State of New Mexico
Oil Conservation Division

Incident ID	nCS2003553676
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?	>101.5 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nCS2003553676
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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: 1-3-2021

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

OCD Only

Received by: Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nCS2003553676
District RP	
Facility ID	
Application ID	

Remediation Plan

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

- [x] Detailed description of proposed remediation technique
- [x] Scaled sitemap with GPS coordinates showing delineation points
- [x] Estimated volume of material to be remediated
- [x] Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- [x] 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: 1-3-2021

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

OCD Only

Received by: Chad Hensley Date: 03/10/2021

- [x] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature:  Date: 03/10/2021

Tracking Number: nCS2003553676
Delineation Report and Remediation Plan
Salado Draw 13 E Frac Pond
Produced Water Release
Lea County, New Mexico

Latitude: N 32.036746°
Longitude: W -103.636582°

LAI Project No. 20-0107-14

December 11, 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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Appendices

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 release at Salado Draw 13 E Frac Pond (Site) located in Unit F (NE/4, NW/4), Section 16, Township 26 South, Range 32 East, in Eddy County, New Mexico. The geodetic position is North 32.036746° and West -103.636582°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The release was discovered on November 26, 2019, due to high winds that blew the transfer line out of the pond. Chevron reported that approximately 6.5 barrels (bbls) of produced water was released. The affected area measures approximately 16,836 square feet. Chevron submitted the initial C-141 to OCD District II and it was assigned incident number nCS2003553676. Appendix A presents initial Chevron spill documentation.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 3,169 feet above mean sea level (msl).
- The surface topography gradually slopes to the southwest.
- There are no surface water features within 1,000 feet of the Site.
- Karst data provided by the USGS describes the Site as “Medium Risk” potential.
- The soils are designated as “Pyote and Maljamar fine sands”, consisting of 0 to 30 inches of fine sand, underlain by 30 to 60 inches of fine sandy loam.
- The geology consists of the Quaternary age eolian sand deposited as dune, dune ridges, and sheets undivided (USGS).
- Groundwater occurs greater than 101.5 feet below ground surface (bgs) based on depth to groundwater measurements 72 hours after installing a temporary monitor well (SB-1) on April 14, 2020.

Appendix B presents data depicting karst risk potential. Appendix C presents the soil boring log.

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 2,500 mg/Kg
- Chloride 20,000 mg/Kg

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

2.0 DELINEATION

On July 24, October 30, and November 29, 2020, LAI personnel used a stainless steel hand auger to collect soil samples from nine (9) locations inside of the spill area (S-1 through S-6, S-9, S-10, and S-12) and in each cardinal direction of the spill (S-7, S-8, S-11, and S-13). The samples were collected between approximately 0.5 and 1-foot bgs depending on subsurface conditions. The soil samples were delivered under chain of custody and preservation to Xenco Laboratories (Xenco) in Midland, Texas, which analyzed the samples for benzene, toluene, ethylbenzene and xylenes (BTEX) and total petroleum hydrocarbons (TPH), including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35), and chloride by EPA SW-846 Methods 8021B and 8015M, and M300, respectively. Figure 2 presents an aerial map showing the sample locations.

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

Sample ID	Depth (Feet)	Chloride Concentration (mg/Kg)
S-2	0.5	12,000
S-2	1	4,020
S-3	0.5	7,550
S-3	1	4,650
S-5	0.5	1,000
S-6	0.5	6,000
S-6	1	900
S-9	0.5	6,440
S-9	1	3,900
S-12	0.5	848

On September 1, 2020, LAI personnel used a Geoprobe® 7822DT direct push rig to further delineate chloride concentrations at sample locations (S-2, S-3, S-6, S-9, and S-10). Soil samples were collected at approximately one (1), three (3), five (5), and ten (10) 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 between 50 and 100 feet. Appendix D presents the laboratory reports.

3.0 REMEDIATION PLAN

Chevron proposes the following remedial actions:

- Excavate soil from an area measuring approximately 4,366 square feet, encompassing S-5 and S-12 to approximately 1-foot bgs.
- Excavate soil from an area measuring approximately 3,127 square feet, encompassing S-6 to approximately 2 feet bgs.
- Excavate soil from an area measuring approximately 3,881 square feet, encompassing S-3 to approximately 3 feet bgs.

- Excavate soil from an area measuring approximately 8,242 square feet, encompassing S-1, S-2, S-9, and S-10 to approximately 4.1 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.
- Backfill excavations with non-waste containing uncontaminated clean caliche with chloride concentrations less than 600 mg/Kg, assuming achievement of OCD remediation levels; and
- Prepare report with photographs for submittal to OCD District II.

Figure 3 presents the proposed excavation areas.

Tables

Table 1
Soil Sample Analytical Data Summary
Salado Draw 13 E Frac Pond
Eddy County, New Mexico
North 32° 2' 24.88", West 103° 40' 34.24"

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				**10**	**50**				**100 / 2,500**	**600 / 20,000**
SP-1	0.5	7/24/2020	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	86.0
	1	7/24/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	80.8
SP-2	0.5	7/24/2020	In-Situ	<0.00201	<0.00201	<49.9	87.4	<49.9	87.4	**12,000**
	1	7/24/2020	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	**4,020**
	1	9/1/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	**3,380**
	3	9/1/2020	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	**1,720**
	5	9/1/2020	In-Situ	--	--	--	--	--	--	79.8
	10	9/1/2020	In-Situ	--	--	--	--	--	--	36.7
SP-3	0.5	7/24/2020	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	**7,550**
	1	7/24/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	**4,650**
	1	9/1/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	**3,960**
	3	9/1/2020	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	104
	5	9/1/2020	In-Situ	--	--	--	--	--	--	26.9
	10	9/1/2020	In-Situ	--	--	--	--	--	--	43.5
SP-4	0.5	7/24/2020	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	287
	1	7/24/2020	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	116
SP-5	0.5	7/24/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	**1,000**
	1	7/24/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	235
SP-6	0.5	7/24/2020	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	**6,000**
	1	7/24/2020	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	**900**

Table 1
Soil Sample Analytical Data Summary
Salado Draw 13 E Frac Pond
Eddy County, New Mexico
North 32° 2' 24.88", West 103° 40' 34.24"

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				**10**	**50**				**100 / 2,500**	**600 / 20,000**
	1	9/1/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	**647**
	3	9/1/2020	In-Situ	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	191
	5	9/1/2020	In-Situ	--	--	--	--	--	--	11.5
	10	9/1/2020	In-Situ	--	--	--	--	--	--	24.4
S-7	0.5	7/24/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	348
	1	7/24/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	177
S-8	0.5	7/24/2020	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	255
	1	7/24/2020	In-Situ	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	29.8
S-9	0.5	7/24/2020	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	**6,440**
	1	7/24/2020	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	**3,900**
	1	9/1/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	**2,230**
	3	9/1/2020	In-Situ	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	**3,740**
	5	9/1/2020	In-Situ	--	--	--	--	--	--	**4,340**
	10	9/1/2020	In-Situ	--	--	--	--	--	--	548
S-10	1	9/1/2020	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	**882**
	3	9/1/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	**1,080**
	5	9/1/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	**5,020**
	10	9/1/2020	In-Situ	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	199
S-11	0.5	9/1/2020	In-Situ	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	22.9

Table 1
Soil Sample Analytical Data Summary
Salado Draw 13 E Frac Pond
Eddy County, New Mexico
North 32° 2' 24.88", West 103° 40' 34.24"

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				**10**	**50**				**100 / 2,500**	**600 / 20,000**
	1	9/1/2020	In-Situ	<0.00198	<0.000198	<50.0	<50.0	<50.0	<50.0	43.2
S-12	0.5	10/30/2020	In-Situ	<0.00200	0.05170	<50.0	<50.0	<50.0	<50.0	**848**
	1	11/29/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	16.2
S-13	0.5	10/30/2020	In-Situ	<0.00201	0.00822	<49.9	<49.9	<49.9	<49.9	52.8

Notes: Analysis performed by Xenco Laboratories
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

