432-664-4804
rnelson@laenvironmental.com



Appendix E
Laboratory Reports

Certificate of Analysis Summary 684483



Larson and Associates, Inc., Midland, TX

Project Name: Chevron-Maelstorm 15-1

Project Id: 20-0107-23

Date Received in Lab: Wed 01.13.2021 11:06

Contact: Mark Larson

Report Date: 01.20.2021 14:06

Project Location:

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	684483-001	684483-002	684483-003	684483-004	684483-005	684483-006
	<i>Field Id:</i>	S-1, 0-5'	S-1, 1'	S-2, 0-5'	S-2, 1'	S-3, 0-5'	S-3, 1'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	01.12.2021 11:36	01.12.2021 11:37	01.12.2021 11:38	01.12.2021 11:39	01.12.2021 11:40	01.12.2021 11:41
BTEX by EPA 8021B	<i>Extracted:</i>	01.14.2021 16:00	01.16.2021 10:00	01.14.2021 16:00	01.14.2021 16:00	01.16.2021 10:00	01.14.2021 16:00
	<i>Analyzed:</i>	01.14.2021 17:37	01.16.2021 18:06	01.14.2021 18:28	01.14.2021 18:53	01.16.2021 18:32	01.14.2021 19:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	0.0378 0.00201	<0.00200 0.00200
Toluene		<0.00201 0.00201	0.00766 0.00200	<0.00199 0.00199	<0.00200 0.00200	0.0123 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00201 0.00201	0.00819 0.00200	<0.00199 0.00199	<0.00200 0.00200	0.00755 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00402 0.00402	0.00689 0.00401	<0.00398 0.00398	<0.00401 0.00401	0.0122 0.00402	<0.00399 0.00399
o-Xylene		<0.00201 0.00201	0.0299 0.00200	<0.00199 0.00199	<0.00200 0.00200	0.223 0.00201	<0.00200 0.00200
Total Xylenes		<0.00201 0.00201	0.0368 0.00200	<0.00199 0.00199	<0.00200 0.00200	0.235 0.00201	<0.00200 0.00200
Total BTEX		<0.00201 0.00201	0.0526 0.00200	<0.00199 0.00199	<0.00200 0.00200	0.293 0.00201	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	01.14.2021 15:10	01.14.2021 15:10	01.14.2021 15:10	01.14.2021 15:10	01.14.2021 15:30	01.14.2021 15:30
	<i>Analyzed:</i>	01.14.2021 22:46	01.14.2021 22:51	01.14.2021 22:56	01.14.2021 23:02	01.14.2021 23:34	01.14.2021 23:50
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		433 5.04	23.9 4.99	1670 24.8	3220 25.2	24.2 4.95	16.1 5.02
TPH by SW8015 Mod	<i>Extracted:</i>	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00
	<i>Analyzed:</i>	01.13.2021 13:48	01.13.2021 14:52	01.13.2021 15:14	01.13.2021 15:35	01.13.2021 15:57	01.13.2021 16:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Total TPH		<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Certificate of Analysis Summary 684483



Larson and Associates, Inc., Midland, TX

Project Name: Chevron-Maelstorm 15-1

Project Id: 20-0107-23

Date Received in Lab: Wed 01.13.2021 11:06

Contact: Mark Larson

Report Date: 01.20.2021 14:06

Project Location:

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	684483-007	684483-008	684483-009	684483-010	684483-011	684483-012
	<i>Field Id:</i>	S-4, 0-5'	S-4, 1'	S-5, 0-5'	S-5, 1'	S-6, 0-5'	S-6, 1'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	01.12.2021 11:42	01.12.2021 11:43	01.12.2021 11:44	01.12.2021 11:45	01.12.2021 11:46	01.12.2021 11:47
BTEX by EPA 8021B	<i>Extracted:</i>	01.14.2021 16:00	01.18.2021 09:15	01.14.2021 16:00	01.14.2021 16:00	01.14.2021 16:00	01.14.2021 16:00
	<i>Analyzed:</i>	01.14.2021 20:09	01.18.2021 19:18	01.14.2021 20:59	01.14.2021 21:24	01.14.2021 23:06	01.14.2021 23:31
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00402 0.00402	<0.00399 0.00399	<0.00398 0.00398	<0.00399 0.00399	<0.00402 0.00402	<0.00399 0.00399
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	01.14.2021 15:30	01.14.2021 15:30	01.14.2021 15:30	01.14.2021 15:30	01.14.2021 15:30	01.14.2021 15:30
	<i>Analyzed:</i>	01.14.2021 23:55	01.15.2021 00:00	01.15.2021 00:06	01.15.2021 00:22	01.15.2021 00:27	01.15.2021 00:32
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		13.0 4.99	13.5 4.98	4850 50.4	3990 25.3	14.9 5.05	16.3 4.97
TPH by SW8015 Mod	<i>Extracted:</i>	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00
	<i>Analyzed:</i>	01.13.2021 16:39	01.13.2021 17:01	01.13.2021 17:22	01.13.2021 17:43	01.13.2021 18:26	01.13.2021 18:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0
Total TPH		<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Certificate of Analysis Summary 684483



Larson and Associates, Inc., Midland, TX

Project Name: Chevron-Maelstorm 15-1

Project Id: 20-0107-23

Date Received in Lab: Wed 01.13.2021 11:06

Contact: Mark Larson

Report Date: 01.20.2021 14:06

Project Location:

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	684483-013	684483-014	684483-015	684483-016	684483-017	684483-018
	<i>Field Id:</i>	S-7, 0-5'	S-7, 1'	S-8, 0-5'	S-8, 1'	S-9, 0-5'	S-9, 1'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	01.12.2021 11:48	01.12.2021 11:49	01.12.2021 11:50	01.12.2021 11:51	01.12.2021 11:52	01.12.2021 11:53
BTEX by EPA 8021B	<i>Extracted:</i>	01.14.2021 16:00	01.14.2021 16:00	01.14.2021 16:00	01.14.2021 16:00	01.14.2021 16:00	01.16.2021 10:00
	<i>Analyzed:</i>	01.14.2021 23:56	01.15.2021 00:22	01.15.2021 00:46	01.15.2021 01:12	01.15.2021 01:37	01.16.2021 21:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.00472 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.00403 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00401 0.00401	<0.00399 0.00399	<0.00401 0.00401	<0.00401 0.00401	0.00607 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.00833 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.0144 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	0.0232 0.00200
Chloride by EPA 300	<i>Extracted:</i>	01.14.2021 15:30	01.14.2021 15:30	01.14.2021 15:30	01.14.2021 15:30	01.14.2021 15:30	01.14.2021 15:30
	<i>Analyzed:</i>	01.15.2021 00:38	01.15.2021 00:43	01.15.2021 00:48	01.15.2021 01:04	01.15.2021 01:10	01.15.2021 01:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8890 50.0	2670 25.0	35.3 5.00	18.0 5.03	640 5.02	361 4.98
TPH by SW8015 Mod	<i>Extracted:</i>	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00	01.13.2021 12:00
	<i>Analyzed:</i>	01.13.2021 19:09	01.13.2021 19:31	01.13.2021 19:53	01.13.2021 20:15	01.13.2021 20:38	01.13.2021 21:00
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9
Diesel Range Organics (DRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9
Total TPH		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Certificate of Analysis Summary 684483

Larson and Associates, Inc., Midland, TX

Project Name: Chevron-Maelstorm 15-1

Project Id: 20-0107-23

Contact: Mark Larson

Project Location:

Date Received in Lab: Wed 01.13.2021 11:06

Report Date: 01.20.2021 14:06

Project Manager: Holly Taylor

Analysis Requested	Lab Id:	684483-019	684483-020				
	Field Id:	S-10, 0-5'	S-10, 1'				
	Depth:						
	Matrix:	SOIL	SOIL				
	Sampled:	01.12.2021 11:54	01.12.2021 11:55				
BTEX by EPA 8021B	Extracted:	01.14.2021 16:00	01.14.2021 16:00				
	Analyzed:	01.15.2021 02:28	01.15.2021 02:54				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00200 0.00200	<0.00201 0.00201				
Toluene		<0.00200 0.00200	<0.00201 0.00201				
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201				
m,p-Xylenes		<0.00399 0.00399	<0.00402 0.00402				
o-Xylene		<0.00200 0.00200	<0.00201 0.00201				
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201				
Total BTEX		<0.00200 0.00200	<0.00201 0.00201				
Chloride by EPA 300	Extracted:	01.14.2021 15:30	01.14.2021 15:30				
	Analyzed:	01.15.2021 01:31	01.15.2021 01:36				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		42.1 4.97	13.3 5.04				
TPH by SW8015 Mod	Extracted:	01.13.2021 12:00	01.13.2021 12:00				
	Analyzed:	01.13.2021 21:23	01.13.2021 21:45				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9				
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9				
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9				
Total TPH		<50.0 50.0	<49.9 49.9				

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Analytical Report 684483

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Chevron-Maelstorm 15-1

20-0107-23

01.20.2021

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



01.20.2021

Project Manager: **Mark Larson**

Larson and Associates, Inc.

P. O. Box 50685

Midland, TX 79710

Reference: Eurofins Xenco, LLC Report No(s): **684483**

Chevron-Maelstorm 15-1

Project Address:

Mark Larson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 684483. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 684483 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Holly Taylor".

Holly Taylor
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 684483****Larson and Associates, Inc., Midland, TX**

Chevron-Maelstorm 15-1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-1, 0-5'	S	01.12.2021 11:36		684483-001
S-1, 1'	S	01.12.2021 11:37		684483-002
S-2, 0-5'	S	01.12.2021 11:38		684483-003
S-2, 1'	S	01.12.2021 11:39		684483-004
S-3, 0-5'	S	01.12.2021 11:40		684483-005
S-3, 1'	S	01.12.2021 11:41		684483-006
S-4, 0-5'	S	01.12.2021 11:42		684483-007
S-4, 1'	S	01.12.2021 11:43		684483-008
S-5, 0-5'	S	01.12.2021 11:44		684483-009
S-5, 1'	S	01.12.2021 11:45		684483-010
S-6, 0-5'	S	01.12.2021 11:46		684483-011
S-6, 1'	S	01.12.2021 11:47		684483-012
S-7, 0-5'	S	01.12.2021 11:48		684483-013
S-7, 1'	S	01.12.2021 11:49		684483-014
S-8, 0-5'	S	01.12.2021 11:50		684483-015
S-8, 1'	S	01.12.2021 11:51		684483-016
S-9, 0-5'	S	01.12.2021 11:52		684483-017
S-9, 1'	S	01.12.2021 11:53		684483-018
S-10, 0-5'	S	01.12.2021 11:54		684483-019
S-10, 1'	S	01.12.2021 11:55		684483-020

**CASE NARRATIVE****Client Name: Larson and Associates, Inc.****Project Name: Chevron-Maelstorm 15-1**Project ID: 20-0107-23
Work Order Number(s): 684483Report Date: 01.20.2021
Date Received: 01.13.2021**Sample receipt non conformances and comments:****Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3147932 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits . Samples affected are: 7719256-1-BLK,7719256-1-BSD,684483-001 S,684483-001 SD,684483-016,684483-009,684483-010,684483-011,684483-012,684483-013,684483-014,684483-015,684483-006,684483-004,684483-003,684483-001,684483-007.

Batch: LBA-3148031 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected;
Samples affected are: 684483-005.

Surrogate 4-Bromofluorobenzene recovered above QC limits. Samples affected are: 7719356-1-BKS,7719356-1-BSD,684925-001 S,684925-001 SD,684483-005,684483-002.



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-1, 0-5'**
Lab Sample Id: 684483-001

Matrix: Soil
Date Collected: 01.12.2021 11:36

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 01.14.2021 15:10

% Moisture:
Basis: Wet Weight

Seq Number: 3147911

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	433	5.04	mg/kg	01.14.2021 22:46		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.13.2021 13:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.13.2021 13:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.13.2021 13:48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.13.2021 13:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-130	01.13.2021 13:48	
o-Terphenyl	84-15-1	117	%	70-130	01.13.2021 13:48	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-1, 0-5'**
Lab Sample Id: 684483-001

Matrix: Soil
Date Collected: 01.12.2021 11:36

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.14.2021 17:37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.14.2021 17:37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.14.2021 17:37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.14.2021 17:37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.14.2021 17:37	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.14.2021 17:37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.14.2021 17:37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.14.2021 17:37		
4-Bromofluorobenzene	460-00-4	141	%	70-130	01.14.2021 17:37	**	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-1, 1'
Lab Sample Id: 684483-002

Matrix: Soil
Date Collected: 01.12.2021 11:37

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 01.14.2021 15:10

% Moisture:
Basis: Wet Weight

Seq Number: 3147911

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.9	4.99	mg/kg	01.14.2021 22:51		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.13.2021 14:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.13.2021 14:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.13.2021 14:52	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.13.2021 14:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	112	%	70-130	01.13.2021 14:52		
o-Terphenyl	84-15-1	114	%	70-130	01.13.2021 14:52		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-1, 1'**
Lab Sample Id: 684483-002

Matrix: Soil
Date Collected: 01.12.2021 11:37

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.16.2021 10:00

% Moisture:
Basis: Wet Weight

Seq Number: 3148031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.16.2021 18:06	U	1
Toluene	108-88-3	0.00766	0.00200	mg/kg	01.16.2021 18:06		1
Ethylbenzene	100-41-4	0.00819	0.00200	mg/kg	01.16.2021 18:06		1
m,p-Xylenes	179601-23-1	0.00689	0.00401	mg/kg	01.16.2021 18:06		1
o-Xylene	95-47-6	0.0299	0.00200	mg/kg	01.16.2021 18:06		1
Total Xylenes	1330-20-7	0.0368	0.00200	mg/kg	01.16.2021 18:06		1
Total BTEX		0.0526	0.00200	mg/kg	01.16.2021 18:06		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	149	%	70-130	01.16.2021 18:06	**	
1,4-Difluorobenzene	540-36-3	89	%	70-130	01.16.2021 18:06		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-2, 0-5'
Lab Sample Id: 684483-003

Matrix: Soil
Date Collected: 01.12.2021 11:38

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 01.14.2021 15:10

% Moisture:
Basis: Wet Weight

Seq Number: 3147911

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1670	24.8	mg/kg	01.14.2021 22:56		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.13.2021 15:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.13.2021 15:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.13.2021 15:14	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.13.2021 15:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-130	01.13.2021 15:14	
o-Terphenyl	84-15-1	125	%	70-130	01.13.2021 15:14	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-2, 0-5'**
Lab Sample Id: 684483-003

Matrix: Soil
Date Collected: 01.12.2021 11:38

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.14.2021 18:28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.14.2021 18:28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.14.2021 18:28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.14.2021 18:28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.14.2021 18:28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.14.2021 18:28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.14.2021 18:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	01.14.2021 18:28	
4-Bromofluorobenzene	460-00-4	141	%	70-130	01.14.2021 18:28	**



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-2, 1'
Lab Sample Id: 684483-004

Matrix: Soil
Date Collected: 01.12.2021 11:39

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 01.14.2021 15:10

% Moisture:
Basis: Wet Weight

Seq Number: 3147911

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3220	25.2	mg/kg	01.14.2021 23:02		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.13.2021 15:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.13.2021 15:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.13.2021 15:35	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.13.2021 15:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-130	01.13.2021 15:35	
o-Terphenyl	84-15-1	118	%	70-130	01.13.2021 15:35	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-2, 1'
Lab Sample Id: 684483-004

Matrix: Soil
Date Collected: 01.12.2021 11:39

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.14.2021 18:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.14.2021 18:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.14.2021 18:53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.14.2021 18:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.14.2021 18:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.14.2021 18:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.14.2021 18:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	148	%	70-130	01.14.2021 18:53	**	
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.14.2021 18:53		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-3, 0-5'**
Lab Sample Id: 684483-005

Matrix: Soil
Date Collected: 01.12.2021 11:40

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.2	4.95	mg/kg	01.14.2021 23:34		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.13.2021 15:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.13.2021 15:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.13.2021 15:57	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.13.2021 15:57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	118	%	70-130	01.13.2021 15:57		
o-Terphenyl	84-15-1	123	%	70-130	01.13.2021 15:57		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-3, 0-5'**
 Lab Sample Id: 684483-005

Matrix: Soil
 Date Collected: 01.12.2021 11:40

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.16.2021 10:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3148031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0378	0.00201	mg/kg	01.16.2021 18:32		1
Toluene	108-88-3	0.0123	0.00201	mg/kg	01.16.2021 18:32		1
Ethylbenzene	100-41-4	0.00755	0.00201	mg/kg	01.16.2021 18:32		1
m,p-Xylenes	179601-23-1	0.0122	0.00402	mg/kg	01.16.2021 18:32		1
o-Xylene	95-47-6	0.223	0.00201	mg/kg	01.16.2021 18:32		1
Total Xylenes	1330-20-7	0.235	0.00201	mg/kg	01.16.2021 18:32		1
Total BTEX		0.293	0.00201	mg/kg	01.16.2021 18:32		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	138	%	70-130	01.16.2021 18:32	**	
1,4-Difluorobenzene	540-36-3	52	%	70-130	01.16.2021 18:32	**	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-3, 1'**
Lab Sample Id: 684483-006

Matrix: Soil
Date Collected: 01.12.2021 11:41

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.1	5.02	mg/kg	01.14.2021 23:50		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.13.2021 16:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.13.2021 16:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.13.2021 16:18	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.13.2021 16:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-130	01.13.2021 16:18	
o-Terphenyl	84-15-1	112	%	70-130	01.13.2021 16:18	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-3, 1'**
Lab Sample Id: 684483-006

Matrix: Soil
Date Collected: 01.12.2021 11:41

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.14.2021 19:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.14.2021 19:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.14.2021 19:44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.14.2021 19:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.14.2021 19:44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.14.2021 19:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.14.2021 19:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.14.2021 19:44		
4-Bromofluorobenzene	460-00-4	147	%	70-130	01.14.2021 19:44	**	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-4, 0-5'**
Lab Sample Id: 684483-007

Matrix: Soil
Date Collected: 01.12.2021 11:42

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.0	4.99	mg/kg	01.14.2021 23:55		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.13.2021 16:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.13.2021 16:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.13.2021 16:39	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.13.2021 16:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-130	01.13.2021 16:39	
o-Terphenyl	84-15-1	110	%	70-130	01.13.2021 16:39	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-4, 0-5'**
Lab Sample Id: 684483-007

Matrix: Soil
Date Collected: 01.12.2021 11:42

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.14.2021 20:09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.14.2021 20:09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.14.2021 20:09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.14.2021 20:09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.14.2021 20:09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.14.2021 20:09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.14.2021 20:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	151	%	70-130	01.14.2021 20:09	**	
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.14.2021 20:09		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-4, 1'**
Lab Sample Id: 684483-008

Matrix: Soil
Date Collected: 01.12.2021 11:43

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	4.98	mg/kg	01.15.2021 00:00		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.13.2021 17:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.13.2021 17:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.13.2021 17:01	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.13.2021 17:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-130	01.13.2021 17:01	
o-Terphenyl	84-15-1	120	%	70-130	01.13.2021 17:01	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-4, 1'**
Lab Sample Id: 684483-008

Matrix: Soil
Date Collected: 01.12.2021 11:43

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 01.18.2021 09:15

% Moisture:
Basis: Wet Weight

Seq Number: 3148188

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.18.2021 19:18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.18.2021 19:18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.18.2021 19:18	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.18.2021 19:18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.18.2021 19:18	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.18.2021 19:18	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.18.2021 19:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	01.18.2021 19:18		
1,4-Difluorobenzene	540-36-3	98	%	70-130	01.18.2021 19:18		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-5, 0-5'
Lab Sample Id: 684483-009

Matrix: Soil
Date Collected: 01.12.2021 11:44

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4850	50.4	mg/kg	01.15.2021 00:06		10

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.13.2021 17:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.13.2021 17:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.13.2021 17:22	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.13.2021 17:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-130	01.13.2021 17:22		
o-Terphenyl	84-15-1	109	%	70-130	01.13.2021 17:22		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-5, 0-5'
Lab Sample Id: 684483-009

Matrix: Soil
Date Collected: 01.12.2021 11:44

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.14.2021 20:59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.14.2021 20:59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.14.2021 20:59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.14.2021 20:59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.14.2021 20:59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.14.2021 20:59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.14.2021 20:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.14.2021 20:59	
4-Bromofluorobenzene	460-00-4	149	%	70-130	01.14.2021 20:59	**



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-5, 1'
Lab Sample Id: 684483-010

Matrix: Soil
Date Collected: 01.12.2021 11:45

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3990	25.3	mg/kg	01.15.2021 00:22		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.13.2021 17:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.13.2021 17:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.13.2021 17:43	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.13.2021 17:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-130	01.13.2021 17:43		
o-Terphenyl	84-15-1	101	%	70-130	01.13.2021 17:43		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-5, 1'
Lab Sample Id: 684483-010

Matrix: Soil
Date Collected: 01.12.2021 11:45

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.14.2021 21:24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.14.2021 21:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.14.2021 21:24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.14.2021 21:24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.14.2021 21:24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.14.2021 21:24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.14.2021 21:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	141	%	70-130	01.14.2021 21:24	**	
1,4-Difluorobenzene	540-36-3	111	%	70-130	01.14.2021 21:24		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-6, 0-5'**
Lab Sample Id: 684483-011

Matrix: Soil
Date Collected: 01.12.2021 11:46

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.9	5.05	mg/kg	01.15.2021 00:27		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.13.2021 18:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.13.2021 18:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.13.2021 18:26	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.13.2021 18:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	93	%	70-130	01.13.2021 18:26		
o-Terphenyl	84-15-1	101	%	70-130	01.13.2021 18:26		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-6, 0-5'**
 Lab Sample Id: 684483-011

Matrix: Soil
 Date Collected: 01.12.2021 11:46

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.14.2021 23:06	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.14.2021 23:06	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.14.2021 23:06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.14.2021 23:06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.14.2021 23:06	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.14.2021 23:06	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.14.2021 23:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	142	%	70-130	01.14.2021 23:06	**	
1,4-Difluorobenzene	540-36-3	81	%	70-130	01.14.2021 23:06		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-6, 1'**
 Lab Sample Id: 684483-012

Matrix: Soil
 Date Collected: 01.12.2021 11:47

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.3	4.97	mg/kg	01.15.2021 00:32		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.13.2021 18:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.13.2021 18:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.13.2021 18:48	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.13.2021 18:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-130	01.13.2021 18:48		
o-Terphenyl	84-15-1	99	%	70-130	01.13.2021 18:48		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-6, 1'**
Lab Sample Id: 684483-012

Matrix: Soil
Date Collected: 01.12.2021 11:47

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.14.2021 23:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.14.2021 23:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.14.2021 23:31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.14.2021 23:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.14.2021 23:31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.14.2021 23:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.14.2021 23:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	141	%	70-130	01.14.2021 23:31	**
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.14.2021 23:31	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-7, 0-5'
Lab Sample Id: 684483-013

Matrix: Soil
Date Collected: 01.12.2021 11:48

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8890	50.0	mg/kg	01.15.2021 00:38		10

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.13.2021 19:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.13.2021 19:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.13.2021 19:09	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.13.2021 19:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	01.13.2021 19:09	
o-Terphenyl	84-15-1	102	%	70-130	01.13.2021 19:09	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-7, 0-5'**
 Lab Sample Id: 684483-013

Matrix: Soil
 Date Collected: 01.12.2021 11:48

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.14.2021 23:56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.14.2021 23:56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.14.2021 23:56	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.14.2021 23:56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.14.2021 23:56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.14.2021 23:56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.14.2021 23:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	145	%	70-130	01.14.2021 23:56	**	
1,4-Difluorobenzene	540-36-3	95	%	70-130	01.14.2021 23:56		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-7, 1'
Lab Sample Id: 684483-014

Matrix: Soil
Date Collected: 01.12.2021 11:49

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2670	25.0	mg/kg	01.15.2021 00:43		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.13.2021 19:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.13.2021 19:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.13.2021 19:31	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.13.2021 19:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	122	%	70-130	01.13.2021 19:31		
o-Terphenyl	84-15-1	118	%	70-130	01.13.2021 19:31		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: S-7, 1'
Lab Sample Id: 684483-014

Matrix: Soil
Date Collected: 01.12.2021 11:49

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.15.2021 00:22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.15.2021 00:22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.15.2021 00:22	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.15.2021 00:22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.15.2021 00:22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.15.2021 00:22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.15.2021 00:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.15.2021 00:22		
4-Bromofluorobenzene	460-00-4	153	%	70-130	01.15.2021 00:22	**	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-8, 0-5'**
Lab Sample Id: 684483-015

Matrix: Soil
Date Collected: 01.12.2021 11:50

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.3	5.00	mg/kg	01.15.2021 00:48		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.13.2021 19:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.13.2021 19:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.13.2021 19:53	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.13.2021 19:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-130	01.13.2021 19:53		
o-Terphenyl	84-15-1	103	%	70-130	01.13.2021 19:53		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-8, 0-5'**
Lab Sample Id: 684483-015

Matrix: Soil
Date Collected: 01.12.2021 11:50

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.15.2021 00:46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.15.2021 00:46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.15.2021 00:46	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.15.2021 00:46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.15.2021 00:46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.15.2021 00:46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.15.2021 00:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.15.2021 00:46	
4-Bromofluorobenzene	460-00-4	150	%	70-130	01.15.2021 00:46	**



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-8, 1'**
Lab Sample Id: 684483-016

Matrix: Soil
Date Collected: 01.12.2021 11:51

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.0	5.03	mg/kg	01.15.2021 01:04		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.13.2021 20:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.13.2021 20:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.13.2021 20:15	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.13.2021 20:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-130	01.13.2021 20:15	
o-Terphenyl	84-15-1	95	%	70-130	01.13.2021 20:15	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-8, 1'**
Lab Sample Id: 684483-016

Matrix: Soil
Date Collected: 01.12.2021 11:51

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.15.2021 01:12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.15.2021 01:12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.15.2021 01:12	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.15.2021 01:12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.15.2021 01:12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.15.2021 01:12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.15.2021 01:12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	145	%	70-130	01.15.2021 01:12	**	
1,4-Difluorobenzene	540-36-3	104	%	70-130	01.15.2021 01:12		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-9, 0-5'**
Lab Sample Id: 684483-017

Matrix: Soil
Date Collected: 01.12.2021 11:52

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	640	5.02	mg/kg	01.15.2021 01:10		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.13.2021 20:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.13.2021 20:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.13.2021 20:38	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.13.2021 20:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-130	01.13.2021 20:38	
o-Terphenyl	84-15-1	125	%	70-130	01.13.2021 20:38	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-9, 0-5'**
Lab Sample Id: 684483-017

Matrix: Soil
Date Collected: 01.12.2021 11:52

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.15.2021 01:37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.15.2021 01:37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.15.2021 01:37	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.15.2021 01:37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.15.2021 01:37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.15.2021 01:37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.15.2021 01:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	01.15.2021 01:37	
4-Bromofluorobenzene	460-00-4	126	%	70-130	01.15.2021 01:37	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-9,1'**
Lab Sample Id: 684483-018

Matrix: Soil
Date Collected: 01.12.2021 11:53

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	361	4.98	mg/kg	01.15.2021 01:26		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.13.2021 21:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.13.2021 21:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.13.2021 21:00	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.13.2021 21:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-130	01.13.2021 21:00		
o-Terphenyl	84-15-1	112	%	70-130	01.13.2021 21:00		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-9,1'**
 Lab Sample Id: 684483-018

Matrix: Soil
 Date Collected: 01.12.2021 11:53

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.16.2021 10:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3148031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00472	0.00200	mg/kg	01.16.2021 21:08		1
Toluene	108-88-3	0.00403	0.00200	mg/kg	01.16.2021 21:08		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.16.2021 21:08	U	1
m,p-Xylenes	179601-23-1	0.00607	0.00399	mg/kg	01.16.2021 21:08		1
o-Xylene	95-47-6	0.00833	0.00200	mg/kg	01.16.2021 21:08		1
Total Xylenes	1330-20-7	0.0144	0.00200	mg/kg	01.16.2021 21:08		1
Total BTEX		0.0232	0.00200	mg/kg	01.16.2021 21:08		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	130	%	70-130	01.16.2021 21:08		
1,4-Difluorobenzene	540-36-3	110	%	70-130	01.16.2021 21:08		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-10, 0-5'**

Matrix: Soil

Date Received: 01.13.2021 11:06

Lab Sample Id: 684483-019

Date Collected: 01.12.2021 11:54

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:

Seq Number: 3147900

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.1	4.97	mg/kg	01.15.2021 01:31		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:

Seq Number: 3147792

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.13.2021 21:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.13.2021 21:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.13.2021 21:23	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.13.2021 21:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	01.13.2021 21:23	
o-Terphenyl	84-15-1	111	%	70-130	01.13.2021 21:23	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-10, 0-5'**

Matrix: Soil

Date Received: 01.13.2021 11:06

Lab Sample Id: 684483-019

Date Collected: 01.12.2021 11:54

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:

Seq Number: 3147932

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.15.2021 02:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.15.2021 02:28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.15.2021 02:28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.15.2021 02:28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.15.2021 02:28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.15.2021 02:28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.15.2021 02:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	87	%	70-130	01.15.2021 02:28		
4-Bromofluorobenzene	460-00-4	119	%	70-130	01.15.2021 02:28		



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-10, 1'**
Lab Sample Id: 684483-020

Matrix: Soil
Date Collected: 01.12.2021 11:55

Date Received: 01.13.2021 11:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 01.14.2021 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3147900

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.3	5.04	mg/kg	01.15.2021 01:36		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.13.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.13.2021 21:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.13.2021 21:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.13.2021 21:45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.13.2021 21:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	01.13.2021 21:45	
o-Terphenyl	84-15-1	105	%	70-130	01.13.2021 21:45	



Certificate of Analytical Results 684483

Larson and Associates, Inc., Midland, TX

Chevron-Maelstorm 15-1

Sample Id: **S-10, 1'**
Lab Sample Id: 684483-020

Matrix: Soil
Date Collected: 01.12.2021 11:55

Date Received: 01.13.2021 11:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.14.2021 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3147932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.15.2021 02:54	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.15.2021 02:54	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.15.2021 02:54	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.15.2021 02:54	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.15.2021 02:54	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.15.2021 02:54	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.15.2021 02:54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.15.2021 02:54		
4-Bromofluorobenzene	460-00-4	125	%	70-130	01.15.2021 02:54		

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



Larson and Associates, Inc.
Chevron-Maelstorm 15-1

Analytical Method: Chloride by EPA 300

Seq Number: 3147911

MB Sample Id: 7719179-1-BLK

Matrix: Solid

LCS Sample Id: 7719179-1-BKS

Prep Method: E300P

Date Prep: 01.14.2021

LCSD Sample Id: 7719179-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	255	102	254	102	90-110	0	20	mg/kg	01.14.2021 20:27	

Analytical Method: Chloride by EPA 300

Seq Number: 3147900

MB Sample Id: 7719189-1-BLK

Matrix: Solid

LCS Sample Id: 7719189-1-BKS

Prep Method: E300P

Date Prep: 01.14.2021

LCSD Sample Id: 7719189-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	256	102	256	102	90-110	0	20	mg/kg	01.14.2021 23:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3147911

Parent Sample Id: 684472-036

Matrix: Soil

MS Sample Id: 684472-036 S

Prep Method: E300P

Date Prep: 01.14.2021

MSD Sample Id: 684472-036 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	83.7	248	373	117	373	117	90-110	0	20	mg/kg	01.14.2021 20:43	X

Analytical Method: Chloride by EPA 300

Seq Number: 3147911

Parent Sample Id: 684472-046

Matrix: Soil

MS Sample Id: 684472-046 S

Prep Method: E300P

Date Prep: 01.14.2021

MSD Sample Id: 684472-046 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1060	1260	2410	107	2410	107	90-110	0	20	mg/kg	01.14.2021 21:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3147900

Parent Sample Id: 684483-005

Matrix: Soil

MS Sample Id: 684483-005 S

Prep Method: E300P

Date Prep: 01.14.2021

MSD Sample Id: 684483-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	24.2	248	280	103	279	103	90-110	0	20	mg/kg	01.14.2021 23:39	

Analytical Method: Chloride by EPA 300

Seq Number: 3147900

Parent Sample Id: 684483-015

Matrix: Soil

MS Sample Id: 684483-015 S

Prep Method: E300P

Date Prep: 01.14.2021

MSD Sample Id: 684483-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	35.3	250	294	103	295	104	90-110	0	20	mg/kg	01.15.2021 00:54	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Larson and Associates, Inc.
Chevron-Maelstorm 15-1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3147792

MB Sample Id: 7719142-1-BLK

Matrix: Solid

LCS Sample Id: 7719142-1-BKS

Prep Method: SW8015P

Date Prep: 01.13.2021

LCSD Sample Id: 7719142-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	915	92	998	100	70-130	9	20	mg/kg	01.13.2021 13:05	
Diesel Range Organics (DRO)	<50.0	1000	912	91	1030	103	70-130	12	20	mg/kg	01.13.2021 13:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		101		117		70-130	%	01.13.2021 13:05
o-Terphenyl	92		99		108		70-130	%	01.13.2021 13:05

Analytical Method: TPH by SW8015 Mod

Seq Number: 3147792

Matrix: Solid

MB Sample Id: 7719142-1-BLK

Prep Method: SW8015P

Date Prep: 01.13.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.13.2021 12:43	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3147792

Matrix: Soil

Parent Sample Id: 684483-001

MS Sample Id: 684483-001 S

Prep Method: SW8015P

Date Prep: 01.13.2021

MSD Sample Id: 684483-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	1000	100	1010	101	70-130	1	20	mg/kg	01.13.2021 14:10	
Diesel Range Organics (DRO)	<50.0	999	965	97	1010	101	70-130	5	20	mg/kg	01.13.2021 14:10	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		118		70-130	%	01.13.2021 14:10
o-Terphenyl	107		112		70-130	%	01.13.2021 14:10

Analytical Method: BTEX by EPA 8021B

Seq Number: 3147932

Matrix: Solid

MB Sample Id: 7719256-1-BLK

LCS Sample Id: 7719256-1-BKS

Prep Method: SW5035A

Date Prep: 01.14.2021

LCSD Sample Id: 7719256-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.105	105	70-130	3	35	mg/kg	01.14.2021 14:40	
Toluene	<0.00200	0.100	0.107	107	0.110	110	70-130	3	35	mg/kg	01.14.2021 14:40	
Ethylbenzene	<0.00200	0.100	0.104	104	0.109	109	70-130	5	35	mg/kg	01.14.2021 14:40	
m,p-Xylenes	<0.00400	0.200	0.211	106	0.222	111	70-130	5	35	mg/kg	01.14.2021 14:40	
o-Xylene	<0.00200	0.100	0.108	108	0.115	115	70-130	6	35	mg/kg	01.14.2021 14:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	75		92		96		70-130	%	01.14.2021 14:40
4-Bromofluorobenzene	153	**	130		142	**	70-130	%	01.14.2021 14:40

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



Larson and Associates, Inc.
Chevron-Maelstorm 15-1

Analytical Method: BTEX by EPA 8021B

Seq Number: 3148031

Matrix: Solid

Prep Method: SW5035A

Date Prep: 01.16.2021

MB Sample Id: 7719356-1-BLK

LCS Sample Id: 7719356-1-BKS

LCSD Sample Id: 7719356-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.112	112	0.0990	99	70-130	12	35	mg/kg	01.16.2021 12:06	
Toluene	<0.00200	0.100	0.118	118	0.108	108	70-130	9	35	mg/kg	01.16.2021 12:06	
Ethylbenzene	<0.00200	0.100	0.114	114	0.105	105	70-130	8	35	mg/kg	01.16.2021 12:06	
m,p-Xylenes	<0.00400	0.200	0.225	113	0.211	106	70-130	6	35	mg/kg	01.16.2021 12:06	
o-Xylene	<0.00200	0.100	0.116	116	0.109	109	70-130	6	35	mg/kg	01.16.2021 12:06	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	75		96		97		70-130			%	01.16.2021 12:06	
4-Bromofluorobenzene	115		149	**	153	**	70-130			%	01.16.2021 12:06	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3148188

Matrix: Solid

Prep Method: SW5035A

Date Prep: 01.18.2021

MB Sample Id: 7719469-1-BLK

LCS Sample Id: 7719469-1-BKS

LCSD Sample Id: 7719469-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.103	103	70-130	0	35	mg/kg	01.18.2021 16:36	
Toluene	<0.00200	0.100	0.0973	97	0.0969	97	70-130	0	35	mg/kg	01.18.2021 16:36	
Ethylbenzene	<0.00200	0.100	0.0960	96	0.0955	96	70-130	1	35	mg/kg	01.18.2021 16:36	
m,p-Xylenes	<0.00400	0.200	0.198	99	0.195	98	70-130	2	35	mg/kg	01.18.2021 16:36	
o-Xylene	<0.00200	0.100	0.0944	94	0.0934	93	70-130	1	35	mg/kg	01.18.2021 16:36	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	91		100		100		70-130			%	01.18.2021 16:36	
4-Bromofluorobenzene	103		96		95		70-130			%	01.18.2021 16:36	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3147932

Matrix: Soil

Prep Method: SW5035A

Date Prep: 01.14.2021

Parent Sample Id: 684483-001

MS Sample Id: 684483-001 S

MSD Sample Id: 684483-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0961	96	0.0894	89	70-130	7	35	mg/kg	01.14.2021 15:31	
Toluene	<0.00201	0.100	0.104	104	0.0962	96	70-130	8	35	mg/kg	01.14.2021 15:31	
Ethylbenzene	<0.00201	0.100	0.0961	96	0.0902	90	70-130	6	35	mg/kg	01.14.2021 15:31	
m,p-Xylenes	<0.00402	0.201	0.192	96	0.181	90	70-130	6	35	mg/kg	01.14.2021 15:31	
o-Xylene	<0.00201	0.100	0.0984	98	0.0929	93	70-130	6	35	mg/kg	01.14.2021 15:31	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene			98		98		70-130			%	01.14.2021 15:31	
4-Bromofluorobenzene			148	**	143	**	70-130			%	01.14.2021 15:31	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

Larson and Associates, Inc.
Chevron-Maelstorm 15-1
Analytical Method: BTEX by EPA 8021B

