

Incident ID	nRM2027951383
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?	31 (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: Cristina Eads Date: 01/11/2021

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Remediation Plan

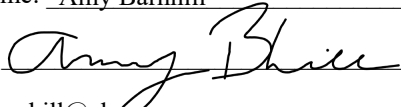
Remediation Plan Checklist: Each of the following items must be included in the plan.

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

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

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

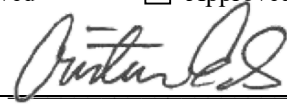
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public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

Printed Name: Amy Barnhill Title: Waste and Water Specialist
Signature:  Date: 1-11-21
email: ABarnhill@chevron.com Telephone: 432-687-7108

OCD Only

Received by: Cristina Eads Date: 01/11/2021

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

Signature:  Date: 03/18/2021

Tracking Number: nRM2027951383
Delineation Report and Remediation Plan
Candie #001
Produced Water & Crude Oil Release
Eddy County, New Mexico

Latitude: N 32.3000107°
Longitude: W -104.0475159°

LAI Project No. 20-0107-22

December 29, 2020

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 nRM2027951383

Closure Report - Candie #001

Eddy County, New Mexico

December 28, 2020

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 II for a produced water and crude oil release at Candie #001 (Site) located in Unit M (SW/4, SW/4), Section 13, Township 23 South, Range 28 East in Eddy County, New Mexico. The geodetic position is North 32.3000107° and West -104.0475159°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The release was discovered on September 11, 2020, due to broken threads on a flow line. Chevron reported that approximately 5.58 barrels (bbls) of crude oil and 11.82 bbls of produced water were released. Approximately 0.25 bbls of crude oil were recovered. No produced water was recovered. The affected area measures approximately 4,622 square feet. Chevron submitted the initial C-141 to OCD District II and was assigned incident number nRM2027951383. Appendix A presents initial Chevron spill documentation.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 2,965 feet above mean sea level (msl).
- The surface topography gradually slopes to the northeast.
- Pecos River is located within about 150 feet west and southwest of the Site.
- Karst data provided by the USGS describes the Site as "Medium Risk" potential.
- The soils are designated as "Harkey very fine sandy loam" consisting of about 87 inches of very fine sandy loam.
- The surface geology consists of the Holocene to upper Pleistocene age unconsolidated alluvium consisting mostly of fine grained quartz sand (USGS).
- Groundwater was reported at approximately 31 feet below ground surface (bgs) in 2016.
- According to the New Mexico Office of the State Engineer (OSE) the nearest freshwater well is located approximately 0.46 miles or 2,443 feet southeast of the Site in Section 24, Township 23 South, Range 28, East.

Appendix B presents data depicting karst risk potential.

1.3 Remediation Levels

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 100 mg/Kg
- Chloride 600 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.

Tracking Number nRM2027951383

Closure Report - Candie #001

Eddy County, New Mexico

December 29, 2020

2.0 DELINEATION

On October 29, 2020, LAI personnel used a stainless-steel hand auger to collect soil samples from seven (7) locations inside the spill (S-1 through S-7) and in each cardinal direction outside the spill (S-8 through S-11). The samples were collected between approximately 0.5 and 1-foot bgs. The samples were delivered under chain of custody and preservation to Xenco-Eurofins 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 and BTEX were below the analytical method reporting limit (RL) or OCD remediation standards of 10 milligrams per kilogram (mg/Kg) and 50 mg/Kg, respectively, in Table 1 (19.15.29 NMAC). TPH and chloride exceeded the OCD closure limits 100 mg/Kg and 600 mg/Kg, respectively, in the following samples:

Sample ID	Depth (Feet)	TPH (mg/Kg)	Chloride (mg/Kg)
S-1	0.5	--	1080
S-1	1	--	923
S-2	0.5	--	2840
S-2	1	--	941
S-3	0.5	--	907
S-3	1	--	632
S-4	0.5	--	706
S-4	1	--	680
S-5	0.5	--	678
S-5	1	--	598
S-6	0.5	1300	4450
S-6	1	1320	4450
S-7	0.5	455	3860
S-7	1	282	3500

On December 9 and 10, 2020, LAI personnel used a Geoprobe® 7822DT direct push rig to further delineate TPH and chloride at sample locations S-1 through S-7. Soil samples were collected at approximately one (1), three (3), five (5), ten (10), and fifteen (15) feet bgs. The samples were analyzed for BTEX, TPH, and chloride. 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 less than 50 feet bgs.

3.0 REMEDIATION PLAN

Chevron proposes the following remedial actions:

- Excavate soil from an area measuring approximately 5,081 square feet encompassing sample points S-1 through S-5 to a depth of approximately 1.5 feet bgs.
- Excavate soil from an area measuring approximately 854 square feet encompassing sample points S-6 and S-7 to a depth of approximately 5.5 feet bgs.
- Collect five (5) point composite bottom and sidewall confirmation soil samples every 200 square feet of excavation and analyze for BTEX, TPH and chloride.

Tracking Number nRM2027951383

Closure Report - Candie #001

Eddy County, New Mexico

December 29, 2020

- Backfill excavations with clean caliche on the pad assuming achievement of OCD remediation levels; and
- Prepare closure report with photographs for submittal to OCD District II.

Figure 3 presents the proposed excavation areas.

Tables

Table 1
Soil Sample Analytical Data Summary
Candie #001
Eddy County, New Mexico
32° 17' 59.99" North, 104° 02' 52.02" West

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Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				10	50	100				600
S-1	0.5	10/29/2020	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	1,080
	1	10/29/2020	In-Situ	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	923
	1	12/9/2020	In-Situ	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	355
	3	12/9/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	450
	5	12/9/2020	In-Situ	--	--	--	--	--	--	587
	10	12/9/2020	In-Situ	--	--	--	--	--	--	1,020
	15	12/9/2020	In-Situ	--	--	--	--	--	--	583
S-2	0.5	10/29/2020	In-Situ	<0.00199	<0.00199	<50.0	59.7	<50.0	59.7	2,840
	1	10/29/2020	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	941
	1	12/10/2020	In-Situ	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	884
	3	12/10/2020	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	568
	5	12/10/2020	In-Situ	--	--	--	--	--	--	75.0
	10	12/10/2020	In-Situ	--	--	--	--	--	--	515
S-3	0.5	10/29/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	907
	1	10/29/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	632
	1	12/10/2020	In-Situ	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	471
	3	12/10/2020	In-Situ	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	491
	5	12/10/2020	In-Situ	--	--	--	--	--	--	863
	10	12/10/2020	In-Situ	--	--	--	--	--	--	2,610
	15	12/10/2020	In-Situ	--	--	--	--	--	--	388
S-4	0.5	10/29/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	706
	1	10/29/2020	In-Situ	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	680

Table 1
Soil Sample Analytical Data Summary
Candie #001
Eddy County, New Mexico
32° 17' 59.99" North, 104° 02' 52.02" West

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Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				10	50	100			600	
	1	12/10/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	493
	3	12/10/2020	In-Situ	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	342
	5	12/10/2020	In-Situ	--	--	--	--	--	--	359
	10	12/10/2020	In-Situ	--	--	--	--	--	--	1,030
	15	12/10/2020	In-Situ	--	--	--	--	--	--	223
S-5	0.5	10/29/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	678
	1	10/29/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	598
	1	12/9/2020	In-Situ	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	374
	3	12/9/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	158
	5	12/9/2020	In-Situ	--	--	--	--	--	--	81.0
	10	12/9/2020	In-Situ	--	--	--	--	--	--	688
	15	12/9/2020	In-Situ	--	--	--	--	--	--	355
S-6	0.5	10/29/2020	In-Situ	<0.00201	<0.00201	<49.9	920.0	376	1,300	4,450
	1	10/29/2020	In-Situ	0.320	0.498	<49.9	930.0	386	1,320	4,450
	1	12/9/2020	In-Situ	<0.00198	<0.00198	<49.8	573.0	195	768	20,200
	3	12/9/2020	In-Situ	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	1,580
	5	12/9/2020	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	978
	10	12/9/2020	In-Situ	--	--	<50.1	<50.1	<50.1	<50.1	674
	15	12/9/2020	In-Situ	--	--	--	--	--	--	417
S-7	0.5	10/29/2020	In-Situ	<0.00200	<0.00200	<50.0	313.0	142	455	3,860
	1	10/29/2020	In-Situ	<0.00200	0.0497	<49.8	192.0	87.7	282	3,500
	1	12/9/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	3,470

Table 1
Soil Sample Analytical Data Summary
Candie #001
Eddy County, New Mexico
32° 17' 59.99" North, 104° 02' 52.02" West

Page 3 of 3

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				10	50	100				600
	3	12/9/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	1,870
	5	12/9/2020	In-Situ	--	--	<50.3	<50.3	<50.3	<50.3	1,190
	10	12/9/2020	In-Situ	--	--	<50.1	<50.1	<50.1	<50.1	155
S-8	0.5	10/29/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	6.1
	1	10/29/2020	In-Situ	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	6.0
S-9	0.5	10/29/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	10.4
	1	10/29/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	9.9
S-10	0.5	10/29/2020	In-Situ	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	77.3
	1	10/29/2020	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	86.6
S-11	0.5	10/29/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	10.5
	1	10/29/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	13.3

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

Depth in feet below ground surface (bgs)

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

<: denotes concentration less than analytical method reporting limit

Bold and Highlighted exceeds OCD remediation action limits

Figures

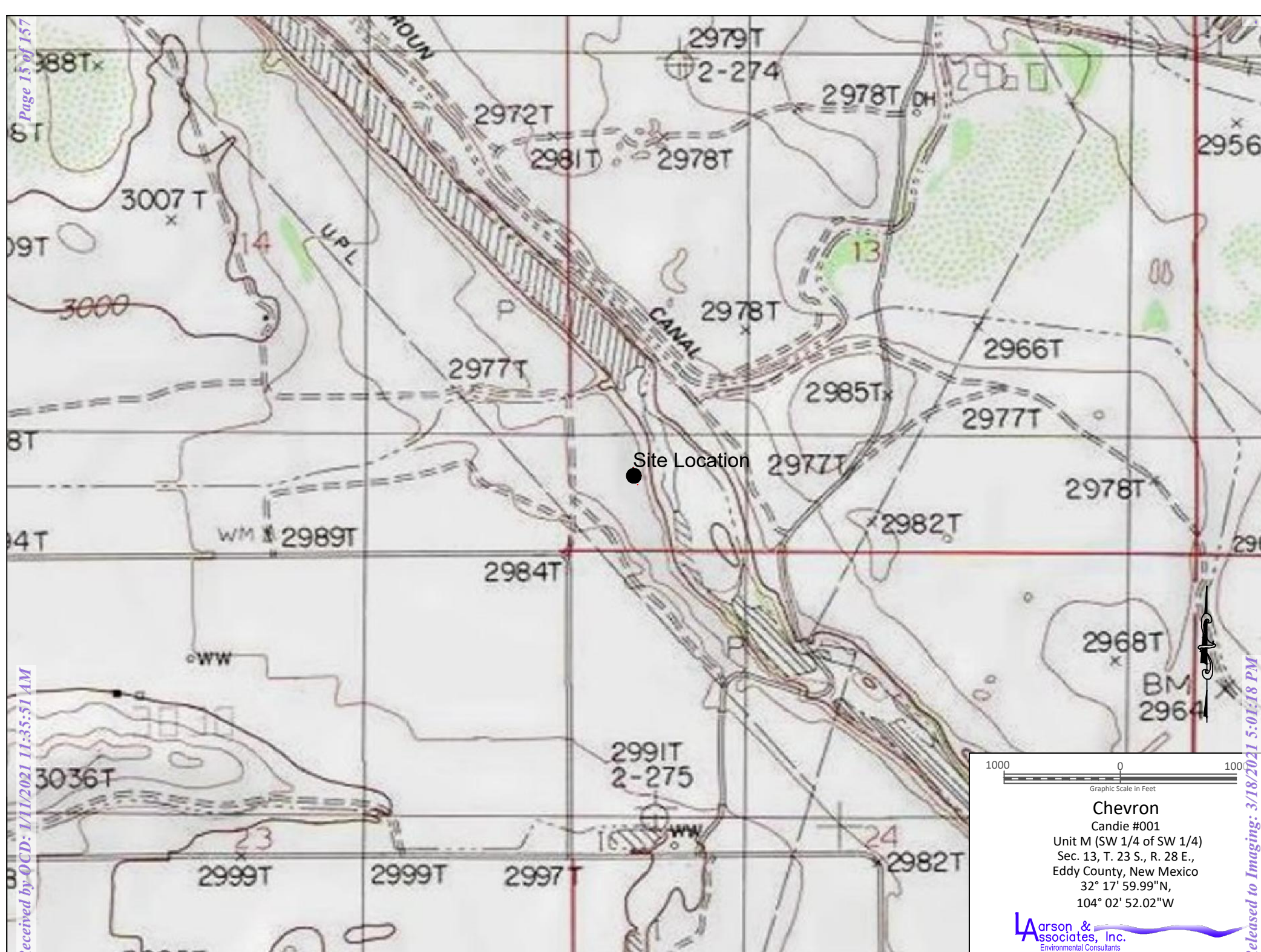
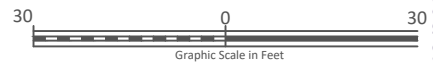


Figure 1 - Topographic Map



Legend

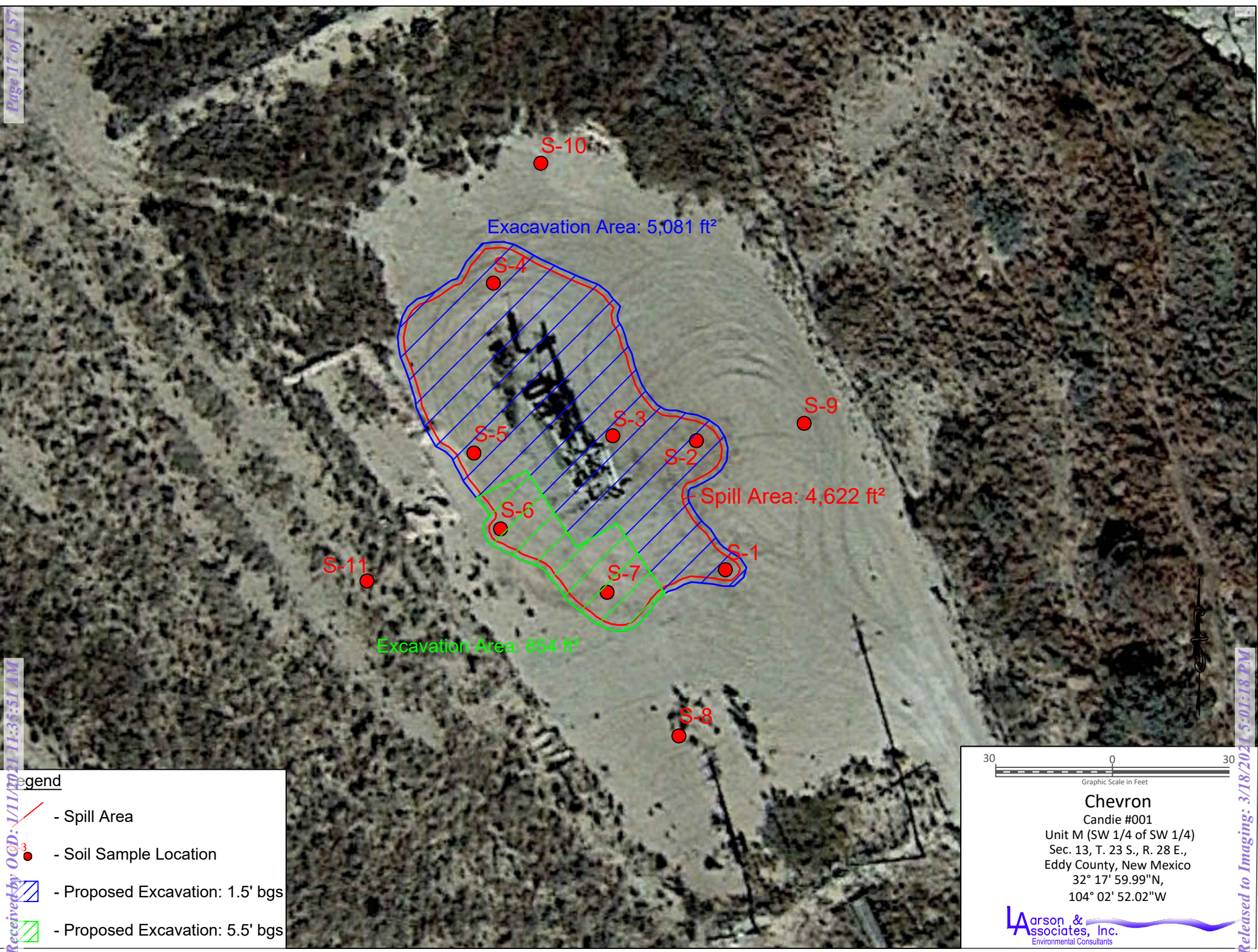
- Spill Area
- Soil Sample Location



Chevron
Candie #001
Unit M (SW 1/4 of SW 1/4)
Sec. 13, T. 23 S., R. 28 E.,
Eddy County, New Mexico
32° 17' 59.99"N,
104° 02' 52.02"W



