

Incident ID	nRM2032861231
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?	180 (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

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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: Waste and Water Specialist

Signature: _____ Date: _____

email: ABarnhill@chevron.com Telephone: 432-687-7108

OCD Only

Received by: _____ Date: _____

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Application ID	

Remediation Plan

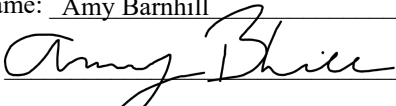
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ 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.

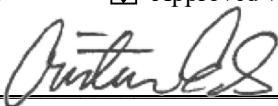
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public 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: Waste and Water Specialist
Signature:  Date: 2-25-21
email: ABarnhill@chevron.com Telephone: 432-687-7108

OCD Only

Received by: Cristina Eads Date: 04/04/2021

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

Signature:  Date: 06/28/2021

Tracking Number: nRM2032861231
Delineation Report and Remediation Plan
Maelstrom 15-1 Federal SWD #001
Produced Water Release
Lea County, New Mexico

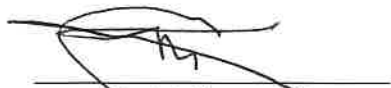
Latitude: N 32.040464°
Longitude: W -103.659518°

LAI Project No. 20-0107-23

February 19, 2021

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

Prepared by:
Larson & Associates, Inc.
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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Tracking Number: nRM2032861231
Delineation Report and Remediation Plan
Chevron USA, Inc., Maelstrom 15-1 Federal SWD #001
Produced Water Release
February 19, 2021

1.0 INTRODUCTION

Larson & Associates, Inc. (LAI), has prepared this delineation report and remediation plan on behalf of Chevron USA Inc. (Chevron) for submittal to the New Mexico Oil Conservation Division (OCD) District I for a produced water release at the Maelstrom 15-1 Federal SWD #001 (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 32.040464° and West -103.659518°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The release was discovered on November 4, 2020 and occurred due a leak in a buried inlet line. Chevron reported that 5.87 barrels (bbls) of produced water was released and 3 bbls were recovered. The affected area measures approximately 2,668 square feet. The initial C-141 was submitted to OCD District 1 on November 10, 2020 and assigned incident number nRM2032861231. Appendix A presents the Chevron spill calculation.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 3,168 feet above mean sea level (msl).
- The surface topography 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 designated as Pyote soil and dune land, 0 to 3 percent slopes, consisting of 0 to 30 fine sand, underlain by 30 to 60 inches of a fine sandy loam.
- The geology is Quaternary age sand and silt, and locally includes cover sand.
- Groundwater was reported at approximately 180 feet below ground surface (bgs) in 2013 from a fresh water well located approximately 1.68 miles southwest of the Site in Section 21, Township 26 South, Range 32 East.

Appendix B presents USGS data depicting karst risk potential.

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 10,000 mg/Kg

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.

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Chevron USA, Inc., Maelstrom 15-1 Federal SWD #001
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2.0 DELINEATION

On January 12, 2021 and February 8, 2021, LAI personnel used a stainless-steel hand auger to collect soil samples from eight (8) locations inside of the spill area (S-1 through S-7 and S-9) and in each cardinal direction of the spill (S-8 and S-10 through S-12). The samples were collected at approximately 0.5 and 1-foot bgs depending on subsurface conditions. The soil samples were delivered under chain of custody and preservation to Xenco Laboratories (Xenco) in Midland, Texas, which analyzed the samples for benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH), including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35), and chloride by EPA SW-846 Methods 8021B and 8015M, and M300, respectively. Figure 2 presents an aerial map showing the sample locations.

Benzene, BTEX, and TPH were below the OCD remediation standards in Table 1 (19.15.29 NMAC) of 10 milligrams per kilogram (mg/Kg), 50 mg/Kg, and 100 mg/Kg, respectively. Chloride exceeded the OCD delineation limit of 600 mg/Kg in the following samples:

Sample ID	Depth (Feet)	Chloride Concentration (mg/Kg)
S-2	0.5	1,670
S-2	1	3,220
S-5	0.5	4,850
S-5	1	3,990
S-7	0.5	8,890
S-7	1	2,670
S-9	0.5	640

On February 8, 2021, LAI personnel used a Geoprobe® 7822DT direct push rig to further delineate chloride at sample location S-2, S-5, and S-7. Soil samples were collected at approximately one (1), three (3), five (5), and ten (10) feet bgs. The laboratory results demonstrate the release was delineated according to the OCD remediation and closure requirements (19.15.29.12 NMAC Table 1) for groundwater between 50 and 100 feet bgs. Figure 2 presents an aerial map showing the sample locations. Appendix C presents the laboratory reports.