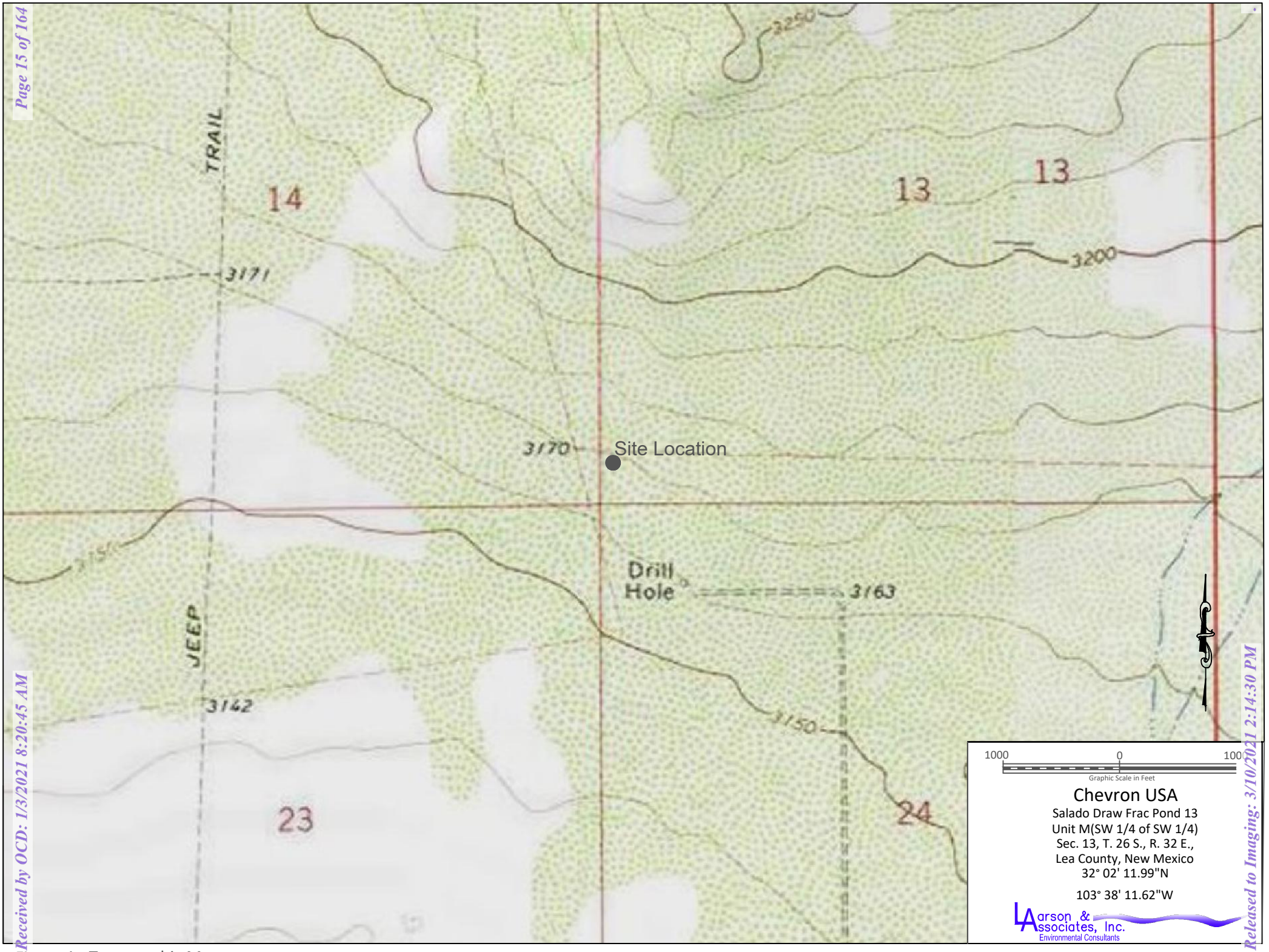


Figure 1 - Topographic Map

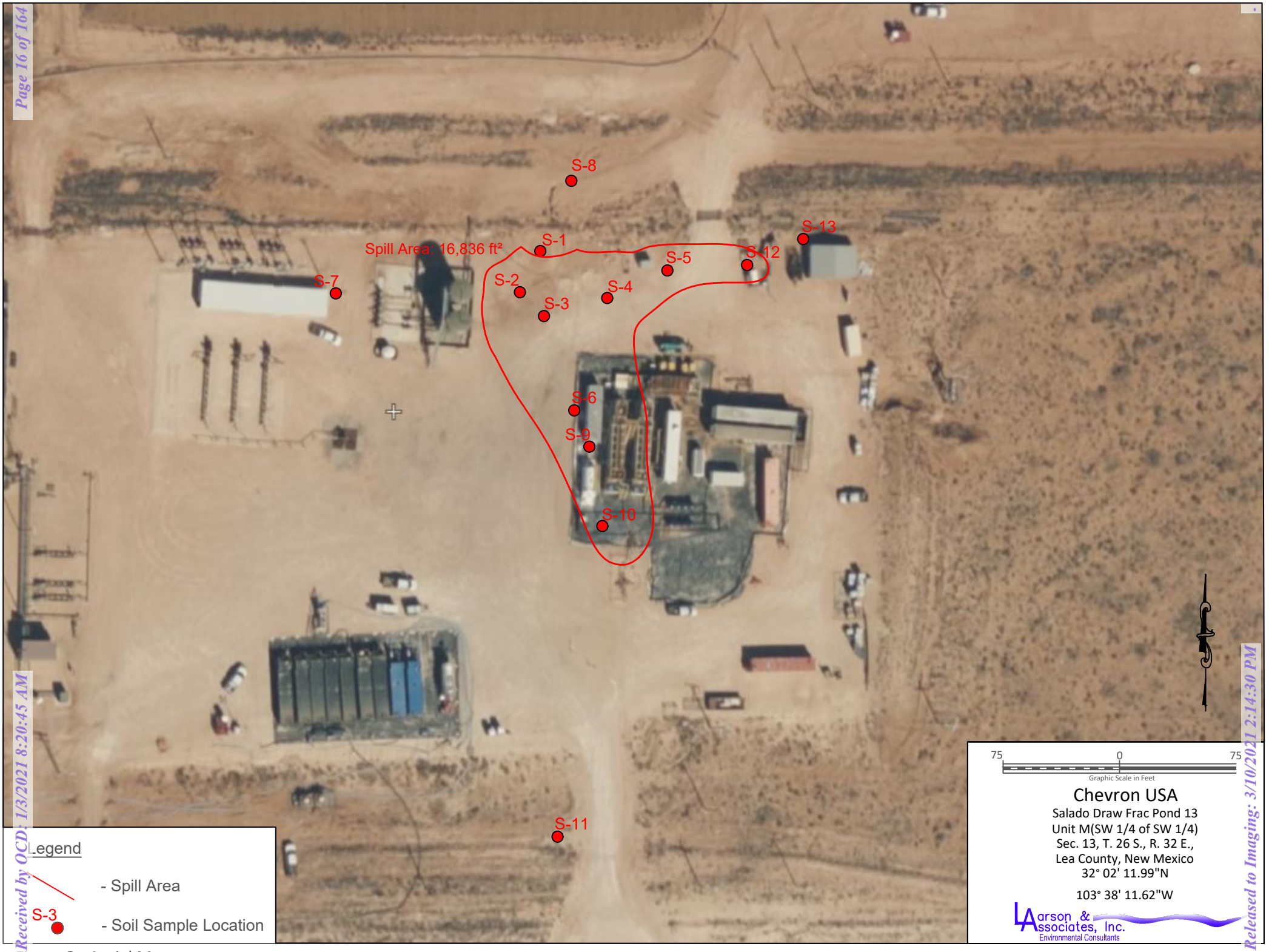


Figure 2 - Aerial Map

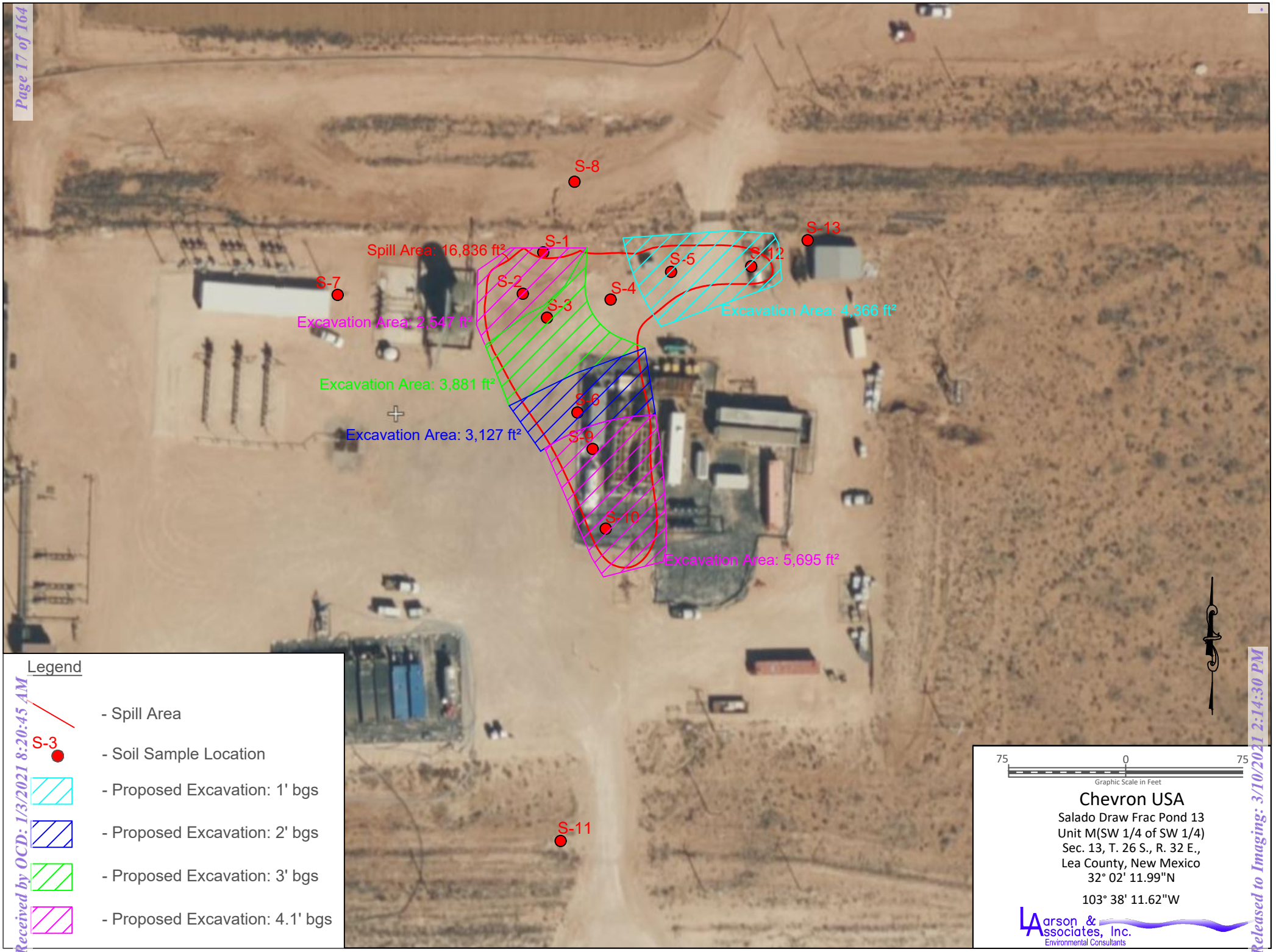


Figure 3 - Aerial Map Showing Proposed Excavation Locations

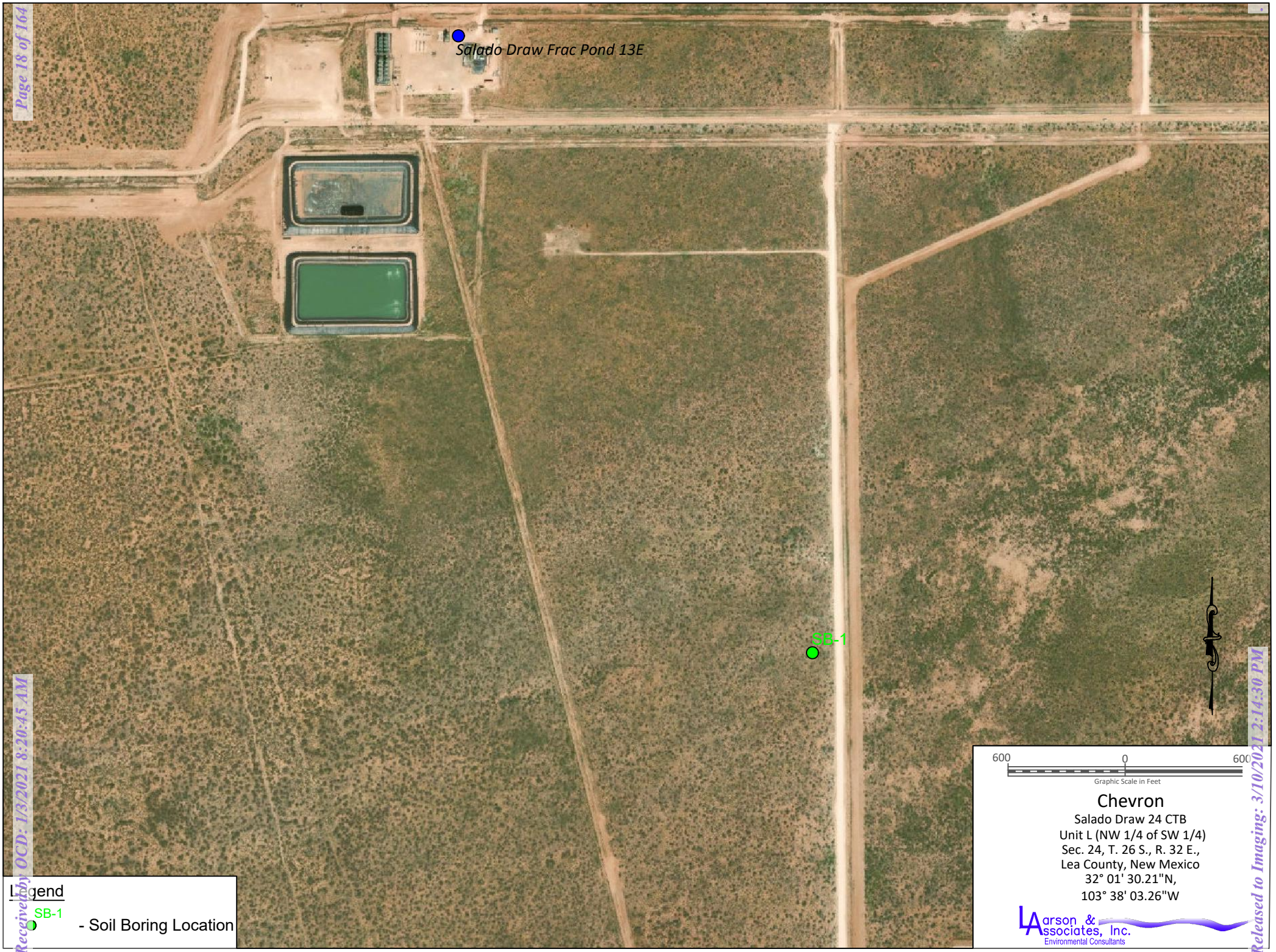
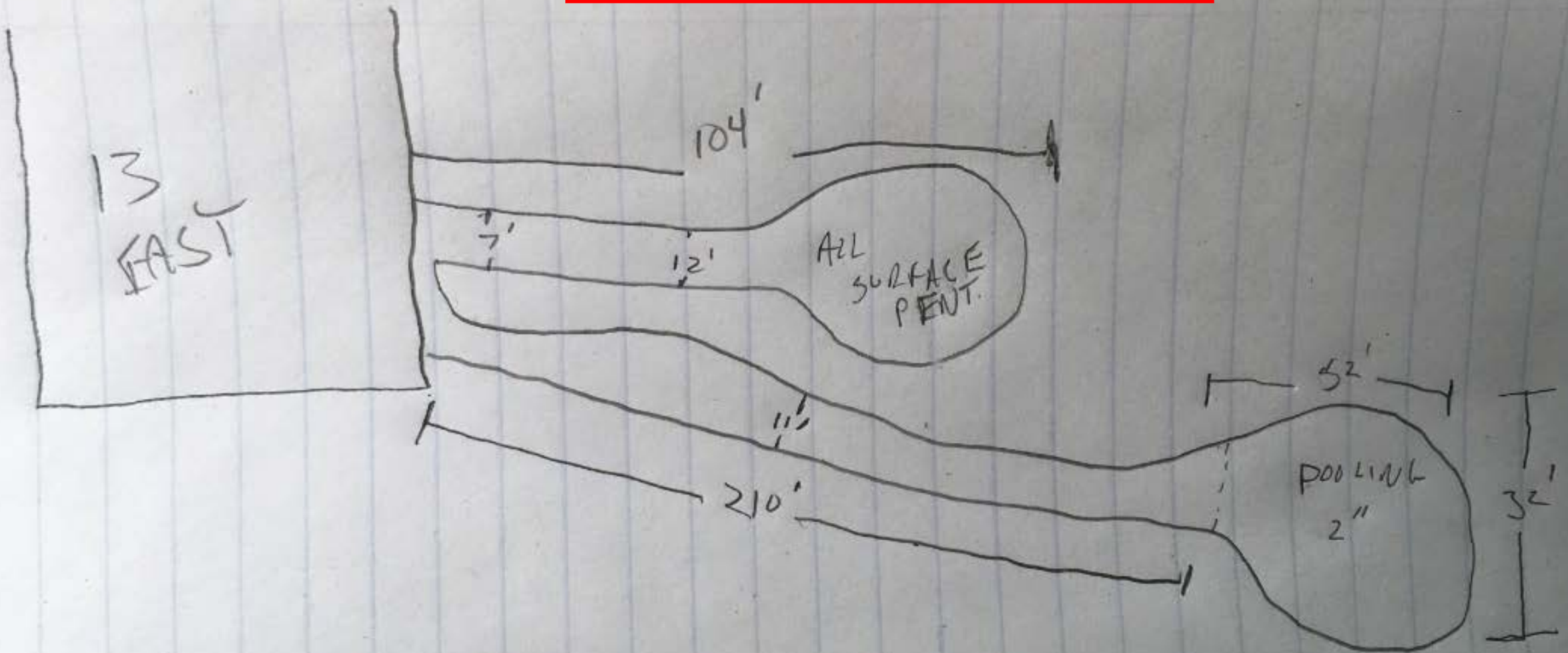


Figure 4 - Aerial Map Showing Soil Boring Location

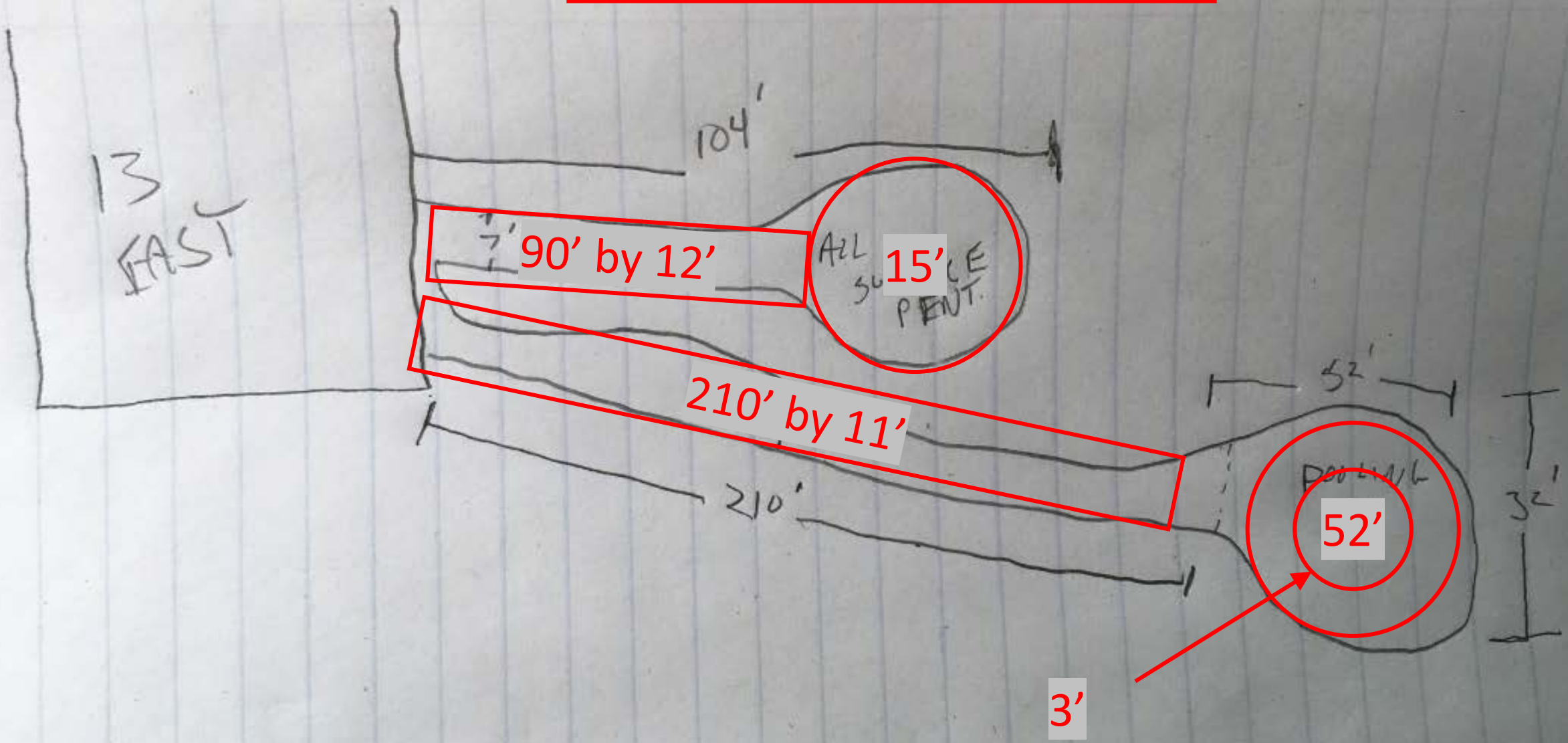
Appendix A

Chevron Spill Calculation

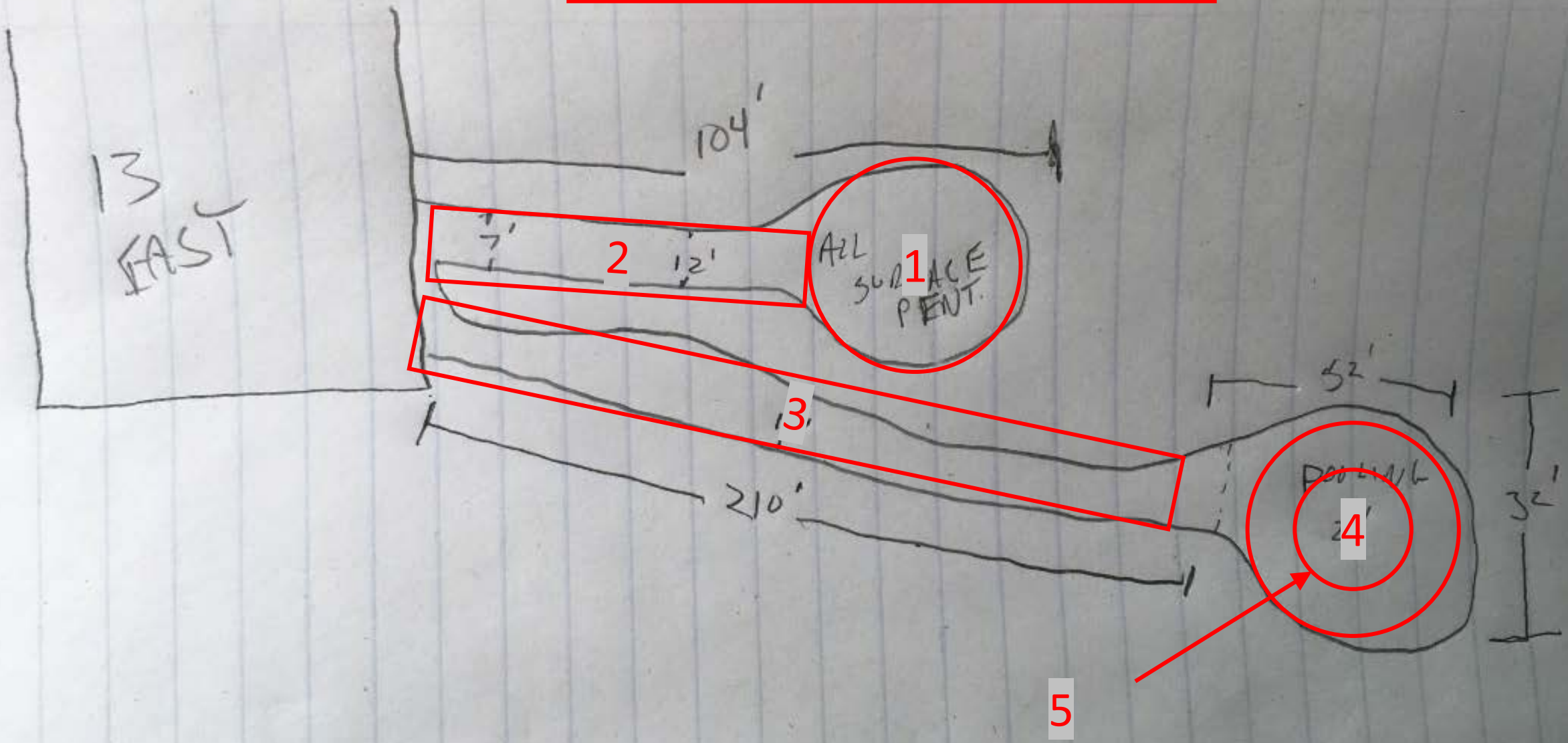
Raw Measurements



Measurement Assumptions



Measurement Area Numbers



Appendix B

Karst Risk Potential

New Mexico Kart or No Karst - QGIS

Project Edit View Layer Settings Plugins Vector Raster Database Web Mesh Processing Help