Figure 2 - Aerial Map



Legend

- Spill Area
- Soil Sample Location
- Proposed Excavation: 1.5' bgs
- Proposed Excavation: 5.5' bgs

Figure 3 - Aerial Map Showing Proposed Excavation Locations

Appendix A
Chevron Spill Calculation

Incident ID	
District RP	
Facility ID	
Application ID	

All volumes in following table in barrels					
Area	Standing Liquid	In Soil	dimensions / shape	Oil Volume	Water Volume
1		0.75	250x2 /12 rectangle	3.88	8.6
2	0.25		20x2.5 rectangle	0.25	
3		0.5833	20x15 rectangle	1.45	3.22
4					
5					
6					
7					
8					
Total Fluid					
				5.58	11.82
1 Fluid Recovered in barrels					
			Oil Volume	Water Volume	
			0.25	0	

Appendix B
Karst Risk Potential



Browser

★ Favorites

📁 Spatial Bookmarks

🏠 Project Home

🏠 Home

📁 C:\

📁 D:\

📁 L:\

📁 Z:\

📦 GeoPackage

📦 Spatialite

📦 PostGIS

📦 MSSQL

📦 Oracle

📦 DB2

🌐 WMS/WMTS

🌐 XYZ Tiles

🌐 WCS

🌐 WFS / OGC API - Features

🌐 OWS

🌐 ArcGisMapServer

🌐 ArcGisFeatureServer

🌐 GeoNode

Layers

✓ ● Added geom info

✓ ● carlsbad_west

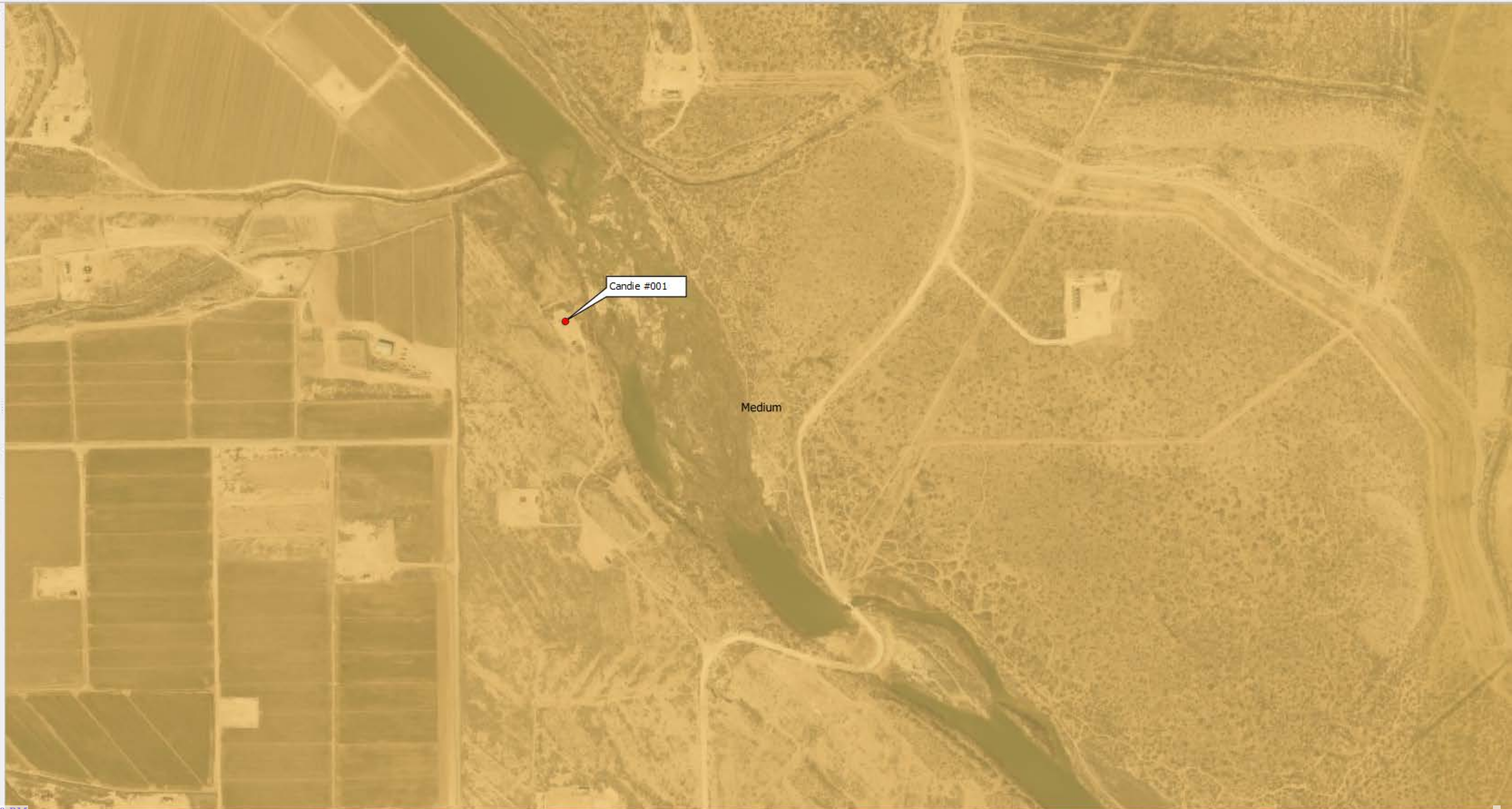
▼ ✓ ● Karst_or_No_Karst

✓ High

✓ Low

✓ Medium

▼ ✓ Bing Satellite



Appendix C
Laboratory Reports

Certificate of Analysis Summary 676434



Larson and Associates, Inc., Midland, TX

Project Name: Candle #001

Project Id: 20-0107-22

Date Received in Lab: Fri 10.30.2020 08:43

Contact: Mark Larson

Report Date: 11.09.2020 17:02

Project Location: NM

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	676434-001	676434-002	676434-003	676434-004	676434-005	676434-006
	<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>	10.29.2020 11:03	10.29.2020 11:05	10.29.2020 11:10	10.29.2020 11:15	10.29.2020 11:30	10.29.2020 11:35
BTEX by EPA 8021B	<i>Extracted:</i>	11.02.2020 16:45	11.02.2020 16:45	11.02.2020 16:45	11.02.2020 16:45	11.03.2020 16:00	11.04.2020 17:00
	<i>Analyzed:</i>	11.02.2020 21:42	11.02.2020 22:03	11.02.2020 22:23	11.02.2020 22:44	11.03.2020 16:34	11.05.2020 06:30
	<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	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00397 0.00397	<0.00397 0.00397	<0.00398 0.00398	<0.00396 0.00396	<0.00399 0.00399	<0.00399 0.00399
o-Xylene		<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	11.02.2020 08:35	11.02.2020 08:35	11.02.2020 08:35	11.02.2020 08:35	11.02.2020 08:35	11.02.2020 08:35
	<i>Analyzed:</i>	11.02.2020 16:07	11.02.2020 16:12	11.02.2020 16:17	11.02.2020 16:23	11.02.2020 16:38	11.02.2020 16:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1080 5.03	923 5.04	2840 25.1	941 4.97	907 4.98	632 4.96
TPH By SW8015 Mod	<i>Extracted:</i>	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00
	<i>Analyzed:</i>	10.30.2020 13:56	10.30.2020 15:00	10.30.2020 15:21	10.30.2020 15:43	10.30.2020 16:04	10.30.2020 16:26
	<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		<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Diesel Range Organics		<50.0 50.0	<49.8 49.8	59.7 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Oil Range Hydrocarbons		<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<49.8 49.8	59.7 50.0	<49.9 49.9	<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 676434

Larson and Associates, Inc., Midland, TX

Project Name: Candle #001

Project Id: 20-0107-22

Contact: Mark Larson

Project Location: NM

Date Received in Lab: Fri 10.30.2020 08:43

Report Date: 11.09.2020 17:02

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	676434-007	676434-008	676434-009	676434-010	676434-011	676434-012
	<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>	10.29.2020 11:00	10.29.2020 11:05	10.29.2020 11:10	10.29.2020 11:13	10.29.2020 11:15	10.29.2020 11:20
BTEX by EPA 8021B	<i>Extracted:</i>	11.04.2020 17:00	11.04.2020 17:00	11.04.2020 17:00	11.04.2020 17:00	11.04.2020 17:00	11.04.2020 17:00
	<i>Analyzed:</i>	11.05.2020 06:56	11.05.2020 07:21	11.05.2020 07:47	11.05.2020 08:13	11.05.2020 09:03	11.05.2020 09:28
	<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	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	0.320 0.00200
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	0.0465 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	0.0282 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00398 0.00398	<0.00398 0.00398	<0.00402 0.00402	0.0385 0.00399
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	0.0643 0.00200
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	0.103 0.00200
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	0.498 0.00200
Chloride by EPA 300	<i>Extracted:</i>	11.02.2020 08:35	11.02.2020 08:35	11.02.2020 08:35	11.02.2020 08:35	11.02.2020 08:35	11.02.2020 08:35
	<i>Analyzed:</i>	11.02.2020 17:00	11.02.2020 17:05	11.02.2020 17:10	11.02.2020 17:15	11.02.2020 17:21	11.02.2020 17:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		706 4.95	680 4.97	678 4.97	598 4.96	4450 50.1	4450 50.5
TPH By SW8015 Mod	<i>Extracted:</i>	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00
	<i>Analyzed:</i>	10.30.2020 16:47	10.30.2020 17:09	10.30.2020 17:30	10.30.2020 17:52	10.30.2020 18:35	10.30.2020 18:56
	<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		<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9
Diesel Range Organics		<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0	920 49.9	930 49.9
Oil Range Hydrocarbons		<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0	376 49.9	386 49.9
Total TPH		<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0	1300 49.9	1320 49.9

BRL - Below Reporting Limit



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

Certificate of Analysis Summary 676434



Larson and Associates, Inc., Midland, TX

Project Name: Candle #001

Project Id: 20-0107-22

Contact: Mark Larson

Project Location: NM

Date Received in Lab: Fri 10.30.2020 08:43

Report Date: 11.09.2020 17:02

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	676434-013	676434-014	676434-015	676434-016	676434-017	676434-018
	<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>	10.29.2020 11:36	10.29.2020 11:32	10.29.2020 11:40	10.29.2020 11:40	10.29.2020 11:20	10.29.2020 11:22
BTEX by EPA 8021B	<i>Extracted:</i>	11.06.2020 17:00	11.04.2020 17:00	11.04.2020 17:00	11.06.2020 17:00	11.06.2020 17:00	11.06.2020 17:00
	<i>Analyzed:</i>	11.07.2020 22:00	11.05.2020 10:19	11.05.2020 10:45	11.07.2020 22:20	11.07.2020 22:41	11.07.2020 23:01
	<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	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	0.0362 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	0.0135 0.00401	<0.00401 0.00401	<0.00402 0.00402	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	0.0135 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	0.0497 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	11.02.2020 08:35	11.02.2020 11:40	11.02.2020 11:40	11.02.2020 11:40	11.02.2020 11:40	11.02.2020 11:40
	<i>Analyzed:</i>	11.02.2020 17:31	11.02.2020 12:30	11.02.2020 12:50	11.02.2020 12:56	11.02.2020 13:03	11.02.2020 13:10
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		3860 25.2	3500 X 25.1	6.09 5.03	5.95 4.95	10.4 4.99	9.88 4.97
TPH By SW8015 Mod	<i>Extracted:</i>	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 13:00
	<i>Analyzed:</i>	10.30.2020 19:17	10.30.2020 19:39	10.30.2020 20:00	10.30.2020 20:21	10.30.2020 20:42	10.30.2020 21:03
	<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		<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics		313 50.0	192 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Oil Range Hydrocarbons		142 50.0	89.7 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		455 50.0	282 49.8	<50.0 50.0	<50.0 50.0	<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 676434



Larson and Associates, Inc., Midland, TX

Project Name: Candle #001

Project Id: 20-0107-22

Contact: Mark Larson

Project Location: NM

Date Received in Lab: Fri 10.30.2020 08:43

Report Date: 11.09.2020 17:02

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	676434-019	676434-020	676434-021	676434-022		
	<i>Field Id:</i>	S-10 0.5'	S-10 1'	S-11 0.5'	S-11 1'		
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	10.29.2020 11:38	10.29.2020 11:41	10.29.2020 11:31	10.29.2020 11:33		
BTEX by EPA 8021B	<i>Extracted:</i>	11.06.2020 17:00	11.06.2020 17:00	11.06.2020 17:00	11.06.2020 17:00		
	<i>Analyzed:</i>	11.07.2020 23:21	11.07.2020 23:42	11.08.2020 00:02	11.08.2020 00:23		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200		
Toluene		<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200		
Ethylbenzene		<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200		
m,p-Xylenes		<0.00403 0.00403	<0.00397 0.00397	<0.00400 0.00400	<0.00400 0.00400		
o-Xylene		<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200		
Total BTEX		<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200		
Chloride by EPA 300	<i>Extracted:</i>	11.02.2020 11:40	11.02.2020 11:40	11.02.2020 11:40	11.02.2020 11:40		
	<i>Analyzed:</i>	11.02.2020 13:30	11.02.2020 13:36	11.02.2020 13:43	11.02.2020 13:50		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		77.3 4.96	86.6 4.99	10.5 5.04	13.3 5.04		
TPH By SW8015 Mod	<i>Extracted:</i>	10.30.2020 13:00	10.30.2020 13:00	10.30.2020 12:00	10.30.2020 12:00		
	<i>Analyzed:</i>	10.30.2020 21:25	10.30.2020 21:46	10.30.2020 14:11	10.30.2020 15:09		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons		<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9		
Diesel Range Organics		<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9		
Oil Range Hydrocarbons		<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9		
Total TPH		<50.0 50.0	<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

Analytical Report 676434

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Candle #001

20-0107-22

11.09.2020

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 (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.09.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **676434**
Candle #001
Project Address: NM

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) 676434. 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. 676434 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 676434****Larson and Associates, Inc., Midland, TX**

Candle #001

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-1 0.5'	S	10.29.2020 11:03		676434-001
S-1 1'	S	10.29.2020 11:05		676434-002
S-2 0.5'	S	10.29.2020 11:10		676434-003
S-2 1'	S	10.29.2020 11:15		676434-004
S-3 0.5'	S	10.29.2020 11:30		676434-005
S-3 1'	S	10.29.2020 11:35		676434-006
S-4 0.5'	S	10.29.2020 11:00		676434-007
S-4 1'	S	10.29.2020 11:05		676434-008
S-5 0.5'	S	10.29.2020 11:10		676434-009
S-5 1'	S	10.29.2020 11:13		676434-010
S-6 0.5'	S	10.29.2020 11:15		676434-011
S-6 1'	S	10.29.2020 11:20		676434-012
S-7 0.5'	S	10.29.2020 11:36		676434-013
S-7 1'	S	10.29.2020 11:32		676434-014
S-8 0.5'	S	10.29.2020 11:40		676434-015
S-8 1'	S	10.29.2020 11:40		676434-016
S-9 0.5'	S	10.29.2020 11:20		676434-017
S-9 1'	S	10.29.2020 11:22		676434-018
S-10 0.5'	S	10.29.2020 11:38		676434-019
S-10 1'	S	10.29.2020 11:41		676434-020
S-11 0.5'	S	10.29.2020 11:31		676434-021
S-11 1'	S	10.29.2020 11:33		676434-022

**CASE NARRATIVE****Client Name: Larson and Associates, Inc.****Project Name: Candle #001**Project ID: 20-0107-22
Work Order Number(s): 676434Report Date: 11.09.2020
Date Received: 10.30.2020**Sample receipt non conformances and comments:****Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3141084 TPH By SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 676434-013.