3.0 Remediation Plan

Chevron proposes the following remedial actions:

- 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 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 top within the ROW assuming achievement of OCD remediation levels.
- Seed the backfilled area with BLM mix #2.

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- Prepare report with photographs for submittal to OCD District 1.

Figure 3 presents the proposed excavation areas.

Tables

Table 1
Soil Sample Analytical Data Summary
Maelstrom 15-1 SWD
Lea County, New Mexico
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	100/2,500				600/20,000
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
Lea County, New Mexico
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	100/2,500				600/20,000
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
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				100/2,500	600/20,000

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

Figures

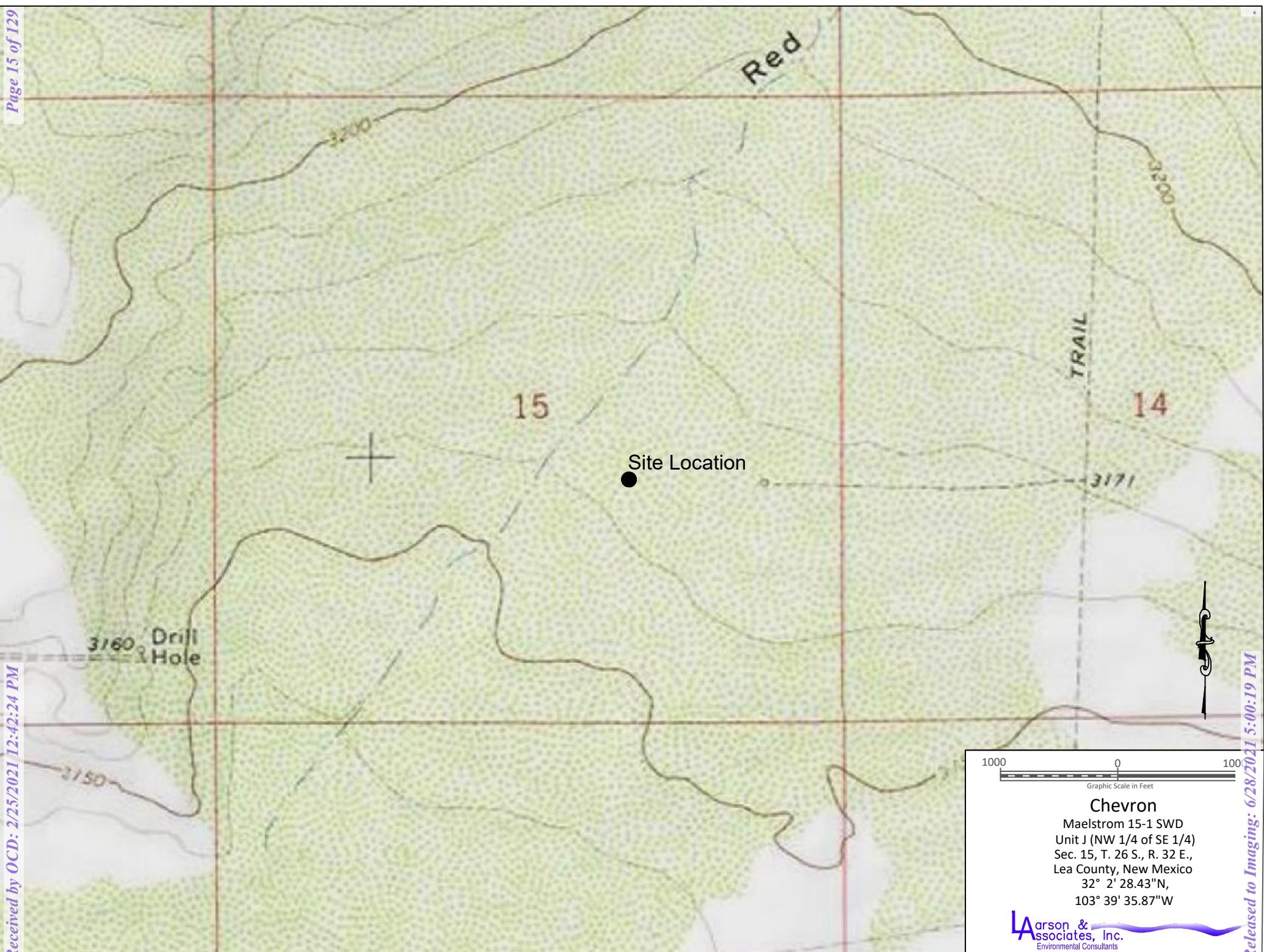
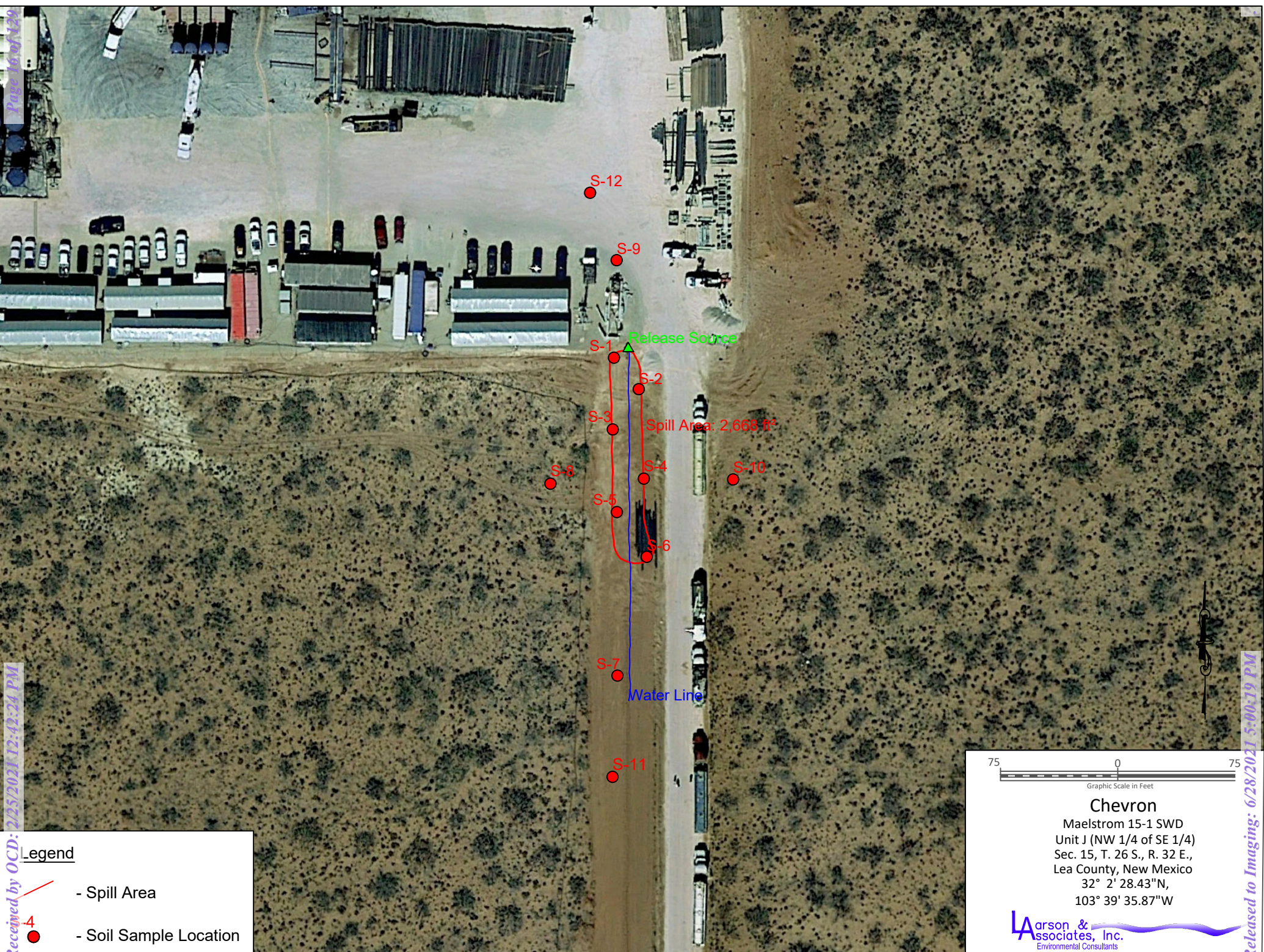
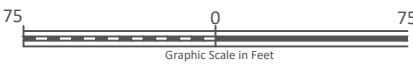