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

Medium

Coordinate 629156,3545432 Scale 1:8814 Magnifier 100% Rotation 0.0 ° Render EPSG:26913

Appendix C

Boring Log

BORING RECORD

Start: 10:35 MDT
Finish: 15:15

GEOLOGIC UNIT	DEPTH	DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG
	0–5	Silty Sand, 5YR 5/4, Reddish Brown, Very Fine Grained Quartz Sand, Poorly Sorted, Dry	ML	
	5–25	Caliche, 2.5YR 8/3, Pink, Very Fine Grained, Poorly Sorted, Dry	Caliche	
	25–30	Silty Sand, 5YR 5/4, Reddish Brown, Fine Grained Quartz Sand with Caliche Clasts (~10mm), Poorly Sorted	ML	
	30–39	Caliche, 2.5YR 8/3, Pink, Very Fine Grained, Poorly Sorted with Subangular Clasts (~10mm)	Caliche	
	39–60	Silty Sand, 5YR 6/4, Light Reddish Brown, Very Fine Grained Quartz Sand, Poorly Sorted with Subangular Caliche Clasts (~10mm)	ML	

PID READING: PPM X 1 (2 4 6 8 10 12 14 16 18)

SAMPLE

NUMBER	PID READING	RECOVERY	DEPTH
1			5–7
2			25
3			30
4			39

REMARKS: BACKGROUND PID READING
SOIL : _____ PPM
SOIL : _____ PPM

ONE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HRS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/ SQ. FT)
NR NO RECOVERY

JOB NUMBER : Chevron/ 19-0180-01
HOLE DIAMETER : 2"
LOCATION : Salado Draw 24 CTB
LAI GEOLOGIST : E. Chavez
DRILLING CONTRACTOR : Scarborough
DRILLING METHOD : Air Rotary

Larson & Associates, Inc. Environmental Consultants

DRILL DATE : 04-14-2020

BORING NUMBER : SB-01

BORING RECORD

Start: 10:35 MDT
Finish: 15:15

GEOLOGIC UNIT	DEPTH	DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	PID READING (PPM X 1)	SAMPLE NUMBER	SAMPLE PID READING	SAMPLE RECOVERY	SAMPLE DEPTH	REMARKS BACKGROUND PID READING
	65	Silty Sand, 5YR 5/6, Yellowish Red, Very Fine Grained, Poorly Sorted with Subangular Caliche and Black Chert Clasts (~0.5mm)	ML			5			66	SOIL : PPM SOIL : PPM
	70								70	
	75								75	
	80								80	
	85								85	
	90	Silty Sand, 5YR 4/6, Yellowish Red, Fine Grained, Poorly Sorted with Subangular Caliche (~2mm)	ML						90	
	95								95	
	100	TD:101.5' *Dry After 72 Hours*				6			100 101.5	
	105								105	

ONE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HRS)
WATER TABLE (TIME OF BORING)
L LABORATORY TEST LOCATION
\+ PENETROMETER (TONS/ SQ. FT)
NR NO RECOVERY

Larson & Associates, Inc. Environmental Consultants

DRILL DATE : 04-14-2020

BORING NUMBER : SB-01

JOB NUMBER : Chevron/ 19-0180-01
HOLE DIAMETER : 2"
LOCATION : Salado Draw 24 CTB
LAI GEOLOGIST : E. Chavez
DRILLING CONTRACTOR : Scarborough
DRILLING METHOD : Air Rotary

Appendix D

Laboratory Reports

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Certificate of Analysis Summary 668222

Larson and Associates, Inc., Midland, TX

Project Name: Salado Draw 13 E Frac Pond

Project Id: 20-0107-14
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 07.27.2020 08:56
Report Date: 07.31.2020 17:42
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	668222-001		668222-002		668222-003		668222-004		668222-005		668222-006	
	Field Id:	S-1 .5		S-1 1		S-2 .5		S2 1		S-3 .5		S-3 1	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	07.24.2020 11:25		07.24.2020 11:26		07.24.2020 11:30		07.24.2020 11:31		07.24.2020 11:35		07.24.2020 11:36	
BTEX by EPA 8021B	*Extracted:*	07.29.2020 16:30		07.29.2020 16:30		07.29.2020 16:30		07.29.2020 16:30		07.29.2020 16:30		07.29.2020 16:30	
	Analyzed:	07.29.2020 23:43		07.30.2020 00:03		07.30.2020 00:24		07.30.2020 00:44		07.30.2020 02:07		07.30.2020 02:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200
m,p-Xylenes		<0.00397	0.00397	<0.00400	0.00400	<0.00402	0.00402	<0.00398	0.00398	<0.00397	0.00397	<0.00399	0.00399
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200
Chloride by EPA 300	*Extracted:*	07.27.2020 12:00		07.27.2020 12:00		07.28.2020 14:20		07.28.2020 14:20		07.28.2020 14:20		07.28.2020 14:20	
	Analyzed:	07.27.2020 13:38		07.27.2020 13:43		07.29.2020 02:49		07.29.2020 02:56		07.29.2020 03:02		07.29.2020 03:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		86.0	5.00	80.8	5.00	12000	101	4020	49.8	7550	50.0	4650	50.5
TPH by SW8015 Mod	*Extracted:*	07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00	
	Analyzed:	07.27.2020 12:01		07.27.2020 12:58		07.27.2020 13:17		07.27.2020 13:36		07.27.2020 13:55		07.27.2020 14:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	87.4	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Total TPH		<50.0	50.0	<50.0	50.0	87.4	49.9	<49.8	49.8	<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

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Certificate of Analysis Summary 668222

Larson and Associates, Inc., Midland, TX

Project Name: Salado Draw 13 E Frac Pond

Project Id: 20-0107-14
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 07.27.2020 08:56
Report Date: 07.31.2020 17:42
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	668222-007		668222-008		668222-009		668222-010		668222-011		668222-012	
	Field Id:	S-4 .5		S-4 1		S-5 .5		S-5 1		S-6 .5		S-6 1	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	07.24.2020 11:42		07.24.2020 11:43		07.24.2020 11:30		07.24.2020 11:32		07.24.2020 12:00		07.24.2020 12:01	
BTEX by EPA 8021B	***Extracted:***	07.29.2020 16:30		07.29.2020 16:30		07.29.2020 16:30		07.29.2020 16:30		07.29.2020 16:30		07.29.2020 16:30	
	Analyzed:	07.30.2020 02:48		07.30.2020 03:09		07.30.2020 03:29		07.30.2020 03:49		07.30.2020 04:10		07.30.2020 04:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
Toluene		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00396	0.00396	<0.00398	0.00398	<0.00398	0.00398	<0.00401	0.00401	<0.00399	0.00399	<0.00398	0.00398
o-Xylene		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
Total BTEX		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	07.29.2020 08:40		07.29.2020 08:40		07.29.2020 08:40		07.29.2020 08:40		07.29.2020 08:40		07.29.2020 08:40	
	Analyzed:	07.29.2020 11:11		07.29.2020 11:18		07.29.2020 11:24		07.29.2020 11:42		07.29.2020 11:48		07.29.2020 12:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		287	5.05	116	5.05	1000 X	5.05	235	4.97	6000	49.5	900	25.2
TPH by SW8015 Mod	***Extracted:***	07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00	
	Analyzed:	07.27.2020 14:33		07.27.2020 14:52		07.27.2020 15:12		07.27.2020 15:31		07.27.2020 16:09		07.27.2020 16:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.8	49.8	<49.9	49.9
Diesel Range Organics (DRO)		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.8	49.8	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.8	49.8	<49.9	49.9
Total TPH		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.8	49.8	<49.9	49.9

BRL - Below Reporting Limit

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Holly Taylor

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Certificate of Analysis Summary 668222

Larson and Associates, Inc., Midland, TX

Project Name: Salado Draw 13 E Frac Pond

Project Id: 20-0107-14
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 07.27.2020 08:56
Report Date: 07.31.2020 17:42
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	668222-013		668222-014		668222-015		668222-016		668222-017		668222-018	
	Field Id:	S-7 .5		S-7 1		S-8 .5		S-8 1		S-9 .5		S-9 1	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	07.24.2020 11:46		07.24.2020 11:47		07.24.2020 11:36		07.24.2020 11:38		07.24.2020 12:35		07.24.2020 12:36	
BTEX by EPA 8021B	***Extracted:***	07.29.2020 16:30		07.29.2020 16:30		07.30.2020 08:00		07.30.2020 17:15		07.30.2020 17:15		07.30.2020 17:15	
	Analyzed:	07.30.2020 04:51		07.30.2020 05:11		07.30.2020 10:14		07.31.2020 03:42		07.31.2020 04:03		07.31.2020 04:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00398	0.00398	<0.00398	0.00398	<0.00397	0.00397	<0.00402	0.00402	<0.00398	0.00398	<0.00399	0.00399
o-Xylene		<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00199	0.00199	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	07.29.2020 08:40		07.29.2020 08:40		07.29.2020 08:40		07.29.2020 08:40		07.29.2020 08:40		07.27.2020 16:00	
	Analyzed:	07.29.2020 12:13		07.29.2020 12:19		07.29.2020 12:25		07.29.2020 12:31		07.29.2020 12:38		07.27.2020 17:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		348	4.98	177	5.00	255	4.96	29.8	4.99	6440	50.0	3900	50.4
TPH by SW8015 Mod	***Extracted:***	07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00		07.27.2020 11:00	
	Analyzed:	07.27.2020 16:47		07.27.2020 17:07		07.27.2020 17:26		07.27.2020 17:45		07.27.2020 18:04		07.27.2020 18:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.8	49.8
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.8	49.8
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.8	49.8
Total TPH		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.8	49.8

BRL - Below Reporting Limit

Holly Taylor

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Analytical Report 668222

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Salado Draw 13 E Frac Pond

20-0107-14

07.31.2020

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-36), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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07.31.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **668222**
Salado Draw 13 E Frac Pond
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) 668222. 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. 668222 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,

Holly Taylor

Holly Taylor
Project Manager

A Small Business and Minority Company

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Sample Cross Reference 668222

Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-1 .5	S	07.24.2020 11:25		668222-001
S-1 1	S	07.24.2020 11:26		668222-002
S-2 .5	S	07.24.2020 11:30		668222-003
S2 1	S	07.24.2020 11:31		668222-004
S-3 .5	S	07.24.2020 11:35		668222-005
S-3 1	S	07.24.2020 11:36		668222-006
S-4 .5	S	07.24.2020 11:42		668222-007
S-4 1	S	07.24.2020 11:43		668222-008
S-5 .5	S	07.24.2020 11:30		668222-009
S-5 1	S	07.24.2020 11:32		668222-010
S-6 .5	S	07.24.2020 12:00		668222-011
S-6 1	S	07.24.2020 12:01		668222-012
S-7 .5	S	07.24.2020 11:46		668222-013
S-7 1	S	07.24.2020 11:47		668222-014
S-8 .5	S	07.24.2020 11:36		668222-015
S-8 1	S	07.24.2020 11:38		668222-016
S-9 .5	S	07.24.2020 12:35		668222-017
S-9 1	S	07.24.2020 12:36		668222-018

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CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: Salado Draw 13 E Frac Pond

Project ID: *20-0107-14*
Work Order Number(s): *668222*

Report Date: *07.31.2020*
Date Received: *07.27.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3132893 Chloride by EPA 300

Lab Sample ID 668318-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride 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: 668222-007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017.

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

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Certificate of Analytical Results 668222

Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id:	**S-1 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-001	Date Collected:	07.24.2020 11:25		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.27.2020 12:00	Basis:	Wet Weight
Seq Number:	3132744				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**86.0**	5.00	mg/kg	07.27.2020 13:38		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.27.2020 11:00	Basis:	Wet Weight
Seq Number:	3132793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.27.2020 12:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.27.2020 12:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.27.2020 12:01	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.27.2020 12:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-130	07.27.2020 12:01	
o-Terphenyl	84-15-1	111	%	70-130	07.27.2020 12:01	

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Certificate of Analytical Results 668222

Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id:	**S-1 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-001	Date Collected:	07.24.2020 11:25		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.29.2020 23:43	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.29.2020 23:43	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.29.2020 23:43	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.29.2020 23:43	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.29.2020 23:43	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.29.2020 23:43	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.29.2020 23:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.29.2020 23:43	
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.29.2020 23:43	

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Certificate of Analytical Results 668222

Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id: **S-1 1** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-002 Date Collected: 07.24.2020 11:26

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.27.2020 12:00 Basis: Wet Weight

Seq Number: 3132744

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**80.8**	5.00	mg/kg	07.27.2020 13:43		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.27.2020 12:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.27.2020 12:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.27.2020 12:58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.27.2020 12:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-130	07.27.2020 12:58	
o-Terphenyl	84-15-1	115	%	70-130	07.27.2020 12:58	

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Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id:	**S-1 1**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-002	Date Collected:	07.24.2020 11:26		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.30.2020 00:03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.30.2020 00:03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.30.2020 00:03	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.30.2020 00:03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.30.2020 00:03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.30.2020 00:03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.30.2020 00:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.30.2020 00:03	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.30.2020 00:03	

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Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id:	**S-2 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-003	Date Collected:	07.24.2020 11:30		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.28.2020 14:20	Basis:	Wet Weight
Seq Number:	3132874				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12000**	101	mg/kg	07.29.2020 02:49		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.27.2020 11:00	Basis:	Wet Weight
Seq Number:	3132793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.27.2020 13:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	**87.4**	49.9	mg/kg	07.27.2020 13:17		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.27.2020 13:17	U	1
Total TPH	PHC635	**87.4**	49.9	mg/kg	07.27.2020 13:17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-130	07.27.2020 13:17	
o-Terphenyl	84-15-1	130	%	70-130	07.27.2020 13:17	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-2 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-003	Date Collected:	07.24.2020 11:30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.30.2020 00:24	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.30.2020 00:24	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.30.2020 00:24	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.30.2020 00:24	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.30.2020 00:24	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.30.2020 00:24	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.30.2020 00:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.30.2020 00:24	
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.30.2020 00:24	

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Salado Draw 13 E Frac Pond

Sample Id: **S2 1** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-004 Date Collected: 07.24.2020 11:31

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.28.2020 14:20 Basis: Wet Weight

Seq Number: 3132874

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4020**	49.8	mg/kg	07.29.2020 02:56		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.27.2020 13:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.27.2020 13:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.27.2020 13:36	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.27.2020 13:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-130	07.27.2020 13:36	
o-Terphenyl	84-15-1	129	%	70-130	07.27.2020 13:36	

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Salado Draw 13 E Frac Pond

Sample Id:	**S2 1**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-004	Date Collected:	07.24.2020 11:31		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.30.2020 00:44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.30.2020 00:44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.30.2020 00:44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.30.2020 00:44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.30.2020 00:44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.30.2020 00:44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.30.2020 00:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.30.2020 00:44	
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.30.2020 00:44	

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Salado Draw 13 E Frac Pond

Sample Id: **S-3 .5** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-005 Date Collected: 07.24.2020 11:35

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.28.2020 14:20 Basis: Wet Weight