Batch: LBA-3141212 Chloride by EPA 300

Lab Sample ID 676455-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 676434-014, -015, -016, -017, -018, -019, -020, -021, -022.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3141292 BTEX by EPA 8021B

Lab Sample ID 676434-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 676434-005.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected.

Samples affected are: 676434-005 SD.

Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 676434-005

**CASE NARRATIVE****Client Name: Larson and Associates, Inc.****Project Name: Candle #001**Project ID: 20-0107-22
Work Order Number(s): 676434Report Date: 11.09.2020
Date Received: 10.30.2020

Batch: LBA-3141466 BTEX by EPA 8021B

Lab Sample ID 676434-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 676434-006, -007, -008, -009, -010, -011, -012, -014, -015.

The Laboratory Control Sample for Benzene is within laboratory Control Limits, therefore the data was accepted.

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected. Samples affected are: 676434-014.

Surrogate 1,4-Difluorobenzene recovered above QC limits. Matrix interferences is suspected. Samples affected are: 676434-012.

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected. Samples affected are: 676434-015, 676434-012.



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-1 0.5'
Lab Sample Id: 676434-001

Matrix: Soil
Date Collected: 10.29.2020 11:03

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1080	5.03	mg/kg	11.02.2020 16:07		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 13:56	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 13:56	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 13:56	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 13:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-130	10.30.2020 13:56	
o-Terphenyl	84-15-1	127	%	70-130	10.30.2020 13:56	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-1 0.5'**
 Lab Sample Id: 676434-001

Matrix: Soil
 Date Collected: 10.29.2020 11:03

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.02.2020 16:45

% Moisture:
 Basis: Wet Weight

Seq Number: 3141193

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.02.2020 21:42	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.02.2020 21:42	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.02.2020 21:42	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.02.2020 21:42	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.02.2020 21:42	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.02.2020 21:42	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.02.2020 21:42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	11.02.2020 21:42		
1,4-Difluorobenzene	540-36-3	96	%	70-130	11.02.2020 21:42		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-1 1'
Lab Sample Id: 676434-002

Matrix: Soil
Date Collected: 10.29.2020 11:05

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	923	5.04	mg/kg	11.02.2020 16:12		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.8	49.8	mg/kg	10.30.2020 15:00	U	1
Diesel Range Organics	C10C28DRO	<49.8	49.8	mg/kg	10.30.2020 15:00	U	1
Oil Range Hydrocarbons	PHCG2835	<49.8	49.8	mg/kg	10.30.2020 15:00	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.30.2020 15:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-130	10.30.2020 15:00		
o-Terphenyl	84-15-1	125	%	70-130	10.30.2020 15:00		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-1 1'
Lab Sample Id: 676434-002

Matrix: Soil
Date Collected: 10.29.2020 11:05

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.02.2020 16:45

% Moisture:
Basis: Wet Weight

Seq Number: 3141193

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.02.2020 22:03	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.02.2020 22:03	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.02.2020 22:03	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.02.2020 22:03	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.02.2020 22:03	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.02.2020 22:03	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.02.2020 22:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	11.02.2020 22:03		
1,4-Difluorobenzene	540-36-3	87	%	70-130	11.02.2020 22:03		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-2 0.5'
Lab Sample Id: 676434-003

Matrix: Soil
Date Collected: 10.29.2020 11:10

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2840	25.1	mg/kg	11.02.2020 16:17		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 15:21	U	1
Diesel Range Organics	C10C28DRO	59.7	50.0	mg/kg	10.30.2020 15:21		1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 15:21	U	1
Total TPH	PHC635	59.7	50.0	mg/kg	10.30.2020 15:21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-130	10.30.2020 15:21	
o-Terphenyl	84-15-1	117	%	70-130	10.30.2020 15:21	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-2 0.5'
Lab Sample Id: 676434-003

Matrix: Soil
Date Collected: 10.29.2020 11:10

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.02.2020 16:45

% Moisture:
Basis: Wet Weight

Seq Number: 3141193

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.02.2020 22:23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.02.2020 22:23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.02.2020 22:23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.02.2020 22:23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.02.2020 22:23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.02.2020 22:23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.02.2020 22:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	11.02.2020 22:23		
1,4-Difluorobenzene	540-36-3	85	%	70-130	11.02.2020 22:23		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-2 1'
Lab Sample Id: 676434-004

Matrix: Soil
Date Collected: 10.29.2020 11:15

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	941	4.97	mg/kg	11.02.2020 16:23		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	10.30.2020 15:43	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	10.30.2020 15:43	U	1
Oil Range Hydrocarbons	PHCG2835	<49.9	49.9	mg/kg	10.30.2020 15:43	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.30.2020 15:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-130	10.30.2020 15:43	
o-Terphenyl	84-15-1	119	%	70-130	10.30.2020 15:43	



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Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-2 1'
Lab Sample Id: 676434-004

Matrix: Soil
Date Collected: 10.29.2020 11:15

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.02.2020 16:45

% Moisture:
Basis: Wet Weight

Seq Number: 3141193

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.02.2020 22:44	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.02.2020 22:44	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.02.2020 22:44	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	11.02.2020 22:44	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.02.2020 22:44	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.02.2020 22:44	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.02.2020 22:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	11.02.2020 22:44		
1,4-Difluorobenzene	540-36-3	97	%	70-130	11.02.2020 22:44		



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Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-3 0.5'
Lab Sample Id: 676434-005

Matrix: Soil
Date Collected: 10.29.2020 11:30

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	907	4.98	mg/kg	11.02.2020 16:38		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 16:04	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 16:04	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 16:04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 16:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-130	10.30.2020 16:04	
o-Terphenyl	84-15-1	129	%	70-130	10.30.2020 16:04	



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Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-3 0.5'
Lab Sample Id: 676434-005

Matrix: Soil
Date Collected: 10.29.2020 11:30

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.03.2020 16:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.03.2020 16:34	UXF	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.03.2020 16:34	UXF	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.03.2020 16:34	UXF	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.03.2020 16:34	UXF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.03.2020 16:34	UXF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.03.2020 16:34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.03.2020 16:34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	11.03.2020 16:34		
1,4-Difluorobenzene	540-36-3	97	%	70-130	11.03.2020 16:34		



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Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-3 1'
Lab Sample Id: 676434-006

Matrix: Soil
Date Collected: 10.29.2020 11:35

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	632	4.96	mg/kg	11.02.2020 16:44		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 16:26	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 16:26	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 16:26	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 16:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-130	10.30.2020 16:26		
o-Terphenyl	84-15-1	123	%	70-130	10.30.2020 16:26		



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Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-3 1'
Lab Sample Id: 676434-006

Matrix: Soil
Date Collected: 10.29.2020 11:35

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.04.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.05.2020 06:30	UX	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.05.2020 06:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.05.2020 06:30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.05.2020 06:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.05.2020 06:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.05.2020 06:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.05.2020 06:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.05.2020 06:30		
1,4-Difluorobenzene	540-36-3	74	%	70-130	11.05.2020 06:30		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-4 0.5'
Lab Sample Id: 676434-007

Matrix: Soil
Date Collected: 10.29.2020 11:00

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	706	4.95	mg/kg	11.02.2020 17:00		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	10.30.2020 16:47	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	10.30.2020 16:47	U	1
Oil Range Hydrocarbons	PHCG2835	<49.9	49.9	mg/kg	10.30.2020 16:47	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.30.2020 16:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-130	10.30.2020 16:47	
o-Terphenyl	84-15-1	112	%	70-130	10.30.2020 16:47	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-4 0.5'**
 Lab Sample Id: 676434-007

Matrix: Soil
 Date Collected: 10.29.2020 11:00

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.04.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3141466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.05.2020 06:56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.05.2020 06:56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.05.2020 06:56	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	11.05.2020 06:56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.05.2020 06:56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.05.2020 06:56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.05.2020 06:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	11.05.2020 06:56		
1,4-Difluorobenzene	540-36-3	87	%	70-130	11.05.2020 06:56		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-4 1'
Lab Sample Id: 676434-008

Matrix: Soil
Date Collected: 10.29.2020 11:05

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	680	4.97	mg/kg	11.02.2020 17:05		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 17:09	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 17:09	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 17:09	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 17:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-130	10.30.2020 17:09	
o-Terphenyl	84-15-1	115	%	70-130	10.30.2020 17:09	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-4 1'
Lab Sample Id: 676434-008

Matrix: Soil
Date Collected: 10.29.2020 11:05

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.04.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.05.2020 07:21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.05.2020 07:21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.05.2020 07:21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.05.2020 07:21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.05.2020 07:21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.05.2020 07:21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.05.2020 07:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	11.05.2020 07:21		
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.05.2020 07:21		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-5 0.5'
Lab Sample Id: 676434-009

Matrix: Soil
Date Collected: 10.29.2020 11:10

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	678	4.97	mg/kg	11.02.2020 17:10		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 17:30	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 17:30	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 17:30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 17:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-130	10.30.2020 17:30	
o-Terphenyl	84-15-1	114	%	70-130	10.30.2020 17:30	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-5 0.5'
Lab Sample Id: 676434-009

Matrix: Soil
Date Collected: 10.29.2020 11:10

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.04.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.05.2020 07:47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.05.2020 07:47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.05.2020 07:47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.05.2020 07:47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.05.2020 07:47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.05.2020 07:47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.05.2020 07:47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.05.2020 07:47		
4-Bromofluorobenzene	460-00-4	98	%	70-130	11.05.2020 07:47		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-5 1'
Lab Sample Id: 676434-010

Matrix: Soil
Date Collected: 10.29.2020 11:13

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	598	4.96	mg/kg	11.02.2020 17:15		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 17:52	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 17:52	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 17:52	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 17:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-130	10.30.2020 17:52	
o-Terphenyl	84-15-1	119	%	70-130	10.30.2020 17:52	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-5 1'
Lab Sample Id: 676434-010

Matrix: Soil
Date Collected: 10.29.2020 11:13

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.04.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.05.2020 08:13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.05.2020 08:13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.05.2020 08:13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.05.2020 08:13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.05.2020 08:13	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.05.2020 08:13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.05.2020 08:13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.05.2020 08:13		
4-Bromofluorobenzene	460-00-4	102	%	70-130	11.05.2020 08:13		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-6 0.5'**
Lab Sample Id: 676434-011

Matrix: Soil
Date Collected: 10.29.2020 11:15

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4450	50.1	mg/kg	11.02.2020 17:21		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	10.30.2020 18:35	U	1
Diesel Range Organics	C10C28DRO	920	49.9	mg/kg	10.30.2020 18:35		1
Oil Range Hydrocarbons	PHCG2835	376	49.9	mg/kg	10.30.2020 18:35		1
Total TPH	PHC635	1300	49.9	mg/kg	10.30.2020 18:35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-130	10.30.2020 18:35	
o-Terphenyl	84-15-1	128	%	70-130	10.30.2020 18:35	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-6 0.5'**
 Lab Sample Id: 676434-011

Matrix: Soil
 Date Collected: 10.29.2020 11:15

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.04.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3141466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.05.2020 09:03	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.05.2020 09:03	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.05.2020 09:03	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.05.2020 09:03	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.05.2020 09:03	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.05.2020 09:03	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.05.2020 09:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	70-130	11.05.2020 09:03		
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.05.2020 09:03		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-6 1'**
Lab Sample Id: 676434-012

Matrix: Soil
Date Collected: 10.29.2020 11:20

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4450	50.5	mg/kg	11.02.2020 17:26		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	10.30.2020 18:56	U	1
Diesel Range Organics	C10C28DRO	930	49.9	mg/kg	10.30.2020 18:56		1
Oil Range Hydrocarbons	PHCG2835	386	49.9	mg/kg	10.30.2020 18:56		1
Total TPH	PHC635	1320	49.9	mg/kg	10.30.2020 18:56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-130	10.30.2020 18:56	
o-Terphenyl	84-15-1	126	%	70-130	10.30.2020 18:56	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-6 1'**
 Lab Sample Id: 676434-012

Matrix: Soil
 Date Collected: 10.29.2020 11:20

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.04.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3141466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.320	0.00200	mg/kg	11.05.2020 09:28		1
Toluene	108-88-3	0.0465	0.00200	mg/kg	11.05.2020 09:28		1
Ethylbenzene	100-41-4	0.0282	0.00200	mg/kg	11.05.2020 09:28		1
m,p-Xylenes	179601-23-1	0.0385	0.00399	mg/kg	11.05.2020 09:28		1
o-Xylene	95-47-6	0.0643	0.00200	mg/kg	11.05.2020 09:28		1
Total Xylenes	1330-20-7	0.103	0.00200	mg/kg	11.05.2020 09:28		1
Total BTEX		0.498	0.00200	mg/kg	11.05.2020 09:28		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	289	%	70-130	11.05.2020 09:28	**	
4-Bromofluorobenzene	460-00-4	230	%	70-130	11.05.2020 09:28	**	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-7 0.5'
Lab Sample Id: 676434-013

Matrix: Soil
Date Collected: 10.29.2020 11:36

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 08:35

% Moisture:
Basis: Wet Weight

Seq Number: 3141209

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3860	25.2	mg/kg	11.02.2020 17:31		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 19:17	U	1
Diesel Range Organics	C10C28DRO	313	50.0	mg/kg	10.30.2020 19:17		1
Oil Range Hydrocarbons	PHCG2835	142	50.0	mg/kg	10.30.2020 19:17		1
Total TPH	PHC635	455	50.0	mg/kg	10.30.2020 19:17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-130	10.30.2020 19:17	
o-Terphenyl	84-15-1	137	%	70-130	10.30.2020 19:17	**



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-7 0.5'
Lab Sample Id: 676434-013

Matrix: Soil
Date Collected: 10.29.2020 11:36

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.06.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141649

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.07.2020 22:00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.07.2020 22:00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.07.2020 22:00	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.07.2020 22:00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.07.2020 22:00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.07.2020 22:00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.07.2020 22:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	11.07.2020 22:00		
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.07.2020 22:00		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-7 1'
Lab Sample Id: 676434-014

Matrix: Soil
Date Collected: 10.29.2020 11:32

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 11:40

% Moisture:
Basis: Wet Weight

Seq Number: 3141212

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3500	25.1	mg/kg	11.02.2020 12:30	X	5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.8	49.8	mg/kg	10.30.2020 19:39	U	1
Diesel Range Organics	C10C28DRO	192	49.8	mg/kg	10.30.2020 19:39		1
Oil Range Hydrocarbons	PHCG2835	89.7	49.8	mg/kg	10.30.2020 19:39		1
Total TPH	PHC635	282	49.8	mg/kg	10.30.2020 19:39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-130	10.30.2020 19:39	
o-Terphenyl	84-15-1	118	%	70-130	10.30.2020 19:39	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-7 1'
Lab Sample Id: 676434-014