Figure 1 - Topographic Map



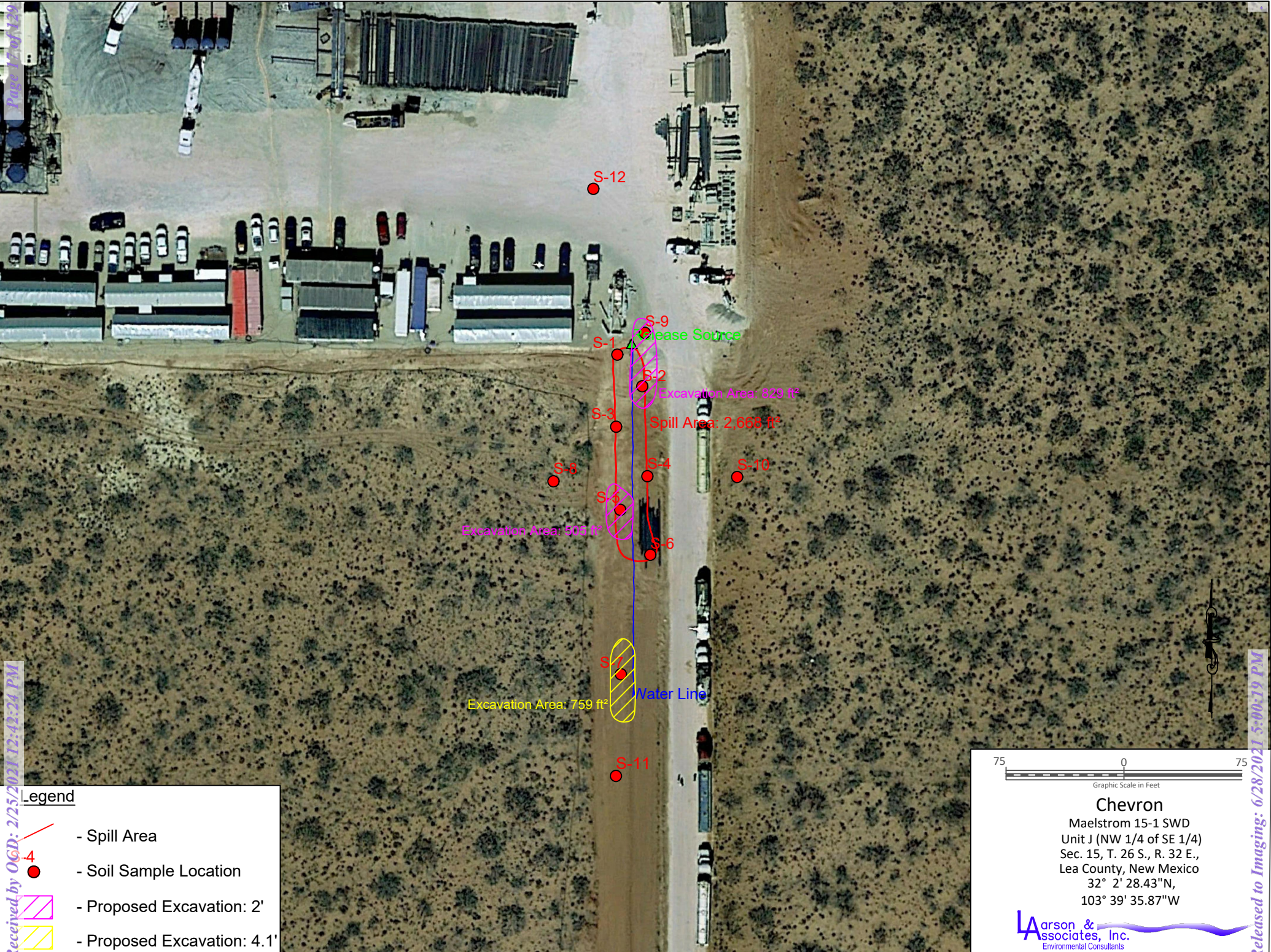
- Legend**
- Spill Area
 - Soil Sample Location



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 2 - Aerial Map



Legend

- Spill Area
- Soil Sample Location
- Proposed Excavation: 2'
- Proposed Excavation: 4.1'

75 0 75
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 Proposed Excavation Locations