Seq Number: 3132874

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7550**	50.0	mg/kg	07.29.2020 03:02		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.27.2020 13:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.27.2020 13:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.27.2020 13:55	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.27.2020 13:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-130	07.27.2020 13:55	
o-Terphenyl	84-15-1	118	%	70-130	07.27.2020 13:55	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-3 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-005	Date Collected:	07.24.2020 11:35		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.30.2020 02:07	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.30.2020 02:07	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.30.2020 02:07	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.30.2020 02:07	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.30.2020 02:07	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.30.2020 02:07	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.30.2020 02:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.30.2020 02:07	
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.30.2020 02:07	

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Salado Draw 13 E Frac Pond

Sample Id: **S-3 1** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-006 Date Collected: 07.24.2020 11:36

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.28.2020 14:20 Basis: Wet Weight

Seq Number: 3132874

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4650**	50.5	mg/kg	07.29.2020 03:08		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.27.2020 14:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.27.2020 14:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.27.2020 14:14	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.27.2020 14:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-130	07.27.2020 14:14	
o-Terphenyl	84-15-1	123	%	70-130	07.27.2020 14:14	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-3 1**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-006	Date Collected:	07.24.2020 11:36		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.30.2020 02:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.30.2020 02:28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.30.2020 02:28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.30.2020 02:28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.30.2020 02:28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.30.2020 02:28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.30.2020 02:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.30.2020 02:28	
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.30.2020 02:28	

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Salado Draw 13 E Frac Pond

Sample Id: **S-4 .5** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-007 Date Collected: 07.24.2020 11:42

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**287**	5.05	mg/kg	07.29.2020 11:11		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.27.2020 14:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.27.2020 14:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.27.2020 14:33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.27.2020 14:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-130	07.27.2020 14:33	
o-Terphenyl	84-15-1	107	%	70-130	07.27.2020 14:33	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-4 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-007	Date Collected:	07.24.2020 11:42		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.30.2020 02:48	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.30.2020 02:48	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.30.2020 02:48	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	07.30.2020 02:48	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.30.2020 02:48	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.30.2020 02:48	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.30.2020 02:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.30.2020 02:48	
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.30.2020 02:48	

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Salado Draw 13 E Frac Pond

Sample Id: **S-4 1** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-008 Date Collected: 07.24.2020 11:43

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**116**	5.05	mg/kg	07.29.2020 11:18		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.27.2020 14:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.27.2020 14:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.27.2020 14:52	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.27.2020 14:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-130	07.27.2020 14:52	
o-Terphenyl	84-15-1	112	%	70-130	07.27.2020 14:52	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-4 1**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-008	Date Collected:	07.24.2020 11:43		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.30.2020 03:09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.30.2020 03:09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.30.2020 03:09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.30.2020 03:09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.30.2020 03:09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.30.2020 03:09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.30.2020 03:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.30.2020 03:09	
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.30.2020 03:09	

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Salado Draw 13 E Frac Pond

Sample Id: **S-5 .5** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-009 Date Collected: 07.24.2020 11:30

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1000**	5.05	mg/kg	07.29.2020 11:24	X	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.27.2020 15:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.27.2020 15:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.27.2020 15:12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.27.2020 15:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-130	07.27.2020 15:12	
o-Terphenyl	84-15-1	127	%	70-130	07.27.2020 15:12	

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Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id:	**S-5 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-009	Date Collected:	07.24.2020 11:30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.30.2020 03:29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.30.2020 03:29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.30.2020 03:29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.30.2020 03:29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.30.2020 03:29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.30.2020 03:29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.30.2020 03:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.30.2020 03:29	
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.30.2020 03:29	

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Salado Draw 13 E Frac Pond

Sample Id: **S-5 1** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-010 Date Collected: 07.24.2020 11:32

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**235**	4.97	mg/kg	07.29.2020 11:42		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.27.2020 15:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.27.2020 15:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.27.2020 15:31	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.27.2020 15:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-130	07.27.2020 15:31	
o-Terphenyl	84-15-1	119	%	70-130	07.27.2020 15:31	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-5 1**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-010	Date Collected:	07.24.2020 11:32		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.30.2020 03:49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.30.2020 03:49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.30.2020 03:49	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.30.2020 03:49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.30.2020 03:49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.30.2020 03:49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.30.2020 03:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.30.2020 03:49	
4-Bromofluorobenzene	460-00-4	101	%	70-130	07.30.2020 03:49	

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Salado Draw 13 E Frac Pond

Sample Id: **S-6 .5** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-011 Date Collected: 07.24.2020 12:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6000**	49.5	mg/kg	07.29.2020 11:48		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.27.2020 16:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.27.2020 16:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.27.2020 16:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.27.2020 16:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-130	07.27.2020 16:09	
o-Terphenyl	84-15-1	110	%	70-130	07.27.2020 16:09	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-6 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-011	Date Collected:	07.24.2020 12:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.30.2020 04:10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.30.2020 04:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.30.2020 04:10	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.30.2020 04:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.30.2020 04:10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.30.2020 04:10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.30.2020 04:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.30.2020 04:10	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.30.2020 04:10	

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Salado Draw 13 E Frac Pond

Sample Id: **S-6 1** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-012 Date Collected: 07.24.2020 12:01

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**900**	25.2	mg/kg	07.29.2020 12:07		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.27.2020 16:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.27.2020 16:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.27.2020 16:28	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.27.2020 16:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-130	07.27.2020 16:28	
o-Terphenyl	84-15-1	126	%	70-130	07.27.2020 16:28	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-6 1**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-012	Date Collected:	07.24.2020 12:01		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.30.2020 04:30	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.30.2020 04:30	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.30.2020 04:30	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.30.2020 04:30	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.30.2020 04:30	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.30.2020 04:30	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.30.2020 04:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.30.2020 04:30	
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.30.2020 04:30	

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Salado Draw 13 E Frac Pond

Sample Id: **S-7 .5** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-013 Date Collected: 07.24.2020 11:46

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**348**	4.98	mg/kg	07.29.2020 12:13		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.27.2020 16:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.27.2020 16:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.27.2020 16:47	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.27.2020 16:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-130	07.27.2020 16:47	
o-Terphenyl	84-15-1	120	%	70-130	07.27.2020 16:47	

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Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id:	**S-7 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-013	Date Collected:	07.24.2020 11:46		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.30.2020 04:51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.30.2020 04:51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.30.2020 04:51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.30.2020 04:51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.30.2020 04:51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.30.2020 04:51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.30.2020 04:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.30.2020 04:51	
1,4-Difluorobenzene	540-36-3	104	%	70-130	07.30.2020 04:51	

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Salado Draw 13 E Frac Pond

Sample Id: **S-7 1** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-014 Date Collected: 07.24.2020 11:47

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**177**	5.00	mg/kg	07.29.2020 12:19		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.27.2020 17:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.27.2020 17:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.27.2020 17:07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.27.2020 17:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-130	07.27.2020 17:07	
o-Terphenyl	84-15-1	112	%	70-130	07.27.2020 17:07	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-7 1**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-014	Date Collected:	07.24.2020 11:47		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.29.2020 16:30	Basis:	Wet Weight
Seq Number:	3133018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.30.2020 05:11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.30.2020 05:11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.30.2020 05:11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.30.2020 05:11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.30.2020 05:11	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.30.2020 05:11	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.30.2020 05:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.30.2020 05:11	
1,4-Difluorobenzene	540-36-3	104	%	70-130	07.30.2020 05:11	

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Salado Draw 13 E Frac Pond

Sample Id: **S-8 .5** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-015 Date Collected: 07.24.2020 11:36

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**255**	4.96	mg/kg	07.29.2020 12:25		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.27.2020 17:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.27.2020 17:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.27.2020 17:26	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.27.2020 17:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-130	07.27.2020 17:26	
o-Terphenyl	84-15-1	113	%	70-130	07.27.2020 17:26	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-8 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-015	Date Collected:	07.24.2020 11:36		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.30.2020 08:00	Basis:	Wet Weight
Seq Number:	3133086				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.30.2020 10:14	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.30.2020 10:14	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.30.2020 10:14	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.30.2020 10:14	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.30.2020 10:14	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.30.2020 10:14	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.30.2020 10:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	07.30.2020 10:14	
4-Bromofluorobenzene	460-00-4	113	%	70-130	07.30.2020 10:14	

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Salado Draw 13 E Frac Pond

Sample Id: **S-8 1** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-016 Date Collected: 07.24.2020 11:38

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.8**	4.99	mg/kg	07.29.2020 12:31		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.27.2020 17:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.27.2020 17:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.27.2020 17:45	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.27.2020 17:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-130	07.27.2020 17:45	
o-Terphenyl	84-15-1	122	%	70-130	07.27.2020 17:45	

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Salado Draw 13 E Frac Pond

Sample Id:	**S-8 1**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-016	Date Collected:	07.24.2020 11:38		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.30.2020 17:15	Basis:	Wet Weight
Seq Number:	3133159				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.31.2020 03:42	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.31.2020 03:42	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.31.2020 03:42	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.31.2020 03:42	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.31.2020 03:42	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.31.2020 03:42	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.31.2020 03:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.31.2020 03:42	
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.31.2020 03:42	

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Certificate of Analytical Results 668222

Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id: **S-9 .5** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-017 Date Collected: 07.24.2020 12:35

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.29.2020 08:40 Basis: Wet Weight

Seq Number: 3132893

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6440**	50.0	mg/kg	07.29.2020 12:38		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.27.2020 18:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.27.2020 18:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.27.2020 18:04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.27.2020 18:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-130	07.27.2020 18:04	
o-Terphenyl	84-15-1	116	%	70-130	07.27.2020 18:04	

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Certificate of Analytical Results 668222

Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id:	**S-9 .5**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-017	Date Collected:	07.24.2020 12:35		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.30.2020 17:15	Basis:	Wet Weight
Seq Number:	3133159				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.31.2020 04:03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.31.2020 04:03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.31.2020 04:03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.31.2020 04:03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.31.2020 04:03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.31.2020 04:03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.31.2020 04:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.31.2020 04:03	
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.31.2020 04:03	

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Certificate of Analytical Results 668222

Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id: **S-9 1** Matrix: Soil Date Received:07.27.2020 08:56

Lab Sample Id: 668222-018 Date Collected: 07.24.2020 12:36

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 07.27.2020 16:00 Basis: Wet Weight

Seq Number: 3132746

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3900**	50.4	mg/kg	07.27.2020 17:34		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 07.27.2020 11:00 Basis: Wet Weight

Seq Number: 3132793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.27.2020 18:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.27.2020 18:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.27.2020 18:23	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.27.2020 18:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-130	07.27.2020 18:23	
o-Terphenyl	84-15-1	126	%	70-130	07.27.2020 18:23	

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Certificate of Analytical Results 668222

Larson and Associates, Inc., Midland, TX

Salado Draw 13 E Frac Pond

Sample Id:	**S-9 1**	Matrix:	Soil	Date Received:	07.27.2020 08:56
Lab Sample Id:	668222-018	Date Collected:	07.24.2020 12:36		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	07.30.2020 17:15	Basis:	Wet Weight
Seq Number:	3133159				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.31.2020 04:23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.31.2020 04:23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.31.2020 04:23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.31.2020 04:23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.31.2020 04:23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.31.2020 04:23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.31.2020 04:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.31.2020 04:23	
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.31.2020 04:23	

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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

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QC Summary 668222

Larson and Associates, Inc.

Salado Draw 13 E Frac Pond

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3132744 — Matrix: Solid — Date Prep: 07.27.2020
MB Sample Id: 7708123-1-BLK — LCS Sample Id: 7708123-1-BKS — LCSD Sample Id: 7708123-1-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	247	99	247	99	90-110	0	20	mg/kg	07.27.2020 12:32	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3132746 — Matrix: Solid — Date Prep: 07.27.2020
MB Sample Id: 7708160-1-BLK — LCS Sample Id: 7708160-1-BKS — LCSD Sample Id: 7708160-1-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	263	105	264	106	90-110	0	20	mg/kg	07.27.2020 16:43	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3132874 — Matrix: Solid — Date Prep: 07.28.2020
MB Sample Id: 7708211-1-BLK — LCS Sample Id: 7708211-1-BKS — LCSD Sample Id: 7708211-1-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	241	96	241	96	90-110	0	20	mg/kg	07.29.2020 00:04	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3132893 — Matrix: Solid — Date Prep: 07.29.2020
MB Sample Id: 7708262-1-BLK — LCS Sample Id: 7708262-1-BKS — LCSD Sample Id: 7708262-1-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	236	94	236	94	90-110	0	20	mg/kg	07.29.2020 09:45	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3132744 — Matrix: Soil — Date Prep: 07.27.2020
Parent Sample Id: 668226-001 — MS Sample Id: 668226-001 S — MSD Sample Id: 668226-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	110	250	430	128	433	129	90-110	1	20	mg/kg	07.27.2020 13:02	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3132746 — Matrix: Soil — Date Prep: 07.27.2020
Parent Sample Id: 668223-001 — MS Sample Id: 668223-001 S — MSD Sample Id: 668223-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	454	250	694	96	693	96	90-110	0	20	mg/kg	07.27.2020 17:02	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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QC Summary 668222

Larson and Associates, Inc.

Salado Draw 13 E Frac Pond

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132746 Matrix: Soil Date Prep: 07.27.2020
Parent Sample Id: 668264-006 MS Sample Id: 668264-006 S MSD Sample Id: 668264-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	57.0	251	312	102	326	107	90-110	4	20	mg/kg	07.27.2020 18:31	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132874 Matrix: Soil Date Prep: 07.28.2020
Parent Sample Id: 668296-006 MS Sample Id: 668296-006 S MSD Sample Id: 668296-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.18	250	256	100	255	100	90-110	0	20	mg/kg	07.29.2020 00:23	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132874 Matrix: Soil Date Prep: 07.28.2020
Parent Sample Id: 668305-012 MS Sample Id: 668305-012 S MSD Sample Id: 668305-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.9	248	269	99	269	99	90-110	0	20	mg/kg	07.29.2020 01:52	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132893 Matrix: Soil Date Prep: 07.29.2020
Parent Sample Id: 668222-009 MS Sample Id: 668222-009 S MSD Sample Id: 668222-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1000	253	1210	83	1210	83	90-110	0	20	mg/kg	07.29.2020 11:30	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132893 Matrix: Soil Date Prep: 07.29.2020
Parent Sample Id: 668318-001 MS Sample Id: 668318-001 S MSD Sample Id: 668318-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	86.5	252	334	98	330	97	90-110	1	20	mg/kg	07.29.2020 10:04	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

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QC Summary 668222

Larson and Associates, Inc.

Salado Draw 13 E Frac Pond

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3132793 — Matrix: Solid — Date Prep: 07.27.2020
MB Sample Id: 7708142-1-BLK — LCS Sample Id: 7708142-1-BKS — LCSD Sample Id: 7708142-1-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	907	91	902	90	70-130	1	20	mg/kg	07.27.2020 11:23	
Diesel Range Organics (DRO)	<50.0	1000	973	97	885	89	70-130	9	20	mg/kg	07.27.2020 11:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		130		128		70-130	%	07.27.2020 11:23
o-Terphenyl	118		130		122		70-130	%	07.27.2020 11:23

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3132793 — Matrix: Solid — Date Prep: 07.27.2020
MB Sample Id: 7708142-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	07.27.2020 11:04	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3132793 — Matrix: Soil — Date Prep: 07.27.2020
Parent Sample Id: 668222-001 — MS Sample Id: 668222-001 S — MSD Sample Id: 668222-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	815	82	816	82	70-130	0	20	mg/kg	07.27.2020 12:20	
Diesel Range Organics (DRO)	<49.9	997	833	84	831	83	70-130	0	20	mg/kg	07.27.2020 12:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		116		70-130	%	07.27.2020 12:20
o-Terphenyl	106		108		70-130	%	07.27.2020 12:20

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3133018 — Matrix: Solid — Date Prep: 07.29.2020
MB Sample Id: 7708367-1-BLK — LCS Sample Id: 7708367-1-BKS — LCSD Sample Id: 7708367-1-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	0.0988	99	0.103	103	70-130	4	35	mg/kg	07.29.2020 19:37	
Toluene	<0.00200	0.100	0.0920	92	0.0998	100	70-130	8	35	mg/kg	07.29.2020 19:37	
Ethylbenzene	<0.00200	0.100	0.0951	95	0.100	100	70-130	5	35	mg/kg	07.29.2020 19:37	
m,p-Xylenes	<0.00400	0.200	0.195	98	0.205	103	70-130	5	35	mg/kg	07.29.2020 19:37	
o-Xylene	<0.00200	0.100	0.0945	95	0.0996	100	70-130	5	35	mg/kg	07.29.2020 19:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		98		99		70-130	%	07.29.2020 19:37
4-Bromofluorobenzene	102		98		101		70-130	%	07.29.2020 19:37

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

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QC Summary 668222

Larson and Associates, Inc.