Matrix: Soil
Date Collected: 10.29.2020 11:32

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.04.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.05.2020 10:19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.05.2020 10:19	U	1
Ethylbenzene	100-41-4	0.0362	0.00200	mg/kg	11.05.2020 10:19		1
m,p-Xylenes	179601-23-1	0.0135	0.00401	mg/kg	11.05.2020 10:19		1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.05.2020 10:19	U	1
Total Xylenes	1330-20-7	0.0135	0.00200	mg/kg	11.05.2020 10:19		1
Total BTEX		0.0497	0.00200	mg/kg	11.05.2020 10:19		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	22	%	70-130	11.05.2020 10:19	**	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.05.2020 10:19		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-8 0.5'**
Lab Sample Id: 676434-015

Matrix: Soil
Date Collected: 10.29.2020 11:40

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 11:40

% Moisture:
Basis: Wet Weight

Seq Number: 3141212

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.09	5.03	mg/kg	11.02.2020 12:50		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 20:00	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 20:00	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 20:00	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 20:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	120	%	70-130	10.30.2020 20:00		
o-Terphenyl	84-15-1	126	%	70-130	10.30.2020 20:00		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-8 0.5'**
 Lab Sample Id: 676434-015

Matrix: Soil
 Date Collected: 10.29.2020 11:40

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.04.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3141466

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.05.2020 10:45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.05.2020 10:45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.05.2020 10:45	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	11.05.2020 10:45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.05.2020 10:45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.05.2020 10:45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.05.2020 10:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	133	%	70-130	11.05.2020 10:45	**	
1,4-Difluorobenzene	540-36-3	108	%	70-130	11.05.2020 10:45		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-8 1'
Lab Sample Id: 676434-016

Matrix: Soil
Date Collected: 10.29.2020 11:40

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 11:40

% Moisture:
Basis: Wet Weight

Seq Number: 3141212

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.95	4.95	mg/kg	11.02.2020 12:56		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 20:21	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 20:21	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 20:21	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 20:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-130	10.30.2020 20:21	
o-Terphenyl	84-15-1	125	%	70-130	10.30.2020 20:21	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-8 1'**
 Lab Sample Id: 676434-016

Matrix: Soil
 Date Collected: 10.29.2020 11:40

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.06.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3141649

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.07.2020 22:20	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.07.2020 22:20	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.07.2020 22:20	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.07.2020 22:20	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.07.2020 22:20	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.07.2020 22:20	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.07.2020 22:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.07.2020 22:20		
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.07.2020 22:20		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-9 0.5'
Lab Sample Id: 676434-017

Matrix: Soil
Date Collected: 10.29.2020 11:20

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 11:40

% Moisture:
Basis: Wet Weight

Seq Number: 3141212

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.4	4.99	mg/kg	11.02.2020 13:03		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	10.30.2020 20:42	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	10.30.2020 20:42	U	1
Oil Range Hydrocarbons	PHCG2835	<49.9	49.9	mg/kg	10.30.2020 20:42	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.30.2020 20:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-130	10.30.2020 20:42	
o-Terphenyl	84-15-1	122	%	70-130	10.30.2020 20:42	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-9 0.5'**
 Lab Sample Id: 676434-017

Matrix: Soil
 Date Collected: 10.29.2020 11:20

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.06.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3141649

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.07.2020 22:41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.07.2020 22:41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.07.2020 22:41	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	11.07.2020 22:41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.07.2020 22:41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.07.2020 22:41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.07.2020 22:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.07.2020 22:41		
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.07.2020 22:41		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-9 1'
Lab Sample Id: 676434-018

Matrix: Soil
Date Collected: 10.29.2020 11:22

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 11:40

% Moisture:
Basis: Wet Weight

Seq Number: 3141212

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.88	4.97	mg/kg	11.02.2020 13:10		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 21:03	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 21:03	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 21:03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 21:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-130	10.30.2020 21:03	
o-Terphenyl	84-15-1	124	%	70-130	10.30.2020 21:03	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-9 1'**
 Lab Sample Id: 676434-018

Matrix: Soil
 Date Collected: 10.29.2020 11:22

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.06.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3141649

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.07.2020 23:01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.07.2020 23:01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.07.2020 23:01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.07.2020 23:01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.07.2020 23:01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.07.2020 23:01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.07.2020 23:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.07.2020 23:01		
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.07.2020 23:01		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-10 0.5'
Lab Sample Id: 676434-019

Matrix: Soil
Date Collected: 10.29.2020 11:38

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 11:40

% Moisture:
Basis: Wet Weight

Seq Number: 3141212

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	77.3	4.96	mg/kg	11.02.2020 13:30		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 21:25	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 21:25	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 21:25	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 21:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-130	10.30.2020 21:25	
o-Terphenyl	84-15-1	125	%	70-130	10.30.2020 21:25	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-10 0.5'**
 Lab Sample Id: 676434-019

Matrix: Soil
 Date Collected: 10.29.2020 11:38

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.06.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3141649

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.07.2020 23:21	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.07.2020 23:21	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.07.2020 23:21	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.07.2020 23:21	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.07.2020 23:21	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	11.07.2020 23:21	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.07.2020 23:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.07.2020 23:21		
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.07.2020 23:21		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-10 1'**
Lab Sample Id: 676434-020

Matrix: Soil
Date Collected: 10.29.2020 11:41

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 11:40

% Moisture:
Basis: Wet Weight

Seq Number: 3141212

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	86.6	4.99	mg/kg	11.02.2020 13:36		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141084

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 21:46	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 21:46	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 21:46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 21:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	10.30.2020 21:46	
o-Terphenyl	84-15-1	95	%	70-130	10.30.2020 21:46	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: **S-10 1'**
 Lab Sample Id: 676434-020

Matrix: Soil
 Date Collected: 10.29.2020 11:41

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.06.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3141649

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.07.2020 23:42	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.07.2020 23:42	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.07.2020 23:42	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.07.2020 23:42	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.07.2020 23:42	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.07.2020 23:42	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.07.2020 23:42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.07.2020 23:42		
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.07.2020 23:42		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-11 0.5'
Lab Sample Id: 676434-021

Matrix: Soil
Date Collected: 10.29.2020 11:31

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 11:40

% Moisture:
Basis: Wet Weight

Seq Number: 3141212

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.5	5.04	mg/kg	11.02.2020 13:43		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141081

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.30.2020 14:11	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	10.30.2020 14:11	U	1
Oil Range Hydrocarbons	PHCG2835	<50.0	50.0	mg/kg	10.30.2020 14:11	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.30.2020 14:11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	96	%	70-130	10.30.2020 14:11		
o-Terphenyl	84-15-1	107	%	70-130	10.30.2020 14:11		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-11 0.5'
Lab Sample Id: 676434-021

Matrix: Soil
Date Collected: 10.29.2020 11:31

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.06.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141649

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.08.2020 00:02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.08.2020 00:02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.08.2020 00:02	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.08.2020 00:02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.08.2020 00:02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.08.2020 00:02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.08.2020 00:02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	11.08.2020 00:02		
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.08.2020 00:02		



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-11 1'
Lab Sample Id: 676434-022

Matrix: Soil
Date Collected: 10.29.2020 11:33

Date Received: 10.30.2020 08:43

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.02.2020 11:40

% Moisture:
Basis: Wet Weight

Seq Number: 3141212

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.3	5.04	mg/kg	11.02.2020 13:50		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.30.2020 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141081

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	10.30.2020 15:09	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	10.30.2020 15:09	U	1
Oil Range Hydrocarbons	PHCG2835	<49.9	49.9	mg/kg	10.30.2020 15:09	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.30.2020 15:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	10.30.2020 15:09	
o-Terphenyl	84-15-1	103	%	70-130	10.30.2020 15:09	



Certificate of Analytical Results 676434

Larson and Associates, Inc., Midland, TX

Candle #001

Sample Id: S-11 1'
Lab Sample Id: 676434-022

Matrix: Soil
Date Collected: 10.29.2020 11:33

Date Received: 10.30.2020 08:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.06.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141649

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.08.2020 00:23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.08.2020 00:23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.08.2020 00:23	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.08.2020 00:23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.08.2020 00:23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.08.2020 00:23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.08.2020 00:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	11.08.2020 00:23		
4-Bromofluorobenzene	460-00-4	125	%	70-130	11.08.2020 00:23		

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.
Candle #001

Analytical Method: Chloride by EPA 300

Seq Number: 3141209

MB Sample Id: 7714305-1-BLK

Matrix: Solid

LCS Sample Id: 7714305-1-BKS

Prep Method: E300P

Date Prep: 11.02.2020

LCSD Sample Id: 7714305-1-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	265	106	90-110	0	20	mg/kg	11.02.2020 14:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3141212

MB Sample Id: 7714335-1-BLK

Matrix: Solid

LCS Sample Id: 7714335-1-BKS

Prep Method: E300P

Date Prep: 11.02.2020

LCSD Sample Id: 7714335-1-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	268	107	266	106	90-110	1	20	mg/kg	11.02.2020 12:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3141209

Parent Sample Id: 676429-006

Matrix: Soil

MS Sample Id: 676429-006 S

Prep Method: E300P

Date Prep: 11.02.2020

MSD Sample Id: 676429-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	343	251	605	104	602	103	90-110	0	20	mg/kg	11.02.2020 15:14	

Analytical Method: Chloride by EPA 300

Seq Number: 3141209

Parent Sample Id: 676434-004

Matrix: Soil

MS Sample Id: 676434-004 S

Prep Method: E300P

Date Prep: 11.02.2020

MSD Sample Id: 676434-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	941	249	1170	92	1180	96	90-110	1	20	mg/kg	11.02.2020 16:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3141212

Parent Sample Id: 676434-014

Matrix: Soil

MS Sample Id: 676434-014 S

Prep Method: E300P

Date Prep: 11.02.2020

MSD Sample Id: 676434-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3500	1250	5020	122	4960	117	90-110	1	20	mg/kg	11.02.2020 12:36	X

Analytical Method: Chloride by EPA 300

Seq Number: 3141212

Parent Sample Id: 676455-002

Matrix: Soil

MS Sample Id: 676455-002 S

Prep Method: E300P

Date Prep: 11.02.2020

MSD Sample Id: 676455-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6860	2490	9680	113	9490	106	90-110	2	20	mg/kg	11.02.2020 14:10	X

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.
Candle #001

Analytical Method: TPH By SW8015 Mod

Seq Number: 3141081

MB Sample Id: 7714293-1-BLK

Matrix: Solid

LCS Sample Id: 7714293-1-BKS

Prep Method: SW8015P

Date Prep: 10.30.2020

LCSD Sample Id: 7714293-1-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	<50.0	1000	978	98	961	96	70-130	2	20	mg/kg	10.30.2020 13:33	
Diesel Range Organics	<50.0	1000	1000	100	949	95	70-130	5	20	mg/kg	10.30.2020 13:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		106		102		70-130	%	10.30.2020 13:33
o-Terphenyl	111		113		105		70-130	%	10.30.2020 13:33

Analytical Method: TPH By SW8015 Mod

Seq Number: 3141084

MB Sample Id: 7714295-1-BLK

Matrix: Solid

LCS Sample Id: 7714295-1-BKS

Prep Method: SW8015P

Date Prep: 10.30.2020

LCSD Sample Id: 7714295-1-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	<50.0	1000	957	96	1010	101	70-130	5	20	mg/kg	10.30.2020 13:13	
Diesel Range Organics	<50.0	1000	1100	110	1110	111	70-130	1	20	mg/kg	10.30.2020 13:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		117		113		70-130	%	10.30.2020 13:13
o-Terphenyl	114		121		119		70-130	%	10.30.2020 13:13

Analytical Method: TPH By SW8015 Mod

Seq Number: 3141081

Matrix: Solid
MB Sample Id: 7714293-1-BLK

Prep Method: SW8015P

Date Prep: 10.30.2020

Parameter	MB Result	Units	Analysis Date	Flag
Oil Range Hydrocarbons	<50.0	mg/kg	10.30.2020 13:14	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3141084

Matrix: Solid
MB Sample Id: 7714295-1-BLK

Prep Method: SW8015P

Date Prep: 10.30.2020

Parameter	MB Result	Units	Analysis Date	Flag
Oil Range Hydrocarbons	<50.0	mg/kg	10.30.2020 12:52	

 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.
Candle #001

Analytical Method: TPH By SW8015 Mod

Seq Number: 3141081

Parent Sample Id: 676434-021

Matrix: Soil

MS Sample Id: 676434-021 S

Prep Method: SW8015P

Date Prep: 10.30.2020

MSD Sample Id: 676434-021 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	<49.9	997	971	97	959	96	70-130	1	20	mg/kg	10.30.2020 14:30	
Diesel Range Organics	<49.9	997	1000	100	977	98	70-130	2	20	mg/kg	10.30.2020 14:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		105		70-130	%	10.30.2020 14:30
o-Terphenyl	106		106		70-130	%	10.30.2020 14:30

Analytical Method: TPH By SW8015 Mod

Seq Number: 3141084

Parent Sample Id: 676434-001

Matrix: Soil

MS Sample Id: 676434-001 S

Prep Method: SW8015P

Date Prep: 10.30.2020

MSD Sample Id: 676434-001 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	<49.9	998	1040	104	1000	100	70-130	4	20	mg/kg	10.30.2020 14:17	
Diesel Range Organics	<49.9	998	1210	121	1220	122	70-130	1	20	mg/kg	10.30.2020 14:17	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		123		70-130	%	10.30.2020 14:17
o-Terphenyl	123		123		70-130	%	10.30.2020 14:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3141193

MB Sample Id: 7714381-1-BLK

Matrix: Solid

LCS Sample Id: 7714381-1-BKS

Prep Method: SW5035A

Date Prep: 11.02.2020

LCSD Sample Id: 7714381-1-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	0.0797	80	0.0731	73	70-130	9	35	mg/kg	11.02.2020 17:16	
Toluene	<0.00200	0.100	0.104	104	0.0950	95	70-130	9	35	mg/kg	11.02.2020 17:16	
Ethylbenzene	<0.00200	0.100	0.114	114	0.102	102	70-130	11	35	mg/kg	11.02.2020 17:16	
m,p-Xylenes	<0.00400	0.200	0.233	117	0.207	104	70-130	12	35	mg/kg	11.02.2020 17:16	
o-Xylene	<0.00200	0.100	0.113	113	0.101	101	70-130	11	35	mg/kg	11.02.2020 17:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		88		87		70-130	%	11.02.2020 17:16
4-Bromofluorobenzene	88		116		105		70-130	%	11.02.2020 17:16

 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.
Candle #001

Analytical Method: BTEX by EPA 8021B

Seq Number: 3141292

Matrix: Solid

Prep Method: SW5035A

Date Prep: 11.03.2020

MB Sample Id: 7714448-1-BLK

LCS Sample Id: 7714448-1-BKS

LCSD Sample Id: 7714448-1-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	0.0744	74	0.0824	82	70-130	10	35	mg/kg	11.03.2020 11:41	
Toluene	<0.00200	0.100	0.102	102	0.107	107	70-130	5	35	mg/kg	11.03.2020 11:41	
Ethylbenzene	<0.00200	0.100	0.115	115	0.119	119	70-130	3	35	mg/kg	11.03.2020 11:41	
m,p-Xylenes	<0.00400	0.200	0.240	120	0.246	123	70-130	2	35	mg/kg	11.03.2020 11:41	
o-Xylene	<0.00200	0.100	0.119	119	0.118	118	70-130	1	35	mg/kg	11.03.2020 11:41	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	98		84		85		70-130			%	11.03.2020 11:41	
4-Bromofluorobenzene	96		122		114		70-130			%	11.03.2020 11:41	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3141466

Matrix: Solid

Prep Method: SW5035A

Date Prep: 11.04.2020

MB Sample Id: 7714582-1-BLK

LCS Sample Id: 7714582-1-BKS

LCSD Sample Id: 7714582-1-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	0.0776	78	0.0802	80	70-130	3	35	mg/kg	11.05.2020 03:30	
Toluene	<0.00200	0.100	0.113	113	0.117	117	70-130	3	35	mg/kg	11.05.2020 03:30	
Ethylbenzene	<0.00200	0.100	0.106	106	0.114	114	70-130	7	35	mg/kg	11.05.2020 03:30	
m,p-Xylenes	<0.00400	0.200	0.216	108	0.234	117	70-130	8	35	mg/kg	11.05.2020 03:30	
o-Xylene	<0.00200	0.100	0.109	109	0.117	117	70-130	7	35	mg/kg	11.05.2020 03:30	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	74		104		110		70-130			%	11.05.2020 03:30	
4-Bromofluorobenzene	84		103		108		70-130			%	11.05.2020 03:30	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3141649

Matrix: Solid

Prep Method: SW5035A

Date Prep: 11.06.2020

MB Sample Id: 7714724-1-BLK

LCS Sample Id: 7714724-1-BKS

LCSD Sample Id: 7714724-1-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	0.0923	92	0.0811	81	70-130	13	35	mg/kg	11.07.2020 14:50	
Toluene	<0.00200	0.100	0.0941	94	0.0842	84	70-130	11	35	mg/kg	11.07.2020 14:50	
Ethylbenzene	<0.00200	0.100	0.0983	98	0.0895	90	70-130	9	35	mg/kg	11.07.2020 14:50	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.176	88	70-130	10	35	mg/kg	11.07.2020 14:50	
o-Xylene	<0.00200	0.100	0.0938	94	0.0887	89	70-130	6	35	mg/kg	11.07.2020 14:50	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	99		99		99		70-130			%	11.07.2020 14:50	
4-Bromofluorobenzene	104		94		100		70-130			%	11.07.2020 14:50	

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.