Appendix A
Chevron Spill Calculation

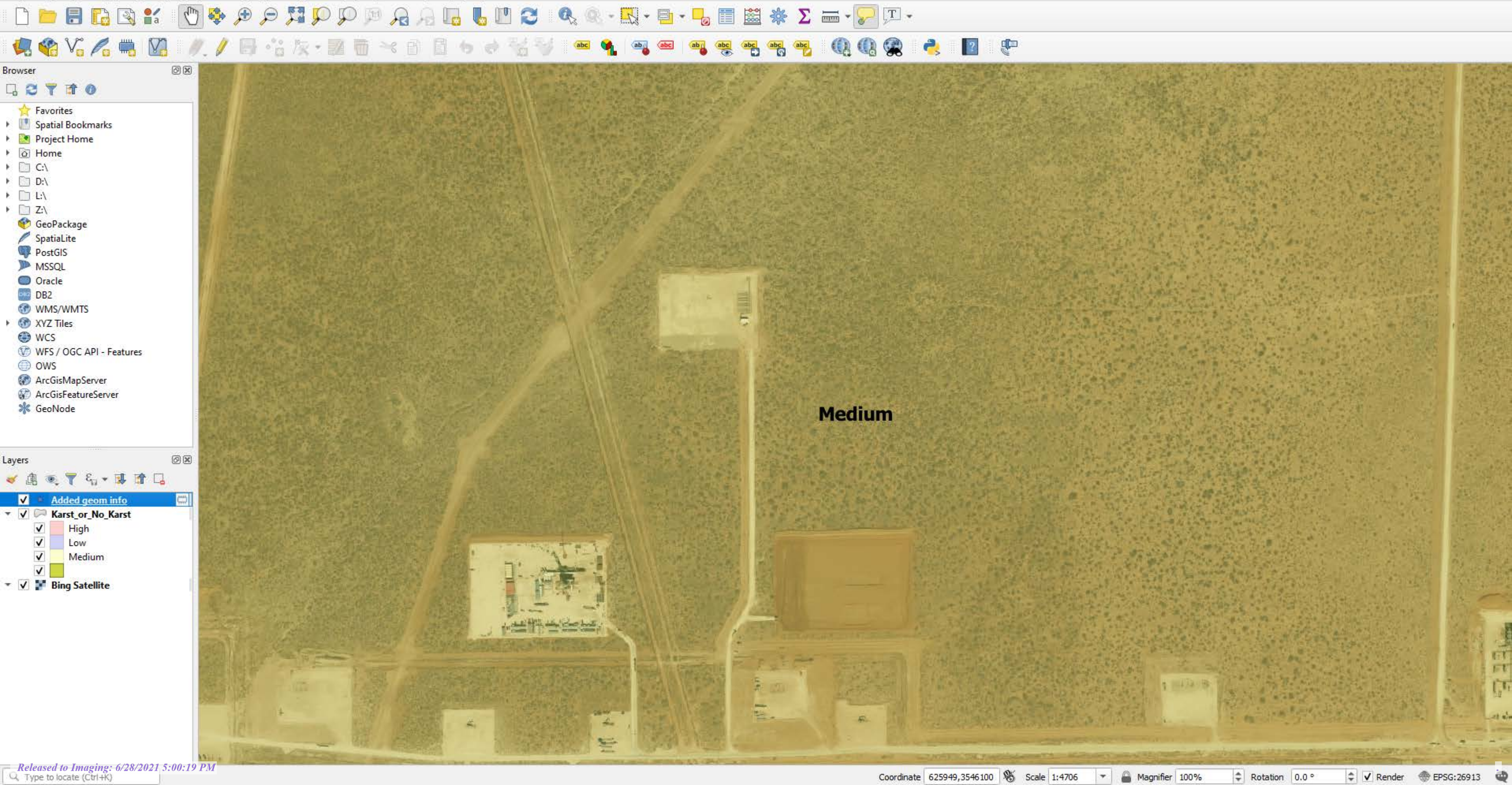
State of New Mexico
Oil Conservation Division

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Area	Standing Liquid	In Soil	size	Oil Volume	Water Volume
1	4	0	4x2	0	5.7
2		0.167	240x4		0.17
3					
4					
5					
Total Fluid				0	5.87

Appendix B
Karst Risk Potential



Appendix C
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

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

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

Varson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 1/13/2021 PAGE 1 OF 2
PO#: _____ LAB WORK ORDER#: _____
PROJECT LOCATION OR NAME: Chevron - Magistram 15-1
LAI PROJECT #: 20-0107-23 COLLECTOR: RU + DS