Salado Draw 13 E Frac Pond

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3133086 — Matrix: Solid — Date Prep: 07.30.2020
MB Sample Id: 7708399-1-BLK — LCS Sample Id: 7708399-1-BKS — LCSD Sample Id: 7708399-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.112	112	0.114	114	70-130	2	35	mg/kg	07.30.2020 07:52	
Toluene	<0.00200	0.100	0.112	112	0.112	112	70-130	0	35	mg/kg	07.30.2020 07:52	
Ethylbenzene	<0.00200	0.100	0.110	110	0.109	109	70-130	1	35	mg/kg	07.30.2020 07:52	
m,p-Xylenes	<0.00400	0.200	0.218	109	0.215	108	70-130	1	35	mg/kg	07.30.2020 07:52	
o-Xylene	<0.00200	0.100	0.108	108	0.106	106	70-130	2	35	mg/kg	07.30.2020 07:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		94		95		70-130	%	07.30.2020 07:52
4-Bromofluorobenzene	98		110		110		70-130	%	07.30.2020 07:52

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3133159 — Matrix: Solid — Date Prep: 07.30.2020
MB Sample Id: 7708470-1-BLK — LCS Sample Id: 7708470-1-BKS — LCSD Sample Id: 7708470-1-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	0.0957	96	0.100	100	70-130	4	35	mg/kg	07.30.2020 19:28	
Toluene	<0.00200	0.100	0.0810	81	0.0852	85	70-130	5	35	mg/kg	07.30.2020 19:28	
Ethylbenzene	<0.00200	0.100	0.0912	91	0.0959	96	70-130	5	35	mg/kg	07.30.2020 19:28	
m,p-Xylenes	<0.00400	0.200	0.186	93	0.196	98	70-130	5	35	mg/kg	07.30.2020 19:28	
o-Xylene	<0.00200	0.100	0.0911	91	0.0954	95	70-130	5	35	mg/kg	07.30.2020 19:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		98		99		70-130	%	07.30.2020 19:28
4-Bromofluorobenzene	103		97		99		70-130	%	07.30.2020 19:28

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3133018 — Matrix: Soil — Date Prep: 07.29.2020
Parent Sample Id: 668222-001 — MS Sample Id: 668222-001 S — MSD Sample Id: 668222-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.0904	91	70-130	13	35	mg/kg	07.29.2020 20:17	
Toluene	<0.00200	0.100	0.102	102	0.0900	90	70-130	13	35	mg/kg	07.29.2020 20:17	
Ethylbenzene	<0.00200	0.100	0.101	101	0.0881	88	70-130	14	35	mg/kg	07.29.2020 20:17	
m,p-Xylenes	<0.00400	0.200	0.207	104	0.181	91	70-130	13	35	mg/kg	07.29.2020 20:17	
o-Xylene	<0.00200	0.100	0.0997	100	0.0878	88	70-130	13	35	mg/kg	07.29.2020 20:17	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		70-130	%	07.29.2020 20:17
4-Bromofluorobenzene	101		101		70-130	%	07.29.2020 20:17

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

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QC Summary 668222

Larson and Associates, Inc.

Salado Draw 13 E Frac Pond

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3133086 Matrix: Soil Date Prep: 07.30.2020
Parent Sample Id: 668222-015 MS Sample Id: 668222-015 S MSD Sample Id: 668222-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0964	97	0.0727	73	70-130	28	35	mg/kg	07.30.2020 08:33	
Toluene	<0.00198	0.0992	0.0919	93	0.0742	75	70-130	21	35	mg/kg	07.30.2020 08:33	
Ethylbenzene	<0.00198	0.0992	0.0901	91	0.0742	75	70-130	19	35	mg/kg	07.30.2020 08:33	
m,p-Xylenes	<0.00397	0.198	0.178	90	0.148	75	70-130	18	35	mg/kg	07.30.2020 08:33	
o-Xylene	<0.00198	0.0992	0.0897	90	0.0756	76	70-130	17	35	mg/kg	07.30.2020 08:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		95		70-130	%	07.30.2020 08:33
4-Bromofluorobenzene	114		113		70-130	%	07.30.2020 08:33

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3133159 Matrix: Soil Date Prep: 07.30.2020
Parent Sample Id: 668264-007 MS Sample Id: 668264-007 S MSD Sample Id: 668264-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0952	96	0.0927	93	70-130	3	35	mg/kg	07.30.2020 20:09	
Toluene	0.0423	0.0990	0.114	72	0.107	65	70-130	6	35	mg/kg	07.30.2020 20:09	X
Ethylbenzene	0.0324	0.0990	0.109	77	0.105	73	70-130	4	35	mg/kg	07.30.2020 20:09	
m,p-Xylenes	0.109	0.198	0.246	69	0.236	64	70-130	4	35	mg/kg	07.30.2020 20:09	X
o-Xylene	0.0326	0.0990	0.107	75	0.104	72	70-130	3	35	mg/kg	07.30.2020 20:09	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		97		70-130	%	07.30.2020 20:09
4-Bromofluorobenzene	104		103		70-130	%	07.30.2020 20:09

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

№ 1211

660222

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 7/24/20 PAGE 1 OF 2
PO#: LAB WORK ORDER#:
PROJECT LOCATION OR NAME: Salado Draw 13 E Frac Pond
LAI PROJECT #: 20-0107-14 COLLECTOR: TJ & DS

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

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 ☐ | 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 ☐ PERCHLORATE ☐ | CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	BTEX	GASOLINE MOD 8015	DIESEL MOD 8015	OIL MOD 8015	CHLORIDE	FIELD NOTES
S-1 .5		7/24/20	1125	S	1				X		X	X	X	X	X	
S-1 1			1126													
S-2 .5			1130													
S-2 1			1131													
S-3 .5			1135													
S-3 1			1136													
S-4 .5			1142													
S-4 1			1143													
S-5 .5			1130													
S-5 1			1132													
S-6 .5			1200													
S-6 1			1201													
S-7 .5			1146													
S-7 1			1147													
S-8 .5			1136													
TOTAL 15																

RELINQUISHED BY:(Signature) [signature] DATE/TIME 7/27/20 RECEIVED BY: (Signature) [signature] 0850
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
LABORATORY: Xenco

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 1.4 / 1.2 THERM#: R4E
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☑ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

1e08222

№ 1212

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 7/24/20 PAGE 2 OF 2
PO#:
LAB WORK ORDER#:
PROJECT LOCATION OR NAME: Salado Draw 13 E Frac Pond
LAI PROJECT #: 20-0107-14
COLLECTOR: TJ & DS

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	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 ☐	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 ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
S-8 1		7/24/20	1138	S	1				X		X		X	X	X													X	
S-9 .5		|	1235	|	|				|		|		|	|	|													|	
S-9 1		|	1236	|	|				|		|		|	|	|													|	

TOTAL 3

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	7/27/20	[signature]
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)

LABORATORY: Xenco

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 1.6/1.2 THERM#: 3LE
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: 07.27.2020 08.56.00 AM

Work Order #: 668222

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)?	1.2	
#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**	BTEX was in bulk container
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**N/A**	
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 07.27.2020
Brianna Teel

Checklist reviewed by: Holly Taylor Date: 07.28.2020
Holly Taylor

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Certificate of Analysis Summary 671554

Larson and Associates, Inc., Midland, TX

Project Name: Salado Draw Frac 13 E

Project Id: 20-0107-14
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed 09.02.2020 08:31
Report Date: 09.04.2020 08:55
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	671554-001		671554-002		671554-003		671554-004		671554-005		671554-006	
	Field Id:	S-10 1'		S-10 2'		S-10 5'		S-10 10'		S-9 1'		S-9 3'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	08.31.2020 12:50		08.31.2020 12:52		08.31.2020 12:55		08.31.2020 12:57		08.31.2020 13:45		08.31.2020 13:47	
BTEX by EPA 8021B	***Extracted:***	09.02.2020 16:00		09.02.2020 16:00		09.02.2020 16:00		09.02.2020 16:00		09.02.2020 16:00		09.02.2020 16:00	
	Analyzed:	09.03.2020 05:35		09.03.2020 05:56		09.03.2020 06:16		09.03.2020 06:37		09.03.2020 06:57		09.03.2020 07:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
Toluene		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes		<0.00397	0.00397	<0.00398	0.00398	<0.00400	0.00400	<0.00397	0.00397	<0.00399	0.00399	<0.00402	0.00402
o-Xylene		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
Total Xylenes		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
Total BTEX		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200	<0.00201	0.00201
Chloride by EPA 300	***Extracted:***	09.02.2020 15:30		09.02.2020 15:30		09.02.2020 15:30		09.02.2020 15:30		09.02.2020 15:30		09.02.2020 15:30	
	Analyzed:	09.02.2020 17:07		09.02.2020 17:13		09.02.2020 17:28		09.02.2020 17:34		09.02.2020 17:49		09.02.2020 17:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		882	25.0	1080	25.0	5020	50.0	199	5.00	2230	25.0	3740	25.0
TPH by SW8015 Mod	***Extracted:***	09.02.2020 17:00		09.02.2020 17:00		09.02.2020 17:00		09.02.2020 17:00		09.02.2020 17:00		09.02.2020 17:00	
	Analyzed:	09.02.2020 23:18		09.03.2020 00:26		09.03.2020 00:49		09.03.2020 01:12		09.03.2020 01:35		09.03.2020 01:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Total TPH		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<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

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Certificate of Analysis Summary 671554

Larson and Associates, Inc., Midland, TX

Project Name: Salado Draw Frac 13 E

Project Id: 20-0107-14
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed 09.02.2020 08:31
Report Date: 09.04.2020 08:55
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	671554-007		671554-008		671554-009		671554-010		671554-011		671554-012	
	Field Id:	S-9 5'		S-9 10'		S-6 1'		S-6 3'		S-6 5'		S-6 10'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	08.31.2020 13:50		08.31.2020 13:52		09.01.2020 09:15		09.01.2020 09:17		09.01.2020 09:20		09.01.2020 09:23	
BTEX by EPA 8021B	***Extracted:***					09.02.2020 11:00		09.02.2020 11:00					
	Analyzed:					09.02.2020 14:18		09.02.2020 14:38					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Benzene						<0.00199	0.00199	<0.00202	0.00202				
Toluene						<0.00199	0.00199	<0.00202	0.00202				
Ethylbenzene						<0.00199	0.00199	<0.00202	0.00202				
m,p-Xylenes						<0.00398	0.00398	<0.00403	0.00403				
o-Xylene						<0.00199	0.00199	<0.00202	0.00202				
Total Xylenes						<0.00199	0.00199	<0.00202	0.00202				
Total BTEX						<0.00199	0.00199	<0.00202	0.00202				
Chloride by EPA 300	***Extracted:***	09.02.2020 15:30		09.02.2020 15:30		09.02.2020 15:30		09.02.2020 15:30		09.02.2020 15:30		09.02.2020 16:51	
	Analyzed:	09.02.2020 18:00		09.02.2020 18:05		09.02.2020 18:10		09.02.2020 18:15		09.02.2020 18:21		09.02.2020 18:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4340	25.0	548	5.00	647	5.00	191	5.00	11.5	5.00	24.4	5.05
TPH by SW8015 Mod	***Extracted:***					09.02.2020 17:00		09.02.2020 17:00					
	Analyzed:					09.03.2020 02:20		09.03.2020 02:43					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)						<50.0	50.0	<49.9	49.9				
Diesel Range Organics (DRO)						<50.0	50.0	<49.9	49.9				
Motor Oil Range Hydrocarbons (MRO)						<50.0	50.0	<49.9	49.9				
Total TPH						<50.0	50.0	<49.9	49.9				

BRL - Below Reporting Limit

Holly Taylor

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

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Certificate of Analysis Summary 671554

Larson and Associates, Inc., Midland, TX

Project Name: Salado Draw Frac 13 E

Project Id: 20-0107-14
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed 09.02.2020 08:31
Report Date: 09.04.2020 08:55
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	671554-013		671554-014		671554-015		671554-016		671554-017		671554-018	
	Field Id:	S-3 1'		S-3 3'		S-3 5'		S-3 10'		S-2 1'		S-2 3'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	09.01.2020 09:50		09.01.2020 09:52		09.01.2020 09:55		09.01.2020 09:57		09.01.2020 10:35		09.01.2020 10:38	
BTEX by EPA 8021B	***Extracted:***	09.02.2020 11:00		09.02.2020 11:00						09.02.2020 11:00		09.02.2020 11:00	
	Analyzed:	09.02.2020 14:59		09.02.2020 15:19						09.02.2020 15:39		09.02.2020 16:00	
	Units/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	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00200	0.00200					<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200					<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00401	0.00401	<0.00401	0.00401					<0.00401	0.00401	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00200	0.00200					<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200					<0.00200	0.00200	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00200	0.00200					<0.00200	0.00200	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	09.02.2020 16:51		09.02.2020 16:51		09.02.2020 16:51		09.02.2020 16:51		09.02.2020 16:51		09.02.2020 16:51	
	Analyzed:	09.02.2020 19:14		09.02.2020 19:24		09.02.2020 19:34		09.02.2020 19:44		09.02.2020 20:14		09.02.2020 20:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3960	49.9	104	4.95	26.9	5.02	43.5	5.00	3380	50.0	1720	24.9
TPH by SW8015 Mod	***Extracted:***	09.02.2020 17:00		09.02.2020 17:00						09.02.2020 17:00		09.02.2020 17:00	
	Analyzed:	09.03.2020 03:06		09.03.2020 03:29						09.03.2020 04:14		09.03.2020 04:37	
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.8	49.8					<50.0	50.0	<49.9	49.9
Diesel Range Organics (DRO)		<50.0	50.0	<49.8	49.8					<50.0	50.0	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8					<50.0	50.0	<49.9	49.9
Total TPH		<50.0	50.0	<49.8	49.8					<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

Holly Taylor

eurofins | Environment Testing Xenco

Certificate of Analysis Summary 671554

Larson and Associates, Inc., Midland, TX

Project Name: Salado Draw Frac 13 E

Project Id: 20-0107-14
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed 09.02.2020 08:31
Report Date: 09.04.2020 08:55
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	671554-019		671554-020		671554-021		671554-022					
	Field Id:	S-2 5'		S-2 10'		S-11 0.5'		S-11 1'					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	09.01.2020 10:40		09.01.2020 10:45		09.01.2020 12:30		09.01.2020 12:35					
BTEX by EPA 8021B	***Extracted:***					09.02.2020 11:00		09.02.2020 14:30					
	Analyzed:					09.02.2020 16:20		09.02.2020 16:41					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Benzene						<0.00202	0.00202	<0.00198	0.00198				
Toluene						<0.00202	0.00202	<0.00198	0.00198				
Ethylbenzene						<0.00202	0.00202	<0.00198	0.00198				
m,p-Xylenes						<0.00403	0.00403	<0.00397	0.00397				
o-Xylene						<0.00202	0.00202	<0.00198	0.00198				
Total Xylenes						<0.00202	0.00202	<0.00198	0.00198				
Total BTEX						<0.00202	0.00202	<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	09.02.2020 16:51		09.02.2020 16:51		09.02.2020 16:51		09.02.2020 16:51					
	Analyzed:	09.02.2020 20:34		09.02.2020 20:44		09.02.2020 20:54		09.02.2020 21:04					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		79.8	4.96	36.7	5.04	22.9	4.95	43.2	4.95				
TPH by SW8015 Mod	***Extracted:***					09.02.2020 17:00		09.02.2020 17:00					
	Analyzed:					09.03.2020 05:00		09.03.2020 05:23					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)						<49.8	49.8	<50.0	50.0				
Diesel Range Organics (DRO)						<49.8	49.8	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)						<49.8	49.8	<50.0	50.0				
Total TPH						<49.8	49.8	<50.0	50.0				

BRL - Below Reporting Limit

Holly Taylor

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

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Analytical Report 671554

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Salado Draw Frac 13 E

20-0107-14

09.04.2020

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 (2019-058), 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)

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09.04.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **671554**
Salado Draw Frac 13 E
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) 671554. 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. 671554 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,

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

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Sample Cross Reference 671554

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-10 1'	S	08.31.2020 12:50		671554-001
S-10 2'	S	08.31.2020 12:52		671554-002
S-10 5'	S	08.31.2020 12:55		671554-003
S-10 10'	S	08.31.2020 12:57		671554-004
S-9 1'	S	08.31.2020 13:45		671554-005
S-9 3'	S	08.31.2020 13:47		671554-006
S-9 5'	S	08.31.2020 13:50		671554-007
S-9 10'	S	08.31.2020 13:52		671554-008
S-6 1'	S	09.01.2020 09:15		671554-009
S-6 3'	S	09.01.2020 09:17		671554-010
S-6 5'	S	09.01.2020 09:20		671554-011
S-6 10'	S	09.01.2020 09:23		671554-012
S-3 1'	S	09.01.2020 09:50		671554-013
S-3 3'	S	09.01.2020 09:52		671554-014
S-3 5'	S	09.01.2020 09:55		671554-015
S-3 10'	S	09.01.2020 09:57		671554-016
S-2 1'	S	09.01.2020 10:35		671554-017
S-2 3'	S	09.01.2020 10:38		671554-018
S-2 5'	S	09.01.2020 10:40		671554-019
S-2 10'	S	09.01.2020 10:45		671554-020
S-11 0.5'	S	09.01.2020 12:30		671554-021
S-11 1'	S	09.01.2020 12:35		671554-022

CASE NARRATIVE

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Client Name: Larson and Associates, Inc.