Candle #001

Analytical Method: BTEX by EPA 8021B

Seq Number: 3141193

Parent Sample Id: 676429-007

Matrix: Soil

MS Sample Id: 676429-007 S

Prep Method: SW5035A

Date Prep: 11.02.2020

MSD Sample Id: 676429-007 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	0.0640	64	0.0664	67	70-130	4	35	mg/kg	11.02.2020 17:57	X
Toluene	<0.00201	0.100	0.0850	85	0.0858	86	70-130	1	35	mg/kg	11.02.2020 17:57	
Ethylbenzene	<0.00201	0.100	0.0942	94	0.0926	93	70-130	2	35	mg/kg	11.02.2020 17:57	
m,p-Xylenes	<0.00402	0.201	0.192	96	0.187	94	70-130	3	35	mg/kg	11.02.2020 17:57	
o-Xylene	<0.00201	0.100	0.0944	94	0.0924	93	70-130	2	35	mg/kg	11.02.2020 17:57	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	85		88		70-130	%	11.02.2020 17:57
4-Bromofluorobenzene	113		110		70-130	%	11.02.2020 17:57

Analytical Method: BTEX by EPA 8021B

Seq Number: 3141292

Parent Sample Id: 676434-005

Matrix: Soil

MS Sample Id: 676434-005 S

Prep Method: SW5035A

Date Prep: 11.03.2020

MSD Sample Id: 676434-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.00370	4	0.0545	55	70-130	175	35	mg/kg	11.03.2020 13:46	XF
Toluene	<0.00199	0.0996	0.00542	5	<0.00200	0	70-130	200	35	mg/kg	11.03.2020 13:46	XF
Ethylbenzene	<0.00199	0.0996	0.00570	6	<0.00200	0	70-130	200	35	mg/kg	11.03.2020 13:46	XF
m,p-Xylenes	<0.00398	0.199	0.0112	6	<0.00401	0	70-130	200	35	mg/kg	11.03.2020 13:46	XF
o-Xylene	<0.00199	0.0996	0.00649	7	<0.00200	0	70-130	200	35	mg/kg	11.03.2020 13:46	XF

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		95		70-130	%	11.03.2020 13:46
4-Bromofluorobenzene	100		0	**	70-130	%	11.03.2020 13:46

Analytical Method: BTEX by EPA 8021B

Seq Number: 3141466

Parent Sample Id: 676434-006

Matrix: Soil

MS Sample Id: 676434-006 S

Prep Method: SW5035A

Date Prep: 11.04.2020

MSD Sample Id: 676434-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0663	67	0.0664	67	70-130	0	35	mg/kg	11.05.2020 04:22	X
Toluene	<0.00199	0.0996	0.0782	79	0.0935	94	70-130	18	35	mg/kg	11.05.2020 04:22	
Ethylbenzene	<0.00199	0.0996	0.0822	83	0.0838	84	70-130	2	35	mg/kg	11.05.2020 04:22	
m,p-Xylenes	<0.00398	0.199	0.166	83	0.169	85	70-130	2	35	mg/kg	11.05.2020 04:22	
o-Xylene	<0.00199	0.0996	0.0811	81	0.0835	84	70-130	3	35	mg/kg	11.05.2020 04:22	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	11.05.2020 04:22
4-Bromofluorobenzene	102		101		70-130	%	11.05.2020 04:22

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.
Candle #001

Analytical Method: BTEX by EPA 8021B

Seq Number: 3141649

Parent Sample Id: 677024-001

Matrix: Soil

MS Sample Id: 677024-001 S

Prep Method: SW5035A

Date Prep: 11.06.2020

MSD Sample Id: 677024-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0979	98	0.110	109	70-130	12	35	mg/kg	11.07.2020 15:31	
Toluene	<0.00199	0.0994	0.0992	100	0.112	111	70-130	12	35	mg/kg	11.07.2020 15:31	
Ethylbenzene	<0.00199	0.0994	0.106	107	0.119	118	70-130	12	35	mg/kg	11.07.2020 15:31	
m,p-Xylenes	<0.00398	0.199	0.206	104	0.232	115	70-130	12	35	mg/kg	11.07.2020 15:31	
o-Xylene	<0.00199	0.0994	0.103	104	0.116	115	70-130	12	35	mg/kg	11.07.2020 15:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		101		70-130	%	11.07.2020 15:31
4-Bromofluorobenzene	103		106		70-130	%	11.07.2020 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

DATE: 10/30/2020 PAGE 2 OF 2
PO#: _____ LAB WORK ORDER#: _____
PROJECT LOCATION OR NAME: CHANDLER # 001

LA PROJECT #: 20-0107-22 COLLECTOR: DS/TJ

S=SOIL
W=WATER
A=AIR

P=PAINT
SL=SLUDGE
OT=OTHER

PRESERVATION			
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Lab #	Date	Time
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HCl
HNO ₃
H ₂ SO ₄ ☐ NaOH ☐
ICE
UNPRESSERVED

ANALYSES

BTEX ☒ MTBE ☐ TPH 1005 ☐ TPH 1006 ☐
TRPH 418.1 ☐ TPH 8015 ☐
GASOLINE MOD 8015 ☐
DIESEL - MOD 8015 ☒
OIL - MOD 8015 ☒
VOC 8260 ☒
SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐
8081 PESTICIDES ☐ 8151 HERBICIDES ☐
8082 PCBS ☐
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 ☐ PECTHLORATE ☐
CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

FIELD NO.

FIELD NOTES

S-X	1'	10/29/10	1140	S	1	X	X	X	X	X	X
S-9	0.5'		1120								
S-9	1'		1122								
S-10	0.5'		1138								
S-10	1'		1141								
S-11	0.5'		1131								
S-11	1'		1133								
TOTAL 7											

RECEIVED BY: (Signature)RECEIVED BY: (Signature)RECEIVED BY: (Signature)

LABORATORY: XENCO

TURN AROUND TIME

LABORATORY USE ONLY

RECEIVING TEMP: -10.5 THERM#: K8

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: 10.30.2020 08.43.00 AM

Work Order #: 676434

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	-10.5
#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

TPH was in bulk container

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Jessica Kramer

Date: 10.30.2020

Checklist reviewed by:



Holly Taylor

Date: 10.30.2020

Certificate of Analysis Summary 680582

Larson and Associates, Inc., Midland, TX

Project Name: Candie 001

Project Id: 20-0107-22

Contact: Mark Larson

Project Location:

Date Received in Lab: Thu 12.10.2020 10:35

Report Date: 12.18.2020 12:31

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	680582-001	680582-002	680582-003	680582-004	680582-005	680582-006
	<i>Field Id:</i>	S-1 1'	S-1 3'	S-1 5'	S-1 10'	S-1 15'	S-7 1'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 12:30	12.09.2020 12:35	12.09.2020 12:40	12.09.2020 12:45	12.09.2020 12:50	12.09.2020 13:00
BTEX by EPA 8021B	<i>Extracted:</i>	12.11.2020 11:03	12.11.2020 11:03				12.11.2020 11:03
	<i>Analyzed:</i>	12.11.2020 14:46	12.11.2020 15:08				12.11.2020 15:30
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200				<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00200 0.00200				<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200				<0.00199 0.00199
m,p-Xylenes		<0.00401 0.00401	<0.00401 0.00401				<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00200 0.00200				<0.00199 0.00199
Total Xylenes		<0.002000 0.002000	<0.002000 0.002000				<0.001990 0.001990
Total BTEX		<0.002000 0.002000	<0.002000 0.002000				<0.001990 0.001990
Chloride by EPA 300	<i>Extracted:</i>	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 14:06	12.16.2020 18:02	12.11.2020 14:06
	<i>Analyzed:</i>	12.11.2020 17:50	12.11.2020 18:06	12.11.2020 18:11	12.11.2020 18:16	12.17.2020 12:18	12.11.2020 18:21
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		355 9.90	450 9.98	587 9.96	1020 50.0	583 49.6	3470 49.9
TPH by SW8015 Mod	<i>Extracted:</i>	12.11.2020 17:56	12.11.2020 17:56				12.11.2020 17:56
	<i>Analyzed:</i>	12.11.2020 23:38	12.12.2020 00:39				12.12.2020 00:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<50.0 50.0				<50.0 50.0
Diesel Range Organics (DRO)		<50.1 50.1	<50.0 50.0				<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.0 50.0				<50.0 50.0
Total TPH		<50.10 50.10	<50.00 50.00				<50.00 50.00

BRL - Below Reporting Limit



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

Certificate of Analysis Summary 680582



Larson and Associates, Inc., Midland, TX

Project Name: Candie 001

Project Id: 20-0107-22

Date Received in Lab: Thu 12.10.2020 10:35

Contact: Mark Larson

Report Date: 12.18.2020 12:31

Project Location:

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	680582-007	680582-008	680582-009	680582-012	680582-013	680582-014
	<i>Field Id:</i>	S-7 3'	S-7 5'	S-7 10'	S-6 1'	S-6 3'	S-6 5'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 13:05	12.09.2020 13:10	12.09.2020 13:15	12.09.2020 13:40	12.09.2020 13:45	12.09.2020 13:50
BTEX by EPA 8021B	<i>Extracted:</i>	12.11.2020 11:03			12.11.2020 11:03	12.11.2020 11:03	
	<i>Analyzed:</i>	12.11.2020 15:53			12.11.2020 16:15	12.11.2020 16:38	
	<i>Units/RL:</i>	mg/kg RL			mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200			<0.00198 0.00198	<0.00200 0.00200	
Toluene		<0.00200 0.00200			<0.00198 0.00198	<0.00200 0.00200	
Ethylbenzene		<0.00200 0.00200			<0.00198 0.00198	<0.00200 0.00200	
m,p-Xylenes		<0.00399 0.00399			<0.00397 0.00397	<0.00399 0.00399	
o-Xylene		<0.00200 0.00200			<0.00198 0.00198	<0.00200 0.00200	
Total Xylenes		<0.002000 0.002000			<0.001980 0.001980	<0.002000 0.002000	
Total BTEX		<0.002000 0.002000			<0.001980 0.001980	<0.002000 0.002000	
Chloride by EPA 300	<i>Extracted:</i>	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 14:06
	<i>Analyzed:</i>	12.11.2020 18:36	12.11.2020 18:41	12.11.2020 18:46	12.11.2020 18:52	12.11.2020 18:57	12.11.2020 19:02
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1870 49.8	1190 49.9	155 9.92	20200 49.6	1580 49.5	978 49.4
TPH by SW8015 Mod	<i>Extracted:</i>	12.11.2020 17:56	12.11.2020 17:56	12.11.2020 17:56	12.11.2020 17:56	12.11.2020 17:56	12.11.2020 17:56
	<i>Analyzed:</i>	12.12.2020 01:19	12.12.2020 01:39	12.12.2020 01:59	12.12.2020 02:19	12.12.2020 02:39	12.12.2020 02:59
	<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	<50.3 50.3	<50.1 50.1	<49.8 49.8	<50.1 50.1	<49.8 49.8
Diesel Range Organics (DRO)		<49.9 49.9	<50.3 50.3	<50.1 50.1	573 49.8	<50.1 50.1	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.3 50.3	<50.1 50.1	195 49.8	<50.1 50.1	<49.8 49.8
Total TPH		<49.90 49.90	<50.30 50.30	<50.10 50.10	768.0 49.80	<50.10 50.10	<49.80 49.80

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Certificate of Analysis Summary 680582



Larson and Associates, Inc., Midland, TX

Project Name: Candie 001

Project Id: 20-0107-22

Date Received in Lab: Thu 12.10.2020 10:35

Contact: Mark Larson

Report Date: 12.18.2020 12:31

Project Location:

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	680582-015	680582-016	680582-018	680582-019	680582-020	680582-021
	<i>Field Id:</i>	S-6 10'	S-6 15'	S-5 1'	S-5 3'	S-5 5'	S-5 10'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 13:55	12.09.2020 14:00	12.09.2020 14:15	12.09.2020 14:20	12.09.2020 14:25	12.09.2020 14:30
BTEX by EPA 8021B	<i>Extracted:</i>			12.11.2020 11:03	12.11.2020 11:03		
	<i>Analyzed:</i>			12.11.2020 17:00	12.11.2020 17:23		
	<i>Units/RL:</i>			mg/kg RL	mg/kg RL		
Benzene				<0.00202 0.00202	<0.00200 0.00200		
Toluene				<0.00202 0.00202	<0.00200 0.00200		
Ethylbenzene				<0.00202 0.00202	<0.00200 0.00200		
m,p-Xylenes				<0.00403 0.00403	<0.00401 0.00401		
o-Xylene				<0.00202 0.00202	<0.00200 0.00200		
Total Xylenes				<0.002020 0.002020	<0.002000 0.002000		
Total BTEX				<0.002020 0.002020	<0.002000 0.002000		
Chloride by EPA 300	<i>Extracted:</i>	12.11.2020 14:06	12.16.2020 18:02	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 14:06
	<i>Analyzed:</i>	12.11.2020 19:17	12.17.2020 12:24	12.11.2020 19:22	12.11.2020 19:37	12.11.2020 19:42	12.11.2020 19:47
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		674 49.9	417 50.2	374 9.92	158 9.98	81.0 49.8	688 49.8
TPH by SW8015 Mod	<i>Extracted:</i>	12.11.2020 17:56		12.11.2020 17:56	12.10.2020 17:00		
	<i>Analyzed:</i>	12.12.2020 03:19		12.12.2020 03:59	12.11.2020 19:15		
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1		<50.2 50.2	<50.0 50.0		
Diesel Range Organics (DRO)		<50.1 50.1		<50.2 50.2	<50.0 50.0		
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1		<50.2 50.2	<50.0 50.0		
Total TPH		<50.10 50.10		<50.20 50.20	<50.00 50.00		

BRL - Below Reporting Limit

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Certificate of Analysis Summary 680582



Larson and Associates, Inc., Midland, TX

Project Name: Candie 001

Project Id: 20-0107-22

Date Received in Lab: Thu 12.10.2020 10:35

Contact: Mark Larson

Report Date: 12.18.2020 12:31

Project Location:

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	680582-022	680582-023	680582-024	680582-025	680582-026	680582-028
	<i>Field Id:</i>	S-5 15'	S-2 1'	S-2 3'	S-2 5'	S-2 10'	S-3 1'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 14:35	12.10.2020 08:50	12.10.2020 08:55	12.10.2020 09:00	12.10.2020 09:05	12.10.2020 09:20
BTEX by EPA 8021B	<i>Extracted:</i>		12.11.2020 11:03	12.11.2020 11:03			12.11.2020 11:03
	<i>Analyzed:</i>		12.11.2020 17:45	12.11.2020 18:07			12.11.2020 19:25
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL			mg/kg RL
Benzene			<0.00202 0.00202	<0.00200 0.00200			<0.00198 0.00198
Toluene			<0.00202 0.00202	<0.00200 0.00200			<0.00198 0.00198
Ethylbenzene			<0.00202 0.00202	<0.00200 0.00200			<0.00198 0.00198
m,p-Xylenes			<0.00403 0.00403	<0.00401 0.00401			<0.00397 0.00397
o-Xylene			<0.00202 0.00202	<0.00200 0.00200			<0.00198 0.00198
Total Xylenes			<0.002020 0.002020	<0.002000 0.002000			<0.001980 0.001980
Total BTEX			<0.002020 0.002020	<0.002000 0.002000			<0.001980 0.001980
Chloride by EPA 300	<i>Extracted:</i>	12.16.2020 18:02	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 14:06	12.11.2020 16:10
	<i>Analyzed:</i>	12.17.2020 12:30	12.11.2020 19:53	12.11.2020 19:58	12.11.2020 20:03	12.11.2020 20:08	12.11.2020 20:38
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		355 50.1	884 9.98	568 9.96	75.0 49.9	515 50.0	471 9.92
TPH by SW8015 Mod	<i>Extracted:</i>		12.10.2020 17:00	12.10.2020 17:00			12.10.2020 17:00
	<i>Analyzed:</i>		12.11.2020 19:36	12.11.2020 19:56			12.11.2020 20:16
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL			mg/kg RL
Gasoline Range Hydrocarbons (GRO)			<50.3 50.3	<49.8 49.8			<50.2 50.2
Diesel Range Organics (DRO)			<50.3 50.3	<49.8 49.8			<50.2 50.2
Motor Oil Range Hydrocarbons (MRO)			<50.3 50.3	<49.8 49.8			<50.2 50.2
Total TPH			<50.30 50.30	<49.80 49.80			<50.20 50.20

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Certificate of Analysis Summary 680582

Larson and Associates, Inc., Midland, TX

Project Name: Candie 001

Project Id: 20-0107-22

Contact: Mark Larson

Project Location:

Date Received in Lab: Thu 12.10.2020 10:35

Report Date: 12.18.2020 12:31

Project Manager: Holly Taylor

<i>Analysis Requested</i>	<i>Lab Id:</i>	680582-029	680582-030	680582-031	680582-032	680582-033	680582-034
	<i>Field Id:</i>	S-3 3'	S-3 5'	S-3 10'	S-3 15'	S-4 1'	S-4 3'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.10.2020 09:25	12.10.2020 09:30	12.10.2020 09:35	12.10.2020 09:40	12.10.2020 09:50	12.10.2020 09:55
BTEX by EPA 8021B	<i>Extracted:</i>	12.11.2020 11:03				12.11.2020 11:03	12.11.2020 11:03
	<i>Analyzed:</i>	12.11.2020 19:48				12.11.2020 20:10	12.11.2020 20:32
	<i>Units/RL:</i>	mg/kg RL				mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199				<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00199 0.00199				<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00199 0.00199				<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00398 0.00398				<0.00399 0.00399	<0.00399 0.00399
o-Xylene		<0.00199 0.00199				<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.001990 0.001990				<0.002000 0.002000	<0.002000 0.002000
Total BTEX		<0.001990 0.001990				<0.002000 0.002000	<0.002000 0.002000
Chloride by EPA 300	<i>Extracted:</i>	12.11.2020 16:10	12.11.2020 16:10	12.11.2020 16:10	12.16.2020 18:02	12.11.2020 16:10	12.11.2020 16:10
	<i>Analyzed:</i>	12.11.2020 20:53	12.11.2020 20:59	12.11.2020 21:04	12.17.2020 12:35	12.11.2020 21:09	12.11.2020 21:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		491 10.1	863 50.4	2610 49.9	388 50.4	493 49.8	342 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	12.10.2020 17:00				12.10.2020 17:00	12.10.2020 17:00
	<i>Analyzed:</i>	12.11.2020 20:37				12.11.2020 20:57	12.11.2020 21:17
	<i>Units/RL:</i>	mg/kg RL				mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2				<50.0 50.0	<50.2 50.2
Diesel Range Organics (DRO)		<50.2 50.2				<50.0 50.0	<50.2 50.2
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2				<50.0 50.0	<50.2 50.2
Total TPH		<50.20 50.20				<50.00 50.00	<50.20 50.20

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Certificate of Analysis Summary 680582

Larson and Associates, Inc., Midland, TX

Project Name: Candie 001

Project Id: 20-0107-22

Date Received in Lab: Thu 12.10.2020 10:35

Contact: Mark Larson

Report Date: 12.18.2020 12:31

Project Location:

Project Manager: Holly Taylor

Analysis Requested	Lab Id:	680582-035	680582-036	680582-037			
	Field Id:	S-4 5'	S-4 10'	S-4 15'			
	Depth:						
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	12.10.2020 10:00	12.10.2020 10:05	12.10.2020 10:10			
Chloride by EPA 300	Extracted:	12.11.2020 16:10	12.11.2020 16:10	12.16.2020 18:02			
	Analyzed:	12.11.2020 21:29	12.11.2020 21:34	12.17.2020 12:41			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		359 9.92	1030 49.9	223 50.1			

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Analytical Report 680582

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Candie 001

20-0107-22

12.18.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

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 (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.18.2020

Project Manager: **Mark Larson**

Larson and Associates, Inc.

P. O. Box 50685

Midland, TX 79710

Reference: Eurofins Xenco, LLC Report No(s): **680582**

Candie 001

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) 680582. 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. 680582 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

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Sample Cross Reference 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-1 1'	S	12.09.2020 12:30		680582-001
S-1 3'	S	12.09.2020 12:35		680582-002
S-1 5'	S	12.09.2020 12:40		680582-003
S-1 10'	S	12.09.2020 12:45		680582-004
S-1 15'	S	12.09.2020 12:50		680582-005
S-7 1'	S	12.09.2020 13:00		680582-006
S-7 3'	S	12.09.2020 13:05		680582-007
S-7 5'	S	12.09.2020 13:10		680582-008
S-7 10'	S	12.09.2020 13:15		680582-009
S-6 1'	S	12.09.2020 13:40		680582-012
S-6 3'	S	12.09.2020 13:45		680582-013
S-6 5'	S	12.09.2020 13:50		680582-014
S-6 10'	S	12.09.2020 13:55		680582-015
S-6 15'	S	12.09.2020 14:00		680582-016
S-5 1'	S	12.09.2020 14:15		680582-018
S-5 3'	S	12.09.2020 14:20		680582-019
S-5 5'	S	12.09.2020 14:25		680582-020
S-5 10'	S	12.09.2020 14:30		680582-021
S-5 15'	S	12.09.2020 14:35		680582-022
S-2 1'	S	12.10.2020 08:50		680582-023
S-2 3'	S	12.10.2020 08:55		680582-024
S-2 5'	S	12.10.2020 09:00		680582-025
S-2 10'	S	12.10.2020 09:05		680582-026
S-3 1'	S	12.10.2020 09:20		680582-028
S-3 3'	S	12.10.2020 09:25		680582-029
S-3 5'	S	12.10.2020 09:30		680582-030
S-3 10'	S	12.10.2020 09:35		680582-031
S-3 15'	S	12.10.2020 09:40		680582-032
S-4 1'	S	12.10.2020 09:50		680582-033
S-4 3'	S	12.10.2020 09:55		680582-034
S-4 5'	S	12.10.2020 10:00		680582-035
S-4 10'	S	12.10.2020 10:05		680582-036
S-4 15'	S	12.10.2020 10:10		680582-037
S-7 15'	S	12.09.2020 13:20		Not Analyzed
S-7 20'	S	12.09.2020 13:25		Not Analyzed
S-6 20'	S	12.09.2020 14:05		Not Analyzed
S-2 15'	S	12.10.2020 09:10		Not Analyzed



CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: Candie 001

Project ID: 20-0107-22
Work Order Number(s): 680582

Report Date: 12.18.2020
Date Received: 12.10.2020

Sample receipt non conformances and comments:

12/15/2020 1.001 Revised to report results for Cl on samples 005, 016, 022, 032 and 037 per Robert Nelson (email). HT

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-1 1'
Lab Sample Id: 680582-001

Matrix: Soil
Date Collected: 12.09.2020 12:30

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:06

% Moisture:
Basis: Wet Weight

Seq Number: 3144747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	355	9.90	mg/kg	12.11.2020 17:50		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.11.2020 23:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.11.2020 23:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.11.2020 23:38	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.11.2020 23:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	12.11.2020 23:38		
o-Terphenyl	84-15-1	107	%	70-135	12.11.2020 23:38		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-1 1'
Lab Sample Id: 680582-001

Matrix: Soil
Date Collected: 12.09.2020 12:30

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 14:46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 14:46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 14:46	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.2020 14:46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 14:46	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 14:46	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 14:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	12.11.2020 14:46		
4-Bromofluorobenzene	460-00-4	87	%	70-130	12.11.2020 14:46		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: **S-1 3'** Matrix: Soil Date Received: 12.10.2020 10:35
 Lab Sample Id: 680582-002 Date Collected: 12.09.2020 12:35
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
 Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	450	9.98	mg/kg	12.11.2020 18:06		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.11.2020 17:56 % Moisture:
 Seq Number: 3144731 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.2020 00:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 00:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 00:39	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 00:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	117	%	70-135	12.12.2020 00:39		
o-Terphenyl	84-15-1	109	%	70-135	12.12.2020 00:39		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-1 3'
Lab Sample Id: 680582-002

Matrix: Soil
Date Collected: 12.09.2020 12:35

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 15:08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 15:08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 15:08	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.2020 15:08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 15:08	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 15:08	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 15:08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.11.2020 15:08		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2020 15:08		

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: S-1 5'
Lab Sample Id: 680582-003

Matrix: Soil
Date Collected: 12.09.2020 12:40

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:06

% Moisture:
Basis: Wet Weight

Seq Number: 3144747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	587	9.96	mg/kg	12.11.2020 18:11		1

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: **S-1 10'**
Lab Sample Id: 680582-004

Matrix: Soil
Date Collected: 12.09.2020 12:45

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:06

% Moisture:
Basis: Wet Weight

Seq Number: 3144747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1020	50.0	mg/kg	12.11.2020 18:16		5

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: S-1 15' Matrix: Soil Date Received: 12.10.2020 10:35
Lab Sample Id: 680582-005 Date Collected: 12.09.2020 12:50
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.16.2020 18:02 % Moisture:
Seq Number: 3145220 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	583	49.6	mg/kg	12.17.2020 12:18		5



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-7 1'
Lab Sample Id: 680582-006

Matrix: Soil
Date Collected: 12.09.2020 13:00

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:06

% Moisture:
Basis: Wet Weight

Seq Number: 3144747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3470	49.9	mg/kg	12.11.2020 18:21		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.2020 00:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 00:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 00:59	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 00:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.12.2020 00:59	
o-Terphenyl	84-15-1	110	%	70-135	12.12.2020 00:59	



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-7 1'
Lab Sample Id: 680582-006

Matrix: Soil
Date Collected: 12.09.2020 13:00

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.11.2020 15:30	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.11.2020 15:30	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.11.2020 15:30	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.11.2020 15:30	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.11.2020 15:30	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.11.2020 15:30	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.11.2020 15:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.11.2020 15:30	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.11.2020 15:30	



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-7 3' Matrix: Soil Date Received: 12.10.2020 10:35
 Lab Sample Id: 680582-007 Date Collected: 12.09.2020 13:05
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
 Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1870	49.8	mg/kg	12.11.2020 18:36		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.11.2020 17:56 % Moisture:
 Seq Number: 3144731 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.12.2020 01:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.12.2020 01:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.12.2020 01:19	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.12.2020 01:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	12.12.2020 01:19		
o-Terphenyl	84-15-1	105	%	70-135	12.12.2020 01:19		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-7 3'
Lab Sample Id: 680582-007

Matrix: Soil
Date Collected: 12.09.2020 13:05

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 15:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 15:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 15:53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 15:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 15:53	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 15:53	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 15:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.11.2020 15:53		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2020 15:53		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-7 5' Matrix: Soil Date Received: 12.10.2020 10:35
 Lab Sample Id: 680582-008 Date Collected: 12.09.2020 13:10
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
 Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1190	49.9	mg/kg	12.11.2020 18:41		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.11.2020 17:56 % Moisture:
 Seq Number: 3144731 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.12.2020 01:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.12.2020 01:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.12.2020 01:39	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.12.2020 01:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	121	%	70-135	12.12.2020 01:39		
o-Terphenyl	84-15-1	112	%	70-135	12.12.2020 01:39		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-7 10' Matrix: Soil Date Received: 12.10.2020 10:35
 Lab Sample Id: 680582-009 Date Collected: 12.09.2020 13:15
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
 Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	155	9.92	mg/kg	12.11.2020 18:46		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.11.2020 17:56 % Moisture:
 Seq Number: 3144731 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.12.2020 01:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.12.2020 01:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.12.2020 01:59	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.12.2020 01:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	12.12.2020 01:59		
o-Terphenyl	84-15-1	101	%	70-135	12.12.2020 01:59		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: **S-6 1'**
Lab Sample Id: 680582-012

Matrix: Soil
Date Collected: 12.09.2020 13:40

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:06

% Moisture:
Basis: Wet Weight

Seq Number: 3144747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20200	49.6	mg/kg	12.11.2020 18:52		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.12.2020 02:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	573	49.8	mg/kg	12.12.2020 02:19		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	195	49.8	mg/kg	12.12.2020 02:19		1
Total TPH	PHC635	768.0	49.80	mg/kg	12.12.2020 02:19		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-135	12.12.2020 02:19		
o-Terphenyl	84-15-1	105	%	70-135	12.12.2020 02:19		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: **S-6 1'**
 Lab Sample Id: 680582-012

Matrix: Soil
 Date Collected: 12.09.2020 13:40

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
 Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.11.2020 16:15	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.11.2020 16:15	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.11.2020 16:15	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.11.2020 16:15	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.11.2020 16:15	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.11.2020 16:15	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.11.2020 16:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.11.2020 16:15		
1,4-Difluorobenzene	540-36-3	91	%	70-130	12.11.2020 16:15		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-6 3'
Lab Sample Id: 680582-013

Matrix: Soil
Date Collected: 12.09.2020 13:45

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:06

% Moisture:
Basis: Wet Weight

Seq Number: 3144747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1580	49.5	mg/kg	12.11.2020 18:57		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.12.2020 02:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.12.2020 02:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.12.2020 02:39	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.12.2020 02:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	12.12.2020 02:39		
o-Terphenyl	84-15-1	116	%	70-135	12.12.2020 02:39		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: **S-6 3'**
 Lab Sample Id: 680582-013

Matrix: Soil
 Date Collected: 12.09.2020 13:45

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
 Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 16:38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 16:38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 16:38	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 16:38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 16:38	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 16:38	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 16:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	87	%	70-130	12.11.2020 16:38		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2020 16:38		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-6 5' Matrix: Soil Date Received: 12.10.2020 10:35
 Lab Sample Id: 680582-014 Date Collected: 12.09.2020 13:50
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
 Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	978	49.4	mg/kg	12.11.2020 19:02		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.11.2020 17:56 % Moisture:
 Seq Number: 3144731 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.12.2020 02:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.12.2020 02:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.12.2020 02:59	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.12.2020 02:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	121	%	70-135	12.12.2020 02:59		
o-Terphenyl	84-15-1	110	%	70-135	12.12.2020 02:59		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-6 10'
Lab Sample Id: 680582-015