Seq Number: 3148031

Parent Sample Id: 684925-001

Matrix: Soil

MS Sample Id: 684925-001 S

Prep Method: SW5035A

Date Prep: 01.16.2021

MSD Sample Id: 684925-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.102	102	0.102	102	70-130	0	35	mg/kg	01.16.2021 12:57	
Toluene	<0.00201	0.100	0.108	108	0.0918	92	70-130	16	35	mg/kg	01.16.2021 12:57	
Ethylbenzene	<0.00201	0.100	0.103	103	0.0998	100	70-130	3	35	mg/kg	01.16.2021 12:57	
m,p-Xylenes	<0.00402	0.201	0.206	102	0.201	100	70-130	2	35	mg/kg	01.16.2021 12:57	
o-Xylene	<0.00201	0.100	0.105	105	0.104	104	70-130	1	35	mg/kg	01.16.2021 12:57	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		100		70-130	%	01.16.2021 12:57
4-Bromofluorobenzene	158	**	162	**	70-130	%	01.16.2021 12:57

Analytical Method: BTEX by EPA 8021B

Seq Number: 3148188

Parent Sample Id: 684955-069

Matrix: Soil

MS Sample Id: 684955-069 S

Prep Method: SW5035A

Date Prep: 01.18.2021

MSD Sample Id: 684955-069 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0917	92	0.0917	92	70-130	0	35	mg/kg	01.18.2021 17:17	
Toluene	<0.00200	0.0998	0.0913	91	0.0935	94	70-130	2	35	mg/kg	01.18.2021 17:17	
Ethylbenzene	<0.00200	0.0998	0.0950	95	0.0997	100	70-130	5	35	mg/kg	01.18.2021 17:17	
m,p-Xylenes	<0.00399	0.200	0.202	101	0.211	106	70-130	4	35	mg/kg	01.18.2021 17:17	
o-Xylene	<0.00200	0.0998	0.0961	96	0.101	101	70-130	5	35	mg/kg	01.18.2021 17:17	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		92		70-130	%	01.18.2021 17:17
4-Bromofluorobenzene	113		118		70-130	%	01.18.2021 17:17

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

Marson & Associates, Inc.
Environmental Consultants

507 N. Marientfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 11/13/2021 PAGE 2 OF 2
PO#: _____ LAB WORK ORDER#: _____
PROJECT LOCATION OR NAME: Chapman - Neelstom 15-1
LAI PROJECT #: AO-0107-23 COLLECTOR: DN + OS

TRRP report?
☐ Yes ☒ No

S=SOIL
W=WATER
A=AIR
P=PAINT
SL=SLUDGE
OT=OTHER

TIME ZONE:
Time zone/State:

MST

Field
Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

ANALYSES

BTEX ☐ MTBE ☐

TPH 418 ☐ TPH 1005 ☐ TPH 1006 ☐

GASOLINE MOD 8015 ☐

DIESEL - MOD 8015 ☐

OIL - MOD 8015 ☐

VOC 8260 ☐

SVOC 8270 ☐

8081 PESTICIDES ☐

8082 PESTICIDES ☐

TBLP PCBs ☐

TCLP - METALS (RCRA) ☐

TCLP - PEST ☐

TOTAL METALS (RCRA) ☐

LEAD - TOTAL ☐

RCI ☐

TDS ☐

pH ☐

EXPLOSIVES ☐

CHLORIDE ☐

ANIONS ☐

ALKALINITY ☐

OTHER LIST ☐

FLASHPPOINT ☐

% MOISTURE ☐

HEXAVALENT CHROMIUM ☐

PECHLORATE ☐

FIELD NOTES

TOTAL

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

LABORATORY: Kenico

TURN AROUND TIME

NORMAL ☒

1 DAY ☐

2 DAY ☐

OTHER ☐

LABORATORY USE ONLY:

RECEIVING TEMP: 10.1 THERM#: _____

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL # _____

HAND DELIVERED ☐

104483 CHAIN-OF-CUSTODY

No 1437

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.**Date/ Time Received:** 01.13.2021 11.06.00 AM**Work Order #:** 684483**Acceptable Temperature Range:** 0 - 6 degC**Air and Metal samples Acceptable Range:** Ambient**Temperature Measuring device used :** IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 01.13.2021

Checklist reviewed by:

Holly Taylor

Date: 01.14.2021

Certificate of Analysis Summary 687930



Larson and Associates, Inc., Midland, TX

Project Name: Maelstorm 15-1

Project Id: 20-0107-23

Date Received in Lab: Wed 02.10.2021 09:03

Contact: Mark Larson

Report Date: 02.18.2021 15:38

Project Location:

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	687930-001	687930-002	687930-003	687930-004	687930-005	687930-006
	<i>Field Id:</i>	S-2 1'	S-2 3'	S-2 5'	S-2 10'	S-5 1'	S-5 3'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	02.08.2021 13:12	02.08.2021 13:15	02.08.2021 13:18	02.08.2021 13:20	02.08.2021 13:25	02.08.2021 13:28
BTEX by EPA 8021B	<i>Extracted:</i>	02.10.2021 17:00	02.10.2021 17:00	02.10.2021 17:00	02.10.2021 17:00	02.10.2021 17:00	02.10.2021 17:00
	<i>Analyzed:</i>	02.11.2021 11:48	02.11.2021 12:09	02.11.2021 13:31	02.11.2021 13:51	02.11.2021 14:12	02.11.2021 14:32
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Toluene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00396 0.00396	<0.00402 0.00402	<0.00401 0.00401	<0.00398 0.00398	<0.00400 0.00400	<0.00404 0.00404
o-Xylene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Total Xylenes		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Total BTEX		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Chloride by EPA 300	<i>Extracted:</i>	02.12.2021 08:50	02.12.2021 08:50	02.12.2021 08:50	02.12.2021 08:50	02.12.2021 08:50	02.12.2021 08:50
	<i>Analyzed:</i>	02.13.2021 00:48	02.13.2021 00:54	02.13.2021 01:10	02.13.2021 01:16	02.13.2021 01:21	02.13.2021 01:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.95 4.95	75.4 5.02	72.5 4.99	<5.00 5.00	<5.00 5.00	<5.00 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	02.10.2021 12:00	02.10.2021 12:00	02.10.2021 12:00	02.10.2021 12:00	02.10.2021 12:00	02.10.2021 12:00
	<i>Analyzed:</i>	02.10.2021 17:43	02.10.2021 18:05	02.10.2021 18:26	02.10.2021 18:48	02.10.2021 18:48	02.10.2021 19:53
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0	<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0	<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0
Total TPH		<49.9 49.9	<50.0 50.0	<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Certificate of Analysis Summary 687930



Larson and Associates, Inc., Midland, TX

Project Name: Maelstorm 15-1

Project Id: 20-0107-23

Date Received in Lab: Wed 02.10.2021 09:03

Contact: Mark Larson

Report Date: 02.18.2021 15:38

Project Location:

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	687930-007	687930-008	687930-009	687930-010	687930-011	687930-012
	<i>Field Id:</i>	S-5 5'	S-5 10'	S-7 1'	S-7 3'	S-7 5'	S-7 10'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	02.08.2021 13:30	02.08.2021 13:35	02.08.2021 13:42	02.08.2021 13:45	02.08.2021 13:48	02.08.2021 13:50
BTEX by EPA 8021B	<i>Extracted:</i>	02.10.2021 17:00	02.10.2021 17:00	02.10.2021 17:00	02.10.2021 17:00	02.10.2021 17:00	02.10.2021 17:00
	<i>Analyzed:</i>	02.11.2021 14:53	02.11.2021 15:13	02.11.2021 15:34	02.11.2021 15:54	02.11.2021 16:15	02.11.2021 16:35
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199
m,p-Xylenes		<0.00401 0.00401	<0.00404 0.00404	<0.00399 0.00399	<0.00400 0.00400	<0.00397 0.00397	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	02.12.2021 08:50	02.12.2021 08:50	02.12.2021 08:50	02.12.2021 09:30	02.12.2021 09:30	02.12.2021 09:30
	<i>Analyzed:</i>	02.13.2021 01:32	02.13.2021 01:37	02.13.2021 01:43	02.12.2021 16:39	02.12.2021 16:55	02.12.2021 17:00
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.02 5.02	<5.00 5.00	1350 5.00	1540 24.9	956 5.04	596 4.95
TPH by SW8015 Mod	<i>Extracted:</i>	02.10.2021 12:00	02.10.2021 12:00	02.10.2021 12:00	02.10.2021 12:00	02.10.2021 12:00	02.10.2021 12:00
	<i>Analyzed:</i>	02.10.2021 20:15	02.10.2021 20:36	02.10.2021 20:58	02.10.2021 21:20	02.10.2021 21:41	02.10.2021 22:03
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8
Total TPH		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Certificate of Analysis Summary 687930

Larson and Associates, Inc., Midland, TX

Project Name: Maelstorm 15-1

Project Id: 20-0107-23

Contact: Mark Larson

Project Location:

Date Received in Lab: Wed 02.10.2021 09:03

Report Date: 02.18.2021 15:38

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	687930-013	687930-014	687930-015	687930-016		
	<i>Field Id:</i>	S-11 0.5'	S-11 1'	S-12 0.5'	S-12 1'		
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	02.09.2021 08:30	02.09.2021 08:35	02.09.2021 08:45	02.09.2021 08:50		
BTEX by EPA 8021B	<i>Extracted:</i>	02.10.2021 15:00	02.10.2021 15:00	02.10.2021 15:00	02.10.2021 15:00		
	<i>Analyzed:</i>	02.10.2021 22:31	02.10.2021 22:58	02.10.2021 23:24	02.10.2021 23:50		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400	<0.00400 0.00400		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Chloride by EPA 300	<i>Extracted:</i>	02.12.2021 09:30	02.12.2021 09:30	02.12.2021 09:30	02.12.2021 09:30		
	<i>Analyzed:</i>	02.12.2021 17:06	02.12.2021 17:11	02.12.2021 17:27	02.12.2021 17:33		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		15.2 4.99	<4.97 4.97	90.2 5.05	28.8 5.05		
TPH by SW8015 Mod	<i>Extracted:</i>	02.10.2021 12:00	02.10.2021 12:00	02.10.2021 17:00	02.10.2021 17:00		
	<i>Analyzed:</i>	02.10.2021 22:25	02.10.2021 19:53	02.11.2021 03:05	02.11.2021 03:48		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9		
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9		
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9		
Total TPH		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9		

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Analytical Report 687930

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Maelstorm 15-1

20-0107-23

02.18.2021

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



02.18.2021

Project Manager: **Mark Larson**
Larson and Associates, Inc.
P. O. Box 50685
Midland, TX 79710

Reference: Eurofins Xenco, LLC Report No(s): **687930**
Maelstorm 15-1
Project Address:

Mark Larson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 687930. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 687930 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Holly Taylor".

Holly Taylor
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 687930****Larson and Associates, Inc., Midland, TX**

Maelstorm 15-1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-2 1'	S	02.08.2021 13:12		687930-001
S-2 3'	S	02.08.2021 13:15		687930-002
S-2 5'	S	02.08.2021 13:18		687930-003
S-2 10'	S	02.08.2021 13:20		687930-004
S-5 1'	S	02.08.2021 13:25		687930-005
S-5 3'	S	02.08.2021 13:28		687930-006
S-5 5'	S	02.08.2021 13:30		687930-007
S-5 10'	S	02.08.2021 13:35		687930-008
S-7 1'	S	02.08.2021 13:42		687930-009
S-7 3'	S	02.08.2021 13:45		687930-010
S-7 5'	S	02.08.2021 13:48		687930-011
S-7 10'	S	02.08.2021 13:50		687930-012
S-11 0.5'	S	02.09.2021 08:30		687930-013
S-11 1'	S	02.09.2021 08:35		687930-014
S-12 0.5'	S	02.09.2021 08:45		687930-015
S-12 1'	S	02.09.2021 08:50		687930-016



CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: Maelstorm 15-1

Project ID: 20-0107-23
Work Order Number(s): 687930

Report Date: 02.18.2021
Date Received: 02.10.2021

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3150727 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected;
Samples affected are: 687930-013.

Batch: LBA-3150876 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered below QC limits. Matrix interferences is suspected; data confirmed
by re-analysis.
Samples affected are: 687930-013,687930-008.



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-2 1'
Lab Sample Id: 687930-001

Matrix: Soil
Date Collected: 02.08.2021 13:12

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 08:50

% Moisture:
Basis: Wet Weight

Seq Number: 3151037

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	02.13.2021 00:48	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.10.2021 17:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.10.2021 17:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.10.2021 17:43	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.10.2021 17:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-130	02.10.2021 17:43	
o-Terphenyl	84-15-1	81	%	70-130	02.10.2021 17:43	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-2 1'
Lab Sample Id: 687930-001

Matrix: Soil
Date Collected: 02.08.2021 13:12

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.11.2021 11:48	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.11.2021 11:48	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.11.2021 11:48	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.11.2021 11:48	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.11.2021 11:48	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.11.2021 11:48	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.11.2021 11:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.11.2021 11:48	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.11.2021 11:48	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-2 3'
Lab Sample Id: 687930-002

Matrix: Soil
Date Collected: 02.08.2021 13:15

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 08:50

% Moisture:
Basis: Wet Weight

Seq Number: 3151037

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	75.4	5.02	mg/kg	02.13.2021 00:54		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.10.2021 18:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.10.2021 18:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.10.2021 18:05	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.10.2021 18:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-130	02.10.2021 18:05	
o-Terphenyl	84-15-1	82	%	70-130	02.10.2021 18:05	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-2 3'
Lab Sample Id: 687930-002

Matrix: Soil
Date Collected: 02.08.2021 13:15

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.11.2021 12:09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.11.2021 12:09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.11.2021 12:09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.11.2021 12:09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.11.2021 12:09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.11.2021 12:09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.11.2021 12:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.11.2021 12:09	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.11.2021 12:09	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-2 5'
Lab Sample Id: 687930-003

Matrix: Soil
Date Collected: 02.08.2021 13:18

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 08:50

% Moisture:
Basis: Wet Weight

Seq Number: 3151037

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	72.5	4.99	mg/kg	02.13.2021 01:10		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.10.2021 18:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.10.2021 18:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.10.2021 18:26	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.10.2021 18:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	75	%	70-130	02.10.2021 18:26		
o-Terphenyl	84-15-1	85	%	70-130	02.10.2021 18:26		



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-2 5'
Lab Sample Id: 687930-003

Matrix: Soil
Date Collected: 02.08.2021 13:18

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.11.2021 13:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.11.2021 13:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.11.2021 13:31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.11.2021 13:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.11.2021 13:31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.11.2021 13:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.11.2021 13:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.11.2021 13:31	
4-Bromofluorobenzene	460-00-4	105	%	70-130	02.11.2021 13:31	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-2 10'
Lab Sample Id: 687930-004

Matrix: Soil
Date Collected: 02.08.2021 13:20

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 08:50

% Moisture:
Basis: Wet Weight

Seq Number: 3151037

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	02.13.2021 01:16	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.10.2021 18:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.10.2021 18:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.10.2021 18:48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.10.2021 18:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	02.10.2021 18:48	
o-Terphenyl	84-15-1	88	%	70-130	02.10.2021 18:48	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-2 10'**
Lab Sample Id: 687930-004

Matrix: Soil
Date Collected: 02.08.2021 13:20

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.11.2021 13:51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.11.2021 13:51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.11.2021 13:51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.11.2021 13:51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.11.2021 13:51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.11.2021 13:51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.11.2021 13:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	02.11.2021 13:51	
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.11.2021 13:51	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-5 1'
Lab Sample Id: 687930-005

Matrix: Soil
Date Collected: 02.08.2021 13:25

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 08:50

% Moisture:
Basis: Wet Weight

Seq Number: 3151037

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	02.13.2021 01:21	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.10.2021 18:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.10.2021 18:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.10.2021 18:48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.10.2021 18:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	02.10.2021 18:48	
o-Terphenyl	84-15-1	88	%	70-130	02.10.2021 18:48	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-5 1'
Lab Sample Id: 687930-005

Matrix: Soil
Date Collected: 02.08.2021 13:25

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.11.2021 14:12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.11.2021 14:12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.11.2021 14:12	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.11.2021 14:12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.11.2021 14:12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.11.2021 14:12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.11.2021 14:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.11.2021 14:12	
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.11.2021 14:12	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-5 3'
Lab Sample Id: 687930-006

Matrix: Soil
Date Collected: 02.08.2021 13:28

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 08:50

% Moisture:
Basis: Wet Weight

Seq Number: 3151037

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	02.13.2021 01:26	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.10.2021 19:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.10.2021 19:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.10.2021 19:53	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.10.2021 19:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	70	%	70-130	02.10.2021 19:53	
o-Terphenyl	84-15-1	78	%	70-130	02.10.2021 19:53	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-5 3'
Lab Sample Id: 687930-006

Matrix: Soil
Date Collected: 02.08.2021 13:28

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.11.2021 14:32	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.11.2021 14:32	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.11.2021 14:32	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.11.2021 14:32	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.11.2021 14:32	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.11.2021 14:32	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.11.2021 14:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.11.2021 14:32	
1,4-Difluorobenzene	540-36-3	96	%	70-130	02.11.2021 14:32	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-5 5'
Lab Sample Id: 687930-007

Matrix: Soil
Date Collected: 02.08.2021 13:30

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 08:50

% Moisture:
Basis: Wet Weight

Seq Number: 3151037

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.02	5.02	mg/kg	02.13.2021 01:32	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.10.2021 20:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.10.2021 20:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.10.2021 20:15	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.10.2021 20:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	02.10.2021 20:15	
o-Terphenyl	84-15-1	93	%	70-130	02.10.2021 20:15	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-5 5'
Lab Sample Id: 687930-007

Matrix: Soil
Date Collected: 02.08.2021 13:30

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.11.2021 14:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.11.2021 14:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.11.2021 14:53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.11.2021 14:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.11.2021 14:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.11.2021 14:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.11.2021 14:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	02.11.2021 14:53	
1,4-Difluorobenzene	540-36-3	85	%	70-130	02.11.2021 14:53	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-5 10'
Lab Sample Id: 687930-008

Matrix: Soil
Date Collected: 02.08.2021 13:35

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 08:50

% Moisture:
Basis: Wet Weight

Seq Number: 3151037

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	02.13.2021 01:37	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.10.2021 20:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.10.2021 20:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.10.2021 20:36	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.10.2021 20:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	68	%	70-130	02.10.2021 20:36	**
o-Terphenyl	84-15-1	74	%	70-130	02.10.2021 20:36	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-5 10'**
Lab Sample Id: 687930-008

Matrix: Soil
Date Collected: 02.08.2021 13:35

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.11.2021 15:13	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.11.2021 15:13	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.11.2021 15:13	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.11.2021 15:13	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.11.2021 15:13	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.11.2021 15:13	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.11.2021 15:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	70-130	02.11.2021 15:13	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.11.2021 15:13	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-7 1' Matrix: Soil Date Received: 02.10.2021 09:03
 Lab Sample Id: 687930-009 Date Collected: 02.08.2021 13:42
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 02.12.2021 08:50 % Moisture:
 Seq Number: 3151037 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1350	5.00	mg/kg	02.13.2021 01:43		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 02.10.2021 12:00 % Moisture:
 Seq Number: 3150876 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.10.2021 20:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.10.2021 20:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.10.2021 20:58	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.10.2021 20:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	84	%	70-130	02.10.2021 20:58		
o-Terphenyl	84-15-1	91	%	70-130	02.10.2021 20:58		



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-7 1'
Lab Sample Id: 687930-009

Matrix: Soil
Date Collected: 02.08.2021 13:42

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.11.2021 15:34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.11.2021 15:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.11.2021 15:34	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.11.2021 15:34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.11.2021 15:34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.11.2021 15:34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.11.2021 15:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.11.2021 15:34	
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.11.2021 15:34	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-7 3'** Matrix: Soil Date Received: 02.10.2021 09:03
 Lab Sample Id: 687930-010 Date Collected: 02.08.2021 13:45
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 02.12.2021 09:30 % Moisture:
 Seq Number: 3151009 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1540	24.9	mg/kg	02.12.2021 16:39		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 02.10.2021 12:00 % Moisture:
 Seq Number: 3150876 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.10.2021 21:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.10.2021 21:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.10.2021 21:20	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.10.2021 21:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	74	%	70-130	02.10.2021 21:20		
o-Terphenyl	84-15-1	84	%	70-130	02.10.2021 21:20		



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-7 3'
Lab Sample Id: 687930-010

Matrix: Soil
Date Collected: 02.08.2021 13:45

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.11.2021 15:54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.11.2021 15:54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.11.2021 15:54	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.11.2021 15:54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.11.2021 15:54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.11.2021 15:54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.11.2021 15:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.11.2021 15:54	
1,4-Difluorobenzene	540-36-3	84	%	70-130	02.11.2021 15:54	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-7 5' Matrix: Soil Date Received: 02.10.2021 09:03
 Lab Sample Id: 687930-011 Date Collected: 02.08.2021 13:48
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 02.12.2021 09:30 % Moisture:
 Seq Number: 3151009 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	956	5.04	mg/kg	02.12.2021 16:55		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 02.10.2021 12:00 % Moisture:
 Seq Number: 3150876 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.10.2021 21:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.10.2021 21:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.10.2021 21:41	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.10.2021 21:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	72	%	70-130	02.10.2021 21:41	
o-Terphenyl	84-15-1	81	%	70-130	02.10.2021 21:41	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: S-7 5'
Lab Sample Id: 687930-011

Matrix: Soil
Date Collected: 02.08.2021 13:48

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.11.2021 16:15	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.11.2021 16:15	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.11.2021 16:15	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.11.2021 16:15	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.11.2021 16:15	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.11.2021 16:15	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.11.2021 16:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	02.11.2021 16:15	
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.11.2021 16:15	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-7 10'** Matrix: Soil Date Received: 02.10.2021 09:03
 Lab Sample Id: 687930-012 Date Collected: 02.08.2021 13:50
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 02.12.2021 09:30 % Moisture:
 Seq Number: 3151009 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	596	4.95	mg/kg	02.12.2021 17:00		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 02.10.2021 12:00 % Moisture:
 Seq Number: 3150876 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.10.2021 22:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.10.2021 22:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.10.2021 22:03	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.10.2021 22:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	82	%	70-130	02.10.2021 22:03		
o-Terphenyl	84-15-1	92	%	70-130	02.10.2021 22:03		



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-7 10'**
Lab Sample Id: 687930-012

Matrix: Soil
Date Collected: 02.08.2021 13:50

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150884

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.11.2021 16:35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.11.2021 16:35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.11.2021 16:35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.11.2021 16:35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.11.2021 16:35	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.11.2021 16:35	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.11.2021 16:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	02.11.2021 16:35	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.11.2021 16:35	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-11 0.5'**
Lab Sample Id: 687930-013

Matrix: Soil
Date Collected: 02.09.2021 08:30

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 09:30

% Moisture:
Basis: Wet Weight

Seq Number: 3151009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.2	4.99	mg/kg	02.12.2021 17:06		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.10.2021 22:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.10.2021 22:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.10.2021 22:25	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.10.2021 22:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	68	%	70-130	02.10.2021 22:25	**
o-Terphenyl	84-15-1	76	%	70-130	02.10.2021 22:25	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-11 0.5'**
Lab Sample Id: 687930-013

Matrix: Soil
Date Collected: 02.09.2021 08:30

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 02.10.2021 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150727

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.10.2021 22:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.10.2021 22:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.10.2021 22:31	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.10.2021 22:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.10.2021 22:31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.10.2021 22:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.10.2021 22:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	61	%	70-130	02.10.2021 22:31	**	
4-Bromofluorobenzene	460-00-4	117	%	70-130	02.10.2021 22:31		



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-11 1'**
Lab Sample Id: 687930-014

Matrix: Soil
Date Collected: 02.09.2021 08:35

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 09:30

% Moisture:
Basis: Wet Weight

Seq Number: 3151009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	02.12.2021 17:11	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.10.2021 19:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.10.2021 19:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.10.2021 19:53	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.10.2021 19:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	70	%	70-130	02.10.2021 19:53	
o-Terphenyl	84-15-1	78	%	70-130	02.10.2021 19:53	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-11 1'**
Lab Sample Id: 687930-014

Matrix: Soil
Date Collected: 02.09.2021 08:35

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 02.10.2021 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150727

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.10.2021 22:58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.10.2021 22:58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.10.2021 22:58	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.10.2021 22:58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.10.2021 22:58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.10.2021 22:58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.10.2021 22:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	79	%	70-130	02.10.2021 22:58		
4-Bromofluorobenzene	460-00-4	91	%	70-130	02.10.2021 22:58		



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-12 0.5'**
Lab Sample Id: 687930-015

Matrix: Soil
Date Collected: 02.09.2021 08:45

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 09:30

% Moisture:
Basis: Wet Weight

Seq Number: 3151009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	90.2	5.05	mg/kg	02.12.2021 17:27		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150748

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.11.2021 03:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.11.2021 03:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.11.2021 03:05	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.11.2021 03:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	02.11.2021 03:05	
o-Terphenyl	84-15-1	110	%	70-130	02.11.2021 03:05	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-12 0.5'**
Lab Sample Id: 687930-015

Matrix: Soil
Date Collected: 02.09.2021 08:45

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 02.10.2021 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150727

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.10.2021 23:24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.10.2021 23:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.10.2021 23:24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.10.2021 23:24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.10.2021 23:24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.10.2021 23:24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.10.2021 23:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	02.10.2021 23:24		
1,4-Difluorobenzene	540-36-3	90	%	70-130	02.10.2021 23:24		



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-12 1'**
Lab Sample Id: 687930-016

Matrix: Soil
Date Collected: 02.09.2021 08:50

Date Received: 02.10.2021 09:03

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 02.12.2021 09:30

% Moisture:
Basis: Wet Weight

Seq Number: 3151009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.8	5.05	mg/kg	02.12.2021 17:33		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 02.10.2021 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150748

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.11.2021 03:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.11.2021 03:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.11.2021 03:48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.11.2021 03:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	02.11.2021 03:48	
o-Terphenyl	84-15-1	108	%	70-130	02.11.2021 03:48	



Certificate of Analytical Results 687930

Larson and Associates, Inc., Midland, TX

Maelstorm 15-1

Sample Id: **S-12 1'**
Lab Sample Id: 687930-016

Matrix: Soil
Date Collected: 02.09.2021 08:50

Date Received: 02.10.2021 09:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 02.10.2021 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3150727

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.10.2021 23:50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.10.2021 23:50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.10.2021 23:50	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.10.2021 23:50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.10.2021 23:50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.10.2021 23:50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.10.2021 23:50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	02.10.2021 23:50		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.10.2021 23:50		

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



Larson and Associates, Inc.
Maelstorm 15-1

Analytical Method: Chloride by EPA 300

Seq Number: 3151037

MB Sample Id: 7721393-1-BLK

Matrix: Solid

LCS Sample Id: 7721393-1-BKS

Prep Method: E300P

Date Prep: 02.12.2021

LCSD Sample Id: 7721393-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	252	101	251	100	90-110	0	20	mg/kg	02.12.2021 21:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3151009

MB Sample Id: 7721395-1-BLK

Matrix: Solid

LCS Sample Id: 7721395-1-BKS

Prep Method: E300P

Date Prep: 02.12.2021

LCSD Sample Id: 7721395-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	266	106	256	102	90-110	4	20	mg/kg	02.12.2021 16:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3151037

Parent Sample Id: 687927-001

Matrix: Soil

MS Sample Id: 687927-001 S

Prep Method: E300P

Date Prep: 02.12.2021

MSD Sample Id: 687927-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.04	252	249	99	241	96	90-110	3	20	mg/kg	02.12.2021 23:21	

Analytical Method: Chloride by EPA 300

Seq Number: 3151037

Parent Sample Id: 687929-004

Matrix: Soil

MS Sample Id: 687929-004 S

Prep Method: E300P

Date Prep: 02.12.2021

MSD Sample Id: 687929-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	354	250	581	91	574	88	90-110	1	20	mg/kg	02.13.2021 00:37	X

Analytical Method: Chloride by EPA 300

Seq Number: 3151009

Parent Sample Id: 687862-004

Matrix: Soil

MS Sample Id: 687862-004 S

Prep Method: E300P

Date Prep: 02.12.2021

MSD Sample Id: 687862-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	422	250	660	95	707	114	90-110	7	20	mg/kg	02.12.2021 17:59	X

Analytical Method: Chloride by EPA 300

Seq Number: 3151009

Parent Sample Id: 687930-010

Matrix: Soil

MS Sample Id: 687930-010 S

Prep Method: E300P

Date Prep: 02.12.2021

MSD Sample Id: 687930-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1540	1250	2820	102	2830	103	90-110	0	20	mg/kg	02.12.2021 16:44	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Larson and Associates, Inc.
Maelstorm 15-1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3150876

MB Sample Id: 7721305-1-BLK

Matrix: Solid

LCS Sample Id: 7721305-1-BKS

Prep Method: SW8015P

Date Prep: 02.10.2021

LCSD Sample Id: 7721305-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	982	98	1090	109	70-130	10	20	mg/kg	02.10.2021 12:34	
Diesel Range Organics (DRO)	<50.0	1000	974	97	952	95	70-130	2	20	mg/kg	02.10.2021 12:34	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag		LCSD %Rec	LCSD Flag		Limits	Units	Analysis Date	
1-Chlorooctane	87		92			92			70-130	%	02.10.2021 12:34	
o-Terphenyl	103		93			91			70-130	%	02.10.2021 12:34	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3150748

MB Sample Id: 7721298-1-BLK

Matrix: Solid

LCS Sample Id: 7721298-1-BKS

Prep Method: SW8015P

Date Prep: 02.10.2021

LCSD Sample Id: 7721298-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	945	95	932	93	70-130	1	20	mg/kg	02.10.2021 22:32	
Diesel Range Organics (DRO)	<50.0	1000	953	95	975	98	70-130	2	20	mg/kg	02.10.2021 22:32	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag		LCSD %Rec	LCSD Flag		Limits	Units	Analysis Date	
1-Chlorooctane	100		113			114			70-130	%	02.10.2021 22:32	
o-Terphenyl	118		121			127			70-130	%	02.10.2021 22:32	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3150876

Matrix: Solid

MB Sample Id: 7721305-1-BLK

Prep Method: SW8015P

Date Prep: 02.10.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.10.2021 12:13	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3150748

Matrix: Solid

MB Sample Id: 7721298-1-BLK

Prep Method: SW8015P

Date Prep: 02.10.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.10.2021 22:10	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

Larson and Associates, Inc.
Maelstorm 15-1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3150876

Parent Sample Id: 687927-001

Matrix: Soil

MS Sample Id: 687927-001 S

Prep Method: SW8015P

Date Prep: 02.10.2021

MSD Sample Id: 687927-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	920	92	985	99	70-130	7	20	mg/kg	02.10.2021 15:14	
Diesel Range Organics (DRO)	<49.9	997	801	80	885	89	70-130	10	20	mg/kg	02.10.2021 15:14	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	80		83		70-130	%	02.10.2021 15:14
o-Terphenyl	77		73		70-130	%	02.10.2021 15:14

Analytical Method: TPH by SW8015 Mod

Seq Number: 3150748

Parent Sample Id: 687934-001

Matrix: Solid

MS Sample Id: 687934-001 S

Prep Method: SW8015P

Date Prep: 02.10.2021

MSD Sample Id: 687934-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	1050	105	1050	105	70-130	0	20	mg/kg	02.10.2021 23:36	
Diesel Range Organics (DRO)	<49.9	998	1000	100	1020	102	70-130	2	20	mg/kg	02.10.2021 23:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		109		70-130	%	02.10.2021 23:36
o-Terphenyl	118		125		70-130	%	02.10.2021 23:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 3150727

MB Sample Id: 7721295-1-BLK

Matrix: Solid

LCS Sample Id: 7721295-1-BKS

Prep Method: SW5035A

Date Prep: 02.10.2021

LCSD Sample Id: 7721295-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.0845	85	70-130	19	35	mg/kg	02.10.2021 19:27	
Toluene	<0.00200	0.100	0.103	103	0.0871	87	70-130	17	35	mg/kg	02.10.2021 19:27	
Ethylbenzene	<0.00200	0.100	0.101	101	0.0850	85	70-130	17	35	mg/kg	02.10.2021 19:27	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.169	85	70-130	17	35	mg/kg	02.10.2021 19:27	
o-Xylene	<0.00200	0.100	0.101	101	0.0894	89	70-130	12	35	mg/kg	02.10.2021 19:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	73		84		73		70-130	%	02.10.2021 19:27
4-Bromofluorobenzene	89		94		86		70-130	%	02.10.2021 19:27

 MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

 $[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

 LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

 MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



Larson and Associates, Inc.
Maelstorm 15-1

Analytical Method: BTEX by EPA 8021B

Seq Number: 3150884

Matrix: Solid

Prep Method: SW5035A

Date Prep: 02.10.2021

MB Sample Id: 7721273-1-BLK

LCS Sample Id: 7721273-1-BKS

LCSD Sample Id: 7721273-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0949	95	0.0964	96	70-130	2	35	mg/kg	02.11.2021 06:43	
Toluene	<0.00200	0.100	0.0900	90	0.0925	93	70-130	3	35	mg/kg	02.11.2021 06:43	
Ethylbenzene	<0.00200	0.100	0.0958	96	0.0981	98	70-130	2	35	mg/kg	02.11.2021 06:43	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.194	97	70-130	3	35	mg/kg	02.11.2021 06:43	
o-Xylene	<0.00200	0.100	0.0958	96	0.0980	98	70-130	2	35	mg/kg	02.11.2021 06:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		102		102		70-130	%	02.11.2021 06:43
4-Bromofluorobenzene	99		98		98		70-130	%	02.11.2021 06:43

Analytical Method: BTEX by EPA 8021B

Seq Number: 3150727

Matrix: Soil

Prep Method: SW5035A

Date Prep: 02.10.2021

Parent Sample Id: 687930-013

MS Sample Id: 687930-013 S

MSD Sample Id: 687930-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0805	81	0.0838	84	70-130	4	35	mg/kg	02.10.2021 20:20	
Toluene	<0.00200	0.100	0.0837	84	0.0864	86	70-130	3	35	mg/kg	02.10.2021 20:20	
Ethylbenzene	<0.00200	0.100	0.0823	82	0.0838	84	70-130	2	35	mg/kg	02.10.2021 20:20	
m,p-Xylenes	<0.00400	0.200	0.164	82	0.166	83	70-130	1	35	mg/kg	02.10.2021 20:20	
o-Xylene	<0.00200	0.100	0.0841	84	0.0842	84	70-130	0	35	mg/kg	02.10.2021 20:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	75		81		70-130	%	02.10.2021 20:20
4-Bromofluorobenzene	97		101		70-130	%	02.10.2021 20:20

Analytical Method: BTEX by EPA 8021B

Seq Number: 3150884

Matrix: Soil

Prep Method: SW5035A

Date Prep: 02.10.2021

Parent Sample Id: 687926-021

MS Sample Id: 687926-021 S

MSD Sample Id: 687926-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0726	73	0.0743	74	70-130	2	35	mg/kg	02.11.2021 07:24	
Toluene	<0.00200	0.100	0.0695	70	0.0710	70	70-130	2	35	mg/kg	02.11.2021 07:24	
Ethylbenzene	<0.00200	0.100	0.0741	74	0.0763	76	70-130	3	35	mg/kg	02.11.2021 07:24	
m,p-Xylenes	<0.00401	0.200	0.148	74	0.154	77	70-130	4	35	mg/kg	02.11.2021 07:24	
o-Xylene	<0.00200	0.100	0.0745	75	0.0775	77	70-130	4	35	mg/kg	02.11.2021 07:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		102		70-130	%	02.11.2021 07:24
4-Bromofluorobenzene	102		104		70-130	%	02.11.2021 07:24

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

PAGE 1 OF 2

LAI PROJECT #: 20-0107-23 COLLECTOR: TJ & MB

2006 ☐
PAH ☐
IDES ☐
OC ☐
C ☐
LIST ☐
P ☐
ANIDE ☐
J
ITY ☐

1005
 015
 5
 8270
 8157
 (CRA)
 (ERB)
 (CRA)
 W. 200
 ASHPOL
 MOISTUR
 NT CHR
 TECHILO
 NS

☐ BE ☐ TPA
☐ MOD 80 ☐ MOD 801
 2015-☐ PAH
☐ ACIDES
☐ TALS (RO)
☐ TALS (RO)
☐ FL
☐ % M
☐ VALE
☐ ES
☐ ANIC

FIELD NOTES

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TURN AROUND TIME		
LABORATORY USE ONLY:		
RECEIVING TIME	49	108

RECEIVING EMP: 77 IHERM#: 160

2 DAY ☐	CARRIER RUL #	☐ BROKEN	☐ IN IAC	☐ NO I USED
OTHER ☐				

☐ CREDIT CARD BILL # _____ ☐ OTHER ☐ ☐ HAND DELIVERED

100

HERM#: 150

KEN ☒ INTACT ☐ NOT

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.**Date/ Time Received:** 02.10.2021 09.03.00 AM**Work Order #:** 687930**Acceptable Temperature Range:** 0 - 6 degC**Air and Metal samples Acceptable Range:** Ambient**Temperature Measuring device used :** IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.9
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 02.10.2021

Checklist reviewed by:



Holly Taylor

Date: 02.10.2021



Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-12310-1
Laboratory Sample Delivery Group: 22-0105-02
Client Project/Site: Maelstrom SWD

For:
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

Holly Taylor

Authorized for release by:
3/28/2022 10:16:07 AM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

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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.

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Laboratory Job ID: 880-12310-1
SDG: 22-0105-02

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	19
QC Sample Results	21
QC Association Summary	26
Lab Chronicle	31
Certification Summary	37
Method Summary	38
Sample Summary	39
Chain of Custody	40
Receipt Checklists	42

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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
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)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Job ID: 880-12310-1

Laboratory: Eurofins Midland

Narrative

Job Narrative 880-12310-1

Comments

No additional comments.

Receipt

The samples were received on 3/10/2022 3:05 PM. 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 was 0.1° C.

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-21729 and analytical batch 880-21936 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

Method 8015B NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-21475 and analytical batch 880-21458 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015B NM: Surrogate recovery for the following samples were outside control limits: S-4,4.5' (880-12310-18). Evidence of matrix interferences is not obvious.