Project Name: Salado Draw Frac 13 E

Project ID: *20-0107-14*
Work Order Number(s): *671554*

Report Date: *09.04.2020*
Date Received: *09.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3136259 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 671554-009 SD,671554-017,671554-022,671554-014.

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Certificate of Analytical Results 671554

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id: **S-10 1'** Matrix: Soil Date Received:09.02.2020 08:31

Lab Sample Id: 671554-001 Date Collected: 08.31.2020 12:50

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.02.2020 15:30 Basis: Wet Weight

Seq Number: 3136257

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**882**	25.0	mg/kg	09.02.2020 17:07		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 09.02.2020 17:00 Basis: Wet Weight

Seq Number: 3136327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.02.2020 23:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.02.2020 23:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.02.2020 23:18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.02.2020 23:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	09.02.2020 23:18	
o-Terphenyl	84-15-1	86	%	70-130	09.02.2020 23:18	

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Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-10 1'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-001	Date Collected:	08.31.2020 12:50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 16:00	Basis:	Wet Weight
Seq Number:	3136266				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.03.2020 05:35	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.03.2020 05:35	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.03.2020 05:35	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.03.2020 05:35	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.03.2020 05:35	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.03.2020 05:35	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.03.2020 05:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.03.2020 05:35	
4-Bromofluorobenzene	460-00-4	112	%	70-130	09.03.2020 05:35	

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Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id: **S-10 2'** Matrix: Soil Date Received:09.02.2020 08:31

Lab Sample Id: 671554-002 Date Collected: 08.31.2020 12:52

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.02.2020 15:30 Basis: Wet Weight

Seq Number: 3136257

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1080**	25.0	mg/kg	09.02.2020 17:13		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 09.02.2020 17:00 Basis: Wet Weight

Seq Number: 3136327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.03.2020 00:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.03.2020 00:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.03.2020 00:26	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.03.2020 00:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-130	09.03.2020 00:26	
o-Terphenyl	84-15-1	88	%	70-130	09.03.2020 00:26	

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Certificate of Analytical Results 671554

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-10 2'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-002	Date Collected:	08.31.2020 12:52		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 16:00	Basis:	Wet Weight
Seq Number:	3136266				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.03.2020 05:56	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.03.2020 05:56	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.03.2020 05:56	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.03.2020 05:56	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.03.2020 05:56	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.03.2020 05:56	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.03.2020 05:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	09.03.2020 05:56	
1,4-Difluorobenzene	540-36-3	102	%	70-130	09.03.2020 05:56	

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Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id: **S-10 5'** Matrix: Soil Date Received:09.02.2020 08:31

Lab Sample Id: 671554-003 Date Collected: 08.31.2020 12:55

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.02.2020 15:30 Basis: Wet Weight

Seq Number: 3136257

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5020**	50.0	mg/kg	09.02.2020 17:28		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 09.02.2020 17:00 Basis: Wet Weight

Seq Number: 3136327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.03.2020 00:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.03.2020 00:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.03.2020 00:49	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.03.2020 00:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-130	09.03.2020 00:49	
o-Terphenyl	84-15-1	98	%	70-130	09.03.2020 00:49	

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Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-10 5'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-003	Date Collected:	08.31.2020 12:55		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 16:00	Basis:	Wet Weight
Seq Number:	3136266				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.03.2020 06:16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.03.2020 06:16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.03.2020 06:16	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.03.2020 06:16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.03.2020 06:16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.03.2020 06:16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.03.2020 06:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	09.03.2020 06:16	
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.03.2020 06:16	

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Certificate of Analytical Results 671554

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id: **S-10 10'** Matrix: Soil Date Received:09.02.2020 08:31

Lab Sample Id: 671554-004 Date Collected: 08.31.2020 12:57

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.02.2020 15:30 Basis: Wet Weight

Seq Number: 3136257

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**199**	5.00	mg/kg	09.02.2020 17:34		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 09.02.2020 17:00 Basis: Wet Weight

Seq Number: 3136327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	09.03.2020 01:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	09.03.2020 01:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.03.2020 01:12	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	09.03.2020 01:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-130	09.03.2020 01:12	
o-Terphenyl	84-15-1	87	%	70-130	09.03.2020 01:12	

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Certificate of Analytical Results 671554

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-10 10'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-004	Date Collected:	08.31.2020 12:57		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 16:00	Basis:	Wet Weight
Seq Number:	3136266				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.03.2020 06:37	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.03.2020 06:37	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.03.2020 06:37	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.03.2020 06:37	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.03.2020 06:37	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.03.2020 06:37	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.03.2020 06:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	09.03.2020 06:37	
1,4-Difluorobenzene	540-36-3	100	%	70-130	09.03.2020 06:37	

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Certificate of Analytical Results 671554

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id: **S-9 1'** Matrix: Soil Date Received:09.02.2020 08:31

Lab Sample Id: 671554-005 Date Collected: 08.31.2020 13:45

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.02.2020 15:30 Basis: Wet Weight

Seq Number: 3136257

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2230**	25.0	mg/kg	09.02.2020 17:49		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 09.02.2020 17:00 Basis: Wet Weight

Seq Number: 3136327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.03.2020 01:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.03.2020 01:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.03.2020 01:35	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.03.2020 01:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	09.03.2020 01:35	
o-Terphenyl	84-15-1	87	%	70-130	09.03.2020 01:35	

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Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-9 1'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-005	Date Collected:	08.31.2020 13:45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 16:00	Basis:	Wet Weight
Seq Number:	3136266				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.03.2020 06:57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.03.2020 06:57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.03.2020 06:57	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.03.2020 06:57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.03.2020 06:57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.03.2020 06:57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.03.2020 06:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	09.03.2020 06:57	
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.03.2020 06:57	

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Certificate of Analytical Results 671554

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-9 3'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-006	Date Collected:	08.31.2020 13:47		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 15:30	Basis:	Wet Weight
Seq Number:	3136257				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3740**	25.0	mg/kg	09.02.2020 17:55		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	09.02.2020 17:00	Basis:	Wet Weight
Seq Number:	3136327				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.03.2020 01:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.03.2020 01:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.03.2020 01:57	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.03.2020 01:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-130	09.03.2020 01:57	
o-Terphenyl	84-15-1	86	%	70-130	09.03.2020 01:57	

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Salado Draw Frac 13 E

Sample Id:	**S-9 3'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-006	Date Collected:	08.31.2020 13:47		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 16:00	Basis:	Wet Weight
Seq Number:	3136266				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.03.2020 07:18	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.03.2020 07:18	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.03.2020 07:18	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.03.2020 07:18	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.03.2020 07:18	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.03.2020 07:18	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.03.2020 07:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.03.2020 07:18	
4-Bromofluorobenzene	460-00-4	114	%	70-130	09.03.2020 07:18	

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Salado Draw Frac 13 E

Sample Id:	**S-9 5'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-007	Date Collected:	08.31.2020 13:50		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 15:30	Basis:	Wet Weight
Seq Number:	3136257				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4340**	25.0	mg/kg	09.02.2020 18:00		5

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Salado Draw Frac 13 E

Sample Id:	**S-9 10'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-008	Date Collected:	08.31.2020 13:52		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 15:30	Basis:	Wet Weight
Seq Number:	3136257				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**548**	5.00	mg/kg	09.02.2020 18:05		1

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Salado Draw Frac 13 E

Sample Id: **S-6 1'** Matrix: Soil Date Received:09.02.2020 08:31

Lab Sample Id: 671554-009 Date Collected: 09.01.2020 09:15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.02.2020 15:30 Basis: Wet Weight

Seq Number: 3136257

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**647**	5.00	mg/kg	09.02.2020 18:10		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 09.02.2020 17:00 Basis: Wet Weight

Seq Number: 3136327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.03.2020 02:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.03.2020 02:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.03.2020 02:20	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.03.2020 02:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	09.03.2020 02:20	
o-Terphenyl	84-15-1	84	%	70-130	09.03.2020 02:20	

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Salado Draw Frac 13 E

Sample Id:	**S-6 1'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-009	Date Collected:	09.01.2020 09:15		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 11:00	Basis:	Wet Weight
Seq Number:	3136259				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.02.2020 14:18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.02.2020 14:18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.02.2020 14:18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.02.2020 14:18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.02.2020 14:18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.02.2020 14:18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.02.2020 14:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	09.02.2020 14:18	
1,4-Difluorobenzene	540-36-3	97	%	70-130	09.02.2020 14:18	

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Salado Draw Frac 13 E

Sample Id:	**S-6 3'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-010	Date Collected:	09.01.2020 09:17		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 15:30	Basis:	Wet Weight
Seq Number:	3136257				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**191**	5.00	mg/kg	09.02.2020 18:15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	09.02.2020 17:00	Basis:	Wet Weight
Seq Number:	3136327				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.03.2020 02:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.03.2020 02:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.03.2020 02:43	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.03.2020 02:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-130	09.03.2020 02:43	
o-Terphenyl	84-15-1	87	%	70-130	09.03.2020 02:43	

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Salado Draw Frac 13 E

Sample Id:	**S-6 3'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-010	Date Collected:	09.01.2020 09:17		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 11:00	Basis:	Wet Weight
Seq Number:	3136259				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.02.2020 14:38	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.02.2020 14:38	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.02.2020 14:38	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.02.2020 14:38	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.02.2020 14:38	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.02.2020 14:38	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.02.2020 14:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	09.02.2020 14:38	
4-Bromofluorobenzene	460-00-4	116	%	70-130	09.02.2020 14:38	

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Salado Draw Frac 13 E

Sample Id:	**S-6 5'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-011	Date Collected:	09.01.2020 09:20		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 15:30	Basis:	Wet Weight
Seq Number:	3136257				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.5**	5.00	mg/kg	09.02.2020 18:21		1

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Salado Draw Frac 13 E

Sample Id:	**S-6 10'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-012	Date Collected:	09.01.2020 09:23		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 16:51	Basis:	Wet Weight
Seq Number:	3136258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24.4**	5.05	mg/kg	09.02.2020 18:44		1

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Salado Draw Frac 13 E

Sample Id: **S-3 1'** Matrix: Soil Date Received:09.02.2020 08:31

Lab Sample Id: 671554-013 Date Collected: 09.01.2020 09:50

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.02.2020 16:51 Basis: Wet Weight

Seq Number: 3136258

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3960**	49.9	mg/kg	09.02.2020 19:14		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 09.02.2020 17:00 Basis: Wet Weight

Seq Number: 3136327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.03.2020 03:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.03.2020 03:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.03.2020 03:06	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.03.2020 03:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	09.03.2020 03:06	
o-Terphenyl	84-15-1	86	%	70-130	09.03.2020 03:06	

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Salado Draw Frac 13 E

Sample Id:	**S-3 1'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-013	Date Collected:	09.01.2020 09:50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 11:00	Basis:	Wet Weight
Seq Number:	3136259				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.02.2020 14:59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.02.2020 14:59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.02.2020 14:59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.02.2020 14:59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.02.2020 14:59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.02.2020 14:59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.02.2020 14:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	09.02.2020 14:59	
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.02.2020 14:59	

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Salado Draw Frac 13 E

Sample Id: **S-3 3'** Matrix: Soil Date Received:09.02.2020 08:31

Lab Sample Id: 671554-014 Date Collected: 09.01.2020 09:52

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.02.2020 16:51 Basis: Wet Weight

Seq Number: 3136258

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**104**	4.95	mg/kg	09.02.2020 19:24		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 09.02.2020 17:00 Basis: Wet Weight

Seq Number: 3136327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	09.03.2020 03:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	09.03.2020 03:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.03.2020 03:29	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	09.03.2020 03:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	09.03.2020 03:29	
o-Terphenyl	84-15-1	88	%	70-130	09.03.2020 03:29	

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Salado Draw Frac 13 E

Sample Id:	**S-3 3'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-014	Date Collected:	09.01.2020 09:52		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 11:00	Basis:	Wet Weight
Seq Number:	3136259				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.02.2020 15:19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.02.2020 15:19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.02.2020 15:19	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.02.2020 15:19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.02.2020 15:19	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.02.2020 15:19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.02.2020 15:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	136	%	70-130	09.02.2020 15:19	**
1,4-Difluorobenzene	540-36-3	102	%	70-130	09.02.2020 15:19	

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Salado Draw Frac 13 E

Sample Id:	**S-3 5'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-015	Date Collected:	09.01.2020 09:55		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 16:51	Basis:	Wet Weight
Seq Number:	3136258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.9**	5.02	mg/kg	09.02.2020 19:34		1

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Salado Draw Frac 13 E

Sample Id:	**S-3 10'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-016	Date Collected:	09.01.2020 09:57		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 16:51	Basis:	Wet Weight
Seq Number:	3136258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**43.5**	5.00	mg/kg	09.02.2020 19:44		1

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Salado Draw Frac 13 E

Sample Id:	**S-2 1'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-017	Date Collected:	09.01.2020 10:35		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 16:51	Basis:	Wet Weight
Seq Number:	3136258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3380**	50.0	mg/kg	09.02.2020 20:14		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	09.02.2020 17:00	Basis:	Wet Weight
Seq Number:	3136327				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.03.2020 04:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.03.2020 04:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.03.2020 04:14	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.03.2020 04:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	09.03.2020 04:14	
o-Terphenyl	84-15-1	88	%	70-130	09.03.2020 04:14	

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Salado Draw Frac 13 E

Sample Id:	**S-2 1'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-017	Date Collected:	09.01.2020 10:35		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 11:00	Basis:	Wet Weight
Seq Number:	3136259				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.02.2020 15:39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.02.2020 15:39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.02.2020 15:39	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.02.2020 15:39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.02.2020 15:39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.02.2020 15:39	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.02.2020 15:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	09.02.2020 15:39	
4-Bromofluorobenzene	460-00-4	137	%	70-130	09.02.2020 15:39	**

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Salado Draw Frac 13 E

Sample Id:	**S-2 3'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-018	Date Collected:	09.01.2020 10:38		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 16:51	Basis:	Wet Weight
Seq Number:	3136258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1720**	24.9	mg/kg	09.02.2020 20:24		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	09.02.2020 17:00	Basis:	Wet Weight
Seq Number:	3136327				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.03.2020 04:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.03.2020 04:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.03.2020 04:37	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.03.2020 04:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-130	09.03.2020 04:37	
o-Terphenyl	84-15-1	88	%	70-130	09.03.2020 04:37	

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Certificate of Analytical Results 671554

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-2 3'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-018	Date Collected:	09.01.2020 10:38		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 11:00	Basis:	Wet Weight
Seq Number:	3136259				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.02.2020 16:00	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.02.2020 16:00	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.02.2020 16:00	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.02.2020 16:00	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.02.2020 16:00	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.02.2020 16:00	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.02.2020 16:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.02.2020 16:00	
4-Bromofluorobenzene	460-00-4	109	%	70-130	09.02.2020 16:00	

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Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-2 5'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-019	Date Collected:	09.01.2020 10:40		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 16:51	Basis:	Wet Weight
Seq Number:	3136258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**79.8**	4.96	mg/kg	09.02.2020 20:34		1