Matrix: Soil
Date Collected: 12.09.2020 13:55

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:06

% Moisture:
Basis: Wet Weight

Seq Number: 3144747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	674	49.9	mg/kg	12.11.2020 19:17		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.12.2020 03:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.12.2020 03:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.12.2020 03:19	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.12.2020 03:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	113	%	70-135	12.12.2020 03:19		
o-Terphenyl	84-15-1	107	%	70-135	12.12.2020 03:19		

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: **S-6 15'**
Lab Sample Id: 680582-016

Matrix: Soil
Date Collected: 12.09.2020 14:00

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.16.2020 18:02

% Moisture:
Basis: Wet Weight

Seq Number: 3145220

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	417	50.2	mg/kg	12.17.2020 12:24		5



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-5 1'
Lab Sample Id: 680582-018

Matrix: Soil
Date Collected: 12.09.2020 14:15

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:06

% Moisture:
Basis: Wet Weight

Seq Number: 3144747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	374	9.92	mg/kg	12.11.2020 19:22		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.12.2020 03:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.12.2020 03:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.12.2020 03:59	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.12.2020 03:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	113	%	70-135	12.12.2020 03:59		
o-Terphenyl	84-15-1	110	%	70-135	12.12.2020 03:59		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-5 1'
Lab Sample Id: 680582-018

Matrix: Soil
Date Collected: 12.09.2020 14:15

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 17:00	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 17:00	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 17:00	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.2020 17:00	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 17:00	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 17:00	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 17:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.11.2020 17:00	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.11.2020 17:00	



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-5 3' Matrix: Soil Date Received: 12.10.2020 10:35
 Lab Sample Id: 680582-019 Date Collected: 12.09.2020 14:20
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
 Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	158	9.98	mg/kg	12.11.2020 19:37		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:00 % Moisture:
 Seq Number: 3144742 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.11.2020 19:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.11.2020 19:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.11.2020 19:15	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.11.2020 19:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	108	%	70-135	12.11.2020 19:15		
o-Terphenyl	84-15-1	105	%	70-135	12.11.2020 19:15		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-5 3'
Lab Sample Id: 680582-019

Matrix: Soil
Date Collected: 12.09.2020 14:20

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 17:23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 17:23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 17:23	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.2020 17:23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 17:23	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 17:23	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 17:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.11.2020 17:23		
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.11.2020 17:23		

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: S-5 5' Matrix: Soil Date Received: 12.10.2020 10:35
Lab Sample Id: 680582-020 Date Collected: 12.09.2020 14:25
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	81.0	49.8	mg/kg	12.11.2020 19:42		5

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: **S-5 10'**
Lab Sample Id: 680582-021

Matrix: Soil
Date Collected: 12.09.2020 14:30

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:06

% Moisture:
Basis: Wet Weight

Seq Number: 3144747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	688	49.8	mg/kg	12.11.2020 19:47		5

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: S-5 15' Matrix: Soil Date Received: 12.10.2020 10:35
Lab Sample Id: 680582-022 Date Collected: 12.09.2020 14:35
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.16.2020 18:02 % Moisture:
Seq Number: 3145220 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	355	50.1	mg/kg	12.17.2020 12:30		5



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-2 1' Matrix: Soil Date Received: 12.10.2020 10:35
 Lab Sample Id: 680582-023 Date Collected: 12.10.2020 08:50
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
 Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	884	9.98	mg/kg	12.11.2020 19:53		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:00 % Moisture:
 Seq Number: 3144742 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.11.2020 19:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.11.2020 19:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.11.2020 19:36	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.11.2020 19:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-135	12.11.2020 19:36		
o-Terphenyl	84-15-1	101	%	70-135	12.11.2020 19:36		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-2 1'
Lab Sample Id: 680582-023

Matrix: Soil
Date Collected: 12.10.2020 08:50

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 17:45	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 17:45	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 17:45	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.2020 17:45	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 17:45	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 17:45	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 17:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.11.2020 17:45		
4-Bromofluorobenzene	460-00-4	93	%	70-130	12.11.2020 17:45		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-2 3' Matrix: Soil Date Received: 12.10.2020 10:35
 Lab Sample Id: 680582-024 Date Collected: 12.10.2020 08:55
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
 Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	568	9.96	mg/kg	12.11.2020 19:58		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:00 % Moisture:
 Seq Number: 3144742 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.11.2020 19:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.11.2020 19:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.11.2020 19:56	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.11.2020 19:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	12.11.2020 19:56		
o-Terphenyl	84-15-1	101	%	70-135	12.11.2020 19:56		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-2 3'
Lab Sample Id: 680582-024

Matrix: Soil
Date Collected: 12.10.2020 08:55

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 18:07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 18:07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 18:07	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.2020 18:07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 18:07	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 18:07	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 18:07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.11.2020 18:07		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2020 18:07		

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: S-2 5' Matrix: Soil Date Received: 12.10.2020 10:35
Lab Sample Id: 680582-025 Date Collected: 12.10.2020 09:00
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	75.0	49.9	mg/kg	12.11.2020 20:03		5

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: S-2 10' Matrix: Soil Date Received: 12.10.2020 10:35
Lab Sample Id: 680582-026 Date Collected: 12.10.2020 09:05
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 14:06 % Moisture:
Seq Number: 3144747 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	515	50.0	mg/kg	12.11.2020 20:08		5



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-3 1'
Lab Sample Id: 680582-028

Matrix: Soil
Date Collected: 12.10.2020 09:20

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:10

% Moisture:
Basis: Wet Weight

Seq Number: 3144748

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	471	9.92	mg/kg	12.11.2020 20:38		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.11.2020 20:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.11.2020 20:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.11.2020 20:16	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.11.2020 20:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.11.2020 20:16	
o-Terphenyl	84-15-1	113	%	70-135	12.11.2020 20:16	



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-3 1'
Lab Sample Id: 680582-028

Matrix: Soil
Date Collected: 12.10.2020 09:20

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.11.2020 19:25	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.11.2020 19:25	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.11.2020 19:25	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.11.2020 19:25	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.11.2020 19:25	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.11.2020 19:25	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.11.2020 19:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.11.2020 19:25		
4-Bromofluorobenzene	460-00-4	86	%	70-130	12.11.2020 19:25		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-3 3'
Lab Sample Id: 680582-029

Matrix: Soil
Date Collected: 12.10.2020 09:25

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:10

% Moisture:
Basis: Wet Weight

Seq Number: 3144748

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	491	10.1	mg/kg	12.11.2020 20:53		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.11.2020 20:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.11.2020 20:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.11.2020 20:37	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.11.2020 20:37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	118	%	70-135	12.11.2020 20:37		
o-Terphenyl	84-15-1	95	%	70-135	12.11.2020 20:37		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-3 3'
Lab Sample Id: 680582-029

Matrix: Soil
Date Collected: 12.10.2020 09:25

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.11.2020 19:48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.11.2020 19:48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.11.2020 19:48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.11.2020 19:48	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.11.2020 19:48	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.11.2020 19:48	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.11.2020 19:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.11.2020 19:48		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.11.2020 19:48		

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: S-3 5' Matrix: Soil Date Received: 12.10.2020 10:35
Lab Sample Id: 680582-030 Date Collected: 12.10.2020 09:30
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	863	50.4	mg/kg	12.11.2020 20:59		5

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: **S-3 10'** Matrix: Soil Date Received: 12.10.2020 10:35
Lab Sample Id: 680582-031 Date Collected: 12.10.2020 09:35
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2610	49.9	mg/kg	12.11.2020 21:04		5

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: S-3 15' Matrix: Soil Date Received: 12.10.2020 10:35
Lab Sample Id: 680582-032 Date Collected: 12.10.2020 09:40
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.16.2020 18:02 % Moisture:
Seq Number: 3145220 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	388	50.4	mg/kg	12.17.2020 12:35		5



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-4 1'
Lab Sample Id: 680582-033

Matrix: Soil
Date Collected: 12.10.2020 09:50

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:10

% Moisture:
Basis: Wet Weight

Seq Number: 3144748

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	493	49.8	mg/kg	12.11.2020 21:09		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.11.2020 20:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.11.2020 20:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.11.2020 20:57	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.11.2020 20:57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	117	%	70-135	12.11.2020 20:57		
o-Terphenyl	84-15-1	100	%	70-135	12.11.2020 20:57		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: S-4 1'
Lab Sample Id: 680582-033

Matrix: Soil
Date Collected: 12.10.2020 09:50

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 20:10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 20:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 20:10	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 20:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 20:10	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 20:10	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 20:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.11.2020 20:10		
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.11.2020 20:10		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: **S-4 3'** Matrix: Soil Date Received: 12.10.2020 10:35
 Lab Sample Id: 680582-034 Date Collected: 12.10.2020 09:55
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	342	9.98	mg/kg	12.11.2020 21:24		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:00 % Moisture:
 Seq Number: 3144742 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.11.2020 21:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.11.2020 21:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.11.2020 21:17	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.11.2020 21:17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	111	%	70-135	12.11.2020 21:17		
o-Terphenyl	84-15-1	113	%	70-135	12.11.2020 21:17		



Certificate of Analytical Results 680582

Larson and Associates, Inc., Midland, TX

Candie 001

Sample Id: **S-4 3'**
 Lab Sample Id: 680582-034

Matrix: Soil
 Date Collected: 12.10.2020 09:55

Date Received: 12.10.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
 Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 20:32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 20:32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 20:32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 20:32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 20:32	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 20:32	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 20:32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.11.2020 20:32		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.11.2020 20:32		

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: S-4 5' Matrix: Soil Date Received: 12.10.2020 10:35
Lab Sample Id: 680582-035 Date Collected: 12.10.2020 10:00
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	359	9.92	mg/kg	12.11.2020 21:29		1

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: **S-4 10'**
Lab Sample Id: 680582-036

Matrix: Soil
Date Collected: 12.10.2020 10:05

Date Received: 12.10.2020 10:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:10

% Moisture:
Basis: Wet Weight

Seq Number: 3144748

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1030	49.9	mg/kg	12.11.2020 21:34		5

**Certificate of Analytical Results 680582****Larson and Associates, Inc., Midland, TX**

Candie 001

Sample Id: S-4 15' Matrix: Soil Date Received: 12.10.2020 10:35
Lab Sample Id: 680582-037 Date Collected: 12.10.2020 10:10
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.16.2020 18:02 % Moisture:
Seq Number: 3145220 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	223	50.1	mg/kg	12.17.2020 12:41		5

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.
Candie 001

Analytical Method: Chloride by EPA 300

Seq Number: 3144747

MB Sample Id: 7716930-1-BLK

Matrix: Solid

LCS Sample Id: 7716930-1-BKS

Prep Method: E300P

Date Prep: 12.11.2020

LCSD Sample Id: 7716930-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	245	98	246	98	90-110	0	20	mg/kg	12.11.2020 17:40	

Analytical Method: Chloride by EPA 300

Seq Number: 3144748

MB Sample Id: 7716953-1-BLK

Matrix: Solid

LCS Sample Id: 7716953-1-BKS

Prep Method: E300P

Date Prep: 12.11.2020

LCSD Sample Id: 7716953-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	243	97	246	98	90-110	1	20	mg/kg	12.11.2020 20:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3145220

MB Sample Id: 7717322-1-BLK

Matrix: Solid

LCS Sample Id: 7717322-1-BKS

Prep Method: E300P

Date Prep: 12.16.2020

LCSD Sample Id: 7717322-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	249	100	249	100	90-110	0	20	mg/kg	12.17.2020 09:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3144747

Parent Sample Id: 680582-001

Matrix: Soil

MS Sample Id: 680582-001 S

Prep Method: E300P

Date Prep: 12.11.2020

MSD Sample Id: 680582-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	355	199	543	94	539	92	90-110	1	20	mg/kg	12.11.2020 17:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3144747

Parent Sample Id: 680582-014

Matrix: Soil

MS Sample Id: 680582-014 S

Prep Method: E300P

Date Prep: 12.11.2020

MSD Sample Id: 680582-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	978	203	1160	90	1160	90	90-110	0	20	mg/kg	12.11.2020 19:07	

Analytical Method: Chloride by EPA 300

Seq Number: 3144748

Parent Sample Id: 680582-028

Matrix: Soil

MS Sample Id: 680582-028 S

Prep Method: E300P

Date Prep: 12.11.2020

MSD Sample Id: 680582-028 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	471	202	655	91	657	93	90-110	0	20	mg/kg	12.11.2020 20:43	

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.
Candie 001

Analytical Method: Chloride by EPA 300

Seq Number: 3144748

Parent Sample Id: 680628-003

Matrix: Soil

MS Sample Id: 680628-003 S

Prep Method: E300P

Date Prep: 12.11.2020

MSD Sample Id: 680628-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5190	248	5440	101	5440	101	90-110	0	20	mg/kg	12.11.2020 21:54	

Analytical Method: Chloride by EPA 300

Seq Number: 3145220

Parent Sample Id: 681437-041

Matrix: Soil

MS Sample Id: 681437-041 S

Prep Method: E300P

Date Prep: 12.16.2020

MSD Sample Id: 681437-041 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1010	202	1200	94	1200	94	90-110	0	20	mg/kg	12.17.2020 09:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3145220

Parent Sample Id: 681437-051

Matrix: Soil

MS Sample Id: 681437-051 S

Prep Method: E300P

Date Prep: 12.16.2020

MSD Sample Id: 681437-051 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	143	200	354	106	354	106	90-110	0	20	mg/kg	12.17.2020 11:16	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144742

MB Sample Id: 7716876-1-BLK

Matrix: Solid

LCS Sample Id: 7716876-1-BKS

Prep Method: SW8015P

Date Prep: 12.10.2020

LCSD Sample Id: 7716876-1-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	1070	107	1040	104	70-135	3	35	mg/kg	12.11.2020 13:49	
Diesel Range Organics (DRO)	<50.0	1000	1020	102	1050	105	70-135	3	35	mg/kg	12.11.2020 13:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		98		108		70-135	%	12.11.2020 13:49
o-Terphenyl	93		107		108		70-135	%	12.11.2020 13:49

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144731

MB Sample Id: 7716950-1-BLK

Matrix: Solid

LCS Sample Id: 7716950-1-BKS

Prep Method: SW8015P

Date Prep: 12.11.2020

LCSD Sample Id: 7716950-1-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	922	92	913	91	70-135	1	35	mg/kg	12.11.2020 22:58	
Diesel Range Organics (DRO)	<50.0	1000	996	100	1120	112	70-135	12	35	mg/kg	12.11.2020 22:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		100		126		70-135	%	12.11.2020 22:58
o-Terphenyl	94		107		118		70-135	%	12.11.2020 22:58

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.
Candie 001
Analytical Method: TPH by SW8015 Mod

Seq Number: 3144742

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.10.2020

MB Sample Id: 7716876-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.11.2020 13:29	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144731

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.11.2020

MB Sample Id: 7716950-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.11.2020 22:38	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144742

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.10.2020

Parent Sample Id: 680487-001

MS Sample Id: 680487-001 S

MSD Sample Id: 680487-001 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)	<49.8	995	1130	114	1050	105	70-135	7	35	mg/kg	12.11.2020 14:51	
Diesel Range Organics (DRO)	<49.8	995	994	100	964	97	70-135	3	35	mg/kg	12.11.2020 14:51	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		115		70-135	%	12.11.2020 14:51
o-Terphenyl	115		118		70-135	%	12.11.2020 14:51