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

General Chemistry

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-21601 and analytical batch 880-22135 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Organic Prep

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

VOA Prep

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

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-1,0.5

Lab Sample ID: 880-12310-1

Date Collected: 03/09/22 12:00

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U F1	0.00200	mg/Kg		03/18/22 12:55	03/19/22 23:50	1
Toluene	<0.00200	U F1	0.00200	mg/Kg		03/18/22 12:55	03/19/22 23:50	1
Ethylbenzene	<0.00200	U F1	0.00200	mg/Kg		03/18/22 12:55	03/19/22 23:50	1
m,p-Xylenes	<0.00399	U F1	0.00399	mg/Kg		03/18/22 12:55	03/19/22 23:50	1
o-Xylene	<0.00200	U F1	0.00200	mg/Kg		03/18/22 12:55	03/19/22 23:50	1
Xylenes, Total	<0.00399	U F1	0.00399	mg/Kg		03/18/22 12:55	03/19/22 23:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	03/18/22 12:55	03/19/22 23:50	1
1,4-Difluorobenzene (Surr)	110		70 - 130	03/18/22 12:55	03/19/22 23:50	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1	49.8	mg/Kg		03/14/22 08:43	03/14/22 21:56	1
Diesel Range Organics (Over C10-C28)	<49.8	U F1	49.8	mg/Kg		03/14/22 08:43	03/14/22 21:56	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/14/22 08:43	03/14/22 21:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	108		70 - 130	03/14/22 08:43	03/14/22 21:56	1
o-Terphenyl (Surr)	111		70 - 130	03/14/22 08:43	03/14/22 21:56	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8180		49.5	mg/Kg			03/24/22 21:27	10

Client Sample ID: S-1, 1

Lab Sample ID: 880-12310-2

Date Collected: 03/09/22 12:05

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/16/22 12:55	03/20/22 00:11	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/16/22 12:55	03/20/22 00:11	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/16/22 12:55	03/20/22 00:11	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		03/16/22 12:55	03/20/22 00:11	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/16/22 12:55	03/20/22 00:11	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/16/22 12:55	03/20/22 00:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	03/16/22 12:55	03/20/22 00:11	1
1,4-Difluorobenzene (Surr)	109		70 - 130	03/16/22 12:55	03/20/22 00:11	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-1, 1

Lab Sample ID: 880-12310-2

Date Collected: 03/09/22 12:05

Matrix: Solid

Date Received: 03/10/22 15:05

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/14/22 23:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/14/22 23:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/14/22 23:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	115		70 - 130			03/14/22 08:43	03/14/22 23:00	1
o-Terphenyl (Surr)	115		70 - 130			03/14/22 08:43	03/14/22 23:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7090		49.8	mg/Kg			03/24/22 21:54	10

Client Sample ID: S-2,0.5

Lab Sample ID: 880-12310-3

Date Collected: 03/09/22 12:15

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 00:31	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 00:31	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 00:31	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		03/18/22 12:55	03/20/22 00:31	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 00:31	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/18/22 12:55	03/20/22 00:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			03/18/22 12:55	03/20/22 00:31	1
1,4-Difluorobenzene (Surr)	108		70 - 130			03/18/22 12:55	03/20/22 00:31	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/14/22 23:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/14/22 23:22	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-2,0.5

Lab Sample ID: 880-12310-3

Date Collected: 03/09/22 12:15

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/14/22 23:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	104		70 - 130			03/14/22 08:43	03/14/22 23:22	1
o-Terphenyl (Surr)	107		70 - 130			03/14/22 08:43	03/14/22 23:22	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8750		50.0	mg/Kg			03/24/22 22:03	10

Client Sample ID: S-2,1

Lab Sample ID: 880-12310-4

Date Collected: 03/09/22 12:20

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 00:51	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 00:51	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 00:51	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		03/18/22 12:55	03/20/22 00:51	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 00:51	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/18/22 12:55	03/20/22 00:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130			03/18/22 12:55	03/20/22 00:51	1
1,4-Difluorobenzene (Surr)	107		70 - 130			03/18/22 12:55	03/20/22 00:51	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/14/22 23:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/14/22 23:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/14/22 23:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	115		70 - 130			03/14/22 08:43	03/14/22 23:44	1
o-Terphenyl (Surr)	118		70 - 130			03/14/22 08:43	03/14/22 23:44	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8130		49.9	mg/Kg			03/24/22 22:12	10

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-3,0.5

Lab Sample ID: 880-12310-5

Date Collected: 03/09/22 12:30

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 01:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 01:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 01:12	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		03/18/22 12:55	03/20/22 01:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 01:12	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/18/22 12:55	03/20/22 01:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	03/18/22 12:55	03/20/22 01:12	1
1,4-Difluorobenzene (Surr)	109		70 - 130	03/18/22 12:55	03/20/22 01:12	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 00:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 00:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 00:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	114		70 - 130	03/14/22 08:43	03/15/22 00:03	1
o-Terphenyl (Surr)	122		70 - 130	03/14/22 08:43	03/15/22 00:03	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4230		25.0	mg/Kg			03/24/22 22:20	5

Client Sample ID: S-4,0.5

Lab Sample ID: 880-12310-6

Date Collected: 03/09/22 12:35

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 01:32	1
Toluene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 01:32	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 01:32	1
m,p-Xylenes	<0.00403	U	0.00403	mg/Kg		03/18/22 12:55	03/20/22 01:32	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 01:32	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		03/18/22 12:55	03/20/22 01:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	03/18/22 12:55	03/20/22 01:32	1
1,4-Difluorobenzene (Surr)	108		70 - 130	03/18/22 12:55	03/20/22 01:32	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-4,0.5

Lab Sample ID: 880-12310-6

Date Collected: 03/09/22 12:35

Matrix: Solid

Date Received: 03/10/22 15:05

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 00:23	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 00:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 00:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	105		70 - 130			03/14/22 08:43	03/15/22 00:23	1
o-Terphenyl (Surr)	111		70 - 130			03/14/22 08:43	03/15/22 00:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8080		49.8	mg/Kg			03/24/22 22:29	10

Client Sample ID: S-4,1

Lab Sample ID: 880-12310-7

Date Collected: 03/09/22 12:36

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 01:53	1
Toluene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 01:53	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 01:53	1
m,p-Xylenes	<0.00404	U	0.00404	mg/Kg		03/18/22 12:55	03/20/22 01:53	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 01:53	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		03/18/22 12:55	03/20/22 01:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			03/18/22 12:55	03/20/22 01:53	1
1,4-Difluorobenzene (Surr)	107		70 - 130			03/18/22 12:55	03/20/22 01:53	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 00:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 00:43	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-4,1

Lab Sample ID: 880-12310-7

Date Collected: 03/09/22 12:36

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 00:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	114		70 - 130			03/14/22 08:43	03/15/22 00:43	1
o-Terphenyl (Surr)	119		70 - 130			03/14/22 08:43	03/15/22 00:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5430	F1	50.4	mg/Kg			03/24/22 22:38	10

Client Sample ID: S-5,0.5

Lab Sample ID: 880-12310-8

Date Collected: 03/09/22 12:50

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 02:13	1
Toluene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 02:13	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 02:13	1
m,p-Xylenes	<0.00404	U	0.00404	mg/Kg		03/18/22 12:55	03/20/22 02:13	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 02:13	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		03/18/22 12:55	03/20/22 02:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130			03/18/22 12:55	03/20/22 02:13	1
1,4-Difluorobenzene (Surr)	107		70 - 130			03/18/22 12:55	03/20/22 02:13	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		03/14/22 08:43	03/15/22 01:04	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		03/14/22 08:43	03/15/22 01:04	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/14/22 08:43	03/15/22 01:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	112		70 - 130			03/14/22 08:43	03/15/22 01:04	1
o-Terphenyl (Surr)	114		70 - 130			03/14/22 08:43	03/15/22 01:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	61.7		4.97	mg/Kg			03/24/22 23:05	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-5,1

Lab Sample ID: 880-12310-9

Date Collected: 03/09/22 12:51

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 02:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 02:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 02:34	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		03/18/22 12:55	03/20/22 02:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 02:34	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/18/22 12:55	03/20/22 02:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	03/18/22 12:55	03/20/22 02:34	1
1,4-Difluorobenzene (Surr)	107		70 - 130	03/18/22 12:55	03/20/22 02:34	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 01:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 01:24	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 01:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	110		70 - 130	03/14/22 08:43	03/15/22 01:24	1
o-Terphenyl (Surr)	114		70 - 130	03/14/22 08:43	03/15/22 01:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	39.6		4.98	mg/Kg			03/24/22 23:13	1

Client Sample ID: S-6,0.5

Lab Sample ID: 880-12310-10

Date Collected: 03/09/22 13:00

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 02:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 02:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 02:54	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		03/18/22 12:55	03/20/22 02:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 02:54	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		03/18/22 12:55	03/20/22 02:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	03/18/22 12:55	03/20/22 02:54	1
1,4-Difluorobenzene (Surr)	107		70 - 130	03/18/22 12:55	03/20/22 02:54	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-6,0.5

Lab Sample ID: 880-12310-10

Date Collected: 03/09/22 13:00

Matrix: Solid

Date Received: 03/10/22 15:05

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 01:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 01:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 01:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	111		70 - 130			03/14/22 08:43	03/15/22 01:44	1
o-Terphenyl (Surr)	117		70 - 130			03/14/22 08:43	03/15/22 01:44	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.8		4.97	mg/Kg			03/24/22 23:40	1

Client Sample ID: S-6,1

Lab Sample ID: 880-12310-11

Date Collected: 03/09/22 13:05

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 04:17	1
Toluene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 04:17	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 04:17	1
m,p-Xylenes	<0.00403	U	0.00403	mg/Kg		03/18/22 12:55	03/20/22 04:17	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		03/18/22 12:55	03/20/22 04:17	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		03/18/22 12:55	03/20/22 04:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			03/18/22 12:55	03/20/22 04:17	1
1,4-Difluorobenzene (Surr)	109		70 - 130			03/18/22 12:55	03/20/22 04:17	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 02:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 02:24	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-6,1

Lab Sample ID: 880-12310-11

Date Collected: 03/09/22 13:05

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 02:24	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	116		70 - 130			03/14/22 08:43	03/15/22 02:24	1
o-Terphenyl (Surr)	118		70 - 130			03/14/22 08:43	03/15/22 02:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.01		5.05	mg/Kg			03/24/22 23:49	1

Client Sample ID: S-7,0.5

Lab Sample ID: 880-12310-12

Date Collected: 03/09/22 13:20

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 04:37	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 04:37	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 04:37	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		03/18/22 12:55	03/20/22 04:37	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 04:37	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/18/22 12:55	03/20/22 04:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			03/18/22 12:55	03/20/22 04:37	1
1,4-Difluorobenzene (Surr)	107		70 - 130			03/18/22 12:55	03/20/22 04:37	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 02:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 02:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 02:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	109		70 - 130			03/14/22 08:43	03/15/22 02:45	1
o-Terphenyl (Surr)	112		70 - 130			03/14/22 08:43	03/15/22 02:45	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4550		50.2	mg/Kg			03/24/22 23:58	10

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-7,1

Lab Sample ID: 880-12310-13

Date Collected: 03/09/22 13:25

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 04:58	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 04:58	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 04:58	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		03/18/22 12:55	03/20/22 04:58	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/18/22 12:55	03/20/22 04:58	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/18/22 12:55	03/20/22 04:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	03/18/22 12:55	03/20/22 04:58	1
1,4-Difluorobenzene (Surr)	101		70 - 130	03/18/22 12:55	03/20/22 04:58	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 03:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 03:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 03:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	106		70 - 130	03/14/22 08:43	03/15/22 03:04	1
o-Terphenyl (Surr)	112		70 - 130	03/14/22 08:43	03/15/22 03:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	F1	25.0	mg/Kg			03/25/22 08:59	5

Client Sample ID: S-8,0.5

Lab Sample ID: 880-12310-14

Date Collected: 03/09/22 13:40

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		03/18/22 12:55	03/20/22 05:18	1
Toluene	<0.00198	U	0.00198	mg/Kg		03/18/22 12:55	03/20/22 05:18	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		03/18/22 12:55	03/20/22 05:18	1
m,p-Xylenes	<0.00396	U	0.00396	mg/Kg		03/18/22 12:55	03/20/22 05:18	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		03/18/22 12:55	03/20/22 05:18	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		03/18/22 12:55	03/20/22 05:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	03/18/22 12:55	03/20/22 05:18	1
1,4-Difluorobenzene (Surr)	108		70 - 130	03/18/22 12:55	03/20/22 05:18	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-8,0.5

Lab Sample ID: 880-12310-14

Date Collected: 03/09/22 13:40

Matrix: Solid

Date Received: 03/10/22 15:05

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 03:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 03:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 03:24	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	112		70 - 130			03/14/22 08:43	03/15/22 03:24	1
o-Terphenyl (Surr)	116		70 - 130			03/14/22 08:43	03/15/22 03:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	115		5.01	mg/Kg			03/25/22 09:25	1

Client Sample ID: S-8,1

Lab Sample ID: 880-12310-15

Date Collected: 03/09/22 13:45

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 05:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 05:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 05:38	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		03/18/22 12:55	03/20/22 05:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 05:38	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		03/18/22 12:55	03/20/22 05:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			03/18/22 12:55	03/20/22 05:38	1
1,4-Difluorobenzene (Surr)	108		70 - 130			03/18/22 12:55	03/20/22 05:38	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 03:44	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 03:44	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-8,1

Lab Sample ID: 880-12310-15

Date Collected: 03/09/22 13:45

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 03:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	111		70 - 130			03/14/22 08:43	03/15/22 03:44	1
o-Terphenyl (Surr)	111		70 - 130			03/14/22 08:43	03/15/22 03:44	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	106		4.99	mg/Kg			03/25/22 09:34	1

Client Sample ID: S-4,2'

Lab Sample ID: 880-12310-16

Date Collected: 03/09/22 12:37

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 05:59	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 05:59	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 05:59	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		03/18/22 12:55	03/20/22 05:59	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 05:59	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/18/22 12:55	03/20/22 05:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			03/18/22 12:55	03/20/22 05:59	1
1,4-Difluorobenzene (Surr)	107		70 - 130			03/18/22 12:55	03/20/22 05:59	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 04:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 04:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/15/22 04:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	110		70 - 130			03/14/22 08:43	03/15/22 04:05	1
o-Terphenyl (Surr)	110		70 - 130			03/14/22 08:43	03/15/22 04:05	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1970		24.9	mg/Kg			03/25/22 09:43	5

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-4,3'

Lab Sample ID: 880-12310-17

Date Collected: 03/09/22 12:38

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 06:19	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 06:19	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 06:19	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		03/18/22 12:55	03/20/22 06:19	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/20/22 06:19	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/18/22 12:55	03/20/22 06:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	03/18/22 12:55	03/20/22 06:19	1
1,4-Difluorobenzene (Surr)	108		70 - 130	03/18/22 12:55	03/20/22 06:19	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		03/14/22 08:43	03/15/22 04:24	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		03/14/22 08:43	03/15/22 04:24	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/14/22 08:43	03/15/22 04:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	113		70 - 130	03/14/22 08:43	03/15/22 04:24	1
o-Terphenyl (Surr)	118		70 - 130	03/14/22 08:43	03/15/22 04:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	576		4.95	mg/Kg			03/25/22 09:52	1

Client Sample ID: S-4,4.5'

Lab Sample ID: 880-12310-18

Date Collected: 03/09/22 12:39

Matrix: Solid

Date Received: 03/10/22 15:05

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 06:40	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 06:40	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 06:40	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		03/18/22 12:55	03/20/22 06:40	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/18/22 12:55	03/20/22 06:40	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/18/22 12:55	03/20/22 06:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	03/18/22 12:55	03/20/22 06:40	1
1,4-Difluorobenzene (Surr)	108		70 - 130	03/18/22 12:55	03/20/22 06:40	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-4,4.5'

Lab Sample ID: 880-12310-18

Date Collected: 03/09/22 12:39

Matrix: Solid

Date Received: 03/10/22 15:05

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			03/21/22 13:26	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/15/22 10:15	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 04:44	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 04:44	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/14/22 08:43	03/15/22 04:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	128		70 - 130			03/14/22 08:43	03/15/22 04:44	1
o-Terphenyl (Surr)	132	S1+	70 - 130			03/14/22 08:43	03/15/22 04:44	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	982		4.98	mg/Kg			03/25/22 15:11	1

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-12310-1	S-1,0.5	106	110
880-12310-1 MS	S-1,0.5	104	113
880-12310-1 MSD	S-1,0.5	104	112
880-12310-2	S-1, 1	104	109
880-12310-3	S-2,0.5	108	108
880-12310-4	S-2,1	104	107
880-12310-5	S-3,0.5	108	109
880-12310-6	S-4,0.5	106	108
880-12310-7	S-4,1	105	107
880-12310-8	S-5,0.5	107	107
880-12310-9	S-5,1	103	107
880-12310-10	S-6,0.5	104	107
880-12310-11	S-6,1	106	109
880-12310-12	S-7,0.5	103	107
880-12310-13	S-7,1	103	101
880-12310-14	S-8,0.5	107	108
880-12310-15	S-8,1	106	108
880-12310-16	S-4,2'	103	107
880-12310-17	S-4,3'	105	108
880-12310-18	S-4,4.5'	106	108
LCS 880-21729/1-A	Lab Control Sample	102	112
LCSD 880-21729/2-A	Lab Control Sample Dup	102	113
MB 880-21729/5-A	Method Blank	101	105
MB 880-21935/5-A	Method Blank	104	105
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-12310-1	S-1,0.5	108	111
880-12310-1 MS	S-1,0.5	121	102
880-12310-1 MSD	S-1,0.5	127	105
880-12310-2	S-1, 1	115	115
880-12310-3	S-2,0.5	104	107
880-12310-4	S-2,1	115	118
880-12310-5	S-3,0.5	114	122
880-12310-6	S-4,0.5	105	111
880-12310-7	S-4,1	114	119
880-12310-8	S-5,0.5	112	114
880-12310-9	S-5,1	110	114
880-12310-10	S-6,0.5	111	117
880-12310-11	S-6,1	116	118
880-12310-12	S-7,0.5	109	112
880-12310-13	S-7,1	106	112

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Surrogate Summary

Client: Larson & Associates, Inc.

Job ID: 880-12310-1

Project/Site: Maelstrom SWD

SDG: 22-0105-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)**Matrix: Solid****Prep Type: Total/NA**

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-12310-14	S-8,0.5	112	116
880-12310-15	S-8,1	111	111
880-12310-16	S-4,2'	110	110
880-12310-17	S-4,3'	113	118
880-12310-18	S-4,4.5'	128	132 S1+
LCS 880-21475/2-A	Lab Control Sample	91	83
LCSD 880-21475/3-A	Lab Control Sample Dup	101	93
MB 880-21475/1-A	Method Blank	118	129

Surrogate Legend

1CO = 1-Chlorooctane (Surr)

OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21729/5-A

Matrix: Solid

Analysis Batch: 21936

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21729

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/19/22 23:28	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/19/22 23:28	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/19/22 23:28	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		03/18/22 12:55	03/19/22 23:28	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/18/22 12:55	03/19/22 23:28	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/18/22 12:55	03/19/22 23:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	03/18/22 12:55	03/19/22 23:28	1
1,4-Difluorobenzene (Surr)	105		70 - 130	03/18/22 12:55	03/19/22 23:28	1

Lab Sample ID: LCS 880-21729/1-A

Matrix: Solid

Analysis Batch: 21936

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 21729

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09707		mg/Kg		97	70 - 130
Toluene	0.100	0.09505		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.09420		mg/Kg		94	70 - 130
m,p-Xylenes	0.200	0.1941		mg/Kg		97	70 - 130
o-Xylene	0.100	0.09636		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: LCSD 880-21729/2-A

Matrix: Solid

Analysis Batch: 21936

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 21729

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1090		mg/Kg		109	70 - 130	12	35
Toluene	0.100	0.1045		mg/Kg		105	70 - 130	9	35
Ethylbenzene	0.100	0.1045		mg/Kg		104	70 - 130	10	35
m,p-Xylenes	0.200	0.2152		mg/Kg		108	70 - 130	10	35
o-Xylene	0.100	0.1067		mg/Kg		107	70 - 130	10	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: 880-12310-1 MS

Matrix: Solid

Analysis Batch: 21936

Client Sample ID: S-1,0.5

Prep Type: Total/NA

Prep Batch: 21729

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U F1	0.101	0.06711	F1	mg/Kg		67	70 - 130
Toluene	<0.00200	U F1	0.101	0.04961	F1	mg/Kg		49	70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-12310-1 MS

Matrix: Solid

Analysis Batch: 21936

Client Sample ID: S-1,0.5

Prep Type: Total/NA

Prep Batch: 21729

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00200	U F1	0.101	0.03878	F1	mg/Kg		39	70 - 130
m,p-Xylenes	<0.00399	U F1	0.201	0.08423	F1	mg/Kg		42	70 - 130
o-Xylene	<0.00200	U F1	0.101	0.04567	F1	mg/Kg		45	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: 880-12310-1 MSD

Matrix: Solid

Analysis Batch: 21936

Client Sample ID: S-1,0.5

Prep Type: Total/NA

Prep Batch: 21729

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00200	U F1	0.101	0.06241	F1	mg/Kg		62	70 - 130	7	35
Toluene	<0.00200	U F1	0.101	0.04591	F1	mg/Kg		45	70 - 130	8	35
Ethylbenzene	<0.00200	U F1	0.101	0.03597	F1	mg/Kg		36	70 - 130	8	35
m,p-Xylenes	<0.00399	U F1	0.202	0.07813	F1	mg/Kg		39	70 - 130	8	35
o-Xylene	<0.00200	U F1	0.101	0.04198	F1	mg/Kg		42	70 - 130	8	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: MB 880-21935/5-A

Matrix: Solid

Analysis Batch: 21936

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21935

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/19/22 09:25	03/19/22 12:36	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/19/22 09:25	03/19/22 12:36	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/19/22 09:25	03/19/22 12:36	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		03/19/22 09:25	03/19/22 12:36	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/19/22 09:25	03/19/22 12:36	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/19/22 09:25	03/19/22 12:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	03/19/22 09:25	03/19/22 12:36	1
1,4-Difluorobenzene (Surr)	105		70 - 130	03/19/22 09:25	03/19/22 12:36	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-21475/1-A

Matrix: Solid

Analysis Batch: 21458

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21475

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/14/22 20:54	1

Eurofins Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-21475/1-A

Matrix: Solid

Analysis Batch: 21458

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21475

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/14/22 20:54	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/14/22 08:43	03/14/22 20:54	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	118		70 - 130			03/14/22 08:43	03/14/22 20:54	1
o-Terphenyl (Surr)	129		70 - 130			03/14/22 08:43	03/14/22 20:54	1

Lab Sample ID: LCS 880-21475/2-A

Matrix: Solid

Analysis Batch: 21458

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 21475

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1106		mg/Kg		111	70 - 130
Diesel Range Organics (Over C10-C28)	1000	842.0		mg/Kg		84	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane (Surr)	91		70 - 130				
o-Terphenyl (Surr)	83		70 - 130				

Lab Sample ID: LCSD 880-21475/3-A

Matrix: Solid

Analysis Batch: 21458

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 21475

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1159		mg/Kg		116	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	1000	932.7		mg/Kg		93	70 - 130	10	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane (Surr)	101		70 - 130						
o-Terphenyl (Surr)	93		70 - 130						

Lab Sample ID: 880-12310-1 MS

Matrix: Solid

Analysis Batch: 21458

Client Sample ID: S-1,0.5

Prep Type: Total/NA

Prep Batch: 21475

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1	998	1308		mg/Kg		129	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U F1	998	1335		mg/Kg		129	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane (Surr)	121		70 - 130						
o-Terphenyl (Surr)	102		70 - 130						

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-12310-1 MSD

Matrix: Solid

Analysis Batch: 21458

Client Sample ID: S-1,0.5

Prep Type: Total/NA

Prep Batch: 21475

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1	998	1414	F1	mg/Kg		139	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<49.8	U F1	998	1390	F1	mg/Kg		134	70 - 130	4	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	127		70 - 130								
o-Terphenyl (Surr)	105		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-21600/1-A

Matrix: Solid

Analysis Batch: 22122

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			03/24/22 20:07	1

Lab Sample ID: LCS 880-21600/2-A

Matrix: Solid

Analysis Batch: 22122

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	271.9		mg/Kg		109	90 - 110

Lab Sample ID: LCSD 880-21600/3-A

Matrix: Solid

Analysis Batch: 22122

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	271.2		mg/Kg		108	90 - 110	0	20

Lab Sample ID: 880-12310-7 MS

Matrix: Solid

Analysis Batch: 22122

Client Sample ID: S-4,1

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5430	F1	2520	8433	F1	mg/Kg		119	90 - 110

Lab Sample ID: 880-12310-7 MSD

Matrix: Solid

Analysis Batch: 22122

Client Sample ID: S-4,1

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5430	F1	2520	8380	F1	mg/Kg		117	90 - 110	1	20

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-21601/1-A

Matrix: Solid

Analysis Batch: 22135

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			03/25/22 08:32	1

Lab Sample ID: LCS 880-21601/2-A

Matrix: Solid

Analysis Batch: 22135

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	271.1		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-21601/3-A

Matrix: Solid

Analysis Batch: 22135

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	270.6		mg/Kg		108	90 - 110	0	20

Lab Sample ID: 880-12310-13 MS

Matrix: Solid

Analysis Batch: 22135

Client Sample ID: S-7,1

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2300	F1	1250	3777	F1	mg/Kg		118	90 - 110

Lab Sample ID: 880-12310-13 MSD

Matrix: Solid

Analysis Batch: 22135

Client Sample ID: S-7,1

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2300	F1	1250	3744	F1	mg/Kg		116	90 - 110	1	20

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

GC VOA

Prep Batch: 21729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-1	S-1,0.5	Total/NA	Solid	5035	
880-12310-2	S-1, 1	Total/NA	Solid	5035	
880-12310-3	S-2,0.5	Total/NA	Solid	5035	
880-12310-4	S-2,1	Total/NA	Solid	5035	
880-12310-5	S-3,0.5	Total/NA	Solid	5035	
880-12310-6	S-4,0.5	Total/NA	Solid	5035	
880-12310-7	S-4,1	Total/NA	Solid	5035	
880-12310-8	S-5,0.5	Total/NA	Solid	5035	
880-12310-9	S-5,1	Total/NA	Solid	5035	
880-12310-10	S-6,0.5	Total/NA	Solid	5035	
880-12310-11	S-6,1	Total/NA	Solid	5035	
880-12310-12	S-7,0.5	Total/NA	Solid	5035	
880-12310-13	S-7,1	Total/NA	Solid	5035	
880-12310-14	S-8,0.5	Total/NA	Solid	5035	
880-12310-15	S-8,1	Total/NA	Solid	5035	
880-12310-16	S-4,2'	Total/NA	Solid	5035	
880-12310-17	S-4,3'	Total/NA	Solid	5035	
880-12310-18	S-4,4.5'	Total/NA	Solid	5035	
MB 880-21729/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-21729/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21729/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12310-1 MS	S-1,0.5	Total/NA	Solid	5035	
880-12310-1 MSD	S-1,0.5	Total/NA	Solid	5035	

Prep Batch: 21935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21935/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 21936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-1	S-1,0.5	Total/NA	Solid	8021B	21729
880-12310-2	S-1, 1	Total/NA	Solid	8021B	21729
880-12310-3	S-2,0.5	Total/NA	Solid	8021B	21729
880-12310-4	S-2,1	Total/NA	Solid	8021B	21729
880-12310-5	S-3,0.5	Total/NA	Solid	8021B	21729
880-12310-6	S-4,0.5	Total/NA	Solid	8021B	21729
880-12310-7	S-4,1	Total/NA	Solid	8021B	21729
880-12310-8	S-5,0.5	Total/NA	Solid	8021B	21729
880-12310-9	S-5,1	Total/NA	Solid	8021B	21729
880-12310-10	S-6,0.5	Total/NA	Solid	8021B	21729
880-12310-11	S-6,1	Total/NA	Solid	8021B	21729
880-12310-12	S-7,0.5	Total/NA	Solid	8021B	21729
880-12310-13	S-7,1	Total/NA	Solid	8021B	21729
880-12310-14	S-8,0.5	Total/NA	Solid	8021B	21729
880-12310-15	S-8,1	Total/NA	Solid	8021B	21729
880-12310-16	S-4,2'	Total/NA	Solid	8021B	21729
880-12310-17	S-4,3'	Total/NA	Solid	8021B	21729
880-12310-18	S-4,4.5'	Total/NA	Solid	8021B	21729
MB 880-21729/5-A	Method Blank	Total/NA	Solid	8021B	21729
MB 880-21935/5-A	Method Blank	Total/NA	Solid	8021B	21935
LCS 880-21729/1-A	Lab Control Sample	Total/NA	Solid	8021B	21729

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

GC VOA (Continued)

Analysis Batch: 21936 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-21729/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21729
880-12310-1 MS	S-1,0.5	Total/NA	Solid	8021B	21729
880-12310-1 MSD	S-1,0.5	Total/NA	Solid	8021B	21729

Analysis Batch: 22079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-1	S-1,0.5	Total/NA	Solid	Total BTEX	
880-12310-2	S-1, 1	Total/NA	Solid	Total BTEX	
880-12310-3	S-2,0.5	Total/NA	Solid	Total BTEX	
880-12310-4	S-2,1	Total/NA	Solid	Total BTEX	
880-12310-5	S-3,0.5	Total/NA	Solid	Total BTEX	
880-12310-6	S-4,0.5	Total/NA	Solid	Total BTEX	
880-12310-7	S-4,1	Total/NA	Solid	Total BTEX	
880-12310-8	S-5,0.5	Total/NA	Solid	Total BTEX	
880-12310-9	S-5,1	Total/NA	Solid	Total BTEX	
880-12310-10	S-6,0.5	Total/NA	Solid	Total BTEX	
880-12310-11	S-6,1	Total/NA	Solid	Total BTEX	
880-12310-12	S-7,0.5	Total/NA	Solid	Total BTEX	
880-12310-13	S-7,1	Total/NA	Solid	Total BTEX	
880-12310-14	S-8,0.5	Total/NA	Solid	Total BTEX	
880-12310-15	S-8,1	Total/NA	Solid	Total BTEX	
880-12310-16	S-4,2'	Total/NA	Solid	Total BTEX	
880-12310-17	S-4,3'	Total/NA	Solid	Total BTEX	
880-12310-18	S-4,4.5'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 21458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-1	S-1,0.5	Total/NA	Solid	8015B NM	21475
880-12310-2	S-1, 1	Total/NA	Solid	8015B NM	21475
880-12310-3	S-2,0.5	Total/NA	Solid	8015B NM	21475
880-12310-4	S-2,1	Total/NA	Solid	8015B NM	21475
880-12310-5	S-3,0.5	Total/NA	Solid	8015B NM	21475
880-12310-6	S-4,0.5	Total/NA	Solid	8015B NM	21475
880-12310-7	S-4,1	Total/NA	Solid	8015B NM	21475
880-12310-8	S-5,0.5	Total/NA	Solid	8015B NM	21475
880-12310-9	S-5,1	Total/NA	Solid	8015B NM	21475
880-12310-10	S-6,0.5	Total/NA	Solid	8015B NM	21475
880-12310-11	S-6,1	Total/NA	Solid	8015B NM	21475
880-12310-12	S-7,0.5	Total/NA	Solid	8015B NM	21475
880-12310-13	S-7,1	Total/NA	Solid	8015B NM	21475
880-12310-14	S-8,0.5	Total/NA	Solid	8015B NM	21475
880-12310-15	S-8,1	Total/NA	Solid	8015B NM	21475
880-12310-16	S-4,2'	Total/NA	Solid	8015B NM	21475
880-12310-17	S-4,3'	Total/NA	Solid	8015B NM	21475
880-12310-18	S-4,4.5'	Total/NA	Solid	8015B NM	21475
MB 880-21475/1-A	Method Blank	Total/NA	Solid	8015B NM	21475
LCS 880-21475/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21475
LCSD 880-21475/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21475
880-12310-1 MS	S-1,0.5	Total/NA	Solid	8015B NM	21475

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

GC Semi VOA (Continued)

Analysis Batch: 21458 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-1 MSD	S-1,0.5	Total/NA	Solid	8015B NM	21475

Prep Batch: 21475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-1	S-1,0.5	Total/NA	Solid	8015NM Prep	
880-12310-2	S-1, 1	Total/NA	Solid	8015NM Prep	
880-12310-3	S-2,0.5	Total/NA	Solid	8015NM Prep	
880-12310-4	S-2,1	Total/NA	Solid	8015NM Prep	
880-12310-5	S-3,0.5	Total/NA	Solid	8015NM Prep	
880-12310-6	S-4,0.5	Total/NA	Solid	8015NM Prep	
880-12310-7	S-4,1	Total/NA	Solid	8015NM Prep	
880-12310-8	S-5,0.5	Total/NA	Solid	8015NM Prep	
880-12310-9	S-5,1	Total/NA	Solid	8015NM Prep	
880-12310-10	S-6,0.5	Total/NA	Solid	8015NM Prep	
880-12310-11	S-6,1	Total/NA	Solid	8015NM Prep	
880-12310-12	S-7,0.5	Total/NA	Solid	8015NM Prep	
880-12310-13	S-7,1	Total/NA	Solid	8015NM Prep	
880-12310-14	S-8,0.5	Total/NA	Solid	8015NM Prep	
880-12310-15	S-8,1	Total/NA	Solid	8015NM Prep	
880-12310-16	S-4,2'	Total/NA	Solid	8015NM Prep	
880-12310-17	S-4,3'	Total/NA	Solid	8015NM Prep	
880-12310-18	S-4,4.5'	Total/NA	Solid	8015NM Prep	
MB 880-21475/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21475/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21475/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-12310-1 MS	S-1,0.5	Total/NA	Solid	8015NM Prep	
880-12310-1 MSD	S-1,0.5	Total/NA	Solid	8015NM Prep	

Analysis Batch: 21626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-1	S-1,0.5	Total/NA	Solid	8015 NM	
880-12310-2	S-1, 1	Total/NA	Solid	8015 NM	
880-12310-3	S-2,0.5	Total/NA	Solid	8015 NM	
880-12310-4	S-2,1	Total/NA	Solid	8015 NM	
880-12310-5	S-3,0.5	Total/NA	Solid	8015 NM	
880-12310-6	S-4,0.5	Total/NA	Solid	8015 NM	
880-12310-7	S-4,1	Total/NA	Solid	8015 NM	
880-12310-8	S-5,0.5	Total/NA	Solid	8015 NM	
880-12310-9	S-5,1	Total/NA	Solid	8015 NM	
880-12310-10	S-6,0.5	Total/NA	Solid	8015 NM	
880-12310-11	S-6,1	Total/NA	Solid	8015 NM	
880-12310-12	S-7,0.5	Total/NA	Solid	8015 NM	
880-12310-13	S-7,1	Total/NA	Solid	8015 NM	
880-12310-14	S-8,0.5	Total/NA	Solid	8015 NM	
880-12310-15	S-8,1	Total/NA	Solid	8015 NM	
880-12310-16	S-4,2'	Total/NA	Solid	8015 NM	
880-12310-17	S-4,3'	Total/NA	Solid	8015 NM	
880-12310-18	S-4,4.5'	Total/NA	Solid	8015 NM	

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

HPLC/IC

Leach Batch: 21600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-1	S-1,0.5	Soluble	Solid	DI Leach	
880-12310-2	S-1, 1	Soluble	Solid	DI Leach	
880-12310-3	S-2,0.5	Soluble	Solid	DI Leach	
880-12310-4	S-2,1	Soluble	Solid	DI Leach	
880-12310-5	S-3,0.5	Soluble	Solid	DI Leach	
880-12310-6	S-4,0.5	Soluble	Solid	DI Leach	
880-12310-7	S-4,1	Soluble	Solid	DI Leach	
880-12310-8	S-5,0.5	Soluble	Solid	DI Leach	
880-12310-9	S-5,1	Soluble	Solid	DI Leach	
880-12310-10	S-6,0.5	Soluble	Solid	DI Leach	
880-12310-11	S-6,1	Soluble	Solid	DI Leach	
880-12310-12	S-7,0.5	Soluble	Solid	DI Leach	
MB 880-21600/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-21600/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-21600/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-12310-7 MS	S-4,1	Soluble	Solid	DI Leach	
880-12310-7 MSD	S-4,1	Soluble	Solid	DI Leach	

Leach Batch: 21601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-13	S-7,1	Soluble	Solid	DI Leach	
880-12310-14	S-8,0.5	Soluble	Solid	DI Leach	
880-12310-15	S-8,1	Soluble	Solid	DI Leach	
880-12310-16	S-4,2'	Soluble	Solid	DI Leach	
880-12310-17	S-4,3'	Soluble	Solid	DI Leach	
880-12310-18	S-4,4.5'	Soluble	Solid	DI Leach	
MB 880-21601/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-21601/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-21601/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-12310-13 MS	S-7,1	Soluble	Solid	DI Leach	
880-12310-13 MSD	S-7,1	Soluble	Solid	DI Leach	

Analysis Batch: 22122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-1	S-1,0.5	Soluble	Solid	300.0	21600
880-12310-2	S-1, 1	Soluble	Solid	300.0	21600
880-12310-3	S-2,0.5	Soluble	Solid	300.0	21600
880-12310-4	S-2,1	Soluble	Solid	300.0	21600
880-12310-5	S-3,0.5	Soluble	Solid	300.0	21600
880-12310-6	S-4,0.5	Soluble	Solid	300.0	21600
880-12310-7	S-4,1	Soluble	Solid	300.0	21600
880-12310-8	S-5,0.5	Soluble	Solid	300.0	21600
880-12310-9	S-5,1	Soluble	Solid	300.0	21600
880-12310-10	S-6,0.5	Soluble	Solid	300.0	21600
880-12310-11	S-6,1	Soluble	Solid	300.0	21600
880-12310-12	S-7,0.5	Soluble	Solid	300.0	21600
MB 880-21600/1-A	Method Blank	Soluble	Solid	300.0	21600
LCS 880-21600/2-A	Lab Control Sample	Soluble	Solid	300.0	21600
LCSD 880-21600/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	21600
880-12310-7 MS	S-4,1	Soluble	Solid	300.0	21600
880-12310-7 MSD	S-4,1	Soluble	Solid	300.0	21600

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

HPLC/IC

Analysis Batch: 22135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12310-13	S-7,1	Soluble	Solid	300.0	21601
880-12310-14	S-8,0.5	Soluble	Solid	300.0	21601
880-12310-15	S-8,1	Soluble	Solid	300.0	21601
880-12310-16	S-4,2'	Soluble	Solid	300.0	21601
880-12310-17	S-4,3'	Soluble	Solid	300.0	21601
880-12310-18	S-4,4.5'	Soluble	Solid	300.0	21601
MB 880-21601/1-A	Method Blank	Soluble	Solid	300.0	21601
LCS 880-21601/2-A	Lab Control Sample	Soluble	Solid	300.0	21601
LCSD 880-21601/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	21601
880-12310-13 MS	S-7,1	Soluble	Solid	300.0	21601
880-12310-13 MSD	S-7,1	Soluble	Solid	300.0	21601