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Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-2 10'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-020	Date Collected:	09.01.2020 10:45		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	09.02.2020 16:51	Basis:	Wet Weight
Seq Number:	3136258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**36.7**	5.04	mg/kg	09.02.2020 20:44		1

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Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id: **S-11 0.5'** Matrix: Soil Date Received:09.02.2020 08:31

Lab Sample Id: 671554-021 Date Collected: 09.01.2020 12:30

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.02.2020 16:51 Basis: Wet Weight

Seq Number: 3136258

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22.9**	4.95	mg/kg	09.02.2020 20:54		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 09.02.2020 17:00 Basis: Wet Weight

Seq Number: 3136327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	09.03.2020 05:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	09.03.2020 05:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.03.2020 05:00	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	09.03.2020 05:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-130	09.03.2020 05:00	
o-Terphenyl	84-15-1	80	%	70-130	09.03.2020 05:00	

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Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-11 0.5'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-021	Date Collected:	09.01.2020 12:30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 11:00	Basis:	Wet Weight
Seq Number:	3136259				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.02.2020 16:20	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.02.2020 16:20	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.02.2020 16:20	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.02.2020 16:20	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.02.2020 16:20	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.02.2020 16:20	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.02.2020 16:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	127	%	70-130	09.02.2020 16:20	
1,4-Difluorobenzene	540-36-3	102	%	70-130	09.02.2020 16:20	

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Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id: **S-11 1'** Matrix: Soil Date Received:09.02.2020 08:31

Lab Sample Id: 671554-022 Date Collected: 09.01.2020 12:35

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 09.02.2020 16:51 Basis: Wet Weight

Seq Number: 3136258

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**43.2**	4.95	mg/kg	09.02.2020 21:04		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 09.02.2020 17:00 Basis: Wet Weight

Seq Number: 3136327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.03.2020 05:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.03.2020 05:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.03.2020 05:23	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.03.2020 05:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	09.03.2020 05:23	
o-Terphenyl	84-15-1	84	%	70-130	09.03.2020 05:23	

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Certificate of Analytical Results 671554

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 13 E

Sample Id:	**S-11 1'**	Matrix:	Soil	Date Received:	09.02.2020 08:31
Lab Sample Id:	671554-022	Date Collected:	09.01.2020 12:35		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	09.02.2020 14:30	Basis:	Wet Weight
Seq Number:	3136259				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.02.2020 16:41	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.02.2020 16:41	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.02.2020 16:41	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.02.2020 16:41	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.02.2020 16:41	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.02.2020 16:41	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.02.2020 16:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	138	%	70-130	09.02.2020 16:41	**
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.02.2020 16:41	

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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

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QC Summary 671554

Larson and Associates, Inc.

Salado Draw Frac 13 E

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3136257 Matrix: Solid Date Prep: 09.02.2020
MB Sample Id: 7710676-1-BLK LCS Sample Id: 7710676-1-BKS LCSD Sample Id: 7710676-1-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	261	104	259	104	90-110	1	20	mg/kg	09.02.2020 15:49	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3136258 Matrix: Solid Date Prep: 09.02.2020
MB Sample Id: 7710694-1-BLK LCS Sample Id: 7710694-1-BKS LCSD Sample Id: 7710694-1-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	260	104	262	105	90-110	1	20	mg/kg	09.02.2020 18:24	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3136257 Matrix: Soil Date Prep: 09.02.2020
Parent Sample Id: 671549-001 MS Sample Id: 671549-001 S MSD Sample Id: 671549-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1060	250	1290	92	1270	84	90-110	2	20	mg/kg	09.02.2020 16:04	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3136257 Matrix: Soil Date Prep: 09.02.2020
Parent Sample Id: 671554-002 MS Sample Id: 671554-002 S MSD Sample Id: 671554-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1080	1250	2410	106	2360	102	90-110	2	20	mg/kg	09.02.2020 17:18	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3136258 Matrix: Soil Date Prep: 09.02.2020
Parent Sample Id: 671554-012 MS Sample Id: 671554-012 S MSD Sample Id: 671554-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	24.4	253	280	101	286	103	90-110	2	20	mg/kg	09.02.2020 18:54	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3136258 Matrix: Soil Date Prep: 09.02.2020
Parent Sample Id: 671554-022 MS Sample Id: 671554-022 S MSD Sample Id: 671554-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	43.2	248	301	104	298	103	90-110	1	20	mg/kg	09.02.2020 21:14	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

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QC Summary 671554

Larson and Associates, Inc.

Salado Draw Frac 13 E

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3136327 — Matrix: Solid — Date Prep: 09.02.2020
MB Sample Id: 7710711-1-BLK — LCS Sample Id: 7710711-1-BKS — LCSD Sample Id: 7710711-1-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	929	93	839	84	70-130	10	20	mg/kg	09.02.2020 22:34	
Diesel Range Organics (DRO)	<50.0	1000	952	95	822	82	70-130	15	20	mg/kg	09.02.2020 22:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		114		101		70-130	%	09.02.2020 22:34
o-Terphenyl	96		117		101		70-130	%	09.02.2020 22:34

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3136327 — Matrix: Solid — Date Prep: 09.02.2020
MB Sample Id: 7710711-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	09.02.2020 22:12	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3136327 — Matrix: Soil — Date Prep: 09.02.2020
Parent Sample Id: 671554-001 — MS Sample Id: 671554-001 S — MSD Sample Id: 671554-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	848	85	829	83	70-130	2	20	mg/kg	09.02.2020 23:41	
Diesel Range Organics (DRO)	<49.9	997	826	83	805	81	70-130	3	20	mg/kg	09.02.2020 23:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		94		70-130	%	09.02.2020 23:41
o-Terphenyl	95		93		70-130	%	09.02.2020 23:41

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3136259 — Matrix: Solid — Date Prep: 09.02.2020
MB Sample Id: 7710714-1-BLK — LCS Sample Id: 7710714-1-BKS — LCSD Sample Id: 7710714-1-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	0.0847	85	0.0864	86	70-130	2	35	mg/kg	09.02.2020 11:57	
Toluene	<0.00200	0.100	0.0857	86	0.0891	89	70-130	4	35	mg/kg	09.02.2020 11:57	
Ethylbenzene	<0.00200	0.100	0.0924	92	0.0990	99	70-130	7	35	mg/kg	09.02.2020 11:57	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.208	104	70-130	9	35	mg/kg	09.02.2020 11:57	
o-Xylene	<0.00200	0.100	0.0954	95	0.104	104	70-130	9	35	mg/kg	09.02.2020 11:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		94		93		70-130	%	09.02.2020 11:57
4-Bromofluorobenzene	101		115		128		70-130	%	09.02.2020 11:57

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

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QC Summary 671554

Larson and Associates, Inc.

Salado Draw Frac 13 E

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3136266 Matrix: Solid Date Prep: 09.02.2020
MB Sample Id: 7710716-1-BLK LCS Sample Id: 7710716-1-BKS LCSD Sample Id: 7710716-1-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	0.108	108	0.104	104	70-130	4	35	mg/kg	09.02.2020 21:24	
Toluene	<0.00200	0.100	0.0993	99	0.107	107	70-130	7	35	mg/kg	09.02.2020 21:24	
Ethylbenzene	<0.00200	0.100	0.101	101	0.0989	99	70-130	2	35	mg/kg	09.02.2020 21:24	
m,p-Xylenes	<0.00400	0.200	0.199	100	0.197	99	70-130	1	35	mg/kg	09.02.2020 21:24	
o-Xylene	<0.00200	0.100	0.0981	98	0.0968	97	70-130	1	35	mg/kg	09.02.2020 21:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		99		97		70-130	%	09.02.2020 21:24
4-Bromofluorobenzene	109		104		104		70-130	%	09.02.2020 21:24

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3136259 Matrix: Soil Date Prep: 09.02.2020
Parent Sample Id: 671554-009 MS Sample Id: 671554-009 S MSD Sample Id: 671554-009 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	0.0887	89	0.0831	83	70-130	7	35	mg/kg	09.02.2020 12:38	
Toluene	<0.00199	0.0994	0.0888	89	0.0859	86	70-130	3	35	mg/kg	09.02.2020 12:38	
Ethylbenzene	<0.00199	0.0994	0.0950	96	0.0942	94	70-130	1	35	mg/kg	09.02.2020 12:38	
m,p-Xylenes	<0.00398	0.199	0.196	98	0.197	98	70-130	1	35	mg/kg	09.02.2020 12:38	
o-Xylene	<0.00199	0.0994	0.0987	99	0.0991	99	70-130	0	35	mg/kg	09.02.2020 12:38	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		96		70-130	%	09.02.2020 12:38
4-Bromofluorobenzene	126		136	**	70-130	%	09.02.2020 12:38

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3136266 Matrix: Soil Date Prep: 09.02.2020
Parent Sample Id: 671534-037 MS Sample Id: 671534-037 S MSD Sample Id: 671534-037 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0655	66	0.0811	82	70-130	21	35	mg/kg	09.02.2020 22:04	X
Toluene	<0.00200	0.100	0.0671	67	0.0815	82	70-130	19	35	mg/kg	09.02.2020 22:04	X
Ethylbenzene	<0.00200	0.100	0.0609	61	0.0744	75	70-130	20	35	mg/kg	09.02.2020 22:04	X
m,p-Xylenes	<0.00400	0.200	0.122	61	0.148	74	70-130	19	35	mg/kg	09.02.2020 22:04	X
o-Xylene	<0.00200	0.100	0.0606	61	0.0720	72	70-130	17	35	mg/kg	09.02.2020 22:04	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		70-130	%	09.02.2020 22:04
4-Bromofluorobenzene	106		109		70-130	%	09.02.2020 22:04

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

671554

№ 1334

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 9/1/20 PAGE 1 OF 2

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Salado Draw Frac 13 E

LAI PROJECT #: 20-0107-14 COLLECTOR: DS & TJ

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESSERVED

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 ☐ | 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 ☐ PECHLORATE ☐ | CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	ANALYSES	FIELD NOTES
S-10 1'		8/31/20	1250	S	1				X		X	
S-10 3'			1252								X	
S-10 5'			1255								X	
S-10 10'			1257								X	
S-9 1'			1345								X	
S-9 3'			1347								X	
S-9 5'			1350									
S-9 10'			1352									
S-6 1'		9/1/20	0915								X	
S-6 3'			0917								X	
S-6 5'			092[illegible]									
S-6 10'			0923									
S-3 1'			0950								X	
S-3 3'			0952								X	
S-3 5'			0955									
TOTAL 15												

RELINQUISHED BY:(Signature) DATE/TIME 9/1/20 0831 RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

LABORATORY: Xenco

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 0.6/C.2 THERM#: IR-8
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

№ 1335

671554

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

DATE: 9/1/20 PAGE 2 OF 3

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Sando Draw Frac 13 E

LAI PROJECT #: 20-0107-14 COLLECTOR: DS + TJ

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESSERVED

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 ☐ | 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 ☐ PECHLORATE ☐ | CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	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 ☐	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 ☐	pH ☐	HEXAVALENT CHROMIUM ☐	CYANIDE ☐	EXPLOSIVES ☐	PECHLORATE ☐	CHLORIDE ☒	ANIONS ☐	ALKALINITY ☐	FIELD NOTES
S-3 10'		9/1/20	0957	S	1				X																																						
S-2 1'			1035								X		X	X	X	X																															
S-2 3'			1038								X		X	X	X	X																															
S-2 5'			1040																																												
S-2 10'			1045																																												
S-11 0.5'			1230								X		X	X	X	X																															
S-11 1'			1235								X		X	X	X	X																															

TOTAL 7

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
Trent Jones	9/2/20 0831	BJH
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)

LABORATORY: Xenco

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 0.4/0.2 THERM#: IR-6
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: 09.02.2020 08.31.00 AM

Work Order #: 671554

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)?	.2	
#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**	BTEX was in bulk container
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**N/A**	
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 09.02.2020
Brianna Teel

Checklist reviewed by: Holly Taylor Date: 09.03.2020
Holly Taylor

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Certificate of Analysis Summary 676597

Larson and Associates, Inc., Midland, TX

Project Name: Salado Draw Frac Pond 13 (FP13)

Project Id: 20-0107-14
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 11.02.2020 08:43
Report Date: 11.13.2020 15:36
Project Manager: Holly Taylor

Analysis Requested									
	Lab Id:	676597-001		676597-002					
	Field Id:	S-12 .5'		S-13 .5'					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	10.30.2020 10:05		10.30.2020 10:00					
BTEX by EPA 8021B	***Extracted:***	11.04.2020 16:45		11.11.2020 12:00					
	Analyzed:	11.05.2020 13:21		11.11.2020 18:39					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00201	0.00201				
Toluene		<0.00200	0.00200	<0.00201	0.00201				
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201				
m,p-Xylenes		<0.00399	0.00399	0.00530	0.00402				
o-Xylene		0.0517	0.00200	0.00292	0.00201				
Total Xylenes		0.0517	0.00200	0.00822	0.00201				
Total BTEX		0.0517	0.00200	0.00822	0.00201				
Chloride by EPA 300	***Extracted:***	11.02.2020 16:50		11.11.2020 15:30					
	Analyzed:	11.02.2020 20:00		11.11.2020 19:23					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		848	5.00	52.8	5.03				
TPH by SW8015 Mod	***Extracted:***	11.02.2020 11:15		11.11.2020 12:00					
	Analyzed:	11.02.2020 15:16		11.11.2020 16:32					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9				
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9				
Total TPH		<50.0	50.0	<49.9	49.9				

BRL - Below Reporting Limit

Holly Taylor

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

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Analytical Report 676597

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Salado Draw Frac Pond 13 (FP13)

20-0107-14

11.13.2020

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)

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11.13.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **676597**
Salado Draw Frac Pond 13 (FP13)
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) 676597. 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. 676597 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,

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

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Sample Cross Reference 676597

Larson and Associates, Inc., Midland, TX

Salado Draw Frac Pond 13 (FP13)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-12 .5'	S	10.30.2020 10:05		676597-001
S-13 .5'	S	10.30.2020 10:00		676597-002

CASE NARRATIVE

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Client Name: Larson and Associates, Inc.

Project Name: Salado Draw Frac Pond 13 (FP13)

Project ID:	*20-0107-14*	Report Date:	*11.13.2020*
Work Order Number(s):	*676597*	Date Received:	*11.02.2020*

Sample receipt non conformances and comments:

11/18/2020 1.001 Revised to include results for sample 002 per Robert Nelson (email). HT

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3141451 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 676597-001.

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Certificate of Analytical Results 676597

Larson and Associates, Inc., Midland, TX

Salado Draw Frac Pond 13 (FP13)

Sample Id: **S-12 .5'** Matrix: Soil Date Received:11.02.2020 08:43

Lab Sample Id: 676597-001 Date Collected: 10.30.2020 10:05

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 11.02.2020 16:50 % Moisture:

Seq Number: 3141215 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**848**	5.00	mg/kg	11.02.2020 20:00		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 11.02.2020 11:15 % Moisture:

Seq Number: 3141187 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.02.2020 15:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.02.2020 15:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.02.2020 15:16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.02.2020 15:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	11.02.2020 15:16	
o-Terphenyl	84-15-1	100	%	70-130	11.02.2020 15:16	

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Certificate of Analytical Results 676597

Larson and Associates, Inc., Midland, TX

Salado Draw Frac Pond 13 (FP13)

Sample Id:	**S-12 .5'**	Matrix:	Soil	Date Received:	11.02.2020 08:43
Lab Sample Id:	676597-001	Date Collected:	10.30.2020 10:05		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	11.04.2020 16:45	% Moisture:	
Seq Number:	3141451			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.05.2020 13:21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.05.2020 13:21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.05.2020 13:21	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.05.2020 13:21	U	1
o-Xylene	95-47-6	**0.0517**	0.00200	mg/kg	11.05.2020 13:21		1
Total Xylenes	1330-20-7	**0.0517**	0.00200	mg/kg	11.05.2020 13:21		1
Total BTEX		**0.0517**	0.00200	mg/kg	11.05.2020 13:21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	153	%	70-130	11.05.2020 13:21	**
1,4-Difluorobenzene	540-36-3	93	%	70-130	11.05.2020 13:21	

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Certificate of Analytical Results 676597

Larson and Associates, Inc., Midland, TX

Salado Draw Frac Pond 13 (FP13)

Sample Id: **S-13 .5'** Matrix: Soil Date Received:11.02.2020 08:43

Lab Sample Id: 676597-002 Date Collected: 10.30.2020 10:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 11.11.2020 15:30 % Moisture:

Seq Number: 3142020 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**52.8**	5.03	mg/kg	11.11.2020 19:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 11.11.2020 12:00 % Moisture:

Seq Number: 3142071 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.11.2020 16:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.11.2020 16:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.11.2020 16:32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.11.2020 16:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	11.11.2020 16:32	
o-Terphenyl	84-15-1	113	%	70-130	11.11.2020 16:32	

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Certificate of Analytical Results 676597

Larson and Associates, Inc., Midland, TX

Salado Draw Frac Pond 13 (FP13)

Sample Id:	**S-13 .5'**	Matrix:	Soil	Date Received:	11.02.2020 08:43
Lab Sample Id:	676597-002	Date Collected:	10.30.2020 10:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	11.11.2020 12:00	% Moisture:	
Seq Number:	3142010			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.11.2020 18:39	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.11.2020 18:39	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.11.2020 18:39	U	1
m,p-Xylenes	179601-23-1	**0.00530**	0.00402	mg/kg	11.11.2020 18:39		1
o-Xylene	95-47-6	**0.00292**	0.00201	mg/kg	11.11.2020 18:39		1
Total Xylenes	1330-20-7	**0.00822**	0.00201	mg/kg	11.11.2020 18:39		1
Total BTEX		**0.00822**	0.00201	mg/kg	11.11.2020 18:39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.11.2020 18:39	
4-Bromofluorobenzene	460-00-4	95	%	70-130	11.11.2020 18:39	

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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

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QC Summary 676597

Larson and Associates, Inc.