TRRP report?
☐ Yes ☒ No
TIME ZONE:
Time zone/State:
MST

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

Field
Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

PRESERVATION

ANALYSES

BTEX ☐ MTBE ☐TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐GASOLINE MOD 8015 ☒DIESEL MOD 8015 ☒OIL - MOD 8015 ☒VOC 8260 ☐SVOC 8270 ☐8081 PESTICIDES ☐8082 PESTICIDES ☐TBLP - METALS (RCRA) ☐TCLP - METALS (RCRA) ☐TOTAL METALS (RCRA) ☐LEAD - TOTAL ☐RCI ☐TDS ☐TOX ☐TSS ☐pH ☐EXPLOSIVES ☐CHLORIDES ☐ANIONS ☐ALKALINITY ☐

FIELD NOTES

TOTAL

(RELINQUISHED BY) (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RECEIVING TEMP: 10.2THERM #: 10-2CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RECEIVING TEMP: 10.2THERM #: 10-2CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RECEIVING TEMP: 10.2THERM #: 10-2CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED

LABORATORY: Xenico

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RECEIVING TEMP: 10.2THERM #: 10-2CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED

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 - Neelstrom 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 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐
GASOLINE MOD 8015 ☐
DIESEL - MOD 8015 ☐
OIL - MOD 8015 ☐
VOC 8260 ☐
SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐
8081 PESTICIDES ☐ 8151 HERBICIDES ☐
TBLP PCBs ☐
TCLP - METALS (RCRA) ☐ TCLP VOC ☐
TCLP - PEST ☐ HERB ☐ Semi-VOC ☐
TOTAL METALS (RCRA) ☐ OTHER LIST ☐
LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐
RCI ☐ TOX ☐ FLASHPOINT ☐
TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐
PH ☐ HEXAVALENT CHROMIUM ☐
EXPLOSIVES ☐ PECHLORATE ☐
CHLORIDE # ANIONS ☐ ALKALINITY ☐

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' Matrix: Soil Date Received: 02.10.2021 09:03
 Lab Sample Id: 687930-003 Date Collected: 02.08.2021 13:18
 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	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:
 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 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'
Lab Sample Id: 687930-010

Matrix: Soil
Date Collected: 02.08.2021 13:45

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	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:
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 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'
Lab Sample Id: 687930-012

Matrix: Soil
Date Collected: 02.08.2021 13:50

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	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:
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 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	02.12.2021 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

DATE: 2-9-21 PAGE 1 OF 2
PO#: _____ LAB WORK ORDER#: 687930
PROJECT LOCATION OR NAME: Mgels + room 15-1
LAI PROJECT #: 20-0107-23 COLLECTOR: TJS + MB

ANALYSES	
BTEX - MTBE	☐
TPRH 418.1	☐ TPH 1005 ☐ TPH 1006 ☐
GASOLINE MOD 8015	☒
DIESEL - MOD 8015	☒
OIL - MOD 8015	☒
VOC 8260	☒
SVOC 8270	☐
8081 PESTICIDES	☐ PAH 8270 ☐ HOLD PAH ☐
8082 PCBs	☐ 8151 HERBICIDES ☐
TBLP - METALS (RCRA)	☐ TCLP VOC ☐
TCLP - PEST	☐ HERB ☐ Semi-VOC ☐
TOTAL METALS (RCRA)	☐ OTHER LIST ☐
LEAD - TOTAL	☐ D.W. 200.8 ☐ TCLP ☐
RCI	☐ TOX ☐ FLASHPOINT ☐
TDS	☐ TSS ☐ % MOISTURE ☐
pH	☐ HEXAVALENT CHROMIUM ☐
EXPLOSIVES	☐ PECHLORATE ☐
CHLORIDE	☒ ANIONS ☐ ALKALINITY ☐

[illegible]

PRELIMINARY BY: (Signature) 	DATE/TIME 2/11/17 9:13	RECEIVED BY: (Signature) 	TURN AROUND TIME	LABORATORY USE ONLY:
--	---------------------------	--	------------------	----------------------

RECEIVED BY: (Signature) Shirley
DATE/TIME 04/01/03 08:44
RECEIVED BY: (Signature) _____
NORMAL ☐
RECEIVING TEMP: 49 THERM#: 128

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	1 DAY ☒ 2 DAY ☐	CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
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LABORATORY: XXXXXX