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-1,0.5

Lab Sample ID: 880-12310-1

Date Collected: 03/09/22 12:00

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/19/22 23:50	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/14/22 21:56	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		10			22122	03/24/22 21:27	CH	XEN MID

Client Sample ID: S-1, 1

Lab Sample ID: 880-12310-2

Date Collected: 03/09/22 12:05

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	21729	03/16/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 00:11	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/14/22 23:00	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		10			22122	03/24/22 21:54	CH	XEN MID

Client Sample ID: S-2,0.5

Lab Sample ID: 880-12310-3

Date Collected: 03/09/22 12:15

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 00:31	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/14/22 23:22	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		10			22122	03/24/22 22:03	CH	XEN MID

Client Sample ID: S-2,1

Lab Sample ID: 880-12310-4

Date Collected: 03/09/22 12:20

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 00:51	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-2,1

Lab Sample ID: 880-12310-4

Date Collected: 03/09/22 12:20

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/14/22 23:44	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		10			22122	03/24/22 22:12	CH	XEN MID

Client Sample ID: S-3,0.5

Lab Sample ID: 880-12310-5

Date Collected: 03/09/22 12:30

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 01:12	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 00:03	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		5			22122	03/24/22 22:20	CH	XEN MID

Client Sample ID: S-4,0.5

Lab Sample ID: 880-12310-6

Date Collected: 03/09/22 12:35

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 01:32	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 00:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		10			22122	03/24/22 22:29	CH	XEN MID

Client Sample ID: S-4,1

Lab Sample ID: 880-12310-7

Date Collected: 03/09/22 12:36

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 01:53	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 00:43	AJ	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-4,1

Lab Sample ID: 880-12310-7

Date Collected: 03/09/22 12:36

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		10			22122	03/24/22 22:38	CH	XEN MID

Client Sample ID: S-5,0.5

Lab Sample ID: 880-12310-8

Date Collected: 03/09/22 12:50

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 02:13	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 01:04	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		1			22122	03/24/22 23:05	CH	XEN MID

Client Sample ID: S-5,1

Lab Sample ID: 880-12310-9

Date Collected: 03/09/22 12:51

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 02:34	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 01:24	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		1			22122	03/24/22 23:13	CH	XEN MID

Client Sample ID: S-6,0.5

Lab Sample ID: 880-12310-10

Date Collected: 03/09/22 13:00

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 02:54	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 01:44	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		1			22122	03/24/22 23:40	CH	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-6,1

Lab Sample ID: 880-12310-11

Date Collected: 03/09/22 13:05

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 04:17	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 02:24	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		1			22122	03/24/22 23:49	CH	XEN MID

Client Sample ID: S-7,0.5

Lab Sample ID: 880-12310-12

Date Collected: 03/09/22 13:20

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 04:37	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 02:45	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	21600	03/15/22 08:29	CH	XEN MID
Soluble	Analysis	300.0		10			22122	03/24/22 23:58	CH	XEN MID

Client Sample ID: S-7,1

Lab Sample ID: 880-12310-13

Date Collected: 03/09/22 13:25

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 04:58	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 03:04	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	21601	03/15/22 08:31	CH	XEN MID
Soluble	Analysis	300.0		5			22135	03/25/22 08:59	CH	XEN MID

Client Sample ID: S-8,0.5

Lab Sample ID: 880-12310-14

Date Collected: 03/09/22 13:40

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 05:18	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-8,0.5

Lab Sample ID: 880-12310-14

Date Collected: 03/09/22 13:40

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 03:24	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	21601	03/15/22 08:31	CH	XEN MID
Soluble	Analysis	300.0		1			22135	03/25/22 09:25	CH	XEN MID

Client Sample ID: S-8,1

Lab Sample ID: 880-12310-15

Date Collected: 03/09/22 13:45

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 05:38	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 03:44	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	21601	03/15/22 08:31	CH	XEN MID
Soluble	Analysis	300.0		1			22135	03/25/22 09:34	CH	XEN MID

Client Sample ID: S-4,2'

Lab Sample ID: 880-12310-16

Date Collected: 03/09/22 12:37

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 05:59	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 04:05	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	21601	03/15/22 08:31	CH	XEN MID
Soluble	Analysis	300.0		5			22135	03/25/22 09:43	CH	XEN MID

Client Sample ID: S-4,3'

Lab Sample ID: 880-12310-17

Date Collected: 03/09/22 12:38

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 06:19	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 04:24	AJ	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Client Sample ID: S-4,3'

Lab Sample ID: 880-12310-17

Date Collected: 03/09/22 12:38

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	21601	03/15/22 08:31	CH	XEN MID
Soluble	Analysis	300.0		1			22135	03/25/22 09:52	CH	XEN MID

Client Sample ID: S-4,4.5'

Lab Sample ID: 880-12310-18

Date Collected: 03/09/22 12:39

Matrix: Solid

Date Received: 03/10/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	21729	03/18/22 12:55	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21936	03/20/22 06:40	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22079	03/21/22 13:26	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21626	03/15/22 10:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	21475	03/14/22 08:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21458	03/15/22 04:44	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	21601	03/15/22 08:31	CH	XEN MID
Soluble	Analysis	300.0		1			22135	03/25/22 15:11	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22
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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Midland

Sample Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom SWD

Job ID: 880-12310-1
SDG: 22-0105-02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-12310-1	S-1,0.5	Solid	03/09/22 12:00	03/10/22 15:05
880-12310-2	S-1, 1	Solid	03/09/22 12:05	03/10/22 15:05
880-12310-3	S-2,0.5	Solid	03/09/22 12:15	03/10/22 15:05
880-12310-4	S-2,1	Solid	03/09/22 12:20	03/10/22 15:05
880-12310-5	S-3,0.5	Solid	03/09/22 12:30	03/10/22 15:05
880-12310-6	S-4,0.5	Solid	03/09/22 12:35	03/10/22 15:05
880-12310-7	S-4,1	Solid	03/09/22 12:36	03/10/22 15:05
880-12310-8	S-5,0.5	Solid	03/09/22 12:50	03/10/22 15:05
880-12310-9	S-5,1	Solid	03/09/22 12:51	03/10/22 15:05
880-12310-10	S-6,0.5	Solid	03/09/22 13:00	03/10/22 15:05
880-12310-11	S-6,1	Solid	03/09/22 13:05	03/10/22 15:05
880-12310-12	S-7,0.5	Solid	03/09/22 13:20	03/10/22 15:05
880-12310-13	S-7,1	Solid	03/09/22 13:25	03/10/22 15:05
880-12310-14	S-8,0.5	Solid	03/09/22 13:40	03/10/22 15:05
880-12310-15	S-8,1	Solid	03/09/22 13:45	03/10/22 15:05
880-12310-16	S-4,2'	Solid	03/09/22 12:37	03/10/22 15:05
880-12310-17	S-4,3'	Solid	03/09/22 12:38	03/10/22 15:05
880-12310-18	S-4,4.5'	Solid	03/09/22 12:39	03/10/22 15:05

Marson & Associates, Inc.
Environmental Consultants

507 N. Warrenfield, Ste 202
Midland, TX 79701
432-687-0901

Date Reported to

DATE 3/10/2022 PAGE 1 OF 2
PO#: _____ LAB WORK ORDER# _____
PROJECT LOCATION OR NAME: Melstern SUD
LAI PROJECT # 22-0105-02 COLLECTOR: TD + JRL

TRRP report?
☐ Yes ☒ No

S=SOIL
W=WATER
A=AIR
P=PAINT
SL=SLUDGE
OT=OTHER

TIME ZONE
Time zone/State
MST/ NM

Field
Sample I D

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

ANALYSES

BTEX ☐ MTBE ☐

TPH 418 1 ☐ TPH 1005 ☐ TPH 1006 ☐

GASOLINE MOD 8015 ☐

DIESEL - MOD 8015 ☐

OIL - MOD 8015 ☐

VOC 8260 ☐

SVOC 8270 ☐

8081 PESTICIDES ☐

8082 PCBs ☐

TCLP - METALS (RCRA) ☐

TCLP - PEST ☐

TCLP - METALS (RCRA) ☐

LEAD - TOTAL ☐

RCI ☐

TDS ☐

pH ☐

EXPLOSIVES ☐

CHLORIDES ☐

ANIONS ☐

ALKALINITY ☐

OTHER LIST ☐

FLASHPOINT ☐

% MOISTURE ☐

PECHLORATE ☐

CYANIDE ☐

FIELD NOTES

S-1, 0.5
S-1, 1
S-2, 0.5
S-2, 1
S-3, 0.5
S-3, 1
S-4, 0.5
S-4, 1
S-5, 0.5
S-5, 1
S-6, 0.5
S-6, 1
S-7, 0.5
S-7, 1
S-8, 0.5
TOTAL

3/9/22 1200 5 1
1205 1
1215 1
1220 1
1230 1
1235 1
1236 1
1250 1
1251 1
1300 1
1305 1
1320 1
1325 1
1340 1

1205 1
1215 1
1220 1
1230 1
1235 1
1236 1
1250 1
1251 1
1300 1
1305 1
1320 1
1325 1
1340 1

1205 1
1215 1
1220 1
1230 1
1235 1
1236 1
1250 1
1251 1
1300 1
1305 1
1320 1
1325 1
1340 1

1205 1
1215 1
1220 1
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1235 1
1236 1
1250 1
1251 1
1300 1
1305 1
1320 1
1325 1
1340 1

1205 1
1215 1
1220 1
1230 1
1235 1
1236 1
1250 1
1251 1
1300 1
1305 1
1320 1
1325 1
1340 1

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1230 1
1235 1
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1215 1
1220 1
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1300 1
1305 1
1320 1
1325 1
1340 1

1205 1
1215 1
1220 1
1230 1
1235 1
1236 1
1250 1
1251 1
1300 1
1305 1
1320 1
1325 1
1340 1

1205 1
1215 1
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1230 1
1235 1
1236 1
1250 1
1251 1
1300 1
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1305 1
1320 1
1325 1
1340 1

1205 1
1215 1
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1235 1
1236 1
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1305 1
1320 1
1325 1
1340 1

1205 1
1215 1
1220 1
1230 1
1235 1
1236 1
1250 1
1251 1
1300 1
1305 1
1320 1
1325 1
1340 1

No. 2463

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-12310-1

SDG Number: 22-0105-02

Login Number: 12310**List Number: 1****Creator: Teel, Brianna****List Source: Eurofins Midland**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-14445-1

Laboratory Sample Delivery Group: 22-0105-02

Client Project/Site: Maelstrom

For:

Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

A handwritten signature in cursive script that reads "Holly Taylor".

Authorized for release by:

5/17/2022 4:42:44 PM

Holly Taylor, Project Manager
(806)794-1296

Holly.Taylor@et.eurofinsus.com

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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.

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Laboratory Job ID: 880-14445-1
SDG: 22-0105-02

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	23
QC Sample Results	25
QC Association Summary	36
Lab Chronicle	43
Certification Summary	50
Method Summary	51
Sample Summary	52
Chain of Custody	53
Receipt Checklists	55

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

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Job ID: 880-14445-1

Laboratory: Eurofins Midland

Narrative

Job Narrative 880-14445-1

Comments

No additional comments.

Receipt

The samples were received on 5/5/2022 9:12 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 was 0.2° C.

Receipt Exceptions

The following sample was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): S-3 15.0' (880-14445-23) Mark Larson was contacted by phone and he instructed the lab to analyze the sample.

GC VOA

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-25413 recovered above the upper control limit for Benzene and Ethylbenzene. The samples associated with this CCV were ran within 12 hrs. of passing CCV's for the affected analytes; therefore, the data have been reported.

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

GC Semi VOA

Method 8015B NM: Surrogate recovery for the following samples were outside control limits: S-7 1.0' (880-14445-17), (LCSD 880-24946/3-A) and (MB 880-24946/1-A). Evidence of matrix interferences is not obvious.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (LCSD 880-25059/3-A). Evidence of matrix interferences is not obvious.

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

General Chemistry

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-24904 and analytical batch 880-25285 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Organic Prep

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

VOA Prep

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

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-1 1.0'

Lab Sample ID: 880-14445-1

Date Collected: 05/03/22 14:30

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		05/12/22 10:53	05/12/22 21:24	1
Toluene	<0.00201	U	0.00201	mg/Kg		05/12/22 10:53	05/12/22 21:24	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		05/12/22 10:53	05/12/22 21:24	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		05/12/22 10:53	05/12/22 21:24	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		05/12/22 10:53	05/12/22 21:24	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		05/12/22 10:53	05/12/22 21:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	05/12/22 10:53	05/12/22 21:24	1
1,4-Difluorobenzene (Surr)	99		70 - 130	05/12/22 10:53	05/12/22 21:24	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		05/06/22 08:55	05/07/22 16:29	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		05/06/22 08:55	05/07/22 16:29	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		05/06/22 08:55	05/07/22 16:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	114		70 - 130	05/06/22 08:55	05/07/22 16:29	1
o-Terphenyl (Surr)	124		70 - 130	05/06/22 08:55	05/07/22 16:29	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400		49.8	mg/Kg			05/11/22 01:23	10

Client Sample ID: S-1 3.0'

Lab Sample ID: 880-14445-2

Date Collected: 05/03/22 14:31

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		05/12/22 10:53	05/12/22 21:45	1
Toluene	<0.00202	U	0.00202	mg/Kg		05/12/22 10:53	05/12/22 21:45	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		05/12/22 10:53	05/12/22 21:45	1
m,p-Xylenes	<0.00403	U	0.00403	mg/Kg		05/12/22 10:53	05/12/22 21:45	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		05/12/22 10:53	05/12/22 21:45	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		05/12/22 10:53	05/12/22 21:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	05/12/22 10:53	05/12/22 21:45	1
1,4-Difluorobenzene (Surr)	98		70 - 130	05/12/22 10:53	05/12/22 21:45	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-1 3.0'

Lab Sample ID: 880-14445-2

Date Collected: 05/03/22 14:31

Matrix: Solid

Date Received: 05/05/22 09:12

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 16:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 16:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 16:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	104		70 - 130			05/06/22 08:55	05/07/22 16:51	1
o-Terphenyl (Surr)	114		70 - 130			05/06/22 08:55	05/07/22 16:51	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	516		4.96	mg/Kg			05/11/22 01:31	1

Client Sample ID: S-1 5.0'

Lab Sample ID: 880-14445-3

Date Collected: 05/03/22 14:32

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 19:11	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 19:11	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 19:11	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/12/22 19:11	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 19:11	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/12/22 19:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			05/10/22 14:04	05/12/22 19:11	1
1,4-Difluorobenzene (Surr)	95		70 - 130			05/10/22 14:04	05/12/22 19:11	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		05/06/22 08:55	05/07/22 17:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		05/06/22 08:55	05/07/22 17:13	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-1 5.0'

Lab Sample ID: 880-14445-3

Date Collected: 05/03/22 14:32

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/06/22 08:55	05/07/22 17:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	100		70 - 130			05/06/22 08:55	05/07/22 17:13	1
o-Terphenyl (Surr)	108		70 - 130			05/06/22 08:55	05/07/22 17:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	45.3		5.04	mg/Kg			05/11/22 01:39	1

Client Sample ID: S-1 10'

Lab Sample ID: 880-14445-4

Date Collected: 05/03/22 14:33

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 19:37	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 19:37	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 19:37	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/12/22 19:37	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 19:37	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/12/22 19:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130			05/10/22 14:04	05/12/22 19:37	1
1,4-Difluorobenzene (Surr)	100		70 - 130			05/10/22 14:04	05/12/22 19:37	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 17:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 17:57	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 17:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	103		70 - 130			05/06/22 08:55	05/07/22 17:57	1
o-Terphenyl (Surr)	111		70 - 130			05/06/22 08:55	05/07/22 17:57	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.74		5.00	mg/Kg			05/11/22 01:48	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-2 1.0'

Lab Sample ID: 880-14445-5

Date Collected: 05/03/22 13:10

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 20:02	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 20:02	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 20:02	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/12/22 20:02	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 20:02	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/12/22 20:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	05/10/22 14:04	05/12/22 20:02	1
1,4-Difluorobenzene (Surr)	104		70 - 130	05/10/22 14:04	05/12/22 20:02	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		05/06/22 08:55	05/07/22 18:19	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		05/06/22 08:55	05/07/22 18:19	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		05/06/22 08:55	05/07/22 18:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	95		70 - 130	05/06/22 08:55	05/07/22 18:19	1
o-Terphenyl (Surr)	104		70 - 130	05/06/22 08:55	05/07/22 18:19	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6950		49.9	mg/Kg			05/11/22 01:56	10

Client Sample ID: S-2 3.0'

Lab Sample ID: 880-14445-6

Date Collected: 05/03/22 13:11

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 20:28	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 20:28	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 20:28	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		05/10/22 14:04	05/12/22 20:28	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 20:28	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		05/10/22 14:04	05/12/22 20:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	05/10/22 14:04	05/12/22 20:28	1
1,4-Difluorobenzene (Surr)	100		70 - 130	05/10/22 14:04	05/12/22 20:28	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-2 3.0'

Lab Sample ID: 880-14445-6

Date Collected: 05/03/22 13:11

Matrix: Solid

Date Received: 05/05/22 09:12

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 18:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 18:41	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 18:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	106		70 - 130			05/06/22 08:55	05/07/22 18:41	1
o-Terphenyl (Surr)	114		70 - 130			05/06/22 08:55	05/07/22 18:41	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1040		5.03	mg/Kg			05/11/22 02:04	1

Client Sample ID: S-2 5.0'

Lab Sample ID: 880-14445-7

Date Collected: 05/03/22 13:12

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/12/22 20:54	1
Toluene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/12/22 20:54	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/12/22 20:54	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		05/10/22 14:04	05/12/22 20:54	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/12/22 20:54	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		05/10/22 14:04	05/12/22 20:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			05/10/22 14:04	05/12/22 20:54	1
1,4-Difluorobenzene (Surr)	96		70 - 130			05/10/22 14:04	05/12/22 20:54	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 19:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 19:04	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-2 5.0'

Lab Sample ID: 880-14445-7

Date Collected: 05/03/22 13:12

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 19:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	95		70 - 130			05/06/22 08:55	05/07/22 19:04	1
o-Terphenyl (Surr)	100		70 - 130			05/06/22 08:55	05/07/22 19:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	87.8		5.02	mg/Kg			05/11/22 02:29	1

Client Sample ID: S-2 10'

Lab Sample ID: 880-14445-8

Date Collected: 05/03/22 13:13

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		05/10/22 14:04	05/12/22 21:21	1
Toluene	<0.00202	U	0.00202	mg/Kg		05/10/22 14:04	05/12/22 21:21	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		05/10/22 14:04	05/12/22 21:21	1
m,p-Xylenes	<0.00403	U	0.00403	mg/Kg		05/10/22 14:04	05/12/22 21:21	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		05/10/22 14:04	05/12/22 21:21	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		05/10/22 14:04	05/12/22 21:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			05/10/22 14:04	05/12/22 21:21	1
1,4-Difluorobenzene (Surr)	96		70 - 130			05/10/22 14:04	05/12/22 21:21	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 19:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 19:26	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 19:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	104		70 - 130			05/06/22 08:55	05/07/22 19:26	1
o-Terphenyl (Surr)	109		70 - 130			05/06/22 08:55	05/07/22 19:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.8		5.00	mg/Kg			05/11/22 02:37	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-3 1.0'

Lab Sample ID: 880-14445-9

Date Collected: 05/03/22 12:40

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 21:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 21:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 21:47	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/12/22 21:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 21:47	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/12/22 21:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	05/10/22 14:04	05/12/22 21:47	1
1,4-Difluorobenzene (Surr)	106		70 - 130	05/10/22 14:04	05/12/22 21:47	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 19:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 19:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 19:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	103		70 - 130	05/06/22 08:55	05/07/22 19:48	1
o-Terphenyl (Surr)	111		70 - 130	05/06/22 08:55	05/07/22 19:48	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7360		50.0	mg/Kg			05/11/22 03:01	10

Client Sample ID: S-3 3.0'

Lab Sample ID: 880-14445-10

Date Collected: 05/03/22 12:41

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 22:13	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 22:13	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 22:13	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/12/22 22:13	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 22:13	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/12/22 22:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	05/10/22 14:04	05/12/22 22:13	1
1,4-Difluorobenzene (Surr)	106		70 - 130	05/10/22 14:04	05/12/22 22:13	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-3 3.0'

Lab Sample ID: 880-14445-10

Date Collected: 05/03/22 12:41

Matrix: Solid

Date Received: 05/05/22 09:12

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 20:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 20:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 20:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	106		70 - 130			05/06/22 08:55	05/07/22 20:10	1
o-Terphenyl (Surr)	115		70 - 130			05/06/22 08:55	05/07/22 20:10	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	907		5.04	mg/Kg			05/11/22 03:10	1

Client Sample ID: S-3 5.0'

Lab Sample ID: 880-14445-11

Date Collected: 05/03/22 12:42

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 22:40	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 22:40	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 22:40	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/12/22 22:40	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/12/22 22:40	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/12/22 22:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			05/10/22 14:04	05/12/22 22:40	1
1,4-Difluorobenzene (Surr)	104		70 - 130			05/10/22 14:04	05/12/22 22:40	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		05/06/22 08:55	05/07/22 20:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		05/06/22 08:55	05/07/22 20:31	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-3 5.0'

Lab Sample ID: 880-14445-11

Date Collected: 05/03/22 12:42

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/06/22 08:55	05/07/22 20:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	110		70 - 130			05/06/22 08:55	05/07/22 20:31	1
o-Terphenyl (Surr)	118		70 - 130			05/06/22 08:55	05/07/22 20:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	188		5.05	mg/Kg			05/11/22 03:18	1

Client Sample ID: S-3 10'

Lab Sample ID: 880-14445-12

Date Collected: 05/03/22 12:43

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 23:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 23:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 23:06	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		05/10/22 14:04	05/12/22 23:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 23:06	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		05/10/22 14:04	05/12/22 23:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130			05/10/22 14:04	05/12/22 23:06	1
1,4-Difluorobenzene (Surr)	96		70 - 130			05/10/22 14:04	05/12/22 23:06	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		05/06/22 08:55	05/07/22 20:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		05/06/22 08:55	05/07/22 20:53	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/06/22 08:55	05/07/22 20:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	102		70 - 130			05/06/22 08:55	05/07/22 20:53	1
o-Terphenyl (Surr)	109		70 - 130			05/06/22 08:55	05/07/22 20:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.8		4.99	mg/Kg			05/11/22 03:26	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-4 1.0'

Lab Sample ID: 880-14445-13

Date Collected: 05/03/22 12:20

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/13/22 00:52	1
Toluene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/13/22 00:52	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/13/22 00:52	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		05/10/22 14:04	05/13/22 00:52	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/13/22 00:52	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		05/10/22 14:04	05/13/22 00:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	05/10/22 14:04	05/13/22 00:52	1
1,4-Difluorobenzene (Surr)	103		70 - 130	05/10/22 14:04	05/13/22 00:52	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		05/06/22 08:55	05/07/22 21:15	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		05/06/22 08:55	05/07/22 21:15	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		05/06/22 08:55	05/07/22 21:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	95		70 - 130	05/06/22 08:55	05/07/22 21:15	1
o-Terphenyl (Surr)	99		70 - 130	05/06/22 08:55	05/07/22 21:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5080		49.8	mg/Kg			05/11/22 03:34	10

Client Sample ID: S-4 3.0'

Lab Sample ID: 880-14445-14

Date Collected: 05/03/22 12:21

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		05/10/22 14:04	05/13/22 01:19	1
Toluene	<0.00202	U	0.00202	mg/Kg		05/10/22 14:04	05/13/22 01:19	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		05/10/22 14:04	05/13/22 01:19	1
m,p-Xylenes	<0.00403	U	0.00403	mg/Kg		05/10/22 14:04	05/13/22 01:19	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		05/10/22 14:04	05/13/22 01:19	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		05/10/22 14:04	05/13/22 01:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	05/10/22 14:04	05/13/22 01:19	1
1,4-Difluorobenzene (Surr)	105		70 - 130	05/10/22 14:04	05/13/22 01:19	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-4 3.0'

Lab Sample ID: 880-14445-14

Date Collected: 05/03/22 12:21

Matrix: Solid

Date Received: 05/05/22 09:12

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 02:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 02:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 02:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	95		70 - 130			05/06/22 14:38	05/08/22 02:23	1
o-Terphenyl (Surr)	102		70 - 130			05/06/22 14:38	05/08/22 02:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	761		4.95	mg/Kg			05/11/22 03:42	1

Client Sample ID: S-4 5.0'

Lab Sample ID: 880-14445-15

Date Collected: 05/03/22 12:22

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 01:45	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 01:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 01:45	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/13/22 01:45	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 01:45	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/13/22 01:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			05/10/22 14:04	05/13/22 01:45	1
1,4-Difluorobenzene (Surr)	99		70 - 130			05/10/22 14:04	05/13/22 01:45	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		05/06/22 14:38	05/08/22 02:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		05/06/22 14:38	05/08/22 02:43	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-4 5.0'

Lab Sample ID: 880-14445-15

Date Collected: 05/03/22 12:22

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/06/22 14:38	05/08/22 02:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	116		70 - 130			05/06/22 14:38	05/08/22 02:43	1
o-Terphenyl (Surr)	125		70 - 130			05/06/22 14:38	05/08/22 02:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	185		4.97	mg/Kg			05/11/22 03:51	1

Client Sample ID: S-4 10'

Lab Sample ID: 880-14445-16

Date Collected: 05/03/22 12:23

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 02:11	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 02:11	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 02:11	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/13/22 02:11	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 02:11	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/13/22 02:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			05/10/22 14:04	05/13/22 02:11	1
1,4-Difluorobenzene (Surr)	103		70 - 130			05/10/22 14:04	05/13/22 02:11	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 03:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 03:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 03:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	100		70 - 130			05/06/22 14:38	05/08/22 03:23	1
o-Terphenyl (Surr)	110		70 - 130			05/06/22 14:38	05/08/22 03:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35.0		4.99	mg/Kg			05/11/22 14:07	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-7 1.0'

Lab Sample ID: 880-14445-17

Date Collected: 05/03/22 15:10

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 02:38	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 02:38	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 02:38	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/13/22 02:38	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 02:38	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/13/22 02:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	05/10/22 14:04	05/13/22 02:38	1
1,4-Difluorobenzene (Surr)	93		70 - 130	05/10/22 14:04	05/13/22 02:38	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		05/06/22 14:38	05/08/22 03:44	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		05/06/22 14:38	05/08/22 03:44	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		05/06/22 14:38	05/08/22 03:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	121		70 - 130	05/06/22 14:38	05/08/22 03:44	1
o-Terphenyl (Surr)	134	S1+	70 - 130	05/06/22 14:38	05/08/22 03:44	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3710		24.8	mg/Kg			05/11/22 14:31	5

Client Sample ID: S-7 3.0'

Lab Sample ID: 880-14445-18

Date Collected: 05/03/22 15:11

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 03:05	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 03:05	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 03:05	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/13/22 03:05	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 03:05	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/13/22 03:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	05/10/22 14:04	05/13/22 03:05	1
1,4-Difluorobenzene (Surr)	103		70 - 130	05/10/22 14:04	05/13/22 03:05	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-7 3.0'

Lab Sample ID: 880-14445-18

Date Collected: 05/03/22 15:11

Matrix: Solid

Date Received: 05/05/22 09:12

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 04:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 04:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 04:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	117		70 - 130			05/06/22 14:38	05/08/22 04:04	1
o-Terphenyl (Surr)	128		70 - 130			05/06/22 14:38	05/08/22 04:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		5.01	mg/Kg			05/11/22 14:40	1

Client Sample ID: S-7 5.0'

Lab Sample ID: 880-14445-19

Date Collected: 05/03/22 15:12

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 03:32	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 03:32	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 03:32	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/13/22 03:32	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 03:32	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/13/22 03:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130			05/10/22 14:04	05/13/22 03:32	1
1,4-Difluorobenzene (Surr)	103		70 - 130			05/10/22 14:04	05/13/22 03:32	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 04:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 04:24	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-7 5.0'

Lab Sample ID: 880-14445-19

Date Collected: 05/03/22 15:12

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 04:24	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	116		70 - 130			05/06/22 14:38	05/08/22 04:24	1
o-Terphenyl (Surr)	125		70 - 130			05/06/22 14:38	05/08/22 04:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	96.0		4.98	mg/Kg			05/11/22 14:48	1

Client Sample ID: S-7 10'

Lab Sample ID: 880-14445-20

Date Collected: 05/03/22 15:13

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/13/22 03:59	1
Toluene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/13/22 03:59	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/13/22 03:59	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		05/10/22 14:04	05/13/22 03:59	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		05/10/22 14:04	05/13/22 03:59	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		05/10/22 14:04	05/13/22 03:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130			05/10/22 14:04	05/13/22 03:59	1
1,4-Difluorobenzene (Surr)	92		70 - 130			05/10/22 14:04	05/13/22 03:59	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 04:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 04:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 04:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	106		70 - 130			05/06/22 14:38	05/08/22 04:44	1
o-Terphenyl (Surr)	117		70 - 130			05/06/22 14:38	05/08/22 04:44	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.8		5.00	mg/Kg			05/11/22 14:56	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-9 0.5'

Lab Sample ID: 880-14445-21

Date Collected: 05/03/22 14:55

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 04:25	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 04:25	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 04:25	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/13/22 04:25	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/13/22 04:25	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/10/22 14:04	05/13/22 04:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	05/10/22 14:04	05/13/22 04:25	1
1,4-Difluorobenzene (Surr)	101		70 - 130	05/10/22 14:04	05/13/22 04:25	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 05:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 05:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 05:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	101		70 - 130	05/06/22 14:38	05/08/22 05:05	1
o-Terphenyl (Surr)	102		70 - 130	05/06/22 14:38	05/08/22 05:05	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	261		4.99	mg/Kg			05/11/22 15:21	1

Client Sample ID: S-9 1.0'

Lab Sample ID: 880-14445-22

Date Collected: 05/03/22 14:56

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 04:52	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 04:52	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 04:52	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/13/22 04:52	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/10/22 14:04	05/13/22 04:52	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/10/22 14:04	05/13/22 04:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	05/10/22 14:04	05/13/22 04:52	1
1,4-Difluorobenzene (Surr)	107		70 - 130	05/10/22 14:04	05/13/22 04:52	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-9 1.0'

Lab Sample ID: 880-14445-22

Date Collected: 05/03/22 14:56

Matrix: Solid

Date Received: 05/05/22 09:12

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 05:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 05:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/08/22 05:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	95		70 - 130			05/06/22 14:38	05/08/22 05:25	1
o-Terphenyl (Surr)	99		70 - 130			05/06/22 14:38	05/08/22 05:25	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48.6		5.00	mg/Kg			05/11/22 15:29	1

Client Sample ID: S-3 15.0'

Lab Sample ID: 880-14445-23

Date Collected: 05/03/22 12:50

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/11/22 09:22	05/13/22 15:46	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/11/22 09:22	05/13/22 15:46	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/11/22 09:22	05/13/22 15:46	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		05/11/22 09:22	05/13/22 15:46	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/11/22 09:22	05/13/22 15:46	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/11/22 09:22	05/13/22 15:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130			05/11/22 09:22	05/13/22 15:46	1
1,4-Difluorobenzene (Surr)	100		70 - 130			05/11/22 09:22	05/13/22 15:46	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/13/22 09:16	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/09/22 12:05	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/09/22 08:51	05/09/22 19:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/09/22 08:51	05/09/22 19:37	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-3 15.0'

Lab Sample ID: 880-14445-23

Date Collected: 05/03/22 12:50

Matrix: Solid

Date Received: 05/05/22 09:12

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/09/22 08:51	05/09/22 19:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	99		70 - 130	05/09/22 08:51	05/09/22 19:37	1
o-Terphenyl (Surr)	103		70 - 130	05/09/22 08:51	05/09/22 19:37	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.1		5.00	mg/Kg			05/11/22 15:37	1

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
880-14445-1	S-1 1.0'	106	99
880-14445-2	S-1 3.0'	106	98
880-14445-3	S-1 5.0'	103	95
880-14445-3 MS	S-1 5.0'	101	100
880-14445-3 MSD	S-1 5.0'	103	95
880-14445-4	S-1 10'	100	100
880-14445-5	S-2 1.0'	112	104
880-14445-6	S-2 3.0'	98	100
880-14445-7	S-2 5.0'	99	96
880-14445-8	S-2 10'	99	96
880-14445-9	S-3 1.0'	104	106
880-14445-10	S-3 3.0'	99	106
880-14445-11	S-3 5.0'	99	104
880-14445-12	S-3 10'	100	96
880-14445-13	S-4 1.0'	99	103
880-14445-14	S-4 3.0'	100	105
880-14445-15	S-4 5.0'	111	99
880-14445-16	S-4 10'	108	103
880-14445-17	S-7 1.0'	100	93
880-14445-18	S-7 3.0'	101	103
880-14445-19	S-7 5.0'	98	103
880-14445-20	S-7 10'	101	92
880-14445-21	S-9 0.5'	112	101
880-14445-22	S-9 1.0'	106	107
880-14445-23	S-3 15.0'	114	100
880-14445-23 MS	S-3 15.0'	104	99
880-14445-23 MSD	S-3 15.0'	104	100
890-2271-A-51-F MS	Matrix Spike	114	98
890-2271-A-51-G MSD	Matrix Spike Duplicate	111	102
LCS 880-25282/1-A	Lab Control Sample	95	100
LCS 880-25311/1-A	Lab Control Sample	104	96
LCS 880-25410/1-A	Lab Control Sample	106	99
LCSD 880-25282/2-A	Lab Control Sample Dup	96	95
LCSD 880-25311/2-A	Lab Control Sample Dup	106	100
LCSD 880-25410/2-A	Lab Control Sample Dup	105	98
MB 880-25282/5-A	Method Blank	74	94
MB 880-25311/5-A	Method Blank	98	96
MB 880-25410/5-A	Method Blank	99	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
880-14397-A-11-E MS	Matrix Spike	102	95

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Surrogate Summary

Client: Larson & Associates, Inc.