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144731

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.11.2020

Parent Sample Id: 680582-001

MS Sample Id: 680582-001 S

MSD Sample Id: 680582-001 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	1040	104	1110	111	70-135	7	35	mg/kg	12.11.2020 23:58	
Diesel Range Organics (DRO)	<50.0	999	1140	114	998	100	70-135	13	35	mg/kg	12.11.2020 23:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		111		70-135	%	12.11.2020 23:58
o-Terphenyl	108		116		70-135	%	12.11.2020 23:58

 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.
Candie 001

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144684

MB Sample Id: 7716918-1-BLK

Matrix: Solid

LCS Sample Id: 7716918-1-BKS

Prep Method: SW5035A

Date Prep: 12.11.2020

LCSD Sample Id: 7716918-1-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	0.100	100	0.0939	94	70-130	6	35	mg/kg	12.11.2020 12:43	
Toluene	<0.00200	0.100	0.0970	97	0.0945	95	70-130	3	35	mg/kg	12.11.2020 12:43	
Ethylbenzene	<0.00200	0.100	0.0898	90	0.0874	87	71-129	3	35	mg/kg	12.11.2020 12:43	
m,p-Xylenes	<0.00400	0.200	0.183	92	0.179	90	70-135	2	35	mg/kg	12.11.2020 12:43	
o-Xylene	<0.00200	0.100	0.0901	90	0.0875	88	71-133	3	35	mg/kg	12.11.2020 12:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		96		93		70-130	%	12.11.2020 12:43
4-Bromofluorobenzene	77		84		87		70-130	%	12.11.2020 12:43

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144684

Parent Sample Id: 680582-001

Matrix: Soil

MS Sample Id: 680582-001 S

Prep Method: SW5035A

Date Prep: 12.11.2020

MSD Sample Id: 680582-001 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	0.101	0.130	129	0.126	125	70-130	3	35	mg/kg	12.11.2020 13:28	
Toluene	<0.00201	0.101	0.124	123	0.119	118	70-130	4	35	mg/kg	12.11.2020 13:28	
Ethylbenzene	<0.00201	0.101	0.116	115	0.104	103	71-129	11	35	mg/kg	12.11.2020 13:28	
m,p-Xylenes	<0.00402	0.201	0.230	114	0.211	105	70-135	9	35	mg/kg	12.11.2020 13:28	
o-Xylene	<0.00201	0.101	0.117	116	0.105	104	71-133	11	35	mg/kg	12.11.2020 13:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		94		70-130	%	12.11.2020 13:28
4-Bromofluorobenzene	85		89		70-130	%	12.11.2020 13:28

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

68887
No 143T

Final 1.001

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

Data Reported to:

DATE: 12/10/20 PAGE 2 OF 2
PO#: _____ LAB WORK ORDER#: _____
PROJECT LOCATION OR NAME: Candis 001
LAI PROJECT #: 20-0112-22 COLLECTOR: RN + JT

CHAIN-OF-CUSTODY

480582

No 1432

Received by QCD: 1/11/2021 11:35:51 AM

TRRP report? ☐ Yes ☒ No		S=SOIL W=WATER A=AIR		P=PAINT SL=SLUDGE OT=OTHER	
TIME ZONE: Time zone/State:					
Field Sample I.D.		Lab #	Date	Time	Matrix
5-6 15'			12/9/20	1400	5
5-4 20'				1405	1
5-5 1'				1415	
5-5 3'				1420	
5-5 5'				1425	
5-5 10'				1430	
5-5 15'				1435	
5-2 1'			12/10/20	0850	
5-2 3'				0855	
5-2 5'				0900	
5-2 10'				0905	
5-2 15'				0910	
5-3 1'				0920	
5-3 3'				0925	
5-3 5'				0930	
TOTAL 15					
RELINQUISHED BY: (Signature) <i>[Signature]</i>		DATE/TIME 12/9/20 1035		RECEIVED BY: (Signature) Mike Cupo 12-16-20 1035	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)	
LABORATORY: Xeno					
PRESERVATION HCl HNO ₃ H ₂ SO ₄ ☐ NaOH ☐ ICE UNPRESSED					
ANALYSES BTEX ☒ MTBE ☐ TRPH 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 ☐ PESTICIDES ☐ ALKALINITY ☐ CHLORIDES ☐ ANIONS ☐ pH for further analysis					
FIELD NOTES					
TURN AROUND TIME NORMAL ☒ 1 DAY ☐ 2 DAY ☐ OTHER ☐					
LABORATORY USE ONLY: RECEIVING TEMP: 2.422 THERM# 2-T-NM-007 CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED ☐ CARRIER BILL # ☐ HAND DELIVERED					

Varson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

TRRP report?
☐ Yes ☒ No
S=SOIL W=WATER P=PAINT
A=AIR SL=SLUDGE OT=OTHER

TIME ZONE:
Time zone/State:

MST

Field
Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

ANALYSES

BTX/MTBE ☐TRPH 418 1 ☐GASOLINE MOD 8015 ☒DIESEL - MOD 8015 ☒OIL - MOD 8015 ☒VOC 8260 ☒SVOC 8270 ☒8081 PESTICIDES ☒8082 PCBs ☒TBLP - METALS (RCRA) ☒TOTAL METALS (RCRA) ☒LEAD - TOTAL ☒RCI ☒TDS ☒pH ☒EXPLOSIVES ☒CHLORIDE ☒ANIONS ☒ALKALINITY ☒TCLP VOC ☒TCLP HERB ☒TCLP PEST ☒TCLP METALS (RCRA) ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒TCLP TSS ☒TCLP % MOISTURE ☒TCLP CYANIDE ☒TCLP PESTICIDES ☒TCLP OTHER LIST ☒TCLP FLASHPOINT ☒TCLP D.W. 200.8 ☒TCLP HEXAVALENT CHROMIUM ☒TCLP PESTICIDES ☒TCLP TOX ☒

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 12.10.2020 10.35.00 AM

Work Order #: 680582

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T_NM_007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#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)?	No
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Cloe Clifton

Date: 12.10.2020

Checklist reviewed by:

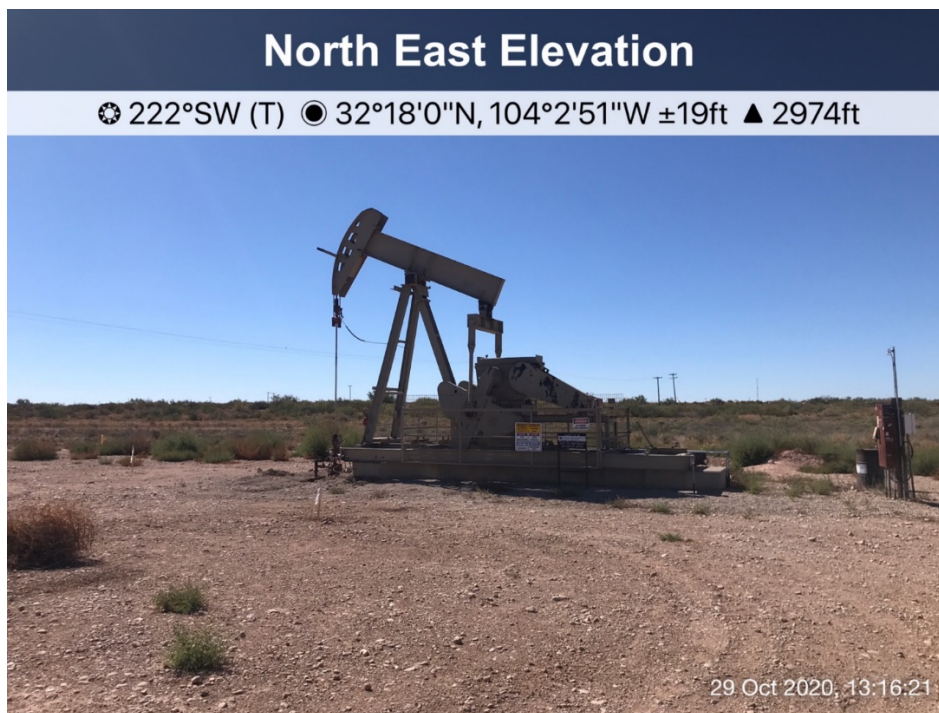


Holly Taylor

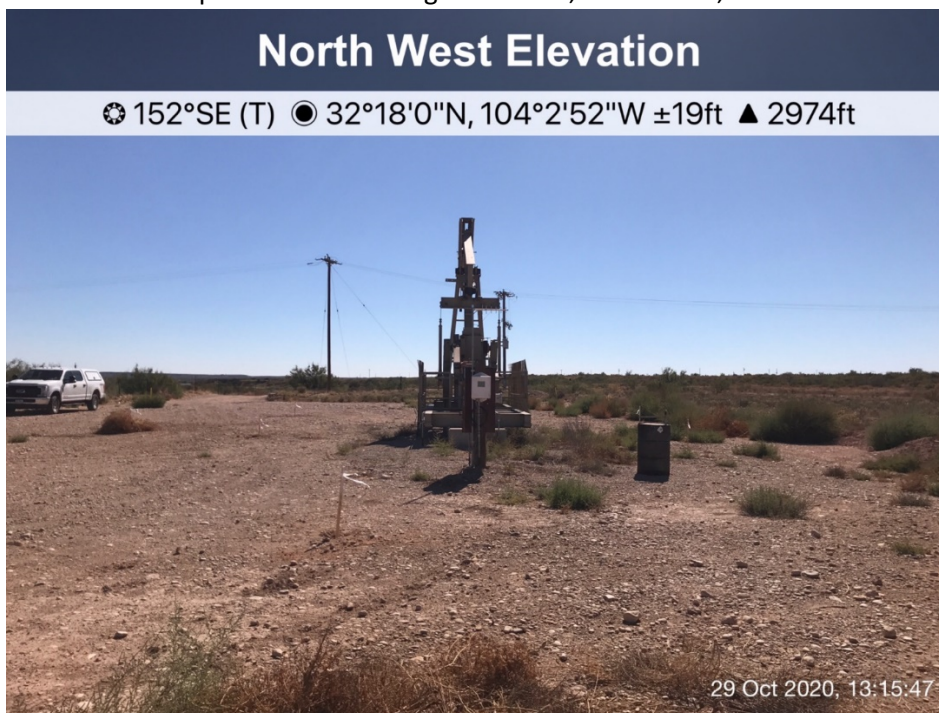
Date: 12.11.2020

Appendix D
Photographic Documentation

nRM2027951383
Closure Report
Chevron USA, Inc., Candie #001
Produced Water and Crude Oil Release
December 29, 2020



Impacted area viewing southwest, October 29, 2020

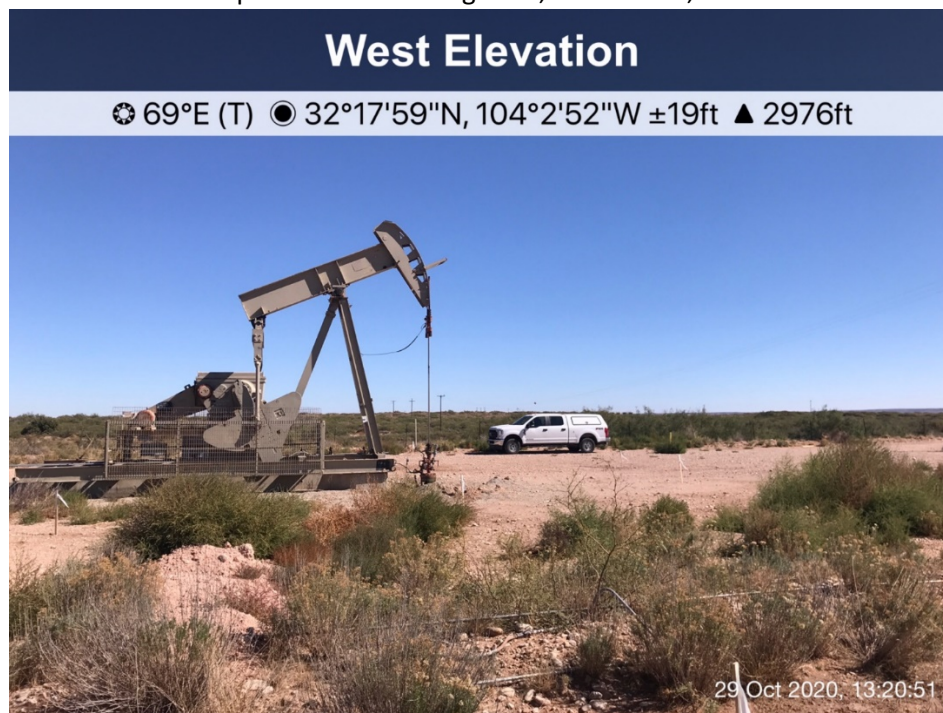


Impacted area viewing southeast, October 29, 2020

nRM2027951383
Closure Report
Chevron USA, Inc., Candie #001
Produced Water and Crude Oil Release
December 29, 2020

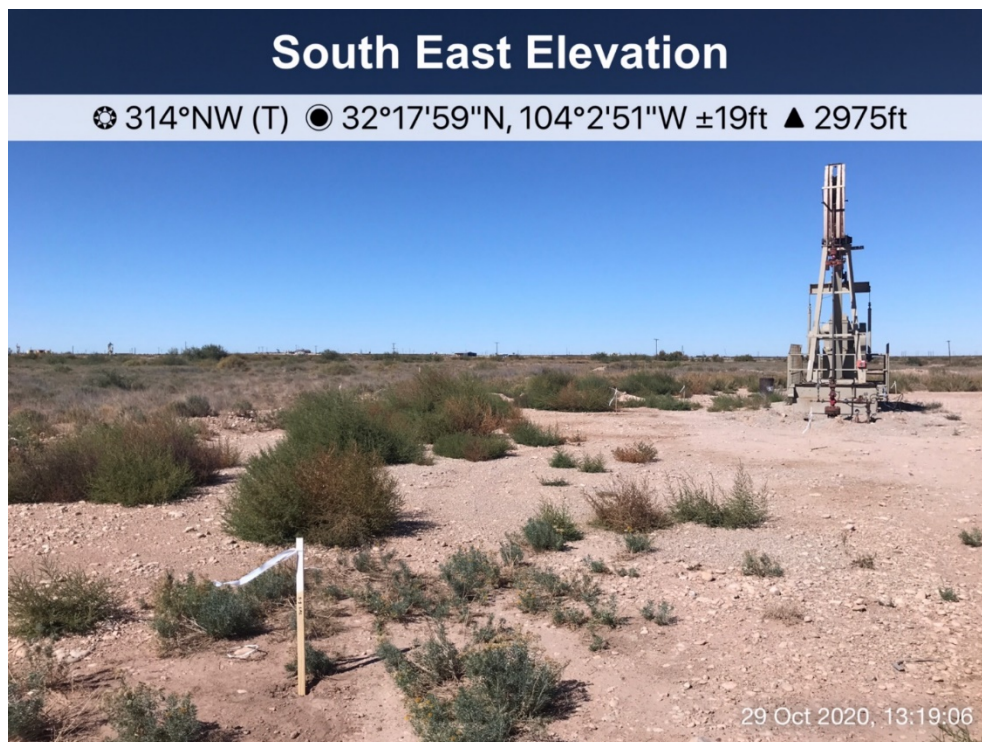


Impacted area viewing west, October 29, 2020



Impacted area viewing east, October 29, 2020

nRM2027951383
Closure Report
Chevron USA, Inc., Candie #001
Produced Water and Crude Oil Release
December 29, 2020



Impacted area viewing northwest, October 29, 2020



nRM2027951383
Closure Report
Chevron USA, Inc., Candie #001
Produced Water and Crude Oil Release
December 29, 2020

Pecos River approximately 140 feet west/southeast of the site

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 14355

CONDITIONS OF APPROVAL

Operator:	CHEVRON U S A INC	6301 Deauville Blvd	Midland, TX79706	OGRID:	4323	Action Number:	14355	Action Type:	C-141
OCD Reviewer	Condition								
ceads	None								