OTHER ☐

☐ CARRIER BILL # _____

☐ HAND DELIVERED

N^o 1497

Varson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 2/9/21 PAGE 2 OF 2
PO#: _____ LAB WORK ORDER#: 687930
PROJECT LOCATION OR NAME: Maestron 15-1
LAI PROJECT #: 20-0107-23 COLLECTOR: JSM

CHAIN-OF-CUSTODY

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

UNPRESSERVED

ANALYSES

BTEX ☒ MTBE ☐
TPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐
GASOLINE MOD 8015 ☐
DIESEL - MOD 8015 ☐
OIL - MOD 8015 ☐
VOC 8260 ☐
SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐
8081 PESTICIDES ☐ 8151 HERBICIDES ☐
TBLP - METALS (RCRA) ☐ TCLP VOC ☐
TCLP - PEST ☐ HERB ☐ Semi-VOC ☐
TOTAL METALS (RCRA) ☐ OTHER LIST ☐
LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐
RCI ☐ TOX ☐ FLASHPOINT ☐
TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐
PH ☐ HEXAVALENT CHROMIUM ☐
EXPLOSIVES ☐ PECTHOLATE ☐
CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐

FIELD NOTES

OTL

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RECEIVING TEMP:

THERM#:

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

NORMAL ☒

1 DAY ☐

2 DAY ☐

OTHER ☐

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED

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

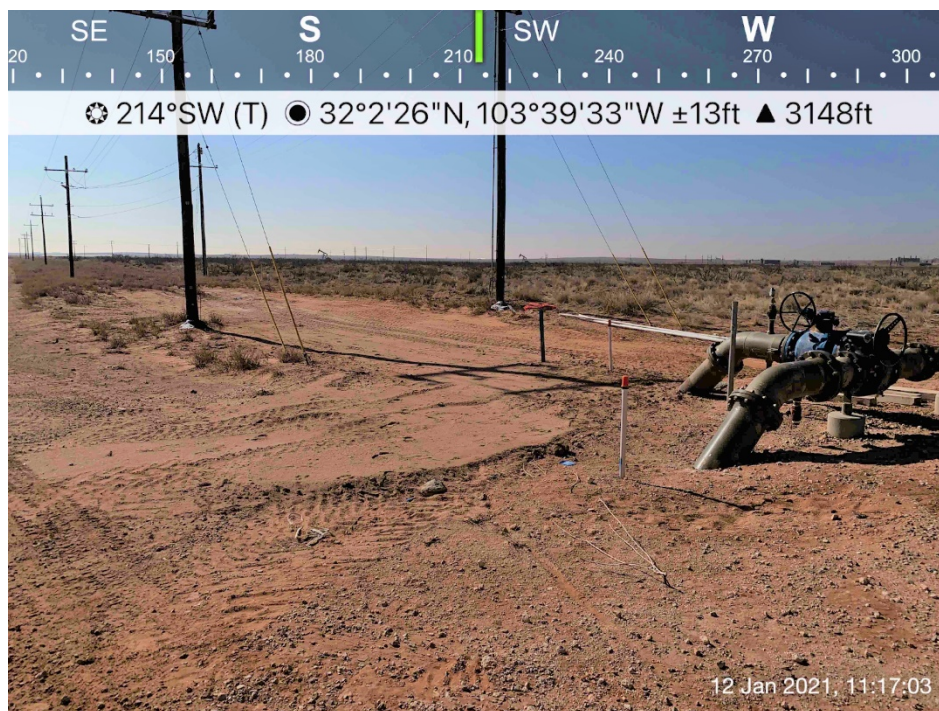
Date: 02.10.2021

Appendix D
Photographs

Tracking Number: nRM2032861231
Delineation Report and Remediation Plan
Chevron USA, Inc., Maelstrom 15-1 Federal SWD #001
Produced Water Release
February 19, 2021