Job ID: 880-14445-1

Project/Site: Maelstrom

SDG: 22-0105-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-14397-A-11-F MSD	Matrix Spike Duplicate	96	90
880-14445-1	S-1 1.0'	114	124
880-14445-2	S-1 3.0'	104	114
880-14445-3	S-1 5.0'	100	108
880-14445-4	S-1 10'	103	111
880-14445-5	S-2 1.0'	95	104
880-14445-6	S-2 3.0'	106	114
880-14445-7	S-2 5.0'	95	100
880-14445-8	S-2 10'	104	109
880-14445-9	S-3 1.0'	103	111
880-14445-10	S-3 3.0'	106	115
880-14445-11	S-3 5.0'	110	118
880-14445-12	S-3 10'	102	109
880-14445-13	S-4 1.0'	95	99
880-14445-14	S-4 3.0'	95	102
880-14445-15	S-4 5.0'	116	125
880-14445-16	S-4 10'	100	110
880-14445-17	S-7 1.0'	121	134 S1+
880-14445-18	S-7 3.0'	117	128
880-14445-19	S-7 5.0'	116	125
880-14445-20	S-7 10'	106	117
880-14445-21	S-9 0.5'	101	102
880-14445-22	S-9 1.0'	95	99
880-14445-23	S-3 15.0'	99	103
880-14491-A-1-C MS	Matrix Spike	96	85
880-14491-A-1-D MSD	Matrix Spike Duplicate	99	87
890-2276-A-1-D MS	Matrix Spike	89	86
890-2276-A-1-E MSD	Matrix Spike Duplicate	89	84
LCS 880-24946/2-A	Lab Control Sample	114	123
LCS 880-24992/2-A	Lab Control Sample	102	107
LCS 880-25059/2-A	Lab Control Sample	118	106
LCSD 880-24946/3-A	Lab Control Sample Dup	136 S1+	145 S1+
LCSD 880-24992/3-A	Lab Control Sample Dup	108	114
LCSD 880-25059/3-A	Lab Control Sample Dup	137 S1+	120
MB 880-24946/1-A	Method Blank	120	141 S1+
MB 880-24992/1-A	Method Blank	101	115
MB 880-25059/1-A	Method Blank	95	96

Surrogate Legend

1CO = 1-Chlorooctane (Surr)

OTPH = o-Terphenyl (Surr)

Eurofins Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-25282/5-A

Matrix: Solid

Analysis Batch: 25443

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25282

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 18:45	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 18:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 18:45	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		05/10/22 14:04	05/12/22 18:45	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/10/22 14:04	05/12/22 18:45	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/10/22 14:04	05/12/22 18:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	05/10/22 14:04	05/12/22 18:45	1
1,4-Difluorobenzene (Surr)	94		70 - 130	05/10/22 14:04	05/12/22 18:45	1

Lab Sample ID: LCS 880-25282/1-A

Matrix: Solid

Analysis Batch: 25443

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25282

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09129		mg/Kg		91	70 - 130
Toluene	0.100	0.09371		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.09313		mg/Kg		93	70 - 130
m,p-Xylenes	0.200	0.1894		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09220		mg/Kg		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: LCSD 880-25282/2-A

Matrix: Solid

Analysis Batch: 25443

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25282

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09394		mg/Kg		94	70 - 130	3	35
Toluene	0.100	0.09801		mg/Kg		98	70 - 130	4	35
Ethylbenzene	0.100	0.09585		mg/Kg		96	70 - 130	3	35
m,p-Xylenes	0.200	0.1944		mg/Kg		97	70 - 130	3	35
o-Xylene	0.100	0.09517		mg/Kg		95	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 880-14445-3 MS

Matrix: Solid

Analysis Batch: 25443

Client Sample ID: S-1 5.0'

Prep Type: Total/NA

Prep Batch: 25282

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.100	0.07795		mg/Kg		78	70 - 130
Toluene	<0.00200	U	0.100	0.08214		mg/Kg		82	70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-14445-3 MS

Matrix: Solid

Analysis Batch: 25443

Client Sample ID: S-1 5.0'

Prep Type: Total/NA

Prep Batch: 25282

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.08044		mg/Kg		80	70 - 130
m,p-Xylenes	<0.00399	U	0.200	0.1632		mg/Kg		81	70 - 130
o-Xylene	<0.00200	U	0.100	0.08078		mg/Kg		81	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 880-14445-3 MSD

Matrix: Solid

Analysis Batch: 25443

Client Sample ID: S-1 5.0'

Prep Type: Total/NA

Prep Batch: 25282

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00200	U	0.0998	0.08707		mg/Kg		87	70 - 130	11	35
Toluene	<0.00200	U	0.0998	0.09137		mg/Kg		92	70 - 130	11	35
Ethylbenzene	<0.00200	U	0.0998	0.08852		mg/Kg		89	70 - 130	10	35
m,p-Xylenes	<0.00399	U	0.200	0.1814		mg/Kg		91	70 - 130	11	35
o-Xylene	<0.00200	U	0.0998	0.08952		mg/Kg		90	70 - 130	10	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: MB 880-25311/5-A

Matrix: Solid

Analysis Batch: 25520

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25311

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/11/22 09:22	05/13/22 15:17	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/11/22 09:22	05/13/22 15:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/11/22 09:22	05/13/22 15:17	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		05/11/22 09:22	05/13/22 15:17	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/11/22 09:22	05/13/22 15:17	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/11/22 09:22	05/13/22 15:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	05/11/22 09:22	05/13/22 15:17	1
1,4-Difluorobenzene (Surr)	96		70 - 130	05/11/22 09:22	05/13/22 15:17	1

Lab Sample ID: LCS 880-25311/1-A

Matrix: Solid

Analysis Batch: 25520

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08465		mg/Kg		85	70 - 130
Toluene	0.100	0.09009		mg/Kg		90	70 - 130
Ethylbenzene	0.100	0.09303		mg/Kg		93	70 - 130
m,p-Xylenes	0.200	0.1949		mg/Kg		97	70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-25311/1-A

Matrix: Solid

Analysis Batch: 25520

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	0.100	0.1067		mg/Kg		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: LCSD 880-25311/2-A

Matrix: Solid

Analysis Batch: 25520

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.09626		mg/Kg		96	70 - 130	13	35
Toluene	0.100	0.09379		mg/Kg		94	70 - 130	4	35
Ethylbenzene	0.100	0.09653		mg/Kg		97	70 - 130	4	35
m,p-Xylenes	0.200	0.2012		mg/Kg		101	70 - 130	3	35
o-Xylene	0.100	0.1094		mg/Kg		109	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 880-14445-23 MS

Matrix: Solid

Analysis Batch: 25520

Client Sample ID: S-3 15.0'

Prep Type: Total/NA

Prep Batch: 25311

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.100	0.07931		mg/Kg		79	70 - 130
Toluene	<0.00200	U	0.100	0.07801		mg/Kg		77	70 - 130
Ethylbenzene	<0.00200	U	0.100	0.07926		mg/Kg		79	70 - 130
m,p-Xylenes	<0.00399	U	0.200	0.1656		mg/Kg		83	70 - 130
o-Xylene	<0.00200	U	0.100	0.09082		mg/Kg		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: 880-14445-23 MSD

Matrix: Solid

Analysis Batch: 25520

Client Sample ID: S-3 15.0'

Prep Type: Total/NA

Prep Batch: 25311

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00200	U	0.101	0.08242		mg/Kg		82	70 - 130	4	35
Toluene	<0.00200	U	0.101	0.08070		mg/Kg		79	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.101	0.08232		mg/Kg		81	70 - 130	4	35
m,p-Xylenes	<0.00399	U	0.202	0.1710		mg/Kg		85	70 - 130	3	35
o-Xylene	<0.00200	U	0.101	0.09360		mg/Kg		93	70 - 130	3	35

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-14445-23 MSD

Matrix: Solid

Analysis Batch: 25520

Client Sample ID: S-3 15.0'

Prep Type: Total/NA

Prep Batch: 25311

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: MB 880-25410/5-A

Matrix: Solid

Analysis Batch: 25413

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25410

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/12/22 10:53	05/12/22 15:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/12/22 10:53	05/12/22 15:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/12/22 10:53	05/12/22 15:39	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		05/12/22 10:53	05/12/22 15:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/12/22 10:53	05/12/22 15:39	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/12/22 10:53	05/12/22 15:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	05/12/22 10:53	05/12/22 15:39	1
1,4-Difluorobenzene (Surr)	97		70 - 130	05/12/22 10:53	05/12/22 15:39	1

Lab Sample ID: LCS 880-25410/1-A

Matrix: Solid

Analysis Batch: 25413

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25410

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09746		mg/Kg		97	70 - 130
Toluene	0.100	0.09527		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.09824		mg/Kg		98	70 - 130
m,p-Xylenes	0.200	0.2028		mg/Kg		101	70 - 130
o-Xylene	0.100	0.1101		mg/Kg		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-25410/2-A

Matrix: Solid

Analysis Batch: 25413

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25410

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.09068		mg/Kg		91	70 - 130	7	35
Toluene	0.100	0.09342		mg/Kg		93	70 - 130	2	35
Ethylbenzene	0.100	0.09699		mg/Kg		97	70 - 130	1	35
m,p-Xylenes	0.200	0.2022		mg/Kg		101	70 - 130	0	35
o-Xylene	0.100	0.1092		mg/Kg		109	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-25410/2-A

Matrix: Solid

Analysis Batch: 25413

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25410

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 890-2271-A-51-F MS

Matrix: Solid

Analysis Batch: 25413

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25410

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0996	0.07938		mg/Kg		80	70 - 130
Toluene	<0.00201	U	0.0996	0.08283		mg/Kg		83	70 - 130
Ethylbenzene	<0.00201	U	0.0996	0.08646		mg/Kg		87	70 - 130
m,p-Xylenes	<0.00402	U	0.199	0.1824		mg/Kg		92	70 - 130
o-Xylene	<0.00201	U	0.0996	0.1002		mg/Kg		101	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 890-2271-A-51-G MSD

Matrix: Solid

Analysis Batch: 25413

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 25410

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00201	U	0.0998	0.09289		mg/Kg		93	70 - 130	16	35
Toluene	<0.00201	U	0.0998	0.09234		mg/Kg		92	70 - 130	11	35
Ethylbenzene	<0.00201	U	0.0998	0.09471		mg/Kg		95	70 - 130	9	35
m,p-Xylenes	<0.00402	U	0.200	0.1980		mg/Kg		99	70 - 130	8	35
o-Xylene	<0.00201	U	0.0998	0.1077		mg/Kg		108	70 - 130	7	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-24946/1-A

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 24946

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 12:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 12:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 08:55	05/07/22 12:08	1

	MB	MB						
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
1-Chlorooctane (Surr)	120		70 - 130	05/06/22 08:55	05/07/22 12:08	1		
o-Terphenyl (Surr)	141	S1+	70 - 130	05/06/22 08:55	05/07/22 12:08	1		

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-24946/2-A

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 24946

Analyte			Spike	LCS	LCS	Unit	D	%Rec	%Rec		
			Added	Result	Qualifier			Limits			
Gasoline Range Organics (GRO)-C6-C10			1000	1181		mg/Kg		118	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1078		mg/Kg		108	70 - 130		
Surrogate		LCS	LCS								
	%Recovery	Qualifier	Limits								
1-Chlorooctane (Surr)	114		70 - 130								
o-Terphenyl (Surr)	123		70 - 130								

Lab Sample ID: LCSD 880-24946/3-A

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 24946

Top Bottom											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1303		mg/Kg		130	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	1203		mg/Kg		120	70 - 130	11	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
1-Chlorooctane (Surr)	136	S1+	70 - 130								
o-Terphenyl (Surr)	145	S1+	70 - 130								

Lab Sample ID: 880-14397-A-11-E MS

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 24946

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1147		mg/Kg		115	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	996.2		mg/Kg		100	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane (Surr)	102		70 - 130						
o-Terphenyl (Surr)	95		70 - 130						

Lab Sample ID: 880-14397-A-11-F MSD

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 24946

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1137		mg/Kg		114	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	868.4		mg/Kg		87	70 - 130	14	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	96		70 - 130								

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-14397-A-11-F MSD

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 24946

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl (Surr)	90		70 - 130

Lab Sample ID: MB 880-24992/1-A

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 24992

	MB	MB							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/07/22 21:59	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/07/22 21:59	1	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/06/22 14:38	05/07/22 21:59	1	
	MB	MB							
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane (Surr)	101		70 - 130			05/06/22 14:38	05/07/22 21:59	1	
<i>o</i> -Terphenyl (Surr)	115		70 - 130			05/06/22 14:38	05/07/22 21:59	1	

Lab Sample ID: LCS 880-24992/2-A

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 24992

		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics (GRO)-C6-C10		1000	1095		mg/Kg		109	70 - 130	
Diesel Range Organics (Over C10-C28)		1000	926.5		mg/Kg		93	70 - 130	
	LCS	LCS							
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane (Surr)	102		70 - 130						
<i>o</i> -Terphenyl (Surr)	107		70 - 130						

Lab Sample ID: LCSD 880-24992/3-A

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 24992

		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10		1000	1087		mg/Kg		109	70 - 130	1	20
Diesel Range Organics (Over C10-C28)		1000	918.9		mg/Kg		92	70 - 130	1	20
	LCSD	LCSD								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane (Surr)	108		70 - 130							
<i>o</i> -Terphenyl (Surr)	114		70 - 130							

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-2276-A-1-D MS

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 24992

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier			Limits	Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1038		mg/Kg		104	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	780.9		mg/Kg		78	70 - 130		
Surrogate	MS	MS	Limits								
	%Recovery	Qualifier									
1-Chlorooctane (Surr)	89		70 - 130								
o-Terphenyl (Surr)	86		70 - 130								

Lab Sample ID: 890-2276-A-1-E MSD

Matrix: Solid

Analysis Batch: 25017

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 24992

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1044		mg/Kg		105	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	768.4		mg/Kg		77	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	89		70 - 130								
o-Terphenyl (Surr)	84		70 - 130								

Lab Sample ID: MB 880-25059/1-A

Matrix: Solid

Analysis Batch: 25068

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 25059

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/09/22 08:51	05/09/22 11:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/09/22 08:51	05/09/22 11:29	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/09/22 08:51	05/09/22 11:29	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1-Chlorooctane (Surr)	95		70 - 130			05/09/22 08:51	05/09/22 11:29	1
o-Terphenyl (Surr)	96		70 - 130			05/09/22 08:51	05/09/22 11:29	1

Lab Sample ID: LCS 880-25059/2-A

Matrix: Solid

Analysis Batch: 25068

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25059

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	951.9		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1188		mg/Kg		119	70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-25059/2-A

Matrix: Solid

Analysis Batch: 25068

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 25059

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	118		70 - 130
o-Terphenyl (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-25059/3-A

Matrix: Solid

Analysis Batch: 25068

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 25059

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1119		mg/Kg		112	70 - 130	16	20
Diesel Range Organics (Over C10-C28)			1000	1290		mg/Kg		129	70 - 130	8	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	137	S1+	70 - 130
o-Terphenyl (Surr)	120		70 - 130

Lab Sample ID: 880-14491-A-1-C MS

Matrix: Solid

Analysis Batch: 25068

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 25059

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	923.6		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	917.3		mg/Kg		92	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	96		70 - 130
o-Terphenyl (Surr)	85		70 - 130

Lab Sample ID: 880-14491-A-1-D MSD

Matrix: Solid

Analysis Batch: 25068

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 25059

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	923.6		mg/Kg		93	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	948.4		mg/Kg		95	70 - 130	3	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	99		70 - 130
o-Terphenyl (Surr)	87		70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-24904/1-A

Matrix: Solid

Analysis Batch: 25285

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			05/10/22 23:45	1

Lab Sample ID: LCS 880-24904/2-A

Matrix: Solid

Analysis Batch: 25285

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	263.1		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-24904/3-A

Matrix: Solid

Analysis Batch: 25285

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	262.5		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 880-14445-6 MS

Matrix: Solid

Analysis Batch: 25285

Client Sample ID: S-2 3.0'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1040		252	1246	4	mg/Kg		80	90 - 110

Lab Sample ID: 880-14445-6 MSD

Matrix: Solid

Analysis Batch: 25285

Client Sample ID: S-2 3.0'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1040		252	1250	4	mg/Kg		82	90 - 110	0	20

Lab Sample ID: MB 880-24921/1-A

Matrix: Solid

Analysis Batch: 25286

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			05/11/22 13:42	1

Lab Sample ID: LCS 880-24921/2-A

Matrix: Solid

Analysis Batch: 25286

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	272.1		mg/Kg		109	90 - 110

Lab Sample ID: LCSD 880-24921/3-A

Matrix: Solid

Analysis Batch: 25286

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	271.5		mg/Kg		109	90 - 110	0	20

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-14445-16 MS										Client Sample ID: S-4 10'				
Matrix: Solid										Prep Type: Soluble				
Analysis Batch: 25286														
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits					
Chloride	35.0		250	279.0		mg/Kg		98	90 - 110					

Lab Sample ID: 880-14445-16 MSD										Client Sample ID: S-4 10'				
Matrix: Solid										Prep Type: Soluble				
Analysis Batch: 25286														
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit			
Chloride	35.0		250	278.6		mg/Kg		98	90 - 110	0	20			

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

GC VOA

Prep Batch: 25282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-3	S-1 5.0'	Total/NA	Solid	5035	
880-14445-4	S-1 10'	Total/NA	Solid	5035	
880-14445-5	S-2 1.0'	Total/NA	Solid	5035	
880-14445-6	S-2 3.0'	Total/NA	Solid	5035	
880-14445-7	S-2 5.0'	Total/NA	Solid	5035	
880-14445-8	S-2 10'	Total/NA	Solid	5035	
880-14445-9	S-3 1.0'	Total/NA	Solid	5035	
880-14445-10	S-3 3.0'	Total/NA	Solid	5035	
880-14445-11	S-3 5.0'	Total/NA	Solid	5035	
880-14445-12	S-3 10'	Total/NA	Solid	5035	
880-14445-13	S-4 1.0'	Total/NA	Solid	5035	
880-14445-14	S-4 3.0'	Total/NA	Solid	5035	
880-14445-15	S-4 5.0'	Total/NA	Solid	5035	
880-14445-16	S-4 10'	Total/NA	Solid	5035	
880-14445-17	S-7 1.0'	Total/NA	Solid	5035	
880-14445-18	S-7 3.0'	Total/NA	Solid	5035	
880-14445-19	S-7 5.0'	Total/NA	Solid	5035	
880-14445-20	S-7 10'	Total/NA	Solid	5035	
880-14445-21	S-9 0.5'	Total/NA	Solid	5035	
880-14445-22	S-9 1.0'	Total/NA	Solid	5035	
MB 880-25282/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25282/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25282/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-14445-3 MS	S-1 5.0'	Total/NA	Solid	5035	
880-14445-3 MSD	S-1 5.0'	Total/NA	Solid	5035	

Prep Batch: 25311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-23	S-3 15.0'	Total/NA	Solid	5035	
MB 880-25311/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25311/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25311/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-14445-23 MS	S-3 15.0'	Total/NA	Solid	5035	
880-14445-23 MSD	S-3 15.0'	Total/NA	Solid	5035	

Prep Batch: 25410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-1	S-1 1.0'	Total/NA	Solid	5035	
880-14445-2	S-1 3.0'	Total/NA	Solid	5035	
MB 880-25410/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25410/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25410/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2271-A-51-F MS	Matrix Spike	Total/NA	Solid	5035	
890-2271-A-51-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 25413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-1	S-1 1.0'	Total/NA	Solid	8021B	25410
880-14445-2	S-1 3.0'	Total/NA	Solid	8021B	25410
MB 880-25410/5-A	Method Blank	Total/NA	Solid	8021B	25410
LCS 880-25410/1-A	Lab Control Sample	Total/NA	Solid	8021B	25410

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

GC VOA (Continued)

Analysis Batch: 25413 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-25410/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25410
890-2271-A-51-F MS	Matrix Spike	Total/NA	Solid	8021B	25410
890-2271-A-51-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	25410

Analysis Batch: 25443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-3	S-1 5.0'	Total/NA	Solid	8021B	25282
880-14445-4	S-1 10'	Total/NA	Solid	8021B	25282
880-14445-5	S-2 1.0'	Total/NA	Solid	8021B	25282
880-14445-6	S-2 3.0'	Total/NA	Solid	8021B	25282
880-14445-7	S-2 5.0'	Total/NA	Solid	8021B	25282
880-14445-8	S-2 10'	Total/NA	Solid	8021B	25282
880-14445-9	S-3 1.0'	Total/NA	Solid	8021B	25282
880-14445-10	S-3 3.0'	Total/NA	Solid	8021B	25282
880-14445-11	S-3 5.0'	Total/NA	Solid	8021B	25282
880-14445-12	S-3 10'	Total/NA	Solid	8021B	25282
880-14445-13	S-4 1.0'	Total/NA	Solid	8021B	25282
880-14445-14	S-4 3.0'	Total/NA	Solid	8021B	25282
880-14445-15	S-4 5.0'	Total/NA	Solid	8021B	25282
880-14445-16	S-4 10'	Total/NA	Solid	8021B	25282
880-14445-17	S-7 1.0'	Total/NA	Solid	8021B	25282
880-14445-18	S-7 3.0'	Total/NA	Solid	8021B	25282
880-14445-19	S-7 5.0'	Total/NA	Solid	8021B	25282
880-14445-20	S-7 10'	Total/NA	Solid	8021B	25282
880-14445-21	S-9 0.5'	Total/NA	Solid	8021B	25282
880-14445-22	S-9 1.0'	Total/NA	Solid	8021B	25282
MB 880-25282/5-A	Method Blank	Total/NA	Solid	8021B	25282
LCS 880-25282/1-A	Lab Control Sample	Total/NA	Solid	8021B	25282
LCSD 880-25282/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25282
880-14445-3 MS	S-1 5.0'	Total/NA	Solid	8021B	25282
880-14445-3 MSD	S-1 5.0'	Total/NA	Solid	8021B	25282

Analysis Batch: 25505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-1	S-1 1.0'	Total/NA	Solid	Total BTEX	
880-14445-2	S-1 3.0'	Total/NA	Solid	Total BTEX	
880-14445-3	S-1 5.0'	Total/NA	Solid	Total BTEX	
880-14445-4	S-1 10'	Total/NA	Solid	Total BTEX	
880-14445-5	S-2 1.0'	Total/NA	Solid	Total BTEX	
880-14445-6	S-2 3.0'	Total/NA	Solid	Total BTEX	
880-14445-7	S-2 5.0'	Total/NA	Solid	Total BTEX	
880-14445-8	S-2 10'	Total/NA	Solid	Total BTEX	
880-14445-9	S-3 1.0'	Total/NA	Solid	Total BTEX	
880-14445-10	S-3 3.0'	Total/NA	Solid	Total BTEX	
880-14445-11	S-3 5.0'	Total/NA	Solid	Total BTEX	
880-14445-12	S-3 10'	Total/NA	Solid	Total BTEX	
880-14445-13	S-4 1.0'	Total/NA	Solid	Total BTEX	
880-14445-14	S-4 3.0'	Total/NA	Solid	Total BTEX	
880-14445-15	S-4 5.0'	Total/NA	Solid	Total BTEX	
880-14445-16	S-4 10'	Total/NA	Solid	Total BTEX	
880-14445-17	S-7 1.0'	Total/NA	Solid	Total BTEX	

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

GC VOA (Continued)

Analysis Batch: 25505 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-18	S-7 3.0'	Total/NA	Solid	Total BTEX	
880-14445-19	S-7 5.0'	Total/NA	Solid	Total BTEX	
880-14445-20	S-7 10'	Total/NA	Solid	Total BTEX	
880-14445-21	S-9 0.5'	Total/NA	Solid	Total BTEX	
880-14445-22	S-9 1.0'	Total/NA	Solid	Total BTEX	
880-14445-23	S-3 15.0'	Total/NA	Solid	Total BTEX	

Analysis Batch: 25520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-23	S-3 15.0'	Total/NA	Solid	8021B	25311
MB 880-25311/5-A	Method Blank	Total/NA	Solid	8021B	25311
LCS 880-25311/1-A	Lab Control Sample	Total/NA	Solid	8021B	25311
LCSD 880-25311/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25311
880-14445-23 MS	S-3 15.0'	Total/NA	Solid	8021B	25311
880-14445-23 MSD	S-3 15.0'	Total/NA	Solid	8021B	25311

GC Semi VOA

Prep Batch: 24946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-1	S-1 1.0'	Total/NA	Solid	8015NM Prep	
880-14445-2	S-1 3.0'	Total/NA	Solid	8015NM Prep	
880-14445-3	S-1 5.0'	Total/NA	Solid	8015NM Prep	
880-14445-4	S-1 10'	Total/NA	Solid	8015NM Prep	
880-14445-5	S-2 1.0'	Total/NA	Solid	8015NM Prep	
880-14445-6	S-2 3.0'	Total/NA	Solid	8015NM Prep	
880-14445-7	S-2 5.0'	Total/NA	Solid	8015NM Prep	
880-14445-8	S-2 10'	Total/NA	Solid	8015NM Prep	
880-14445-9	S-3 1.0'	Total/NA	Solid	8015NM Prep	
880-14445-10	S-3 3.0'	Total/NA	Solid	8015NM Prep	
880-14445-11	S-3 5.0'	Total/NA	Solid	8015NM Prep	
880-14445-12	S-3 10'	Total/NA	Solid	8015NM Prep	
880-14445-13	S-4 1.0'	Total/NA	Solid	8015NM Prep	
MB 880-24946/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-24946/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-24946/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-14397-A-11-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-14397-A-11-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 24992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-14	S-4 3.0'	Total/NA	Solid	8015NM Prep	
880-14445-15	S-4 5.0'	Total/NA	Solid	8015NM Prep	
880-14445-16	S-4 10'	Total/NA	Solid	8015NM Prep	
880-14445-17	S-7 1.0'	Total/NA	Solid	8015NM Prep	
880-14445-18	S-7 3.0'	Total/NA	Solid	8015NM Prep	
880-14445-19	S-7 5.0'	Total/NA	Solid	8015NM Prep	
880-14445-20	S-7 10'	Total/NA	Solid	8015NM Prep	
880-14445-21	S-9 0.5'	Total/NA	Solid	8015NM Prep	
880-14445-22	S-9 1.0'	Total/NA	Solid	8015NM Prep	
MB 880-24992/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

GC Semi VOA (Continued)

Prep Batch: 24992 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-24992/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-24992/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2276-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2276-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 25017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-1	S-1 1.0'	Total/NA	Solid	8015B NM	24946
880-14445-2	S-1 3.0'	Total/NA	Solid	8015B NM	24946
880-14445-3	S-1 5.0'	Total/NA	Solid	8015B NM	24946
880-14445-4	S-1 10'	Total/NA	Solid	8015B NM	24946
880-14445-5	S-2 1.0'	Total/NA	Solid	8015B NM	24946
880-14445-6	S-2 3.0'	Total/NA	Solid	8015B NM	24946
880-14445-7	S-2 5.0'	Total/NA	Solid	8015B NM	24946
880-14445-8	S-2 10'	Total/NA	Solid	8015B NM	24946
880-14445-9	S-3 1.0'	Total/NA	Solid	8015B NM	24946
880-14445-10	S-3 3.0'	Total/NA	Solid	8015B NM	24946
880-14445-11	S-3 5.0'	Total/NA	Solid	8015B NM	24946
880-14445-12	S-3 10'	Total/NA	Solid	8015B NM	24946
880-14445-13	S-4 1.0'	Total/NA	Solid	8015B NM	24946
880-14445-14	S-4 3.0'	Total/NA	Solid	8015B NM	24992
880-14445-15	S-4 5.0'	Total/NA	Solid	8015B NM	24992
880-14445-16	S-4 10'	Total/NA	Solid	8015B NM	24992
880-14445-17	S-7 1.0'	Total/NA	Solid	8015B NM	24992
880-14445-18	S-7 3.0'	Total/NA	Solid	8015B NM	24992
880-14445-19	S-7 5.0'	Total/NA	Solid	8015B NM	24992
880-14445-20	S-7 10'	Total/NA	Solid	8015B NM	24992
880-14445-21	S-9 0.5'	Total/NA	Solid	8015B NM	24992
880-14445-22	S-9 1.0'	Total/NA	Solid	8015B NM	24992
MB 880-24946/1-A	Method Blank	Total/NA	Solid	8015B NM	24946
MB 880-24992/1-A	Method Blank	Total/NA	Solid	8015B NM	24992
LCS 880-24946/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	24946
LCS 880-24992/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	24992
LCSD 880-24946/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	24946
LCSD 880-24992/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	24992
880-14397-A-11-E MS	Matrix Spike	Total/NA	Solid	8015B NM	24946
880-14397-A-11-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	24946
890-2276-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	24992
890-2276-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	24992

Prep Batch: 25059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-23	S-3 15.0'	Total/NA	Solid	8015NM Prep	
MB 880-25059/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-25059/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-25059/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-14491-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-14491-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

GC Semi VOA

Analysis Batch: 25068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-23	S-3 15.0'	Total/NA	Solid	8015B NM	25059
MB 880-25059/1-A	Method Blank	Total/NA	Solid	8015B NM	25059
LCS 880-25059/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	25059
LCSD 880-25059/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	25059
880-14491-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	25059
880-14491-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	25059

Analysis Batch: 25093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-1	S-1 1.0'	Total/NA	Solid	8015 NM	
880-14445-2	S-1 3.0'	Total/NA	Solid	8015 NM	
880-14445-3	S-1 5.0'	Total/NA	Solid	8015 NM	
880-14445-4	S-1 10'	Total/NA	Solid	8015 NM	
880-14445-5	S-2 1.0'	Total/NA	Solid	8015 NM	
880-14445-6	S-2 3.0'	Total/NA	Solid	8015 NM	
880-14445-7	S-2 5.0'	Total/NA	Solid	8015 NM	
880-14445-8	S-2 10'	Total/NA	Solid	8015 NM	
880-14445-9	S-3 1.0'	Total/NA	Solid	8015 NM	
880-14445-10	S-3 3.0'	Total/NA	Solid	8015 NM	
880-14445-11	S-3 5.0'	Total/NA	Solid	8015 NM	
880-14445-12	S-3 10'	Total/NA	Solid	8015 NM	
880-14445-13	S-4 1.0'	Total/NA	Solid	8015 NM	
880-14445-14	S-4 3.0'	Total/NA	Solid	8015 NM	
880-14445-15	S-4 5.0'	Total/NA	Solid	8015 NM	
880-14445-16	S-4 10'	Total/NA	Solid	8015 NM	
880-14445-17	S-7 1.0'	Total/NA	Solid	8015 NM	
880-14445-18	S-7 3.0'	Total/NA	Solid	8015 NM	
880-14445-19	S-7 5.0'	Total/NA	Solid	8015 NM	
880-14445-20	S-7 10'	Total/NA	Solid	8015 NM	
880-14445-21	S-9 0.5'	Total/NA	Solid	8015 NM	
880-14445-22	S-9 1.0'	Total/NA	Solid	8015 NM	
880-14445-23	S-3 15.0'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 24904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-1	S-1 1.0'	Soluble	Solid	DI Leach	
880-14445-2	S-1 3.0'	Soluble	Solid	DI Leach	
880-14445-3	S-1 5.0'	Soluble	Solid	DI Leach	
880-14445-4	S-1 10'	Soluble	Solid	DI Leach	
880-14445-5	S-2 1.0'	Soluble	Solid	DI Leach	
880-14445-6	S-2 3.0'	Soluble	Solid	DI Leach	
880-14445-7	S-2 5.0'	Soluble	Solid	DI Leach	
880-14445-8	S-2 10'	Soluble	Solid	DI Leach	
880-14445-9	S-3 1.0'	Soluble	Solid	DI Leach	
880-14445-10	S-3 3.0'	Soluble	Solid	DI Leach	
880-14445-11	S-3 5.0'	Soluble	Solid	DI Leach	
880-14445-12	S-3 10'	Soluble	Solid	DI Leach	
880-14445-13	S-4 1.0'	Soluble	Solid	DI Leach	
880-14445-14	S-4 3.0'	Soluble	Solid	DI Leach	

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

HPLC/IC (Continued)

Leach Batch: 24904 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-15	S-4 5.0'	Soluble	Solid	DI Leach	
MB 880-24904/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-24904/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-24904/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-14445-6 MS	S-2 3.0'	Soluble	Solid	DI Leach	
880-14445-6 MSD	S-2 3.0'	Soluble	Solid	DI Leach	

Leach Batch: 24921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-16	S-4 10'	Soluble	Solid	DI Leach	
880-14445-17	S-7 1.0'	Soluble	Solid	DI Leach	
880-14445-18	S-7 3.0'	Soluble	Solid	DI Leach	
880-14445-19	S-7 5.0'	Soluble	Solid	DI Leach	
880-14445-20	S-7 10'	Soluble	Solid	DI Leach	
880-14445-21	S-9 0.5'	Soluble	Solid	DI Leach	
880-14445-22	S-9 1.0'	Soluble	Solid	DI Leach	
880-14445-23	S-3 15.0'	Soluble	Solid	DI Leach	
MB 880-24921/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-24921/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-24921/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-14445-16 MS	S-4 10'	Soluble	Solid	DI Leach	
880-14445-16 MSD	S-4 10'	Soluble	Solid	DI Leach	

Analysis Batch: 25285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-1	S-1 1.0'	Soluble	Solid	300.0	24904
880-14445-2	S-1 3.0'	Soluble	Solid	300.0	24904
880-14445-3	S-1 5.0'	Soluble	Solid	300.0	24904
880-14445-4	S-1 10'	Soluble	Solid	300.0	24904
880-14445-5	S-2 1.0'	Soluble	Solid	300.0	24904
880-14445-6	S-2 3.0'	Soluble	Solid	300.0	24904
880-14445-7	S-2 5.0'	Soluble	Solid	300.0	24904
880-14445-8	S-2 10'	Soluble	Solid	300.0	24904
880-14445-9	S-3 1.0'	Soluble	Solid	300.0	24904
880-14445-10	S-3 3.0'	Soluble	Solid	300.0	24904
880-14445-11	S-3 5.0'	Soluble	Solid	300.0	24904
880-14445-12	S-3 10'	Soluble	Solid	300.0	24904
880-14445-13	S-4 1.0'	Soluble	Solid	300.0	24904
880-14445-14	S-4 3.0'	Soluble	Solid	300.0	24904
880-14445-15	S-4 5.0'	Soluble	Solid	300.0	24904
MB 880-24904/1-A	Method Blank	Soluble	Solid	300.0	24904
LCS 880-24904/2-A	Lab Control Sample	Soluble	Solid	300.0	24904
LCSD 880-24904/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	24904
880-14445-6 MS	S-2 3.0'	Soluble	Solid	300.0	24904
880-14445-6 MSD	S-2 3.0'	Soluble	Solid	300.0	24904

Analysis Batch: 25286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-16	S-4 10'	Soluble	Solid	300.0	24921
880-14445-17	S-7 1.0'	Soluble	Solid	300.0	24921
880-14445-18	S-7 3.0'	Soluble	Solid	300.0	24921

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

HPLC/IC (Continued)

Analysis Batch: 25286 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14445-19	S-7 5.0'	Soluble	Solid	300.0	24921
880-14445-20	S-7 10'	Soluble	Solid	300.0	24921
880-14445-21	S-9 0.5'	Soluble	Solid	300.0	24921
880-14445-22	S-9 1.0'	Soluble	Solid	300.0	24921
880-14445-23	S-3 15.0'	Soluble	Solid	300.0	24921
MB 880-24921/1-A	Method Blank	Soluble	Solid	300.0	24921
LCS 880-24921/2-A	Lab Control Sample	Soluble	Solid	300.0	24921
LCSD 880-24921/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	24921
880-14445-16 MS	S-4 10'	Soluble	Solid	300.0	24921
880-14445-16 MSD	S-4 10'	Soluble	Solid	300.0	24921

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-1 1.0'

Lab Sample ID: 880-14445-1

Date Collected: 05/03/22 14:30

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	25410	05/12/22 10:53	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25413	05/12/22 21:24	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 16:29	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		10			25285	05/11/22 01:23	CH	XEN MID

Client Sample ID: S-1 3.0'

Lab Sample ID: 880-14445-2

Date Collected: 05/03/22 14:31

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	25410	05/12/22 10:53	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25413	05/12/22 21:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 16:51	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 01:31	CH	XEN MID

Client Sample ID: S-1 5.0'

Lab Sample ID: 880-14445-3

Date Collected: 05/03/22 14:32

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/12/22 19:11	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 17:13	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 01:39	CH	XEN MID

Client Sample ID: S-1 10'

Lab Sample ID: 880-14445-4

Date Collected: 05/03/22 14:33

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/12/22 19:37	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-1 10'

Lab Sample ID: 880-14445-4

Date Collected: 05/03/22 14:33

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 17:57	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 01:48	CH	XEN MID

Client Sample ID: S-2 1.0'

Lab Sample ID: 880-14445-5

Date Collected: 05/03/22 13:10

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/12/22 20:02	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 18:19	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		10			25285	05/11/22 01:56	CH	XEN MID

Client Sample ID: S-2 3.0'

Lab Sample ID: 880-14445-6

Date Collected: 05/03/22 13:11

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/12/22 20:28	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 18:41	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 02:04	CH	XEN MID

Client Sample ID: S-2 5.0'

Lab Sample ID: 880-14445-7

Date Collected: 05/03/22 13:12

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/12/22 20:54	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 19:04	AJ	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-2 5.0'

Lab Sample ID: 880-14445-7

Date Collected: 05/03/22 13:12

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 02:29	CH	XEN MID

Client Sample ID: S-2 10'

Lab Sample ID: 880-14445-8

Date Collected: 05/03/22 13:13

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/12/22 21:21	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 19:26	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 02:37	CH	XEN MID

Client Sample ID: S-3 1.0'

Lab Sample ID: 880-14445-9

Date Collected: 05/03/22 12:40

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/12/22 21:47	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 19:48	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		10			25285	05/11/22 03:01	CH	XEN MID

Client Sample ID: S-3 3.0'

Lab Sample ID: 880-14445-10

Date Collected: 05/03/22 12:41

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/12/22 22:13	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 20:10	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 03:10	CH	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-3 5.0'

Lab Sample ID: 880-14445-11

Date Collected: 05/03/22 12:42

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/12/22 22:40	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 20:31	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 03:18	CH	XEN MID

Client Sample ID: S-3 10'

Lab Sample ID: 880-14445-12

Date Collected: 05/03/22 12:43

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/12/22 23:06	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 20:53	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 03:26	CH	XEN MID

Client Sample ID: S-4 1.0'

Lab Sample ID: 880-14445-13

Date Collected: 05/03/22 12:20

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/13/22 00:52	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	24946	05/06/22 08:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/07/22 21:15	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		10			25285	05/11/22 03:34	CH	XEN MID

Client Sample ID: S-4 3.0'

Lab Sample ID: 880-14445-14

Date Collected: 05/03/22 12:21

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/13/22 01:19	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-4 3.0'

Lab Sample ID: 880-14445-14

Date Collected: 05/03/22 12:21

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24992	05/06/22 14:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/08/22 02:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 03:42	CH	XEN MID

Client Sample ID: S-4 5.0'

Lab Sample ID: 880-14445-15

Date Collected: 05/03/22 12:22

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/13/22 01:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	24992	05/06/22 14:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/08/22 02:43	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	24904	05/05/22 13:27	SC	XEN MID
Soluble	Analysis	300.0		1			25285	05/11/22 03:51	CH	XEN MID

Client Sample ID: S-4 10'

Lab Sample ID: 880-14445-16

Date Collected: 05/03/22 12:23

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/13/22 02:11	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24992	05/06/22 14:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/08/22 03:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	24921	05/05/22 16:04	SC	XEN MID
Soluble	Analysis	300.0		1			25286	05/11/22 14:07	CH	XEN MID

Client Sample ID: S-7 1.0'

Lab Sample ID: 880-14445-17

Date Collected: 05/03/22 15:10

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/13/22 02:38	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	24992	05/06/22 14:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/08/22 03:44	AJ	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-7 1.0'

Lab Sample ID: 880-14445-17

Date Collected: 05/03/22 15:10

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	24921	05/05/22 16:04	SC	XEN MID
Soluble	Analysis	300.0		5			25286	05/11/22 14:31	CH	XEN MID

Client Sample ID: S-7 3.0'

Lab Sample ID: 880-14445-18

Date Collected: 05/03/22 15:11

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/13/22 03:05	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24992	05/06/22 14:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/08/22 04:04	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	24921	05/05/22 16:04	SC	XEN MID
Soluble	Analysis	300.0		1			25286	05/11/22 14:40	CH	XEN MID

Client Sample ID: S-7 5.0'

Lab Sample ID: 880-14445-19

Date Collected: 05/03/22 15:12

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/13/22 03:32	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	24992	05/06/22 14:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/08/22 04:24	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	24921	05/05/22 16:04	SC	XEN MID
Soluble	Analysis	300.0		1			25286	05/11/22 14:48	CH	XEN MID

Client Sample ID: S-7 10'

Lab Sample ID: 880-14445-20

Date Collected: 05/03/22 15:13

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/13/22 03:59	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24992	05/06/22 14:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/08/22 04:44	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	24921	05/05/22 16:04	SC	XEN MID
Soluble	Analysis	300.0		1			25286	05/11/22 14:56	CH	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Client Sample ID: S-9 0.5'

Lab Sample ID: 880-14445-21

Date Collected: 05/03/22 14:55

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/13/22 04:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	24992	05/06/22 14:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/08/22 05:05	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	24921	05/05/22 16:04	SC	XEN MID
Soluble	Analysis	300.0		1			25286	05/11/22 15:21	CH	XEN MID

Client Sample ID: S-9 1.0'

Lab Sample ID: 880-14445-22

Date Collected: 05/03/22 14:56

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	25282	05/10/22 14:04	MR	XEN MID
Total/NA	Analysis	8021B		1			25443	05/13/22 04:52	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	24992	05/06/22 14:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25017	05/08/22 05:25	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	24921	05/05/22 16:04	SC	XEN MID
Soluble	Analysis	300.0		1			25286	05/11/22 15:29	CH	XEN MID

Client Sample ID: S-3 15.0'

Lab Sample ID: 880-14445-23

Date Collected: 05/03/22 12:50

Matrix: Solid

Date Received: 05/05/22 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	25311	05/11/22 09:22	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25520	05/13/22 15:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25505	05/13/22 09:16	MR	XEN MID
Total/NA	Analysis	8015 NM		1			25093	05/09/22 12:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	25059	05/09/22 08:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25068	05/09/22 19:37	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	24921	05/05/22 16:04	SC	XEN MID
Soluble	Analysis	300.0		1			25286	05/11/22 15:37	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Midland

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22
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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Midland

Sample Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-14445-1
SDG: 22-0105-02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-14445-1	S-1 1.0'	Solid	05/03/22 14:30	05/05/22 09:12
880-14445-2	S-1 3.0'	Solid	05/03/22 14:31	05/05/22 09:12
880-14445-3	S-1 5.0'	Solid	05/03/22 14:32	05/05/22 09:12
880-14445-4	S-1 10'	Solid	05/03/22 14:33	05/05/22 09:12
880-14445-5	S-2 1.0'	Solid	05/03/22 13:10	05/05/22 09:12
880-14445-6	S-2 3.0'	Solid	05/03/22 13:11	05/05/22 09:12
880-14445-7	S-2 5.0'	Solid	05/03/22 13:12	05/05/22 09:12
880-14445-8	S-2 10'	Solid	05/03/22 13:13	05/05/22 09:12
880-14445-9	S-3 1.0'	Solid	05/03/22 12:40	05/05/22 09:12
880-14445-10	S-3 3.0'	Solid	05/03/22 12:41	05/05/22 09:12
880-14445-11	S-3 5.0'	Solid	05/03/22 12:42	05/05/22 09:12
880-14445-12	S-3 10'	Solid	05/03/22 12:43	05/05/22 09:12
880-14445-13	S-4 1.0'	Solid	05/03/22 12:20	05/05/22 09:12
880-14445-14	S-4 3.0'	Solid	05/03/22 12:21	05/05/22 09:12
880-14445-15	S-4 5.0'	Solid	05/03/22 12:22	05/05/22 09:12
880-14445-16	S-4 10'	Solid	05/03/22 12:23	05/05/22 09:12
880-14445-17	S-7 1.0'	Solid	05/03/22 15:10	05/05/22 09:12
880-14445-18	S-7 3.0'	Solid	05/03/22 15:11	05/05/22 09:12
880-14445-19	S-7 5.0'	Solid	05/03/22 15:12	05/05/22 09:12
880-14445-20	S-7 10'	Solid	05/03/22 15:13	05/05/22 09:12
880-14445-21	S-9 0.5'	Solid	05/03/22 14:55	05/05/22 09:12
880-14445-22	S-9 1.0'	Solid	05/03/22 14:56	05/05/22 09:12
880-14445-23	S-3 15.0'	Solid	05/03/22 12:50	05/05/22 09:12

5/17/2022

5/17/2022

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-14445-1

SDG Number: 22-0105-02

Login Number: 14445**List Number: 1****Creator: Rodriguez, Leticia****List Source: Eurofins Midland**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-21188-1

Laboratory Sample Delivery Group: 20-0107-23

Client Project/Site: Maelstrom 15-1

For:

Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

A handwritten signature in cursive script that reads "Holly Taylor".

Authorized for release by:

11/8/2022 5:23:12 PM

Holly Taylor, Project Manager
(806)794-1296

Holly.Taylor@et.eurofinsus.com

LINKS

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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.

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Laboratory Job ID: 880-21188-1
SDG: 20-0107-23

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	17
QC Sample Results	19
QC Association Summary	25
Lab Chronicle	30
Certification Summary	35
Method Summary	36
Sample Summary	37
Chain of Custody	38
Receipt Checklists	39

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

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
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.

HPLC/IC

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
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)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Job ID: 880-21188-1

Laboratory: Eurofins Midland

Narrative**Job Narrative
880-21188-1****Receipt**

The samples were received on 11/7/2022 9:35 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 was 1.5° C.

Receipt Exceptions

The following samples were received and analyzed from a bulk soil jar: SW-1 , 0-4.1' (880-21188-1), SW-2 , 0-4.1' (880-21188-2), SW-3 , 0-4.1' (880-21188-3), C-1 , 4.1' (880-21188-4), C-2 , 4.1' (880-21188-5), C-3 , 4.1' (880-21188-6), C-4, 2' (880-21188-7), C-5, 2' (880-21188-8), SW-4, 0-2' (880-21188-9), C-6, 3' (880-21188-10), SW-5, 0-3' (880-21188-11), C-7 , 4.1' (880-21188-12), C-8 , 4.1' (880-21188-13), SW-7 , 0-4.1' (880-21188-14) and SW-8 , 0-4.1' (880-21188-15).

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-38821 and analytical batch 880-38809 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: LCSD biased low. Since only an acceptable LCS is required per the method, the data has been qualified and reported. (LCSD 880-38821/2-A)

Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-38877 and analytical batch 880-38808 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

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

General Chemistry

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

Organic Prep

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

VOA Prep

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

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: SW-1 , 0-4.1'

Lab Sample ID: 880-21188-1

Date Collected: 11/01/22 08:00

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		11/07/22 09:43	11/07/22 14:43	1
Toluene	<0.00202	U	0.00202	mg/Kg		11/07/22 09:43	11/07/22 14:43	1
Ethylbenzene	<0.00202	U *- *1	0.00202	mg/Kg		11/07/22 09:43	11/07/22 14:43	1
m,p-Xylenes	<0.00403	U *-	0.00403	mg/Kg		11/07/22 09:43	11/07/22 14:43	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		11/07/22 09:43	11/07/22 14:43	1
Xylenes, Total	<0.00403	U *-	0.00403	mg/Kg		11/07/22 09:43	11/07/22 14:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	11/07/22 09:43	11/07/22 14:43	1
1,4-Difluorobenzene (Surr)	112		70 - 130	11/07/22 09:43	11/07/22 14:43	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			11/07/22 16:11	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/08/22 17:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 11:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 11:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 11:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	81		70 - 130	11/07/22 10:37	11/08/22 11:42	1
o-Terphenyl (Surr)	82		70 - 130	11/07/22 10:37	11/08/22 11:42	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	153		5.04	mg/Kg			11/07/22 20:16	1

Client Sample ID: SW-2 , 0-4.1'

Lab Sample ID: 880-21188-2

Date Collected: 11/01/22 08:30

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 15:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 15:04	1
Ethylbenzene	<0.00200	U *- *1	0.00200	mg/Kg		11/07/22 09:43	11/07/22 15:04	1
m,p-Xylenes	<0.00400	U *-	0.00400	mg/Kg		11/07/22 09:43	11/07/22 15:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 15:04	1
Xylenes, Total	<0.00400	U *-	0.00400	mg/Kg		11/07/22 09:43	11/07/22 15:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	11/07/22 09:43	11/07/22 15:04	1
1,4-Difluorobenzene (Surr)	111		70 - 130	11/07/22 09:43	11/07/22 15:04	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: SW-2 , 0-4.1'

Lab Sample ID: 880-21188-2

Date Collected: 11/01/22 08:30

Matrix: Solid

Date Received: 11/07/22 09:35

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			11/07/22 16:11	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			11/08/22 17:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		11/07/22 10:37	11/08/22 12:48	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		11/07/22 10:37	11/08/22 12:48	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/07/22 10:37	11/08/22 12:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	88		70 - 130			11/07/22 10:37	11/08/22 12:48	1
o-Terphenyl (Surr)	86		70 - 130			11/07/22 10:37	11/08/22 12:48	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	294		4.97	mg/Kg			11/07/22 20:31	1

Client Sample ID: SW-3 , 0-4.1'

Lab Sample ID: 880-21188-3

Date Collected: 11/01/22 08:40

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/07/22 09:43	11/07/22 15:25	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/07/22 09:43	11/07/22 15:25	1
Ethylbenzene	<0.00199	U *- *1	0.00199	mg/Kg		11/07/22 09:43	11/07/22 15:25	1
m,p-Xylenes	<0.00398	U *-	0.00398	mg/Kg		11/07/22 09:43	11/07/22 15:25	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/07/22 09:43	11/07/22 15:25	1
Xylenes, Total	<0.00398	U *-	0.00398	mg/Kg		11/07/22 09:43	11/07/22 15:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130			11/07/22 09:43	11/07/22 15:25	1
1,4-Difluorobenzene (Surr)	118		70 - 130			11/07/22 09:43	11/07/22 15:25	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/07/22 16:11	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/08/22 17:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/07/22 10:37	11/08/22 13:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/07/22 10:37	11/08/22 13:10	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: SW-3 , 0-4.1'

Lab Sample ID: 880-21188-3

Date Collected: 11/01/22 08:40

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/07/22 10:37	11/08/22 13:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	86		70 - 130			11/07/22 10:37	11/08/22 13:10	1
o-Terphenyl (Surr)	86		70 - 130			11/07/22 10:37	11/08/22 13:10	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	418		4.99	mg/Kg			11/07/22 20:36	1

Client Sample ID: C-1 , 4.1'

Lab Sample ID: 880-21188-4

Date Collected: 10/31/22 13:00

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 15:46	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 15:46	1
Ethylbenzene	<0.00198	U *- *1	0.00198	mg/Kg		11/07/22 09:43	11/07/22 15:46	1
m,p-Xylenes	<0.00397	U *-	0.00397	mg/Kg		11/07/22 09:43	11/07/22 15:46	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 15:46	1
Xylenes, Total	<0.00397	U *-	0.00397	mg/Kg		11/07/22 09:43	11/07/22 15:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130			11/07/22 09:43	11/07/22 15:46	1
1,4-Difluorobenzene (Surr)	116		70 - 130			11/07/22 09:43	11/07/22 15:46	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			11/07/22 16:11	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/08/22 17:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 13:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 13:32	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 13:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	89		70 - 130			11/07/22 10:37	11/08/22 13:32	1
o-Terphenyl (Surr)	91		70 - 130			11/07/22 10:37	11/08/22 13:32	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	198		4.98	mg/Kg			11/07/22 20:41	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: C-2 , 4.1'

Lab Sample ID: 880-21188-5

Date Collected: 10/31/22 13:15

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		11/07/22 09:43	11/07/22 16:06	1
Toluene	<0.00201	U	0.00201	mg/Kg		11/07/22 09:43	11/07/22 16:06	1
Ethylbenzene	<0.00201	U *- *1	0.00201	mg/Kg		11/07/22 09:43	11/07/22 16:06	1
m,p-Xylenes	<0.00402	U *-	0.00402	mg/Kg		11/07/22 09:43	11/07/22 16:06	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		11/07/22 09:43	11/07/22 16:06	1
Xylenes, Total	<0.00402	U *-	0.00402	mg/Kg		11/07/22 09:43	11/07/22 16:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130	11/07/22 09:43	11/07/22 16:06	1
1,4-Difluorobenzene (Surr)	67	S1-	70 - 130	11/07/22 09:43	11/07/22 16:06	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			11/07/22 17:16	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/08/22 17:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 13:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 13:53	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 13:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	97		70 - 130	11/07/22 10:37	11/08/22 13:53	1
o-Terphenyl (Surr)	100		70 - 130	11/07/22 10:37	11/08/22 13:53	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	82.6		4.98	mg/Kg			11/07/22 20:46	1

Client Sample ID: C-3 , 4.1'

Lab Sample ID: 880-21188-6

Date Collected: 10/31/22 13:30

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/07/22 09:43	11/07/22 17:51	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/07/22 09:43	11/07/22 17:51	1
Ethylbenzene	<0.00199	U *- *1	0.00199	mg/Kg		11/07/22 09:43	11/07/22 17:51	1
m,p-Xylenes	<0.00398	U *-	0.00398	mg/Kg		11/07/22 09:43	11/07/22 17:51	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/07/22 09:43	11/07/22 17:51	1
Xylenes, Total	<0.00398	U *-	0.00398	mg/Kg		11/07/22 09:43	11/07/22 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	11/07/22 09:43	11/07/22 17:51	1
1,4-Difluorobenzene (Surr)	107		70 - 130	11/07/22 09:43	11/07/22 17:51	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: C-3 , 4.1'

Lab Sample ID: 880-21188-6

Date Collected: 10/31/22 13:30

Matrix: Solid

Date Received: 11/07/22 09:35

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/08/22 13:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/08/22 17:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 14:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 14:15	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 14:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	94		70 - 130			11/07/22 10:37	11/08/22 14:15	1
o-Terphenyl (Surr)	98		70 - 130			11/07/22 10:37	11/08/22 14:15	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	192		4.96	mg/Kg			11/07/22 21:01	1

Client Sample ID: C-4, 2'

Lab Sample ID: 880-21188-7

Date Collected: 10/31/22 13:45

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 18:12	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 18:12	1
Ethylbenzene	<0.00198	U *- *1	0.00198	mg/Kg		11/07/22 09:43	11/07/22 18:12	1
m,p-Xylenes	<0.00397	U *-	0.00397	mg/Kg		11/07/22 09:43	11/07/22 18:12	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 18:12	1
Xylenes, Total	<0.00397	U *-	0.00397	mg/Kg		11/07/22 09:43	11/07/22 18:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			11/07/22 09:43	11/07/22 18:12	1
1,4-Difluorobenzene (Surr)	110		70 - 130			11/07/22 09:43	11/07/22 18:12	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			11/08/22 13:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/08/22 17:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 14:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 14:37	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: C-4, 2'

Lab Sample ID: 880-21188-7

Date Collected: 10/31/22 13:45

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 14:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	103		70 - 130			11/07/22 10:37	11/08/22 14:37	1
o-Terphenyl (Surr)	105		70 - 130			11/07/22 10:37	11/08/22 14:37	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	435		5.05	mg/Kg			11/07/22 21:06	1

Client Sample ID: C-5, 2'

Lab Sample ID: 880-21188-8

Date Collected: 10/31/22 14:00

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 18:32	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 18:32	1
Ethylbenzene	<0.00200	U *- *1	0.00200	mg/Kg		11/07/22 09:43	11/07/22 18:32	1
m,p-Xylenes	<0.00400	U *-	0.00400	mg/Kg		11/07/22 09:43	11/07/22 18:32	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 18:32	1
Xylenes, Total	<0.00400	U *-	0.00400	mg/Kg		11/07/22 09:43	11/07/22 18:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			11/07/22 09:43	11/07/22 18:32	1
1,4-Difluorobenzene (Surr)	114		70 - 130			11/07/22 09:43	11/07/22 18:32	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			11/08/22 13:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/08/22 17:07	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 14:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 14:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 14:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	112		70 - 130			11/07/22 10:37	11/08/22 14:59	1
o-Terphenyl (Surr)	114		70 - 130			11/07/22 10:37	11/08/22 14:59	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	344		5.02	mg/Kg			11/07/22 21:11	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: SW-4, 0-2'

Lab Sample ID: 880-21188-9

Date Collected: 10/31/22 14:15

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		11/07/22 09:43	11/07/22 18:53	1
Toluene	<0.00202	U	0.00202	mg/Kg		11/07/22 09:43	11/07/22 18:53	1
Ethylbenzene	<0.00202	U *- *1	0.00202	mg/Kg		11/07/22 09:43	11/07/22 18:53	1
m,p-Xylenes	<0.00404	U *-	0.00404	mg/Kg		11/07/22 09:43	11/07/22 18:53	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		11/07/22 09:43	11/07/22 18:53	1
Xylenes, Total	<0.00404	U *-	0.00404	mg/Kg		11/07/22 09:43	11/07/22 18:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			11/07/22 09:43	11/07/22 18:53	1
1,4-Difluorobenzene (Surr)	112		70 - 130			11/07/22 09:43	11/07/22 18:53	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			11/08/22 13:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			11/08/22 17:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		11/07/22 10:40	11/08/22 12:48	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		11/07/22 10:40	11/08/22 12:48	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/07/22 10:40	11/08/22 12:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	71		70 - 130			11/07/22 10:40	11/08/22 12:48	1
o-Terphenyl (Surr)	71		70 - 130			11/07/22 10:40	11/08/22 12:48	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	641		4.99	mg/Kg			11/07/22 21:16	1

Client Sample ID: C-6, 3'

Lab Sample ID: 880-21188-10

Date Collected: 11/04/22 09:15

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 19:14	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 19:14	1
Ethylbenzene	<0.00198	U *- *1	0.00198	mg/Kg		11/07/22 09:43	11/07/22 19:14	1
m,p-Xylenes	<0.00396	U *-	0.00396	mg/Kg		11/07/22 09:43	11/07/22 19:14	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 19:14	1
Xylenes, Total	<0.00396	U *-	0.00396	mg/Kg		11/07/22 09:43	11/07/22 19:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			11/07/22 09:43	11/07/22 19:14	1
1,4-Difluorobenzene (Surr)	116		70 - 130			11/07/22 09:43	11/07/22 19:14	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: C-6, 3'

Lab Sample ID: 880-21188-10

Date Collected: 11/04/22 09:15

Matrix: Solid

Date Received: 11/07/22 09:35

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			11/08/22 13:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/08/22 17:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 13:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 13:10	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 13:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	94		70 - 130			11/07/22 10:40	11/08/22 13:10	1
o-Terphenyl (Surr)	97		70 - 130			11/07/22 10:40	11/08/22 13:10	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	553		5.01	mg/Kg			11/07/22 21:21	1

Client Sample ID: SW-5, 0-3'

Lab Sample ID: 880-21188-11

Date Collected: 11/04/22 09:25

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/07/22 09:43	11/07/22 19:35	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/07/22 09:43	11/07/22 19:35	1
Ethylbenzene	<0.00199	U *- *1	0.00199	mg/Kg		11/07/22 09:43	11/07/22 19:35	1
m,p-Xylenes	<0.00398	U *-	0.00398	mg/Kg		11/07/22 09:43	11/07/22 19:35	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/07/22 09:43	11/07/22 19:35	1
Xylenes, Total	<0.00398	U *-	0.00398	mg/Kg		11/07/22 09:43	11/07/22 19:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130			11/07/22 09:43	11/07/22 19:35	1
1,4-Difluorobenzene (Surr)	108		70 - 130			11/07/22 09:43	11/07/22 19:35	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/08/22 13:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/08/22 17:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/07/22 10:40	11/08/22 13:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/07/22 10:40	11/08/22 13:32	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: SW-5, 0-3'

Lab Sample ID: 880-21188-11

Date Collected: 11/04/22 09:25

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/07/22 10:40	11/08/22 13:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	84		70 - 130			11/07/22 10:40	11/08/22 13:32	1
o-Terphenyl (Surr)	87		70 - 130			11/07/22 10:40	11/08/22 13:32	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	603		4.98	mg/Kg			11/07/22 21:26	1

Client Sample ID: C-7 , 4.1'

Lab Sample ID: 880-21188-12

Date Collected: 11/04/22 09:35

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 19:55	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 19:55	1
Ethylbenzene	<0.00198	U *- *1	0.00198	mg/Kg		11/07/22 09:43	11/07/22 19:55	1
m,p-Xylenes	<0.00397	U *-	0.00397	mg/Kg		11/07/22 09:43	11/07/22 19:55	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/07/22 09:43	11/07/22 19:55	1
Xylenes, Total	<0.00397	U *-	0.00397	mg/Kg		11/07/22 09:43	11/07/22 19:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			11/07/22 09:43	11/07/22 19:55	1
1,4-Difluorobenzene (Surr)	108		70 - 130			11/07/22 09:43	11/07/22 19:55	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			11/08/22 13:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/08/22 17:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/07/22 10:40	11/08/22 13:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/07/22 10:40	11/08/22 13:53	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/07/22 10:40	11/08/22 13:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	103		70 - 130			11/07/22 10:40	11/08/22 13:53	1
o-Terphenyl (Surr)	106		70 - 130			11/07/22 10:40	11/08/22 13:53	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	238		5.04	mg/Kg			11/07/22 21:41	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: C-8 , 4.1'

Lab Sample ID: 880-21188-13

Date Collected: 11/04/22 09:45

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		11/07/22 09:43	11/07/22 20:16	1
Toluene	<0.00202	U	0.00202	mg/Kg		11/07/22 09:43	11/07/22 20:16	1
Ethylbenzene	<0.00202	U *- *1	0.00202	mg/Kg		11/07/22 09:43	11/07/22 20:16	1
m,p-Xylenes	<0.00403	U *-	0.00403	mg/Kg		11/07/22 09:43	11/07/22 20:16	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		11/07/22 09:43	11/07/22 20:16	1
Xylenes, Total	<0.00403	U *-	0.00403	mg/Kg		11/07/22 09:43	11/07/22 20:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	11/07/22 09:43	11/07/22 20:16	1
1,4-Difluorobenzene (Surr)	114		70 - 130	11/07/22 09:43	11/07/22 20:16	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			11/08/22 13:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/08/22 17:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 14:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 14:15	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 14:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	97		70 - 130	11/07/22 10:40	11/08/22 14:15	1
o-Terphenyl (Surr)	101		70 - 130	11/07/22 10:40	11/08/22 14:15	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	225		5.00	mg/Kg			11/07/22 21:46	1

Client Sample ID: SW-7 , 0-4.1'

Lab Sample ID: 880-21188-14

Date Collected: 11/04/22 09:55

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 20:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 20:37	1
Ethylbenzene	<0.00200	U *- *1	0.00200	mg/Kg		11/07/22 09:43	11/07/22 20:37	1
m,p-Xylenes	<0.00399	U *-	0.00399	mg/Kg		11/07/22 09:43	11/07/22 20:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 20:37	1
Xylenes, Total	<0.00399	U *-	0.00399	mg/Kg		11/07/22 09:43	11/07/22 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	11/07/22 09:43	11/07/22 20:37	1
1,4-Difluorobenzene (Surr)	108		70 - 130	11/07/22 09:43	11/07/22 20:37	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: SW-7 , 0-4.1'

Lab Sample ID: 880-21188-14

Date Collected: 11/04/22 09:55

Matrix: Solid

Date Received: 11/07/22 09:35

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/08/22 13:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/08/22 17:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 14:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 14:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 14:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	90		70 - 130			11/07/22 10:40	11/08/22 14:37	1
o-Terphenyl (Surr)	93		70 - 130			11/07/22 10:40	11/08/22 14:37	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	512		5.03	mg/Kg			11/07/22 22:00	1

Client Sample ID: SW-8 , 0-4.1'

Lab Sample ID: 880-21188-15

Date Collected: 11/04/22 10:05

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		11/07/22 09:43	11/07/22 20:58	1
Toluene	<0.00201	U	0.00201	mg/Kg		11/07/22 09:43	11/07/22 20:58	1
Ethylbenzene	<0.00201	U *- *1	0.00201	mg/Kg		11/07/22 09:43	11/07/22 20:58	1
m,p-Xylenes	<0.00402	U *-	0.00402	mg/Kg		11/07/22 09:43	11/07/22 20:58	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		11/07/22 09:43	11/07/22 20:58	1
Xylenes, Total	<0.00402	U *-	0.00402	mg/Kg		11/07/22 09:43	11/07/22 20:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130			11/07/22 09:43	11/07/22 20:58	1
1,4-Difluorobenzene (Surr)	114		70 - 130			11/07/22 09:43	11/07/22 20:58	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			11/08/22 13:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/08/22 17:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 14:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 14:59	1

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: SW-8 , 0-4.1'

Lab Sample ID: 880-21188-15

Date Collected: 11/04/22 10:05

Matrix: Solid

Date Received: 11/07/22 09:35

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/07/22 10:40	11/08/22 14:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	89		70 - 130	11/07/22 10:40	11/08/22 14:59	1
o-Terphenyl (Surr)	92		70 - 130	11/07/22 10:40	11/08/22 14:59	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	791		5.05	mg/Kg			11/07/22 22:05	1

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21188-1	SW-1 , 0-4.1'	110	112
880-21188-1 MS	SW-1 , 0-4.1'	97	89
880-21188-1 MSD	SW-1 , 0-4.1'	117	129
880-21188-2	SW-2 , 0-4.1'	115	111
880-21188-3	SW-3 , 0-4.1'	112	118
880-21188-4	C-1 , 4.1'	107	116
880-21188-5	C-2 , 4.1'	78	67 S1-
880-21188-6	C-3 , 4.1'	106	107
880-21188-7	C-4, 2'	103	110
880-21188-8	C-5, 2'	103	114
880-21188-9	SW-4, 0-2'	108	112
880-21188-10	C-6, 3'	115	116
880-21188-11	SW-5, 0-3'	110	108
880-21188-12	C-7 , 4.1'	105	108
880-21188-13	C-8 , 4.1'	110	114
880-21188-14	SW-7 , 0-4.1'	109	108
880-21188-15	SW-8 , 0-4.1'	109	114
LCS 880-38821/1-A	Lab Control Sample	82	103
LCS 880-38877/1-A	Lab Control Sample	100	109
LCSD 880-38821/2-A	Lab Control Sample Dup	90	105
LCSD 880-38877/2-A	Lab Control Sample Dup	97	104
MB 880-38814/5-A	Method Blank	83	96
MB 880-38821/5-A	Method Blank	100	97
MB 880-38877/5-A	Method Blank	86	93
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-21188-1	SW-1 , 0-4.1'	81	82
880-21188-1 MS	SW-1 , 0-4.1'	103	84
880-21188-1 MSD	SW-1 , 0-4.1'	96	84
880-21188-2	SW-2 , 0-4.1'	88	86
880-21188-3	SW-3 , 0-4.1'	86	86
880-21188-4	C-1 , 4.1'	89	91
880-21188-5	C-2 , 4.1'	97	100
880-21188-6	C-3 , 4.1'	94	98
880-21188-7	C-4, 2'	103	105
880-21188-8	C-5, 2'	112	114
880-21188-9	SW-4, 0-2'	71	71
880-21188-10	C-6, 3'	94	97
880-21188-11	SW-5, 0-3'	84	87
880-21188-12	C-7 , 4.1'	103	106
880-21188-13	C-8 , 4.1'	97	101

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Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-21188-14	SW-7 , 0-4.1'	90	93
880-21188-15	SW-8 , 0-4.1'	89	92
LCS 880-38843/2-A	Lab Control Sample	105	107
LCS 880-38848/2-A	Lab Control Sample	105	113
LCSD 880-38843/3-A	Lab Control Sample Dup	112	116
LCSD 880-38848/3-A	Lab Control Sample Dup	90	95
MB 880-38843/1-A	Method Blank	98	104
MB 880-38848/1-A	Method Blank	108	116
Surrogate Legend			
1CO = 1-Chlorooctane (Surr)			
OTPH = o-Terphenyl (Surr)			

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38814/5-A

Matrix: Solid

Analysis Batch: 38808

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 38814

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/07/22 08:53	11/07/22 10:50	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/07/22 08:53	11/07/22 10:50	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/07/22 08:53	11/07/22 10:50	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		11/07/22 08:53	11/07/22 10:50	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/07/22 08:53	11/07/22 10:50	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/07/22 08:53	11/07/22 10:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130	11/07/22 08:53	11/07/22 10:50	1
1,4-Difluorobenzene (Surr)	96		70 - 130	11/07/22 08:53	11/07/22 10:50	1

Lab Sample ID: MB 880-38821/5-A

Matrix: Solid

Analysis Batch: 38809

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 38821

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 12:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 12:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 12:58	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		11/07/22 09:43	11/07/22 12:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/07/22 09:43	11/07/22 12:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/07/22 09:43	11/07/22 12:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	11/07/22 09:43	11/07/22 12:58	1
1,4-Difluorobenzene (Surr)	97		70 - 130	11/07/22 09:43	11/07/22 12:58	1

Lab Sample ID: LCS 880-38821/1-A

Matrix: Solid

Analysis Batch: 38809

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 38821

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1034		mg/Kg		103	70 - 130
Toluene	0.100	0.1041		mg/Kg		104	70 - 130
Ethylbenzene	0.100	0.1012		mg/Kg		101	70 - 130
m,p-Xylenes	0.200	0.1828		mg/Kg		91	70 - 130
o-Xylene	0.100	0.1023		mg/Kg		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	82		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-38821/2-A

Matrix: Solid

Analysis Batch: 38809

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 38821

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08261		mg/Kg		83	70 - 130	22	35

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-38821/2-A

Matrix: Solid

Analysis Batch: 38809

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 38821

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene	0.100	0.07512		mg/Kg		75	70 - 130	32	35
Ethylbenzene	0.100	0.06727	*- *1	mg/Kg		67	70 - 130	40	35
m,p-Xylenes	0.200	0.1279	*-	mg/Kg		64	70 - 130	35	35
o-Xylene	0.100	0.07467		mg/Kg		75	70 - 130	31	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: MB 880-38877/5-A

Matrix: Solid

Analysis Batch: 38808

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 38877

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/07/22 12:36	11/07/22 21:25	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/07/22 12:36	11/07/22 21:25	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/07/22 12:36	11/07/22 21:25	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		11/07/22 12:36	11/07/22 21:25	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/07/22 12:36	11/07/22 21:25	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/07/22 12:36	11/07/22 21:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	11/07/22 12:36	11/07/22 21:25	1
1,4-Difluorobenzene (Surr)	93		70 - 130	11/07/22 12:36	11/07/22 21:25	1

Lab Sample ID: LCS 880-38877/1-A

Matrix: Solid

Analysis Batch: 38808

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 38877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09773		mg/Kg		98	70 - 130
Toluene	0.100	0.08315		mg/Kg		83	70 - 130
Ethylbenzene	0.100	0.08116		mg/Kg		81	70 - 130
m,p-Xylenes	0.200	0.1641		mg/Kg		82	70 - 130
o-Xylene	0.100	0.08211		mg/Kg		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-38877/2-A

Matrix: Solid

Analysis Batch: 38808

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 38877

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09422		mg/Kg		94	70 - 130	4	35
Toluene	0.100	0.08135		mg/Kg		81	70 - 130	2	35
Ethylbenzene	0.100	0.07785		mg/Kg		78	70 - 130	4	35

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-38877/2-A

Matrix: Solid

Analysis Batch: 38808

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 38877

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m,p-Xylenes	0.200	0.1583		mg/Kg		79	70 - 130	4	35
o-Xylene	0.100	0.07923		mg/Kg		79	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 880-21188-1 MS

Matrix: Solid

Analysis Batch: 38808

Client Sample ID: SW-1 , 0-4.1'

Prep Type: Total/NA

Prep Batch: 38877

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0998	0.06942		mg/Kg		70	70 - 130		
Toluene	<0.00200	U F1	0.0998	0.07384		mg/Kg		73	70 - 130		
Ethylbenzene	<0.00200	U F1	0.0998	0.08236		mg/Kg		83	70 - 130		
m,p-Xylenes	<0.00401	U	0.200	0.1494		mg/Kg		75	70 - 130		
o-Xylene	<0.00200	U	0.0998	0.07315		mg/Kg		73	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: 880-21188-1 MSD

Matrix: Solid

Analysis Batch: 38808

Client Sample ID: SW-1 , 0-4.1'

Prep Type: Total/NA

Prep Batch: 38877

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0990	0.06753	F1	mg/Kg		68	70 - 130	3	35
Toluene	<0.00200	U F1	0.0990	0.06338	F1	mg/Kg		64	70 - 130	15	35
Ethylbenzene	<0.00200	U F1	0.0990	0.06831	F1	mg/Kg		69	70 - 130	19	35
m,p-Xylenes	<0.00401	U	0.198	0.1388		mg/Kg		70	70 - 130	7	35
o-Xylene	<0.00200	U	0.0990	0.07072		mg/Kg		71	70 - 130	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	129		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-38843/1-A

Matrix: Solid

Analysis Batch: 38947

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 38843

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 08:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 08:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/07/22 10:37	11/08/22 08:45	1

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	98		70 - 130	11/07/22 10:37	11/08/22 08:45	1
o-Terphenyl (Surr)	104		70 - 130	11/07/22 10:37	11/08/22 08:45	1

Lab Sample ID: LCS 880-38843/2-A

Matrix: Solid

Analysis Batch: 38947

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 38843

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	814.3		mg/Kg		81	70 - 130
Diesel Range Organics (Over C10-C28)	1000	979.8		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane (Surr)	105		70 - 130
o-Terphenyl (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-38843/3-A

Matrix: Solid

Analysis Batch: 38947

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 38843

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	910.9		mg/Kg		91	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	1000	1042		mg/Kg		104	70 - 130	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	112		70 - 130
o-Terphenyl (Surr)	116		70 - 130

Lab Sample ID: 880-21188-1 MS

Matrix: Solid

Analysis Batch: 38947

Client Sample ID: SW-1 , 0-4.1'

Prep Type: Total/NA

Prep Batch: 38843

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1035		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1109		mg/Kg		111	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane (Surr)	103		70 - 130
o-Terphenyl (Surr)	84		70 - 130

Lab Sample ID: 880-21188-1 MSD

Matrix: Solid

Analysis Batch: 38947

Client Sample ID: SW-1 , 0-4.1'

Prep Type: Total/NA

Prep Batch: 38843

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	886.8		mg/Kg		89	70 - 130	15	20

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-21188-1 MSD

Matrix: Solid

Analysis Batch: 38947

Client Sample ID: SW-1 , 0-4.1'

Prep Type: Total/NA

Prep Batch: 38843

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1121		mg/Kg		112	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	96		70 - 130								
o-Terphenyl (Surr)	84		70 - 130								

Lab Sample ID: MB 880-38848/1-A

Matrix: Solid

Analysis Batch: 38949

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 38848

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/07/22 10:40	11/08/22 08:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/07/22 10:40	11/08/22 08:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/07/22 10:40	11/08/22 08:45	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	108		70 - 130			11/07/22 10:40	11/08/22 08:45	1
o-Terphenyl (Surr)	116		70 - 130			11/07/22 10:40	11/08/22 08:45	1

Lab Sample ID: LCS 880-38848/2-A

Matrix: Solid

Analysis Batch: 38949

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 38848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	866.4		mg/Kg		87	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	1060		mg/Kg		106	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
1-Chlorooctane (Surr)	105		70 - 130					
o-Terphenyl (Surr)	113		70 - 130					

Lab Sample ID: LCSD 880-38848/3-A

Matrix: Solid

Analysis Batch: 38949

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 38848

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1020		mg/Kg		102	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	1000	890.6		mg/Kg		89	70 - 130	17	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane (Surr)	90		70 - 130						
o-Terphenyl (Surr)	95		70 - 130						

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38842/1-A

Matrix: Solid

Analysis Batch: 38882

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			11/07/22 20:02	1

Lab Sample ID: LCS 880-38842/2-A

Matrix: Solid

Analysis Batch: 38882

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	258.3		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-38842/3-A

Matrix: Solid

Analysis Batch: 38882

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	259.1		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 880-21188-1 MS

Matrix: Solid

Analysis Batch: 38882

Client Sample ID: SW-1 , 0-4.1'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	153		252	405.0		mg/Kg		100	90 - 110

Lab Sample ID: 880-21188-1 MSD

Matrix: Solid

Analysis Batch: 38882

Client Sample ID: SW-1 , 0-4.1'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	153		252	405.1		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 880-21188-11 MS

Matrix: Solid

Analysis Batch: 38882

Client Sample ID: SW-5, 0-3'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	603		249	855.8		mg/Kg		102	90 - 110

Lab Sample ID: 880-21188-11 MSD

Matrix: Solid

Analysis Batch: 38882

Client Sample ID: SW-5, 0-3'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	603		249	853.8		mg/Kg		101	90 - 110	0	20

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

GC VOA

Analysis Batch: 38808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38814/5-A	Method Blank	Total/NA	Solid	8021B	38814
MB 880-38877/5-A	Method Blank	Total/NA	Solid	8021B	38877
LCS 880-38877/1-A	Lab Control Sample	Total/NA	Solid	8021B	38877
LCSD 880-38877/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38877
880-21188-1 MS	SW-1 , 0-4.1'	Total/NA	Solid	8021B	38877
880-21188-1 MSD	SW-1 , 0-4.1'	Total/NA	Solid	8021B	38877

Analysis Batch: 38809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-1	SW-1 , 0-4.1'	Total/NA	Solid	8021B	38821
880-21188-2	SW-2 , 0-4.1'	Total/NA	Solid	8021B	38821
880-21188-3	SW-3 , 0-4.1'	Total/NA	Solid	8021B	38821
880-21188-4	C-1 , 4.1'	Total/NA	Solid	8021B	38821
880-21188-5	C-2 , 4.1'	Total/NA	Solid	8021B	38821
880-21188-6	C-3 , 4.1'	Total/NA	Solid	8021B	38821
880-21188-7	C-4, 2'	Total/NA	Solid	8021B	38821
880-21188-8	C-5, 2'	Total/NA	Solid	8021B	38821
880-21188-9	SW-4, 0-2'	Total/NA	Solid	8021B	38821
880-21188-10	C-6, 3'	Total/NA	Solid	8021B	38821
880-21188-11	SW-5, 0-3'	Total/NA	Solid	8021B	38821
880-21188-12	C-7 , 4.1'	Total/NA	Solid	8021B	38821
880-21188-13	C-8 , 4.1'	Total/NA	Solid	8021B	38821
880-21188-14	SW-7 , 0-4.1'	Total/NA	Solid	8021B	38821
880-21188-15	SW-8 , 0-4.1'	Total/NA	Solid	8021B	38821
MB 880-38821/5-A	Method Blank	Total/NA	Solid	8021B	38821
LCS 880-38821/1-A	Lab Control Sample	Total/NA	Solid	8021B	38821
LCSD 880-38821/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38821

Prep Batch: 38814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38814/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 38821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-1	SW-1 , 0-4.1'	Total/NA	Solid	5035	
880-21188-2	SW-2 , 0-4.1'	Total/NA	Solid	5035	
880-21188-3	SW-3 , 0-4.1'	Total/NA	Solid	5035	
880-21188-4	C-1 , 4.1'	Total/NA	Solid	5035	
880-21188-5	C-2 , 4.1'	Total/NA	Solid	5035	
880-21188-6	C-3 , 4.1'	Total/NA	Solid	5035	
880-21188-7	C-4, 2'	Total/NA	Solid	5035	
880-21188-8	C-5, 2'	Total/NA	Solid	5035	
880-21188-9	SW-4, 0-2'	Total/NA	Solid	5035	
880-21188-10	C-6, 3'	Total/NA	Solid	5035	
880-21188-11	SW-5, 0-3'	Total/NA	Solid	5035	
880-21188-12	C-7 , 4.1'	Total/NA	Solid	5035	
880-21188-13	C-8 , 4.1'	Total/NA	Solid	5035	
880-21188-14	SW-7 , 0-4.1'	Total/NA	Solid	5035	
880-21188-15	SW-8 , 0-4.1'	Total/NA	Solid	5035	
MB 880-38821/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38821/1-A	Lab Control Sample	Total/NA	Solid	5035	

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QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

GC VOA (Continued)

Prep Batch: 38821 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-38821/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 38877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38877/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38877/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38877/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21188-1 MS	SW-1 , 0-4.1'	Total/NA	Solid	5035	
880-21188-1 MSD	SW-1 , 0-4.1'	Total/NA	Solid	5035	