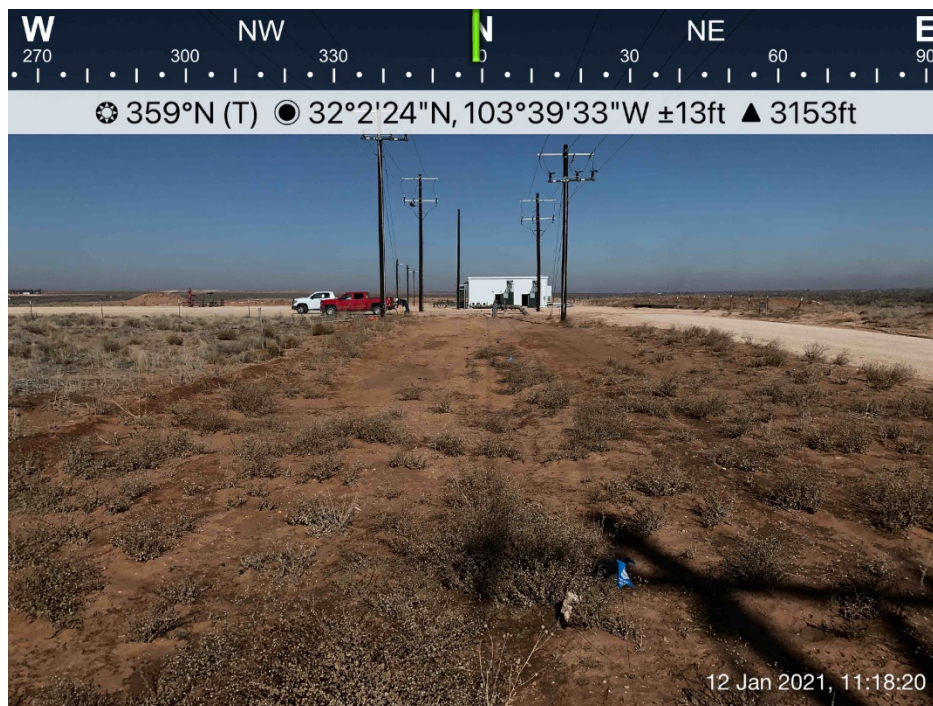


Impacted area viewing Southeast, January 12, 2021

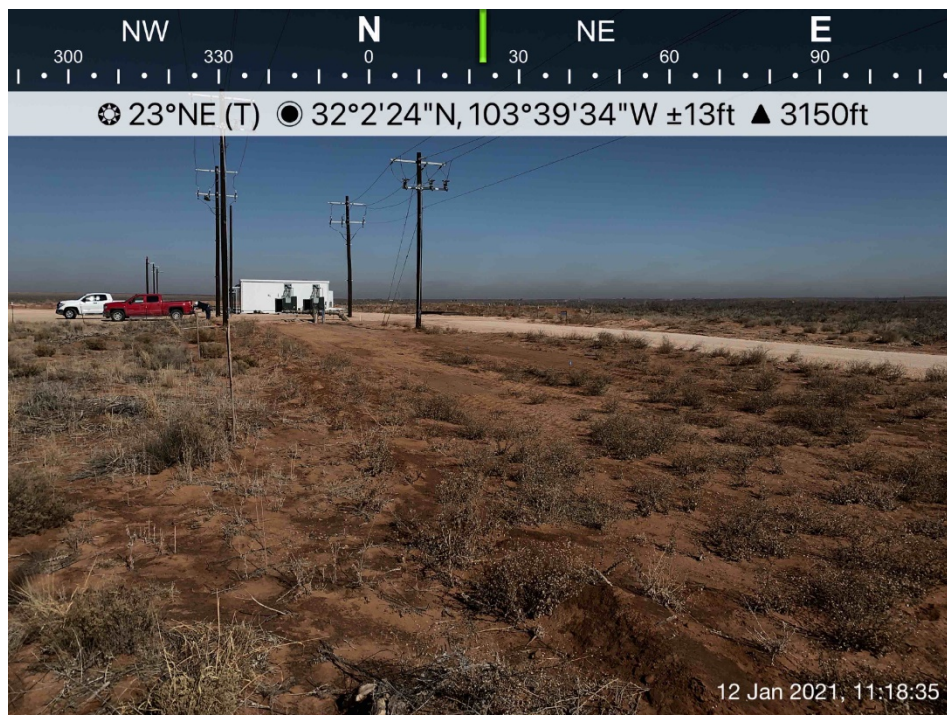


Impacted area viewing Southwest, January 12, 2021

Tracking Number: nRM2032861231
Delineation Report and Remediation Plan
Chevron USA, Inc., Maelstrom 15-1 Federal SWD #001
Produced Water Release
February 19, 2021



Impacted area viewing North, January 12, 2021



Impacted area viewing Northeast, January 12, 2021

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 18995

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 18995
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
ceads	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 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 the depth to groundwater.	6/28/2021