Analysis Batch: 38918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-1	SW-1 , 0-4.1'	Total/NA	Solid	Total BTEX	
880-21188-2	SW-2 , 0-4.1'	Total/NA	Solid	Total BTEX	
880-21188-3	SW-3 , 0-4.1'	Total/NA	Solid	Total BTEX	
880-21188-4	C-1 , 4.1'	Total/NA	Solid	Total BTEX	
880-21188-5	C-2 , 4.1'	Total/NA	Solid	Total BTEX	
880-21188-6	C-3 , 4.1'	Total/NA	Solid	Total BTEX	
880-21188-7	C-4 , 2'	Total/NA	Solid	Total BTEX	
880-21188-8	C-5 , 2'	Total/NA	Solid	Total BTEX	
880-21188-9	SW-4 , 0-2'	Total/NA	Solid	Total BTEX	
880-21188-10	C-6 , 3'	Total/NA	Solid	Total BTEX	
880-21188-11	SW-5 , 0-3'	Total/NA	Solid	Total BTEX	
880-21188-12	C-7 , 4.1'	Total/NA	Solid	Total BTEX	
880-21188-13	C-8 , 4.1'	Total/NA	Solid	Total BTEX	
880-21188-14	SW-7 , 0-4.1'	Total/NA	Solid	Total BTEX	
880-21188-15	SW-8 , 0-4.1'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 38843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-1	SW-1 , 0-4.1'	Total/NA	Solid	8015NM Prep	
880-21188-2	SW-2 , 0-4.1'	Total/NA	Solid	8015NM Prep	
880-21188-3	SW-3 , 0-4.1'	Total/NA	Solid	8015NM Prep	
880-21188-4	C-1 , 4.1'	Total/NA	Solid	8015NM Prep	
880-21188-5	C-2 , 4.1'	Total/NA	Solid	8015NM Prep	
880-21188-6	C-3 , 4.1'	Total/NA	Solid	8015NM Prep	
880-21188-7	C-4 , 2'	Total/NA	Solid	8015NM Prep	
880-21188-8	C-5 , 2'	Total/NA	Solid	8015NM Prep	
MB 880-38843/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38843/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38843/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21188-1 MS	SW-1 , 0-4.1'	Total/NA	Solid	8015NM Prep	
880-21188-1 MSD	SW-1 , 0-4.1'	Total/NA	Solid	8015NM Prep	

Prep Batch: 38848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-9	SW-4 , 0-2'	Total/NA	Solid	8015NM Prep	
880-21188-10	C-6 , 3'	Total/NA	Solid	8015NM Prep	
880-21188-11	SW-5 , 0-3'	Total/NA	Solid	8015NM Prep	

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

GC Semi VOA (Continued)

Prep Batch: 38848 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-12	C-7 , 4.1'	Total/NA	Solid	8015NM Prep	
880-21188-13	C-8 , 4.1'	Total/NA	Solid	8015NM Prep	
880-21188-14	SW-7 , 0-4.1'	Total/NA	Solid	8015NM Prep	
880-21188-15	SW-8 , 0-4.1'	Total/NA	Solid	8015NM Prep	
MB 880-38848/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38848/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38848/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-1	SW-1 , 0-4.1'	Total/NA	Solid	8015B NM	38843
880-21188-2	SW-2 , 0-4.1'	Total/NA	Solid	8015B NM	38843
880-21188-3	SW-3 , 0-4.1'	Total/NA	Solid	8015B NM	38843
880-21188-4	C-1 , 4.1'	Total/NA	Solid	8015B NM	38843
880-21188-5	C-2 , 4.1'	Total/NA	Solid	8015B NM	38843
880-21188-6	C-3 , 4.1'	Total/NA	Solid	8015B NM	38843
880-21188-7	C-4, 2'	Total/NA	Solid	8015B NM	38843
880-21188-8	C-5, 2'	Total/NA	Solid	8015B NM	38843
MB 880-38843/1-A	Method Blank	Total/NA	Solid	8015B NM	38843
LCS 880-38843/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38843
LCSD 880-38843/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38843
880-21188-1 MS	SW-1 , 0-4.1'	Total/NA	Solid	8015B NM	38843
880-21188-1 MSD	SW-1 , 0-4.1'	Total/NA	Solid	8015B NM	38843

Analysis Batch: 38949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-9	SW-4, 0-2'	Total/NA	Solid	8015B NM	38848
880-21188-10	C-6, 3'	Total/NA	Solid	8015B NM	38848
880-21188-11	SW-5, 0-3'	Total/NA	Solid	8015B NM	38848
880-21188-12	C-7 , 4.1'	Total/NA	Solid	8015B NM	38848
880-21188-13	C-8 , 4.1'	Total/NA	Solid	8015B NM	38848
880-21188-14	SW-7 , 0-4.1'	Total/NA	Solid	8015B NM	38848
880-21188-15	SW-8 , 0-4.1'	Total/NA	Solid	8015B NM	38848
MB 880-38848/1-A	Method Blank	Total/NA	Solid	8015B NM	38848
LCS 880-38848/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38848
LCSD 880-38848/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38848

Analysis Batch: 39044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-1	SW-1 , 0-4.1'	Total/NA	Solid	8015 NM	
880-21188-2	SW-2 , 0-4.1'	Total/NA	Solid	8015 NM	
880-21188-3	SW-3 , 0-4.1'	Total/NA	Solid	8015 NM	
880-21188-4	C-1 , 4.1'	Total/NA	Solid	8015 NM	
880-21188-5	C-2 , 4.1'	Total/NA	Solid	8015 NM	
880-21188-6	C-3 , 4.1'	Total/NA	Solid	8015 NM	
880-21188-7	C-4, 2'	Total/NA	Solid	8015 NM	
880-21188-8	C-5, 2'	Total/NA	Solid	8015 NM	
880-21188-9	SW-4, 0-2'	Total/NA	Solid	8015 NM	
880-21188-10	C-6, 3'	Total/NA	Solid	8015 NM	
880-21188-11	SW-5, 0-3'	Total/NA	Solid	8015 NM	
880-21188-12	C-7 , 4.1'	Total/NA	Solid	8015 NM	

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

GC Semi VOA (Continued)

Analysis Batch: 39044 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-13	C-8 , 4.1'	Total/NA	Solid	8015 NM	
880-21188-14	SW-7 , 0-4.1'	Total/NA	Solid	8015 NM	
880-21188-15	SW-8 , 0-4.1'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 38842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-1	SW-1 , 0-4.1'	Soluble	Solid	DI Leach	
880-21188-2	SW-2 , 0-4.1'	Soluble	Solid	DI Leach	
880-21188-3	SW-3 , 0-4.1'	Soluble	Solid	DI Leach	
880-21188-4	C-1 , 4.1'	Soluble	Solid	DI Leach	
880-21188-5	C-2 , 4.1'	Soluble	Solid	DI Leach	
880-21188-6	C-3 , 4.1'	Soluble	Solid	DI Leach	
880-21188-7	C-4, 2'	Soluble	Solid	DI Leach	
880-21188-8	C-5, 2'	Soluble	Solid	DI Leach	
880-21188-9	SW-4, 0-2'	Soluble	Solid	DI Leach	
880-21188-10	C-6, 3'	Soluble	Solid	DI Leach	
880-21188-11	SW-5, 0-3'	Soluble	Solid	DI Leach	
880-21188-12	C-7 , 4.1'	Soluble	Solid	DI Leach	
880-21188-13	C-8 , 4.1'	Soluble	Solid	DI Leach	
880-21188-14	SW-7 , 0-4.1'	Soluble	Solid	DI Leach	
880-21188-15	SW-8 , 0-4.1'	Soluble	Solid	DI Leach	
MB 880-38842/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38842/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38842/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-21188-1 MS	SW-1 , 0-4.1'	Soluble	Solid	DI Leach	
880-21188-1 MSD	SW-1 , 0-4.1'	Soluble	Solid	DI Leach	
880-21188-11 MS	SW-5, 0-3'	Soluble	Solid	DI Leach	
880-21188-11 MSD	SW-5, 0-3'	Soluble	Solid	DI Leach	

Analysis Batch: 38882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-1	SW-1 , 0-4.1'	Soluble	Solid	300.0	38842
880-21188-2	SW-2 , 0-4.1'	Soluble	Solid	300.0	38842
880-21188-3	SW-3 , 0-4.1'	Soluble	Solid	300.0	38842
880-21188-4	C-1 , 4.1'	Soluble	Solid	300.0	38842
880-21188-5	C-2 , 4.1'	Soluble	Solid	300.0	38842
880-21188-6	C-3 , 4.1'	Soluble	Solid	300.0	38842
880-21188-7	C-4, 2'	Soluble	Solid	300.0	38842
880-21188-8	C-5, 2'	Soluble	Solid	300.0	38842
880-21188-9	SW-4, 0-2'	Soluble	Solid	300.0	38842
880-21188-10	C-6, 3'	Soluble	Solid	300.0	38842
880-21188-11	SW-5, 0-3'	Soluble	Solid	300.0	38842
880-21188-12	C-7 , 4.1'	Soluble	Solid	300.0	38842
880-21188-13	C-8 , 4.1'	Soluble	Solid	300.0	38842
880-21188-14	SW-7 , 0-4.1'	Soluble	Solid	300.0	38842
880-21188-15	SW-8 , 0-4.1'	Soluble	Solid	300.0	38842
MB 880-38842/1-A	Method Blank	Soluble	Solid	300.0	38842
LCS 880-38842/2-A	Lab Control Sample	Soluble	Solid	300.0	38842
LCSD 880-38842/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38842

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

HPLC/IC (Continued)

Analysis Batch: 38882 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21188-1 MS	SW-1 , 0-4.1'	Soluble	Solid	300.0	38842
880-21188-1 MSD	SW-1 , 0-4.1'	Soluble	Solid	300.0	38842
880-21188-11 MS	SW-5, 0-3'	Soluble	Solid	300.0	38842
880-21188-11 MSD	SW-5, 0-3'	Soluble	Solid	300.0	38842

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

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: SW-1 , 0-4.1'

Lab Sample ID: 880-21188-1

Date Collected: 11/01/22 08:00

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 14:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/07/22 16:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:07	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38843	11/07/22 10:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38947	11/08/22 11:42	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 20:16	CH	EET MID

Client Sample ID: SW-2 , 0-4.1'

Lab Sample ID: 880-21188-2

Date Collected: 11/01/22 08:30

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 15:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/07/22 16:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:07	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	38843	11/07/22 10:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38947	11/08/22 12:48	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 20:31	CH	EET MID

Client Sample ID: SW-3 , 0-4.1'

Lab Sample ID: 880-21188-3

Date Collected: 11/01/22 08:40

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 15:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/07/22 16:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:07	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	38843	11/07/22 10:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38947	11/08/22 13:10	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 20:36	CH	EET MID

Client Sample ID: C-1 , 4.1'

Lab Sample ID: 880-21188-4

Date Collected: 10/31/22 13:00

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 15:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/07/22 16:11	SM	EET MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: C-1 , 4.1'

Lab Sample ID: 880-21188-4

Date Collected: 10/31/22 13:00

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:07	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38843	11/07/22 10:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38947	11/08/22 13:32	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 20:41	CH	EET MID

Client Sample ID: C-2 , 4.1'

Lab Sample ID: 880-21188-5

Date Collected: 10/31/22 13:15

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 16:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/07/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:07	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	38843	11/07/22 10:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38947	11/08/22 13:53	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 20:46	CH	EET MID

Client Sample ID: C-3 , 4.1'

Lab Sample ID: 880-21188-6

Date Collected: 10/31/22 13:30

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 17:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/08/22 13:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:07	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38843	11/07/22 10:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38947	11/08/22 14:15	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 21:01	CH	EET MID

Client Sample ID: C-4, 2'

Lab Sample ID: 880-21188-7

Date Collected: 10/31/22 13:45

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 18:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/08/22 13:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:07	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38843	11/07/22 10:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38947	11/08/22 14:37	AJ	EET MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: C-4, 2'**Lab Sample ID: 880-21188-7****Date Collected: 10/31/22 13:45****Matrix: Solid****Date Received: 11/07/22 09:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 21:06	CH	EET MID

Client Sample ID: C-5, 2'**Lab Sample ID: 880-21188-8****Date Collected: 10/31/22 14:00****Matrix: Solid****Date Received: 11/07/22 09:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 18:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/08/22 13:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:07	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38843	11/07/22 10:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38947	11/08/22 14:59	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 21:11	CH	EET MID

Client Sample ID: SW-4, 0-2'**Lab Sample ID: 880-21188-9****Date Collected: 10/31/22 14:15****Matrix: Solid****Date Received: 11/07/22 09:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 18:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/08/22 13:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:10	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	38848	11/07/22 10:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38949	11/08/22 12:48	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 21:16	CH	EET MID

Client Sample ID: C-6, 3'**Lab Sample ID: 880-21188-10****Date Collected: 11/04/22 09:15****Matrix: Solid****Date Received: 11/07/22 09:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 19:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/08/22 13:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:10	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	38848	11/07/22 10:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38949	11/08/22 13:10	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 21:21	CH	EET MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: SW-5, 0-3'

Lab Sample ID: 880-21188-11

Date Collected: 11/04/22 09:25

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 19:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/08/22 13:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:10	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38848	11/07/22 10:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38949	11/08/22 13:32	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 21:26	CH	EET MID

Client Sample ID: C-7 , 4.1'

Lab Sample ID: 880-21188-12

Date Collected: 11/04/22 09:35

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 19:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/08/22 13:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:10	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	38848	11/07/22 10:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38949	11/08/22 13:53	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 21:41	CH	EET MID

Client Sample ID: C-8 , 4.1'

Lab Sample ID: 880-21188-13

Date Collected: 11/04/22 09:45

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 20:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/08/22 13:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:10	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	38848	11/07/22 10:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38949	11/08/22 14:15	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 21:46	CH	EET MID

Client Sample ID: SW-7 , 0-4.1'

Lab Sample ID: 880-21188-14

Date Collected: 11/04/22 09:55

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 20:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/08/22 13:00	SM	EET MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Client Sample ID: SW-7 , 0-4.1'

Lab Sample ID: 880-21188-14

Date Collected: 11/04/22 09:55

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:10	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	38848	11/07/22 10:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38949	11/08/22 14:37	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 22:00	CH	EET MID

Client Sample ID: SW-8 , 0-4.1'

Lab Sample ID: 880-21188-15

Date Collected: 11/04/22 10:05

Matrix: Solid

Date Received: 11/07/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	38821	11/07/22 09:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38809	11/07/22 20:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38918	11/08/22 13:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			39044	11/08/22 17:10	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	38848	11/07/22 10:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38949	11/08/22 14:59	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	38842	11/07/22 10:35	SMC	EET MID
Soluble	Analysis	300.0		1			38882	11/07/22 22:05	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

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Method Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom 15-1

Job ID: 880-21188-1
SDG: 20-0107-23

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-21188-1	SW-1 , 0-4.1'	Solid	11/01/22 08:00	11/07/22 09:35
880-21188-2	SW-2 , 0-4.1'	Solid	11/01/22 08:30	11/07/22 09:35
880-21188-3	SW-3 , 0-4.1'	Solid	11/01/22 08:40	11/07/22 09:35
880-21188-4	C-1 , 4.1'	Solid	10/31/22 13:00	11/07/22 09:35
880-21188-5	C-2 , 4.1'	Solid	10/31/22 13:15	11/07/22 09:35
880-21188-6	C-3 , 4.1'	Solid	10/31/22 13:30	11/07/22 09:35
880-21188-7	C-4, 2'	Solid	10/31/22 13:45	11/07/22 09:35
880-21188-8	C-5, 2'	Solid	10/31/22 14:00	11/07/22 09:35
880-21188-9	SW-4, 0-2'	Solid	10/31/22 14:15	11/07/22 09:35
880-21188-10	C-6, 3'	Solid	11/04/22 09:15	11/07/22 09:35
880-21188-11	SW-5, 0-3'	Solid	11/04/22 09:25	11/07/22 09:35
880-21188-12	C-7 , 4.1'	Solid	11/04/22 09:35	11/07/22 09:35
880-21188-13	C-8 , 4.1'	Solid	11/04/22 09:45	11/07/22 09:35
880-21188-14	SW-7 , 0-4.1'	Solid	11/04/22 09:55	11/07/22 09:35
880-21188-15	SW-8 , 0-4.1'	Solid	11/04/22 10:05	11/07/22 09:35

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-21188-1

SDG Number: 20-0107-23

Login Number: 21188

List Number: 1

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark J Larson
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Generated 1/11/2023 3:00:15 PM Revision 1

JOB DESCRIPTION

Maelstrom
SDG NUMBER 22-0105-02

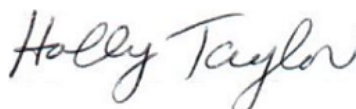
JOB NUMBER

880-23018-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

Eurofins Midland**Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated
1/11/2023 3:00:15 PM
Revision 1

Authorized for release by
Holly Taylor, Project Manager
Holly.Taylor@et.eurofinsus.com
(806)794-1296

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Laboratory Job ID: 880-23018-1
SDG: 22-0105-02

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	7
Surrogate Summary	14
QC Sample Results	16
QC Association Summary	23
Lab Chronicle	27
Certification Summary	30
Method Summary	31
Sample Summary	32
Chain of Custody	33
Receipt Checklists	34

1

2

3

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5

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12

13

14

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Job ID: 880-23018-1

Laboratory: Eurofins Midland

Narrative

**Job Narrative
880-23018-1**

Revision

The report being provided is a revision of the original report sent on 12/30/2022. The report (revision 1) is being revised due to: to change C1, C2, and C3 at 2' to C-9, C-10, and C-11 at 2' and to change C4 5' to C-12 5' per Robert Nelson (email).

Receipt

The samples were received on 12/21/2022 3:26 PM. 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 was 2.0° C.

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SW5 0-3' (880-23018-1), SW9 0-4.1' (880-23018-2), SW10 0-2' (880-23018-3), SW11 0-2' (880-23018-4), C-9 2' (880-23018-5), C-10 2' (880-23018-6), C-11 2' (880-23018-7), C-12 5' (880-23018-8) and SW4 0-2' (880-23018-9).

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-42531 and analytical batch 880-42623 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-42683 and analytical batch 880-42656 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-42793 recovered under the lower control limit for Benzene, Toluene, Ethylbenzene, m,p-Xylenes and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-42840 recovered under the lower control limit for Toluene, Ethylbenzene, m,p-Xylenes and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

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

GC Semi VOA

Method 8015B NM: The surrogate recovery for the blank associated with preparation batch 880-42467 and analytical batch 880-42459 was outside the upper control limits.

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

General Chemistry

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-42446 and analytical batch 880-42475 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

The associated samples are: SW5 0-3' (880-23018-1), SW9 0-4.1' (880-23018-2), SW10 0-2' (880-23018-3), SW11 0-2' (880-23018-4), C-9 2' (880-23018-5), C-10 2' (880-23018-6) and C-11 2' (880-23018-7).

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

Organic Prep

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

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Job ID: 880-23018-1 (Continued)

Laboratory: Eurofins Midland (Continued)

VOA Prep

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

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Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Client Sample ID: SW5 0-3'

Lab Sample ID: 880-23018-1

Date Collected: 12/16/22 11:00

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/27/22 11:01	12/28/22 06:11	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/27/22 11:01	12/28/22 06:11	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/27/22 11:01	12/28/22 06:11	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		12/27/22 11:01	12/28/22 06:11	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/27/22 11:01	12/28/22 06:11	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/27/22 11:01	12/28/22 06:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	12/27/22 11:01	12/28/22 06:11	1
1,4-Difluorobenzene (Surr)	108		70 - 130	12/27/22 11:01	12/28/22 06:11	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/28/22 09:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/22/22 15:05	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 10:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 10:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 10:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	91		70 - 130	12/22/22 07:58	12/22/22 10:34	1
o-Terphenyl (Surr)	89		70 - 130	12/22/22 07:58	12/22/22 10:34	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	480		5.01	mg/Kg			12/22/22 13:05	1

Client Sample ID: SW9 0-4.1'

Lab Sample ID: 880-23018-2

Date Collected: 12/15/22 13:00

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/22 14:30	12/27/22 13:45	1
Toluene	0.00293		0.00200	mg/Kg		12/22/22 14:30	12/27/22 13:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/22 14:30	12/27/22 13:45	1
m,p-Xylenes	0.00895		0.00399	mg/Kg		12/22/22 14:30	12/27/22 13:45	1
o-Xylene	0.00656		0.00200	mg/Kg		12/22/22 14:30	12/27/22 13:45	1
Xylenes, Total	0.0155		0.00399	mg/Kg		12/22/22 14:30	12/27/22 13:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130	12/22/22 14:30	12/27/22 13:45	1
1,4-Difluorobenzene (Surr)	101		70 - 130	12/22/22 14:30	12/27/22 13:45	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Client Sample ID: SW9 0-4.1'

Lab Sample ID: 880-23018-2

Date Collected: 12/15/22 13:00

Matrix: Solid

Date Received: 12/21/22 15:26

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0184		0.00399	mg/Kg			12/27/22 15:14	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/22/22 15:05	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 11:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 11:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 11:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	106		70 - 130			12/22/22 07:58	12/22/22 11:41	1
o-Terphenyl (Surr)	99		70 - 130			12/22/22 07:58	12/22/22 11:41	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	181		5.01	mg/Kg			12/22/22 13:10	1

Client Sample ID: SW10 0-2'

Lab Sample ID: 880-23018-3

Date Collected: 12/19/22 12:00

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		12/28/22 09:58	12/28/22 20:41	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/28/22 09:58	12/28/22 20:41	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/28/22 09:58	12/28/22 20:41	1
m,p-Xylenes	<0.00396	U	0.00396	mg/Kg		12/28/22 09:58	12/28/22 20:41	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/28/22 09:58	12/28/22 20:41	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		12/28/22 09:58	12/28/22 20:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130			12/28/22 09:58	12/28/22 20:41	1
1,4-Difluorobenzene (Surr)	86		70 - 130			12/28/22 09:58	12/28/22 20:41	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			12/29/22 09:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/22/22 15:05	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 12:02	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 12:02	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Client Sample ID: SW10 0-2'

Lab Sample ID: 880-23018-3

Date Collected: 12/19/22 12:00

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 12:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	88		70 - 130			12/22/22 07:58	12/22/22 12:02	1
o-Terphenyl (Surr)	85		70 - 130			12/22/22 07:58	12/22/22 12:02	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97.6		5.02	mg/Kg			12/22/22 13:14	1

Client Sample ID: SW11 0-2'

Lab Sample ID: 880-23018-4

Date Collected: 12/19/22 12:45

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 21:01	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 21:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 21:01	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		12/28/22 09:58	12/28/22 21:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 21:01	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/28/22 09:58	12/28/22 21:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130			12/28/22 09:58	12/28/22 21:01	1
1,4-Difluorobenzene (Surr)	82		70 - 130			12/28/22 09:58	12/28/22 21:01	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			12/29/22 09:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/22/22 15:05	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 12:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 12:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 12:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	104		70 - 130			12/22/22 07:58	12/22/22 12:25	1
o-Terphenyl (Surr)	95		70 - 130			12/22/22 07:58	12/22/22 12:25	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	134		5.00	mg/Kg			12/22/22 13:47	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Client Sample ID: C-9 2'

Lab Sample ID: 880-23018-5

Date Collected: 12/19/22 13:30

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		12/28/22 09:58	12/28/22 21:22	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/28/22 09:58	12/28/22 21:22	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/28/22 09:58	12/28/22 21:22	1
m,p-Xylenes	<0.00402	U	0.00402	mg/Kg		12/28/22 09:58	12/28/22 21:22	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		12/28/22 09:58	12/28/22 21:22	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/28/22 09:58	12/28/22 21:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130	12/28/22 09:58	12/28/22 21:22	1
1,4-Difluorobenzene (Surr)	92		70 - 130	12/28/22 09:58	12/28/22 21:22	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			12/29/22 09:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/22/22 15:05	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 12:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 12:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 12:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	91		70 - 130	12/22/22 07:58	12/22/22 12:47	1
o-Terphenyl (Surr)	86		70 - 130	12/22/22 07:58	12/22/22 12:47	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.8		4.97	mg/Kg			12/22/22 13:52	1

Client Sample ID: C-10 2'

Lab Sample ID: 880-23018-6

Date Collected: 12/19/22 13:31

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		12/28/22 09:58	12/28/22 21:42	1
Toluene	<0.00202	U	0.00202	mg/Kg		12/28/22 09:58	12/28/22 21:42	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		12/28/22 09:58	12/28/22 21:42	1
m,p-Xylenes	<0.00404	U	0.00404	mg/Kg		12/28/22 09:58	12/28/22 21:42	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		12/28/22 09:58	12/28/22 21:42	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		12/28/22 09:58	12/28/22 21:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		70 - 130	12/28/22 09:58	12/28/22 21:42	1
1,4-Difluorobenzene (Surr)	67	S1-	70 - 130	12/28/22 09:58	12/28/22 21:42	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Client Sample ID: C-10 2'

Lab Sample ID: 880-23018-6

Date Collected: 12/19/22 13:31

Matrix: Solid

Date Received: 12/21/22 15:26

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			12/29/22 09:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/22/22 15:05	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 13:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 13:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 13:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	89		70 - 130			12/22/22 07:58	12/22/22 13:09	1
o-Terphenyl (Surr)	86		70 - 130			12/22/22 07:58	12/22/22 13:09	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	148		4.99	mg/Kg			12/22/22 13:56	1

Client Sample ID: C-11 2'

Lab Sample ID: 880-23018-7

Date Collected: 12/19/22 13:32

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 22:03	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 22:03	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 22:03	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		12/28/22 09:58	12/28/22 22:03	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 22:03	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/28/22 09:58	12/28/22 22:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130			12/28/22 09:58	12/28/22 22:03	1
1,4-Difluorobenzene (Surr)	89		70 - 130			12/28/22 09:58	12/28/22 22:03	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			12/29/22 09:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/22/22 15:05	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 13:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 13:31	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Client Sample ID: C-11 2'

Lab Sample ID: 880-23018-7

Date Collected: 12/19/22 13:32

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 13:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	104		70 - 130			12/22/22 07:58	12/22/22 13:31	1
o-Terphenyl (Surr)	99		70 - 130			12/22/22 07:58	12/22/22 13:31	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	231		5.03	mg/Kg			12/22/22 14:01	1

Client Sample ID: C-12 5'

Lab Sample ID: 880-23018-8

Date Collected: 12/20/22 12:00

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 04:35	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 04:35	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 04:35	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		12/27/22 15:00	12/30/22 04:35	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 04:35	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/27/22 15:00	12/30/22 04:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130			12/27/22 15:00	12/30/22 04:35	1
1,4-Difluorobenzene (Surr)	90		70 - 130			12/27/22 15:00	12/30/22 04:35	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			12/30/22 13:18	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/22/22 15:05	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 13:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 13:53	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 13:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	89		70 - 130			12/22/22 07:58	12/22/22 13:53	1
o-Terphenyl (Surr)	87		70 - 130			12/22/22 07:58	12/22/22 13:53	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1260		4.95	mg/Kg			12/22/22 10:14	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Client Sample ID: SW4 0-2'

Lab Sample ID: 880-23018-9

Date Collected: 12/20/22 14:00

Matrix: Solid

Date Received: 12/21/22 15:26

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 04:55	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 04:55	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 04:55	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		12/27/22 15:00	12/30/22 04:55	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 04:55	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/27/22 15:00	12/30/22 04:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	12/27/22 15:00	12/30/22 04:55	1
1,4-Difluorobenzene (Surr)	77		70 - 130	12/27/22 15:00	12/30/22 04:55	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/30/22 13:18	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/22/22 15:05	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 14:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 14:15	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 14:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	104		70 - 130	12/22/22 07:58	12/22/22 14:15	1
o-Terphenyl (Surr)	95		70 - 130	12/22/22 07:58	12/22/22 14:15	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	43.4		4.96	mg/Kg			12/22/22 10:19	1

Eurofins Midland

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
880-23018-1	SW5 0-3'	98	108
880-23018-2	SW9 0-4.1'	121	101
880-23018-3	SW10 0-2'	88	86
880-23018-4	SW11 0-2'	95	82
880-23018-5	C-9 2'	87	92
880-23018-6	C-10 2'	75	67 S1-
880-23018-7	C-11 2'	87	89
880-23018-8	C-12 5'	87	90
880-23018-9	SW4 0-2'	109	77
LCS 880-42531/1-A	Lab Control Sample	99	96
LCS 880-42683/1-A	Lab Control Sample	99	107
LCS 880-42737/1-A	Lab Control Sample	105	94
LCS 880-42784/1-A	Lab Control Sample	104	96
LCSD 880-42531/2-A	Lab Control Sample Dup	99	96
LCSD 880-42683/2-A	Lab Control Sample Dup	99	109
LCSD 880-42737/2-A	Lab Control Sample Dup	95	91
LCSD 880-42784/2-A	Lab Control Sample Dup	93	96
MB 880-42530/5-A	Method Blank	94	105
MB 880-42531/5-A	Method Blank	95	93
MB 880-42683/5-A	Method Blank	95	107
MB 880-42737/5-A	Method Blank	75	85
MB 880-42784/5-A	Method Blank	75	86
MB 880-42802/5-A	Method Blank	74	86
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1	OTPH1
		(70-130)	(70-130)
880-23018-1	SW5 0-3'	91	89
880-23018-1 MS	SW5 0-3'	118	94
880-23018-1 MSD	SW5 0-3'	119	93
880-23018-2	SW9 0-4.1'	106	99
880-23018-3	SW10 0-2'	88	85
880-23018-4	SW11 0-2'	104	95
880-23018-5	C-9 2'	91	86
880-23018-6	C-10 2'	89	86
880-23018-7	C-11 2'	104	99
880-23018-8	C-12 5'	89	87
880-23018-9	SW4 0-2'	104	95
LCS 880-42467/2-A	Lab Control Sample	106	117
LCSD 880-42467/3-A	Lab Control Sample Dup	106	99
MB 880-42467/1-A	Method Blank	142 S1+	141 S1+
Surrogate Legend			
1CO = 1-Chlorooctane (Surr)			

Eurofins Midland

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom
OTPH = o-Terphenyl (Surr)

Job ID: 880-23018-1
SDG: 22-0105-02

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

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42530/5-A

Matrix: Solid

Analysis Batch: 42656

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42530

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/22 14:20	12/27/22 13:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/22 14:20	12/27/22 13:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/22 14:20	12/27/22 13:14	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		12/22/22 14:20	12/27/22 13:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/22 14:20	12/27/22 13:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/22/22 14:20	12/27/22 13:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	12/22/22 14:20	12/27/22 13:14	1
1,4-Difluorobenzene (Surr)	105		70 - 130	12/22/22 14:20	12/27/22 13:14	1

Lab Sample ID: MB 880-42531/5-A

Matrix: Solid

Analysis Batch: 42623

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42531

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/22 14:30	12/27/22 13:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/22 14:30	12/27/22 13:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/22 14:30	12/27/22 13:02	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		12/22/22 14:30	12/27/22 13:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/22 14:30	12/27/22 13:02	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/22/22 14:30	12/27/22 13:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	12/22/22 14:30	12/27/22 13:02	1
1,4-Difluorobenzene (Surr)	93		70 - 130	12/22/22 14:30	12/27/22 13:02	1

Lab Sample ID: LCS 880-42531/1-A

Matrix: Solid

Analysis Batch: 42623

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 42531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1042		mg/Kg		104	70 - 130
Toluene	0.100	0.1015		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.09525		mg/Kg		95	70 - 130
m,p-Xylenes	0.200	0.2103		mg/Kg		105	70 - 130
o-Xylene	0.100	0.1038		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: LCSD 880-42531/2-A

Matrix: Solid

Analysis Batch: 42623

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 42531

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1033		mg/Kg		103	70 - 130	1	35

Eurofins Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-42531/2-A

Matrix: Solid

Analysis Batch: 42623

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 42531

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene	0.100	0.09966		mg/Kg		100	70 - 130	2	35
Ethylbenzene	0.100	0.09323		mg/Kg		93	70 - 130	2	35
m,p-Xylenes	0.200	0.2065		mg/Kg		103	70 - 130	2	35
o-Xylene	0.100	0.1020		mg/Kg		102	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: MB 880-42683/5-A

Matrix: Solid

Analysis Batch: 42656

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42683

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/27/22 11:01	12/28/22 00:49	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/27/22 11:01	12/28/22 00:49	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/27/22 11:01	12/28/22 00:49	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		12/27/22 11:01	12/28/22 00:49	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/27/22 11:01	12/28/22 00:49	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/27/22 11:01	12/28/22 00:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	12/27/22 11:01	12/28/22 00:49	1
1,4-Difluorobenzene (Surr)	107		70 - 130	12/27/22 11:01	12/28/22 00:49	1

Lab Sample ID: LCS 880-42683/1-A

Matrix: Solid

Analysis Batch: 42656

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 42683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1001		mg/Kg		100	70 - 130
Toluene	0.100	0.09307		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.09116		mg/Kg		91	70 - 130
m,p-Xylenes	0.200	0.1889		mg/Kg		94	70 - 130
o-Xylene	0.100	0.09082		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-42683/2-A

Matrix: Solid

Analysis Batch: 42656

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 42683

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1005		mg/Kg		101	70 - 130	0	35
Toluene	0.100	0.09383		mg/Kg		94	70 - 130	1	35
Ethylbenzene	0.100	0.09159		mg/Kg		92	70 - 130	0	35

Eurofins Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-42683/2-A

Matrix: Solid

Analysis Batch: 42656

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 42683

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m,p-Xylenes	0.200	0.1890		mg/Kg		94	70 - 130	0	35
o-Xylene	0.100	0.09238		mg/Kg		92	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: MB 880-42737/5-A

Matrix: Solid

Analysis Batch: 42840

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42737

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/27/22 15:00	12/29/22 23:27	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/27/22 15:00	12/29/22 23:27	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/27/22 15:00	12/29/22 23:27	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		12/27/22 15:00	12/29/22 23:27	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/27/22 15:00	12/29/22 23:27	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/27/22 15:00	12/29/22 23:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		70 - 130	12/27/22 15:00	12/29/22 23:27	1
1,4-Difluorobenzene (Surr)	85		70 - 130	12/27/22 15:00	12/29/22 23:27	1

Lab Sample ID: LCS 880-42737/1-A

Matrix: Solid

Analysis Batch: 42840

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 42737

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.0996	0.1057		mg/Kg		106	70 - 130
Toluene	0.0996	0.09401		mg/Kg		94	70 - 130
Ethylbenzene	0.0996	0.09041		mg/Kg		91	70 - 130
m,p-Xylenes	0.199	0.1926		mg/Kg		97	70 - 130
o-Xylene	0.0996	0.09735		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: LCSD 880-42737/2-A

Matrix: Solid

Analysis Batch: 42840

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 42737

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0998	0.08878		mg/Kg		89	70 - 130	17	35
Toluene	0.0998	0.08441		mg/Kg		85	70 - 130	11	35
Ethylbenzene	0.0998	0.07686		mg/Kg		77	70 - 130	16	35
m,p-Xylenes	0.200	0.1644		mg/Kg		82	70 - 130	16	35
o-Xylene	0.0998	0.08365		mg/Kg		84	70 - 130	15	35

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

Lab Sample ID: MB 880-42784/5-A

Matrix: Solid

Analysis Batch: 42793

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42784

	MB	MB							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil	Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 14:39	1	
Toluene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 14:39	1	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 14:39	1	
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		12/28/22 09:58	12/28/22 14:39	1	
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/28/22 09:58	12/28/22 14:39	1	
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/28/22 09:58	12/28/22 14:39	1	

	MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil	Fac		
4-Bromofluorobenzene (Surr)	75		70 - 130	12/28/22 09:58	12/28/22 14:39	1			
1,4-Difluorobenzene (Surr)	86		70 - 130	12/28/22 09:58	12/28/22 14:39	1			

Lab Sample ID: LCS 880-42784/1-A

Matrix: Solid

Analysis Batch: 42793

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 42784

	Spike	LCS	LCS						
Analyte	Added	Result	Qualifier	Unit	D	%Rec	%Rec	Limits	
Benzene	0.100	0.1015		mg/Kg		102		70 - 130	
Toluene	0.100	0.09584		mg/Kg		96		70 - 130	
Ethylbenzene	0.100	0.08910		mg/Kg		89		70 - 130	
m,p-Xylenes	0.200	0.1926		mg/Kg		96		70 - 130	
o-Xylene	0.100	0.09670		mg/Kg		97		70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: LCSD 880-42784/2-A

Matrix: Solid

Analysis Batch: 42793

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 42784

	Spike	LCSD	LCSD							
Analyte	Added	Result	Qualifier	Unit	D	%Rec	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1058		mg/Kg		106		70 - 130	4	35
Toluene	0.100	0.09470		mg/Kg		95		70 - 130	1	35
Ethylbenzene	0.100	0.08340		mg/Kg		83		70 - 130	7	35
m,p-Xylenes	0.200	0.1792		mg/Kg		90		70 - 130	7	35
o-Xylene	0.100	0.08963		mg/Kg		90		70 - 130	8	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-42802/5-A

Matrix: Solid

Analysis Batch: 42840

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42802

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/28/22 13:43	12/29/22 12:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/28/22 13:43	12/29/22 12:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/28/22 13:43	12/29/22 12:54	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		12/28/22 13:43	12/29/22 12:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/28/22 13:43	12/29/22 12:54	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/28/22 13:43	12/29/22 12:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	12/28/22 13:43	12/29/22 12:54	1
1,4-Difluorobenzene (Surr)	86		70 - 130	12/28/22 13:43	12/29/22 12:54	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-42467/1-A

Matrix: Solid

Analysis Batch: 42459

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42467

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	142	S1+	70 - 130	12/22/22 07:58	12/22/22 08:06	1
o-Terphenyl (Surr)	141	S1+	70 - 130	12/22/22 07:58	12/22/22 08:06	1

Lab Sample ID: LCS 880-42467/2-A

Matrix: Solid

Analysis Batch: 42459

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 42467

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1044		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1016		mg/Kg		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane (Surr)	106		70 - 130
o-Terphenyl (Surr)	117		70 - 130

Lab Sample ID: LCSD 880-42467/3-A

Matrix: Solid

Analysis Batch: 42459

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 42467

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	899.3		mg/Kg		90	70 - 130	15	20

Eurofins Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-42467/3-A

Matrix: Solid

Analysis Batch: 42459

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 42467

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)	1000	881.2		mg/Kg		88	70 - 130	14	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane (Surr)	106		70 - 130						
o-Terphenyl (Surr)	99		70 - 130						

Lab Sample ID: 880-23018-1 MS

Matrix: Solid

Analysis Batch: 42459

Client Sample ID: SW5 0-3'

Prep Type: Total/NA

Prep Batch: 42467

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1193		mg/Kg		116	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	981.3		mg/Kg		98	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane (Surr)	118		70 - 130								
o-Terphenyl (Surr)	94		70 - 130								

Lab Sample ID: 880-23018-1 MSD

Matrix: Solid

Analysis Batch: 42459

Client Sample ID: SW5 0-3'

Prep Type: Total/NA

Prep Batch: 42467

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1200		mg/Kg		117	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	976.0		mg/Kg		98	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane (Surr)	119		70 - 130								
o-Terphenyl (Surr)	93		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-42384/1-A

Matrix: Solid

Analysis Batch: 42451

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			12/22/22 08:05	1

Lab Sample ID: LCS 880-42384/2-A

Matrix: Solid

Analysis Batch: 42451

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	244.0		mg/Kg		98	90 - 110		

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QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 880-42384/3-A

Matrix: Solid

Analysis Batch: 42451

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	241.0		mg/Kg		96	90 - 110	1	20

Lab Sample ID: MB 880-42446/1-A

Matrix: Solid

Analysis Batch: 42475

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			12/22/22 10:41	1

Lab Sample ID: LCS 880-42446/2-A

Matrix: Solid

Analysis Batch: 42475

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	249.0		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-42446/3-A

Matrix: Solid

Analysis Batch: 42475

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	248.2		mg/Kg		99	90 - 110	0	20

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

GC VOA

Prep Batch: 42530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42530/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 42531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-2	SW9 0-4.1'	Total/NA	Solid	5035	
MB 880-42531/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42531/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42531/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 42623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-2	SW9 0-4.1'	Total/NA	Solid	8021B	42531
MB 880-42531/5-A	Method Blank	Total/NA	Solid	8021B	42531
LCS 880-42531/1-A	Lab Control Sample	Total/NA	Solid	8021B	42531
LCSD 880-42531/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42531

Analysis Batch: 42656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-1	SW5 0-3'	Total/NA	Solid	8021B	42683
MB 880-42530/5-A	Method Blank	Total/NA	Solid	8021B	42530
MB 880-42683/5-A	Method Blank	Total/NA	Solid	8021B	42683
LCS 880-42683/1-A	Lab Control Sample	Total/NA	Solid	8021B	42683
LCSD 880-42683/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42683

Prep Batch: 42683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-1	SW5 0-3'	Total/NA	Solid	5035	
MB 880-42683/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42683/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42683/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 42737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-8	C-12 5'	Total/NA	Solid	5035	
880-23018-9	SW4 0-2'	Total/NA	Solid	5035	
MB 880-42737/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42737/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42737/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 42741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-1	SW5 0-3'	Total/NA	Solid	Total BTEX	
880-23018-2	SW9 0-4.1'	Total/NA	Solid	Total BTEX	
880-23018-3	SW10 0-2'	Total/NA	Solid	Total BTEX	
880-23018-4	SW11 0-2'	Total/NA	Solid	Total BTEX	
880-23018-5	C-9 2'	Total/NA	Solid	Total BTEX	
880-23018-6	C-10 2'	Total/NA	Solid	Total BTEX	
880-23018-7	C-11 2'	Total/NA	Solid	Total BTEX	
880-23018-8	C-12 5'	Total/NA	Solid	Total BTEX	
880-23018-9	SW4 0-2'	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

GC VOA

Prep Batch: 42784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-3	SW10 0-2'	Total/NA	Solid	5035	
880-23018-4	SW11 0-2'	Total/NA	Solid	5035	
880-23018-5	C-9 2'	Total/NA	Solid	5035	
880-23018-6	C-10 2'	Total/NA	Solid	5035	
880-23018-7	C-11 2'	Total/NA	Solid	5035	
MB 880-42784/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42784/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42784/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 42793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-3	SW10 0-2'	Total/NA	Solid	8021B	42784
880-23018-4	SW11 0-2'	Total/NA	Solid	8021B	42784
880-23018-5	C-9 2'	Total/NA	Solid	8021B	42784
880-23018-6	C-10 2'	Total/NA	Solid	8021B	42784
880-23018-7	C-11 2'	Total/NA	Solid	8021B	42784
MB 880-42784/5-A	Method Blank	Total/NA	Solid	8021B	42784
LCS 880-42784/1-A	Lab Control Sample	Total/NA	Solid	8021B	42784
LCSD 880-42784/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42784

Prep Batch: 42802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42802/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 42840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-8	C-12 5'	Total/NA	Solid	8021B	42737
880-23018-9	SW4 0-2'	Total/NA	Solid	8021B	42737
MB 880-42737/5-A	Method Blank	Total/NA	Solid	8021B	42737
MB 880-42802/5-A	Method Blank	Total/NA	Solid	8021B	42802
LCS 880-42737/1-A	Lab Control Sample	Total/NA	Solid	8021B	42737
LCSD 880-42737/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42737

GC Semi VOA

Analysis Batch: 42459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-1	SW5 0-3'	Total/NA	Solid	8015B NM	42467
880-23018-2	SW9 0-4.1'	Total/NA	Solid	8015B NM	42467
880-23018-3	SW10 0-2'	Total/NA	Solid	8015B NM	42467
880-23018-4	SW11 0-2'	Total/NA	Solid	8015B NM	42467
880-23018-5	C-9 2'	Total/NA	Solid	8015B NM	42467
880-23018-6	C-10 2'	Total/NA	Solid	8015B NM	42467
880-23018-7	C-11 2'	Total/NA	Solid	8015B NM	42467
880-23018-8	C-12 5'	Total/NA	Solid	8015B NM	42467
880-23018-9	SW4 0-2'	Total/NA	Solid	8015B NM	42467
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015B NM	42467
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42467
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42467
880-23018-1 MS	SW5 0-3'	Total/NA	Solid	8015B NM	42467
880-23018-1 MSD	SW5 0-3'	Total/NA	Solid	8015B NM	42467

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QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

GC Semi VOA

Prep Batch: 42467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-1	SW5 0-3'	Total/NA	Solid	8015NM Prep	
880-23018-2	SW9 0-4.1'	Total/NA	Solid	8015NM Prep	
880-23018-3	SW10 0-2'	Total/NA	Solid	8015NM Prep	
880-23018-4	SW11 0-2'	Total/NA	Solid	8015NM Prep	
880-23018-5	C-9 2'	Total/NA	Solid	8015NM Prep	
880-23018-6	C-10 2'	Total/NA	Solid	8015NM Prep	
880-23018-7	C-11 2'	Total/NA	Solid	8015NM Prep	
880-23018-8	C-12 5'	Total/NA	Solid	8015NM Prep	
880-23018-9	SW4 0-2'	Total/NA	Solid	8015NM Prep	
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23018-1 MS	SW5 0-3'	Total/NA	Solid	8015NM Prep	
880-23018-1 MSD	SW5 0-3'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 42535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-1	SW5 0-3'	Total/NA	Solid	8015 NM	
880-23018-2	SW9 0-4.1'	Total/NA	Solid	8015 NM	
880-23018-3	SW10 0-2'	Total/NA	Solid	8015 NM	
880-23018-4	SW11 0-2'	Total/NA	Solid	8015 NM	
880-23018-5	C-9 2'	Total/NA	Solid	8015 NM	
880-23018-6	C-10 2'	Total/NA	Solid	8015 NM	
880-23018-7	C-11 2'	Total/NA	Solid	8015 NM	
880-23018-8	C-12 5'	Total/NA	Solid	8015 NM	
880-23018-9	SW4 0-2'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 42384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-8	C-12 5'	Soluble	Solid	DI Leach	
880-23018-9	SW4 0-2'	Soluble	Solid	DI Leach	
MB 880-42384/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-42384/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-42384/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 42446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-1	SW5 0-3'	Soluble	Solid	DI Leach	
880-23018-2	SW9 0-4.1'	Soluble	Solid	DI Leach	
880-23018-3	SW10 0-2'	Soluble	Solid	DI Leach	
880-23018-4	SW11 0-2'	Soluble	Solid	DI Leach	
880-23018-5	C-9 2'	Soluble	Solid	DI Leach	
880-23018-6	C-10 2'	Soluble	Solid	DI Leach	
880-23018-7	C-11 2'	Soluble	Solid	DI Leach	
MB 880-42446/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-42446/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-42446/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

HPLC/IC

Analysis Batch: 42451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-8	C-12 5'	Soluble	Solid	300.0	42384
880-23018-9	SW4 0-2'	Soluble	Solid	300.0	42384
MB 880-42384/1-A	Method Blank	Soluble	Solid	300.0	42384
LCS 880-42384/2-A	Lab Control Sample	Soluble	Solid	300.0	42384
LCSD 880-42384/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	42384

Analysis Batch: 42475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23018-1	SW5 0-3'	Soluble	Solid	300.0	42446
880-23018-2	SW9 0-4.1'	Soluble	Solid	300.0	42446
880-23018-3	SW10 0-2'	Soluble	Solid	300.0	42446
880-23018-4	SW11 0-2'	Soluble	Solid	300.0	42446
880-23018-5	C-9 2'	Soluble	Solid	300.0	42446
880-23018-6	C-10 2'	Soluble	Solid	300.0	42446
880-23018-7	C-11 2'	Soluble	Solid	300.0	42446
MB 880-42446/1-A	Method Blank	Soluble	Solid	300.0	42446
LCS 880-42446/2-A	Lab Control Sample	Soluble	Solid	300.0	42446
LCSD 880-42446/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	42446

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Client Sample ID: SW5 0-3'

Lab Sample ID: 880-23018-1

Date Collected: 12/16/22 11:00

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	42683	12/27/22 11:01	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42656	12/28/22 06:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42741	12/28/22 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			42535	12/22/22 15:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 10:34	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	42446	12/21/22 16:11	KS	EET MID
Soluble	Analysis	300.0		1			42475	12/22/22 13:05	SMC	EET MID

Client Sample ID: SW9 0-4.1'

Lab Sample ID: 880-23018-2

Date Collected: 12/15/22 13:00

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	42531	12/22/22 14:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42623	12/27/22 13:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42741	12/27/22 15:14	SM	EET MID
Total/NA	Analysis	8015 NM		1			42535	12/22/22 15:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 11:41	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	42446	12/21/22 16:11	KS	EET MID
Soluble	Analysis	300.0		1			42475	12/22/22 13:10	SMC	EET MID

Client Sample ID: SW10 0-2'

Lab Sample ID: 880-23018-3

Date Collected: 12/19/22 12:00

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	42784	12/28/22 09:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42793	12/28/22 20:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42741	12/29/22 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			42535	12/22/22 15:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 12:02	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	42446	12/21/22 16:11	KS	EET MID
Soluble	Analysis	300.0		1			42475	12/22/22 13:14	SMC	EET MID

Client Sample ID: SW11 0-2'

Lab Sample ID: 880-23018-4

Date Collected: 12/19/22 12:45

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	42784	12/28/22 09:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42793	12/28/22 21:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42741	12/29/22 09:31	SM	EET MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Client Sample ID: SW11 0-2'

Lab Sample ID: 880-23018-4

Date Collected: 12/19/22 12:45

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			42535	12/22/22 15:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 12:25	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	42446	12/21/22 16:11	KS	EET MID
Soluble	Analysis	300.0		1			42475	12/22/22 13:47	SMC	EET MID

Client Sample ID: C-9 2'

Lab Sample ID: 880-23018-5

Date Collected: 12/19/22 13:30

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	42784	12/28/22 09:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42793	12/28/22 21:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42741	12/29/22 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			42535	12/22/22 15:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 12:47	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	42446	12/21/22 16:11	KS	EET MID
Soluble	Analysis	300.0		1			42475	12/22/22 13:52	SMC	EET MID

Client Sample ID: C-10 2'

Lab Sample ID: 880-23018-6

Date Collected: 12/19/22 13:31

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	42784	12/28/22 09:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42793	12/28/22 21:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42741	12/29/22 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			42535	12/22/22 15:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 13:09	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	42446	12/21/22 16:11	KS	EET MID
Soluble	Analysis	300.0		1			42475	12/22/22 13:56	SMC	EET MID

Client Sample ID: C-11 2'

Lab Sample ID: 880-23018-7

Date Collected: 12/19/22 13:32

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	42784	12/28/22 09:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42793	12/28/22 22:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42741	12/29/22 09:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			42535	12/22/22 15:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 13:31	SM	EET MID

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Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Client Sample ID: C-11 2'

Lab Sample ID: 880-23018-7

Date Collected: 12/19/22 13:32

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	42446	12/21/22 16:11	KS	EET MID
Soluble	Analysis	300.0		1			42475	12/22/22 14:01	SMC	EET MID

Client Sample ID: C-12 5'

Lab Sample ID: 880-23018-8

Date Collected: 12/20/22 12:00

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	42737	12/27/22 15:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42840	12/30/22 04:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42741	12/30/22 13:18	SM	EET MID
Total/NA	Analysis	8015 NM		1			42535	12/22/22 15:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 13:53	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	42384	12/21/22 16:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42451	12/22/22 10:14	CH	EET MID

Client Sample ID: SW4 0-2'

Lab Sample ID: 880-23018-9

Date Collected: 12/20/22 14:00

Matrix: Solid

Date Received: 12/21/22 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	42737	12/27/22 15:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42840	12/30/22 04:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42741	12/30/22 13:18	SM	EET MID
Total/NA	Analysis	8015 NM		1			42535	12/22/22 15:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 14:15	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	42384	12/21/22 16:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42451	12/22/22 10:19	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Midland

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23
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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Midland

Sample Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstrom

Job ID: 880-23018-1
SDG: 22-0105-02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-23018-1	SW5 0-3'	Solid	12/16/22 11:00	12/21/22 15:26
880-23018-2	SW9 0-4.1'	Solid	12/15/22 13:00	12/21/22 15:26
880-23018-3	SW10 0-2'	Solid	12/19/22 12:00	12/21/22 15:26
880-23018-4	SW11 0-2'	Solid	12/19/22 12:45	12/21/22 15:26
880-23018-5	C-9 2'	Solid	12/19/22 13:30	12/21/22 15:26
880-23018-6	C-10 2'	Solid	12/19/22 13:31	12/21/22 15:26
880-23018-7	C-11 2'	Solid	12/19/22 13:32	12/21/22 15:26
880-23018-8	C-12 5'	Solid	12/20/22 12:00	12/21/22 15:26
880-23018-9	SW4 0-2'	Solid	12/20/22 14:00	12/21/22 15:26

~~1/11/2023~~

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-23018-1

SDG Number: 22-0105-02

Login Number: 23018**List Number: 1****Creator: Rodriguez, Leticia****List Source: Eurofins Midland**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark J Larson
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Generated 1/12/2023 4:02:54 PM

JOB DESCRIPTION

Maelstron 15-1
SDG NUMBER 20-0107-23

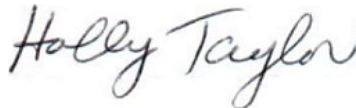
JOB NUMBER

880-23565-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

Eurofins Midland**Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

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1/12/2023 4:02:54 PM

Authorized for release by
Holly Taylor, Project Manager
Holly.Taylor@et.eurofinsus.com
(806)794-1296

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Laboratory Job ID: 880-23565-1
SDG: 20-0107-23

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	9
QC Sample Results	10
QC Association Summary	14
Lab Chronicle	16
Certification Summary	18
Method Summary	19
Sample Summary	20
Chain of Custody	21
Receipt Checklists	22

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

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Job ID: 880-23565-1

Laboratory: Eurofins Midland

Narrative	Job Narrative 880-23565-1
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Receipt

The samples were received on 1/11/2023 8:56 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 2.0°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-43712 and analytical batch 880-43694 was outside the upper control limits.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-43716 and analytical batch 880-43752 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Client Sample ID: C-13, 4.1'

Lab Sample ID: 880-23565-1

Date Collected: 01/10/23 11:31

Matrix: Solid

Date Received: 01/11/23 08:56

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/11/23 09:16	01/11/23 20:35	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/11/23 09:16	01/11/23 20:35	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/11/23 09:16	01/11/23 20:35	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		01/11/23 09:16	01/11/23 20:35	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/11/23 09:16	01/11/23 20:35	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/11/23 09:16	01/11/23 20:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	01/11/23 09:16	01/11/23 20:35	1
1,4-Difluorobenzene (Surr)	108		70 - 130	01/11/23 09:16	01/11/23 20:35	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/12/23 13:12	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			01/12/23 14:52	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		01/11/23 09:44	01/11/23 21:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/11/23 09:44	01/11/23 21:05	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/11/23 09:44	01/11/23 21:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	88		70 - 130	01/11/23 09:44	01/11/23 21:05	1
o-Terphenyl (Surr)	94		70 - 130	01/11/23 09:44	01/11/23 21:05	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	137	F1 F2	5.02	mg/Kg			01/12/23 07:58	1

Client Sample ID: C-14, 2'

Lab Sample ID: 880-23565-2

Date Collected: 01/10/23 11:44

Matrix: Solid

Date Received: 01/11/23 08:56

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/11/23 09:16	01/11/23 20:56	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/11/23 09:16	01/11/23 20:56	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/11/23 09:16	01/11/23 20:56	1
m,p-Xylenes	<0.00398	U	0.00398	mg/Kg		01/11/23 09:16	01/11/23 20:56	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/11/23 09:16	01/11/23 20:56	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/11/23 09:16	01/11/23 20:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	01/11/23 09:16	01/11/23 20:56	1
1,4-Difluorobenzene (Surr)	105		70 - 130	01/11/23 09:16	01/11/23 20:56	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Client Sample ID: C-14, 2'

Lab Sample ID: 880-23565-2

Date Collected: 01/10/23 11:44

Matrix: Solid

Date Received: 01/11/23 08:56

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/12/23 13:12	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			01/12/23 14:52	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		01/11/23 09:44	01/11/23 22:12	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		01/11/23 09:44	01/11/23 22:12	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		01/11/23 09:44	01/11/23 22:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	93		70 - 130			01/11/23 09:44	01/11/23 22:12	1
o-Terphenyl (Surr)	97		70 - 130			01/11/23 09:44	01/11/23 22:12	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	239		4.97	mg/Kg			01/12/23 08:12	1

Client Sample ID: BF-1

Lab Sample ID: 880-23565-3

Date Collected: 01/10/23 12:34

Matrix: Solid

Date Received: 01/11/23 08:56

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 21:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 21:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 21:16	1
m,p-Xylenes	<0.00399	U	0.00399	mg/Kg		01/11/23 09:16	01/11/23 21:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 21:16	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/11/23 09:16	01/11/23 21:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			01/11/23 09:16	01/11/23 21:16	1
1,4-Difluorobenzene (Surr)	108		70 - 130			01/11/23 09:16	01/11/23 21:16	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			01/12/23 13:12	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			01/12/23 14:52	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		01/11/23 09:44	01/11/23 22:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/11/23 09:44	01/11/23 22:34	1

Eurofins Midland

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Client Sample ID: BF-1

Lab Sample ID: 880-23565-3

Date Collected: 01/10/23 12:34

Matrix: Solid

Date Received: 01/11/23 08:56

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/11/23 09:44	01/11/23 22:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	91		70 - 130			01/11/23 09:44	01/11/23 22:34	1
o-Terphenyl (Surr)	92		70 - 130			01/11/23 09:44	01/11/23 22:34	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.47		4.99	mg/Kg			01/12/23 08:17	1

Client Sample ID: BF-2

Lab Sample ID: 880-23565-4

Date Collected: 01/10/23 12:33

Matrix: Solid

Date Received: 01/11/23 08:56

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 21:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 21:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 21:37	1
m,p-Xylenes	<0.00401	U	0.00401	mg/Kg		01/11/23 09:16	01/11/23 21:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 21:37	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/11/23 09:16	01/11/23 21:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			01/11/23 09:16	01/11/23 21:37	1
1,4-Difluorobenzene (Surr)	106		70 - 130			01/11/23 09:16	01/11/23 21:37	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			01/12/23 13:12	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			01/12/23 14:52	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		01/11/23 09:44	01/11/23 22:56	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		01/11/23 09:44	01/11/23 22:56	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		01/11/23 09:44	01/11/23 22:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	97		70 - 130			01/11/23 09:44	01/11/23 22:56	1
o-Terphenyl (Surr)	96		70 - 130			01/11/23 09:44	01/11/23 22:56	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35.2		5.05	mg/Kg			01/12/23 08:22	1

Eurofins Midland

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-23565-1	C-13, 4.1'	114	108
880-23565-2	C-14, 2'	112	105
880-23565-3	BF-1	111	108
880-23565-4	BF-2	111	106
LCS 880-43707/1-A	Lab Control Sample	104	107
LCSD 880-43707/2-A	Lab Control Sample Dup	105	106
MB 880-43707/5-A	Method Blank	101	100
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-23565-1	C-13, 4.1'	88	94
880-23565-1 MS	C-13, 4.1'	96	88
880-23565-1 MSD	C-13, 4.1'	85	77
880-23565-2	C-14, 2'	93	97
880-23565-3	BF-1	91	92
880-23565-4	BF-2	97	96
LCS 880-43712/2-A	Lab Control Sample	103	99
LCSD 880-43712/3-A	Lab Control Sample Dup	121	108
MB 880-43712/1-A	Method Blank	130	133 S1+
Surrogate Legend			
1CO = 1-Chlorooctane (Surr)			
OTPH = o-Terphenyl (Surr)			

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43707/5-A

Matrix: Solid

Analysis Batch: 43709

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 43707

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 12:25	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 12:25	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 12:25	1
m,p-Xylenes	<0.00400	U	0.00400	mg/Kg		01/11/23 09:16	01/11/23 12:25	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/11/23 09:16	01/11/23 12:25	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/11/23 09:16	01/11/23 12:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	01/11/23 09:16	01/11/23 12:25	1
1,4-Difluorobenzene (Surr)	100		70 - 130	01/11/23 09:16	01/11/23 12:25	1

Lab Sample ID: LCS 880-43707/1-A

Matrix: Solid

Analysis Batch: 43709

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 43707

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1127		mg/Kg		113	70 - 130
Toluene	0.100	0.1039		mg/Kg		104	70 - 130
Ethylbenzene	0.100	0.1014		mg/Kg		101	70 - 130
m,p-Xylenes	0.200	0.2081		mg/Kg		104	70 - 130
o-Xylene	0.100	0.09950		mg/Kg		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-43707/2-A

Matrix: Solid

Analysis Batch: 43709

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 43707

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1150		mg/Kg		115	70 - 130	2	35
Toluene	0.100	0.1072		mg/Kg		107	70 - 130	3	35
Ethylbenzene	0.100	0.1034		mg/Kg		103	70 - 130	2	35
m,p-Xylenes	0.200	0.2130		mg/Kg		107	70 - 130	2	35
o-Xylene	0.100	0.1012		mg/Kg		101	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Eurofins Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-43712/1-A

Matrix: Solid

Analysis Batch: 43694

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 43712

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/11/23 09:44	01/11/23 19:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/11/23 09:44	01/11/23 19:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/11/23 09:44	01/11/23 19:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	130		70 - 130	01/11/23 09:44	01/11/23 19:58	1
o-Terphenyl (Surr)	133	S1+	70 - 130	01/11/23 09:44	01/11/23 19:58	1

Lab Sample ID: LCS 880-43712/2-A

Matrix: Solid

Analysis Batch: 43694

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 43712

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	980.1		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	1000	897.0		mg/Kg		90	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane (Surr)	103		70 - 130
o-Terphenyl (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-43712/3-A

Matrix: Solid

Analysis Batch: 43694

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 43712

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	849.2		mg/Kg		85	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	1000	1053		mg/Kg		105	70 - 130	16	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	121		70 - 130
o-Terphenyl (Surr)	108		70 - 130

Lab Sample ID: 880-23565-1 MS

Matrix: Solid

Analysis Batch: 43694

Client Sample ID: C-13, 4.1'

Prep Type: Total/NA

Prep Batch: 43712

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	941.4		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1158		mg/Kg		114	70 - 130

Eurofins Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-23565-1 MS

Matrix: Solid

Analysis Batch: 43694

Client Sample ID: C-13, 4.1'

Prep Type: Total/NA

Prep Batch: 43712

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	96		70 - 130
o-Terphenyl (Surr)	88		70 - 130

Lab Sample ID: 880-23565-1 MSD

Matrix: Solid

Analysis Batch: 43694

Client Sample ID: C-13, 4.1'

Prep Type: Total/NA

Prep Batch: 43712

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1098		mg/Kg		107	70 - 130	15	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1006		mg/Kg		99	70 - 130	14	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane (Surr)	85		70 - 130
o-Terphenyl (Surr)	77		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43716/1-A

Matrix: Solid

Analysis Batch: 43752

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			01/12/23 07:44	1

Lab Sample ID: LCS 880-43716/2-A

Matrix: Solid

Analysis Batch: 43752

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	226.9		mg/Kg		91	90 - 110

Lab Sample ID: LCSD 880-43716/3-A

Matrix: Solid

Analysis Batch: 43752

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	248.7		mg/Kg		99	90 - 110	9	20

Lab Sample ID: 880-23565-1 MS

Matrix: Solid

Analysis Batch: 43752

Client Sample ID: C-13, 4.1'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	137	F1 F2	251	419.4	F1	mg/Kg		112	90 - 110

Eurofins Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-23565-1 MSD							Client Sample ID: C-13, 4.1'					
Matrix: Solid							Prep Type: Soluble					
Analysis Batch: 43752												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	137	F1 F2	251	338.0	F1 F2	mg/Kg		80	90 - 110	22	20	

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

GC VOA

Prep Batch: 43707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23565-1	C-13, 4.1'	Total/NA	Solid	5035	
880-23565-2	C-14, 2'	Total/NA	Solid	5035	
880-23565-3	BF-1	Total/NA	Solid	5035	
880-23565-4	BF-2	Total/NA	Solid	5035	
MB 880-43707/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43707/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43707/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 43709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23565-1	C-13, 4.1'	Total/NA	Solid	8021B	43707
880-23565-2	C-14, 2'	Total/NA	Solid	8021B	43707
880-23565-3	BF-1	Total/NA	Solid	8021B	43707
880-23565-4	BF-2	Total/NA	Solid	8021B	43707
MB 880-43707/5-A	Method Blank	Total/NA	Solid	8021B	43707
LCS 880-43707/1-A	Lab Control Sample	Total/NA	Solid	8021B	43707
LCSD 880-43707/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43707

Analysis Batch: 43820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23565-1	C-13, 4.1'	Total/NA	Solid	Total BTEX	
880-23565-2	C-14, 2'	Total/NA	Solid	Total BTEX	
880-23565-3	BF-1	Total/NA	Solid	Total BTEX	
880-23565-4	BF-2	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23565-1	C-13, 4.1'	Total/NA	Solid	8015B NM	43712
880-23565-2	C-14, 2'	Total/NA	Solid	8015B NM	43712
880-23565-3	BF-1	Total/NA	Solid	8015B NM	43712
880-23565-4	BF-2	Total/NA	Solid	8015B NM	43712
MB 880-43712/1-A	Method Blank	Total/NA	Solid	8015B NM	43712
LCS 880-43712/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43712
LCSD 880-43712/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43712
880-23565-1 MS	C-13, 4.1'	Total/NA	Solid	8015B NM	43712
880-23565-1 MSD	C-13, 4.1'	Total/NA	Solid	8015B NM	43712

Prep Batch: 43712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23565-1	C-13, 4.1'	Total/NA	Solid	8015NM Prep	
880-23565-2	C-14, 2'	Total/NA	Solid	8015NM Prep	
880-23565-3	BF-1	Total/NA	Solid	8015NM Prep	
880-23565-4	BF-2	Total/NA	Solid	8015NM Prep	
MB 880-43712/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43712/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43712/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23565-1 MS	C-13, 4.1'	Total/NA	Solid	8015NM Prep	
880-23565-1 MSD	C-13, 4.1'	Total/NA	Solid	8015NM Prep	

Eurofins Midland

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

GC Semi VOA

Analysis Batch: 43834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23565-1	C-13, 4.1'	Total/NA	Solid	8015 NM	
880-23565-2	C-14, 2'	Total/NA	Solid	8015 NM	
880-23565-3	BF-1	Total/NA	Solid	8015 NM	
880-23565-4	BF-2	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 43716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23565-1	C-13, 4.1'	Soluble	Solid	DI Leach	
880-23565-2	C-14, 2'	Soluble	Solid	DI Leach	
880-23565-3	BF-1	Soluble	Solid	DI Leach	
880-23565-4	BF-2	Soluble	Solid	DI Leach	
MB 880-43716/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43716/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43716/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-23565-1 MS	C-13, 4.1'	Soluble	Solid	DI Leach	
880-23565-1 MSD	C-13, 4.1'	Soluble	Solid	DI Leach	

Analysis Batch: 43752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23565-1	C-13, 4.1'	Soluble	Solid	300.0	43716
880-23565-2	C-14, 2'	Soluble	Solid	300.0	43716
880-23565-3	BF-1	Soluble	Solid	300.0	43716
880-23565-4	BF-2	Soluble	Solid	300.0	43716
MB 880-43716/1-A	Method Blank	Soluble	Solid	300.0	43716
LCS 880-43716/2-A	Lab Control Sample	Soluble	Solid	300.0	43716
LCSD 880-43716/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43716
880-23565-1 MS	C-13, 4.1'	Soluble	Solid	300.0	43716
880-23565-1 MSD	C-13, 4.1'	Soluble	Solid	300.0	43716

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Client Sample ID: C-13, 4.1'**Lab Sample ID: 880-23565-1****Date Collected: 01/10/23 11:31****Matrix: Solid****Date Received: 01/11/23 08:56**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	43707	01/11/23 09:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43709	01/11/23 20:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43820	01/12/23 13:12	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43834	01/12/23 14:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	43712	01/11/23 09:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43694	01/11/23 21:05	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	43716	01/11/23 09:58	KS	EET MID
Soluble	Analysis	300.0		1			43752	01/12/23 07:58	CH	EET MID

Client Sample ID: C-14, 2'**Lab Sample ID: 880-23565-2****Date Collected: 01/10/23 11:44****Matrix: Solid****Date Received: 01/11/23 08:56**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	43707	01/11/23 09:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43709	01/11/23 20:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43820	01/12/23 13:12	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43834	01/12/23 14:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	43712	01/11/23 09:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43694	01/11/23 22:12	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	43716	01/11/23 09:58	KS	EET MID
Soluble	Analysis	300.0		1			43752	01/12/23 08:12	CH	EET MID

Client Sample ID: BF-1**Lab Sample ID: 880-23565-3****Date Collected: 01/10/23 12:34****Matrix: Solid****Date Received: 01/11/23 08:56**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	43707	01/11/23 09:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43709	01/11/23 21:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43820	01/12/23 13:12	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43834	01/12/23 14:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43712	01/11/23 09:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43694	01/11/23 22:34	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	43716	01/11/23 09:58	KS	EET MID
Soluble	Analysis	300.0		1			43752	01/12/23 08:17	CH	EET MID

Client Sample ID: BF-2**Lab Sample ID: 880-23565-4****Date Collected: 01/10/23 12:33****Matrix: Solid****Date Received: 01/11/23 08:56**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	43707	01/11/23 09:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43709	01/11/23 21:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43820	01/12/23 13:12	AJ	EET MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Client Sample ID: BF-2
Date Collected: 01/10/23 12:33
Date Received: 01/11/23 08:56

Lab Sample ID: 880-23565-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			43834	01/12/23 14:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	43712	01/11/23 09:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43694	01/11/23 22:56	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	43716	01/11/23 09:58	KS	EET MID
Soluble	Analysis	300.0		1			43752	01/12/23 08:22	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

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

Method Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Larson & Associates, Inc.
Project/Site: Maelstron 15-1

Job ID: 880-23565-1
SDG: 20-0107-23

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-23565-1	C-13, 4.1'	Solid	01/10/23 11:31	01/11/23 08:56
880-23565-2	C-14, 2'	Solid	01/10/23 11:44	01/11/23 08:56
880-23565-3	BF-1	Solid	01/10/23 12:34	01/11/23 08:56
880-23565-4	BF-2	Solid	01/10/23 12:33	01/11/23 08:56

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~~1/12/2023~~

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-23565-1

SDG Number: 20-0107-23

Login Number: 23565

List Number: 1

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Appendix F
Photographs

Tracking Number: nRM2032861231 & nAPP2202549943

Closure Report

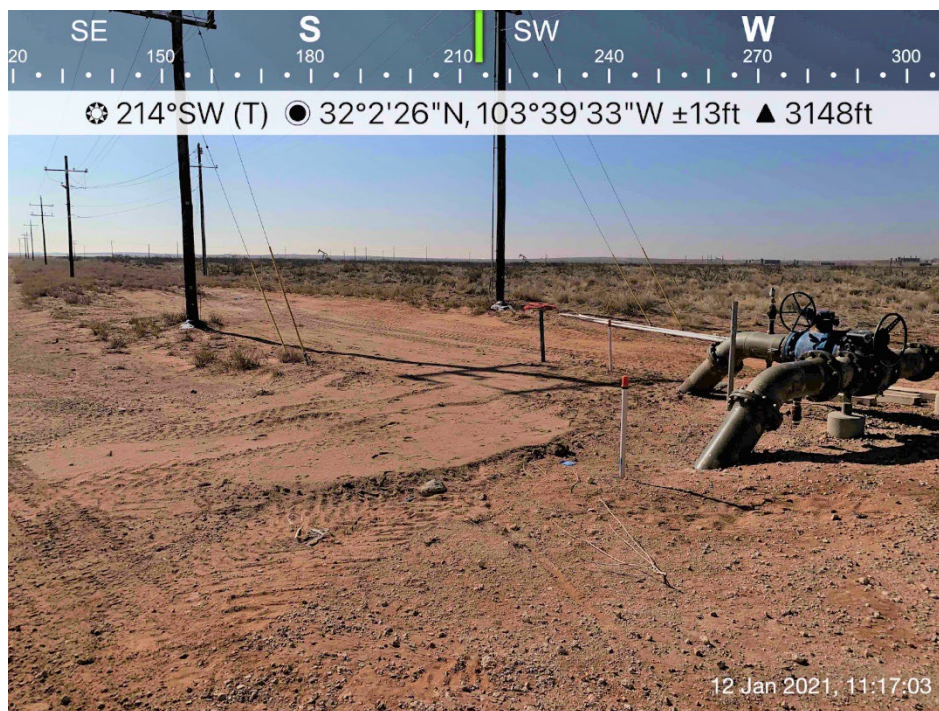
Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023



Impacted area (nRM2032861231) viewing Southeast, January 12, 2021



Impacted area (nRM2032861231) viewing Southwest, January 12, 2021

Tracking Number: nRM2032861231 & nAPP2202549943

Closure Report

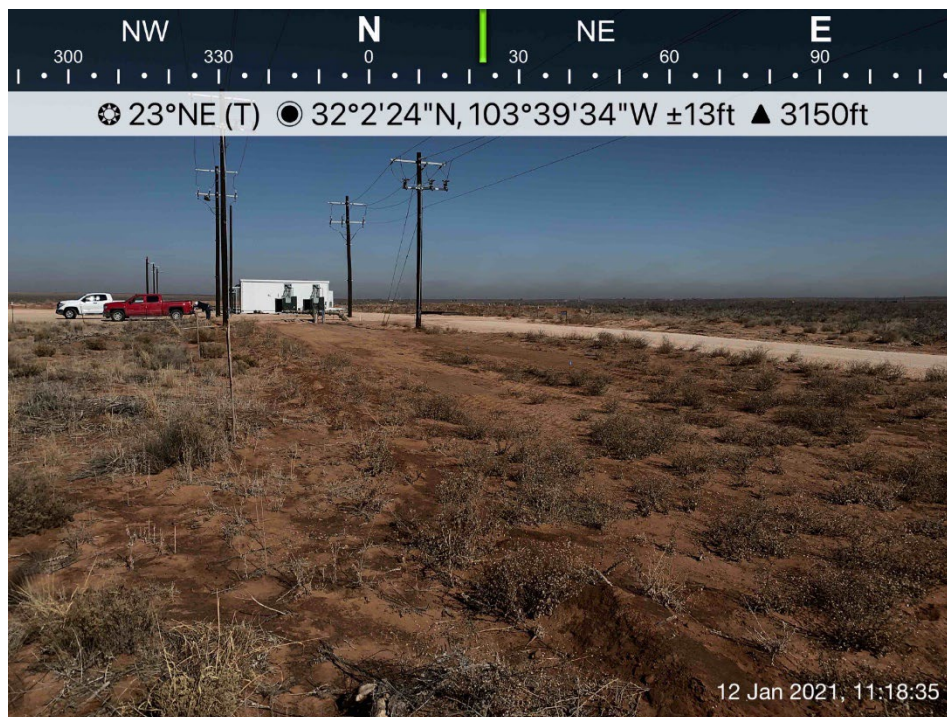
Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023



Impacted area (nRM2032861231) viewing North, January 12, 2021



Impacted area (nRM2032861231) viewing Northeast, January 12, 2021

Tracking Number: nRM2032861231 & nAPP2202549943

Closure Report

Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023



Impacted area (nAPP2202549943) captured by Chevron personnel

Tracking Number: nRM2032861231 & nAPP2202549943

Closure Report

Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023



Impacted area (nAPP2202549943) viewing southwest, March 9, 2022



Impacted area (nAPP2202549943) viewing southeast, March 9, 2022

Tracking Number: nRM2032861231 & nAPP2202549943

Closure Report

Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023



Impacted area (nAPP2202549943) viewing south, March 9, 2022



Excavated soil (nRM2032861231), January 10, 2023

Tracking Number: nRM2032861231 & nAPP2202549943

Closure Report

Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023



Excavated soil (nRM2032861231), January 10, 2023



Excavated soil (nRM2032861231), January 10, 2023

Tracking Number: nRM2032861231 & nAPP2202549943

Closure Report

Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023



Excavated soil (nRM2032861231), January 10, 2023

Tracking Number: nRM2032861231 & nAPP2202549943

Closure Report

Maelstrom 15-1 SWD, Chevron USA, Inc.

Produced Water Releases

February 28, 2023



Excavated soil (nAPP2202549943), January 10, 2023



Excavated soil (nAPP2202549943), January 10, 2023

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 192293

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 192293
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved. Please implement 19.15.29.13 NMAC when completing P&A.	3/13/2023