Salado Draw Frac Pond 13 (FP13)

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141215 — Matrix: Solid — Date Prep: 11.02.2020
MB Sample Id: 7714380-1-BLK — LCS Sample Id: 7714380-1-BKS — LCSD Sample Id: 7714380-1-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	271	108	268	107	90-110	1	20	mg/kg	11.02.2020 17:08	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3142020 — Matrix: Solid — Date Prep: 11.11.2020
MB Sample Id: 7714973-1-BLK — LCS Sample Id: 7714973-1-BKS — LCSD Sample Id: 7714973-1-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	260	104	260	104	90-110	0	20	mg/kg	11.11.2020 17:59	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141215 — Matrix: Soil — Date Prep: 11.02.2020
Parent Sample Id: 676021-009 — MS Sample Id: 676021-009 S — MSD Sample Id: 676021-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5960	2520	8690	108	8600	105	90-110	1	20	mg/kg	11.02.2020 19:01	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3141215 — Matrix: Soil — Date Prep: 11.02.2020
Parent Sample Id: 676459-004 — MS Sample Id: 676459-004 S — MSD Sample Id: 676459-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10000	2480	12900	117	12800	113	90-110	1	20	mg/kg	11.02.2020 17:28	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3142020 — Matrix: Soil — Date Prep: 11.11.2020
Parent Sample Id: 676597-002 — MS Sample Id: 676597-002 S — MSD Sample Id: 676597-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	52.8	252	327	109	325	108	90-110	1	20	mg/kg	11.11.2020 19:28	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3142020 — Matrix: Soil — Date Prep: 11.11.2020
Parent Sample Id: 677457-039 — MS Sample Id: 677457-039 S — MSD Sample Id: 677457-039 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	437	250	672	94	671	94	90-110	0	20	mg/kg	11.11.2020 18:15	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

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QC Summary 676597

Larson and Associates, Inc.

Salado Draw Frac Pond 13 (FP13)

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141187 Matrix: Solid Date Prep: 11.02.2020
MB Sample Id: 7714378-1-BLK LCS Sample Id: 7714378-1-BKS LCSD Sample Id: 7714378-1-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	1110	111	990	99	70-130	11	20	mg/kg	11.02.2020 12:19	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1000	100	70-130	10	20	mg/kg	11.02.2020 12:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		120		106		70-130	%	11.02.2020 12:19
o-Terphenyl	129		127		111		70-130	%	11.02.2020 12:19

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3142071 Matrix: Solid Date Prep: 11.11.2020
MB Sample Id: 7715008-1-BLK LCS Sample Id: 7715008-1-BKS LCSD Sample Id: 7715008-1-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	912	91	1060	106	70-130	15	20	mg/kg	11.11.2020 12:40	
Diesel Range Organics (DRO)	<50.0	1000	988	99	1090	109	70-130	10	20	mg/kg	11.11.2020 12:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		119		129		70-130	%	11.11.2020 12:40
o-Terphenyl	112		122		119		70-130	%	11.11.2020 12:40

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141187 Matrix: Solid Date Prep: 11.02.2020
MB Sample Id: 7714378-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.02.2020 11:59	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3142071 Matrix: Solid Date Prep: 11.11.2020
MB Sample Id: 7715008-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.11.2020 12:02	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

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QC Summary 676597

Larson and Associates, Inc.

Salado Draw Frac Pond 13 (FP13)

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3141187 Matrix: Soil Date Prep: 11.02.2020
Parent Sample Id: 676594-001 MS Sample Id: 676594-001 S MSD Sample Id: 676594-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	912	91	954	95	70-130	5	20	mg/kg	11.02.2020 13:18	
Diesel Range Organics (DRO)	<49.9	998	982	98	997	100	70-130	2	20	mg/kg	11.02.2020 13:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		110		70-130	%	11.02.2020 13:18
o-Terphenyl	104		104		70-130	%	11.02.2020 13:18

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3142071 Matrix: Soil Date Prep: 11.11.2020
Parent Sample Id: 677462-001 MS Sample Id: 677462-001 S MSD Sample Id: 677462-001 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	934	93	891	89	70-130	5	20	mg/kg	11.11.2020 13:39	
Diesel Range Organics (DRO)	<50.0	999	1020	102	986	99	70-130	3	20	mg/kg	11.11.2020 13:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		110		70-130	%	11.11.2020 13:39
o-Terphenyl	124		121		70-130	%	11.11.2020 13:39

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141451 Matrix: Solid Date Prep: 11.04.2020
MB Sample Id: 7714573-1-BLK LCS Sample Id: 7714573-1-BKS LCSD Sample Id: 7714573-1-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	0.0989	99	0.0942	94	70-130	5	35	mg/kg	11.05.2020 03:32	
Toluene	<0.00200	0.100	0.0977	98	0.0936	94	70-130	4	35	mg/kg	11.05.2020 03:32	
Ethylbenzene	<0.00200	0.100	0.101	101	0.0957	96	70-130	5	35	mg/kg	11.05.2020 03:32	
m,p-Xylenes	<0.00400	0.200	0.199	100	0.190	95	70-130	5	35	mg/kg	11.05.2020 03:32	
o-Xylene	<0.00200	0.100	0.0981	98	0.0931	93	70-130	5	35	mg/kg	11.05.2020 03:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		100		100		70-130	%	11.05.2020 03:32
4-Bromofluorobenzene	115		102		97		70-130	%	11.05.2020 03:32

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

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QC Summary 676597

Larson and Associates, Inc.

Salado Draw Frac Pond 13 (FP13)

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3142010 Matrix: Solid Date Prep: 11.11.2020
MB Sample Id: 7714944-1-BLK LCS Sample Id: 7714944-1-BKS LCSD Sample Id: 7714944-1-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	0.0778	78	0.0797	80	70-130	2	35	mg/kg	11.11.2020 11:51	
Toluene	<0.00200	0.100	0.0806	81	0.0834	83	70-130	3	35	mg/kg	11.11.2020 11:51	
Ethylbenzene	<0.00200	0.100	0.0884	88	0.0914	91	70-130	3	35	mg/kg	11.11.2020 11:51	
m,p-Xylenes	<0.00400	0.200	0.173	87	0.180	90	70-130	4	35	mg/kg	11.11.2020 11:51	
o-Xylene	<0.00200	0.100	0.0862	86	0.0897	90	70-130	4	35	mg/kg	11.11.2020 11:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		101		99		70-130	%	11.11.2020 11:51
4-Bromofluorobenzene	112		102		100		70-130	%	11.11.2020 11:51

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3141451 Matrix: Soil Date Prep: 11.04.2020
Parent Sample Id: 676455-001 MS Sample Id: 676455-001 S MSD Sample Id: 676455-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0694	70	0.0695	70	70-130	0	35	mg/kg	11.05.2020 04:13	
Toluene	<0.00200	0.0998	0.0708	71	0.0741	74	70-130	5	35	mg/kg	11.05.2020 04:13	
Ethylbenzene	<0.00200	0.0998	0.0754	76	0.0799	80	70-130	6	35	mg/kg	11.05.2020 04:13	
m,p-Xylenes	<0.00399	0.200	0.153	77	0.165	83	70-130	8	35	mg/kg	11.05.2020 04:13	
o-Xylene	<0.00200	0.0998	0.0744	75	0.0800	80	70-130	7	35	mg/kg	11.05.2020 04:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		97		70-130	%	11.05.2020 04:13
4-Bromofluorobenzene	100		105		70-130	%	11.05.2020 04:13

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3142010 Matrix: Soil Date Prep: 11.11.2020
Parent Sample Id: 677462-001 MS Sample Id: 677462-001 S MSD Sample Id: 677462-001 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	0.0802	81	0.0755	76	70-130	6	35	mg/kg	11.11.2020 12:32	
Toluene	<0.00199	0.0994	0.0846	85	0.0813	81	70-130	4	35	mg/kg	11.11.2020 12:32	
Ethylbenzene	<0.00199	0.0994	0.0938	94	0.0910	91	70-130	3	35	mg/kg	11.11.2020 12:32	
m,p-Xylenes	<0.00398	0.199	0.186	93	0.183	92	70-130	2	35	mg/kg	11.11.2020 12:32	
o-Xylene	<0.00199	0.0994	0.0929	93	0.0914	91	70-130	2	35	mg/kg	11.11.2020 12:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		97		70-130	%	11.11.2020 12:32
4-Bromofluorobenzene	105		108		70-130	%	11.11.2020 12:32

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

E76597

№1421

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 10/30/20 PAGE 1 OF 1

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Salado draw Frac Pond 13 (FP13)

LAI PROJECT #: 20-0107-14 COLLECTOR: TJ

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	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 ☐	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 ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	hold for further analysis	FIELD NOTES
S-12 .5'		10/30/20	1005	S	1				X		X		X	X	X													X				
S-13 .5'		10/30/20	1000	S	1				X																						X	

TOTAL 2

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
	11/2/20 8:43	BTEX 11/2/20 AB
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)

LABORATORY: Xenco

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 0.9 THERM#: IR-8
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: 11.02.2020 08.43.00 AM

Work Order #: 676597

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 11.02.2020
Brianna Teel

Checklist reviewed by: Holly Taylor Date: 11.02.2020
Holly Taylor

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Certificate of Analysis Summary 679286

Larson and Associates, Inc., Midland, TX

Project Name: Salado Draw Frac Pond 13

Project Id: 20-0107-14
Contact: Mark Larson
Project Location:

Date Received in Lab: Tue 12.01.2020 09:33
Report Date: 12.08.2020 10:00
Project Manager: Holly Taylor

Analysis Requested							
	Lab Id:	679286-001					
	Field Id:	S-12 1'					
	Depth:						
	Matrix:	SOIL					
	Sampled:	11.29.2020 11:36					
BTEX by EPA 8021B	***Extracted:***	12.02.2020 16:00					
	Analyzed:	12.03.2020 00:32					
	Units/RL:	mg/kg	RL				
Benzene		<0.00200	0.00200				
Toluene		<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200				
m,p-Xylenes		<0.00399	0.00399				
o-Xylene		<0.00200	0.00200				
Total Xylenes		<0.002000	0.002000				
Total BTEX		<0.002000	0.002000				
Chloride by EPA 300	***Extracted:***	12.01.2020 16:50					
	Analyzed:	12.01.2020 18:23					
	Units/RL:	mg/kg	RL				
Chloride		16.2	5.02				
TPH by SW8015 Mod	***Extracted:***	12.01.2020 17:00					
	Analyzed:	12.02.2020 01:33					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0				
Diesel Range Organics (DRO)		<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0				
Total TPH		<50.00	50.00				

BRL - Below Reporting Limit

Holly Taylor

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

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Analytical Report 679286

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Salado Draw Frac Pond 13

20-0107-14

12.08.2020

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)

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12.08.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **679286**
Salado Draw Frac Pond 13
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) 679286. 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. 679286 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,

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

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Sample Cross Reference 679286

Larson and Associates, Inc., Midland, TX

Salado Draw Frac Pond 13

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-12 1'	S	11.29.2020 11:36		679286-001
S-12 2'	S	11.29.2020 11:45		Not Analyzed
S-12 3'	S	11.29.2020 11:57		Not Analyzed

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CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: Salado Draw Frac Pond 13

Project ID: *20-0107-14*
Work Order Number(s): *679286*

Report Date: *12.08.2020*
Date Received: *12.01.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 679286

Larson and Associates, Inc., Midland, TX

Salado Draw Frac Pond 13

Sample Id: **S-12 1'** Matrix: Soil Date Received:12.01.2020 09:33

Lab Sample Id: 679286-001 Date Collected: 11.29.2020 11:36

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.01.2020 16:50 % Moisture:

Seq Number: 3143689 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.2**	5.02	mg/kg	12.01.2020 18:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.01.2020 17:00 % Moisture:

Seq Number: 3143721 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.02.2020 01:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.02.2020 01:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.02.2020 01:33	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.02.2020 01:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-130	12.02.2020 01:33	
o-Terphenyl	84-15-1	106	%	70-130	12.02.2020 01:33	

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Certificate of Analytical Results 679286

Larson and Associates, Inc., Midland, TX

Salado Draw Frac Pond 13

Sample Id:	**S-12 1'**	Matrix:	Soil	Date Received:	12.01.2020 09:33
Lab Sample Id:	679286-001	Date Collected:	11.29.2020 11:36		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MNR				
Analyst:	MNR	Date Prep:	12.02.2020 16:00	% Moisture:	
Seq Number:	3143824			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.03.2020 00:32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.03.2020 00:32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.03.2020 00:32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.03.2020 00:32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.03.2020 00:32	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.03.2020 00:32	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.03.2020 00:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.03.2020 00:32	
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.03.2020 00:32	

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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

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QC Summary 679286

Larson and Associates, Inc.

Salado Draw Frac Pond 13

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3143689 — Matrix: Solid — Date Prep: 12.01.2020
MB Sample Id: 7716191-1-BLK — LCS Sample Id: 7716191-1-BKS — LCSD Sample Id: 7716191-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	252	101	253	101	90-110	0	20	mg/kg	12.01.2020 18:12	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3143689 — Matrix: Soil — Date Prep: 12.01.2020
Parent Sample Id: 679286-001 — MS Sample Id: 679286-001 S — MSD Sample Id: 679286-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	16.2	251	279	105	282	106	90-110	1	20	mg/kg	12.01.2020 18:28	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3143689 — Matrix: Soil — Date Prep: 12.01.2020
Parent Sample Id: 679348-011 — MS Sample Id: 679348-011 S — MSD Sample Id: 679348-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	438	248	676	96	677	96	90-110	0	20	mg/kg	12.01.2020 19:42	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3143721 — Matrix: Solid — Date Prep: 12.01.2020
MB Sample Id: 7716218-1-BLK — LCS Sample Id: 7716218-1-BKS — LCSD Sample Id: 7716218-1-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	951	95	812	81	70-130	16	20	mg/kg	12.01.2020 18:55	
Diesel Range Organics (DRO)	<50.0	1000	870	87	872	87	70-130	0	20	mg/kg	12.01.2020 18:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		101		101		70-130	%	12.01.2020 18:55
o-Terphenyl	102		101		106		70-130	%	12.01.2020 18:55

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3143721 — Matrix: Solid — Date Prep: 12.01.2020
MB Sample Id: 7716218-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.01.2020 18:33	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

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QC Summary 679286

Larson and Associates, Inc.

Salado Draw Frac Pond 13

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3143721 Matrix: Soil Date Prep: 12.01.2020
Parent Sample Id: 679349-001 MS Sample Id: 679349-001 S MSD Sample Id: 679349-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	849	85	824	83	70-130	3	20	mg/kg	12.01.2020 20:00	
Diesel Range Organics (DRO)	58.4	998	886	83	908	85	70-130	2	20	mg/kg	12.01.2020 20:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		94		70-130	%	12.01.2020 20:00
o-Terphenyl	91		96		70-130	%	12.01.2020 20:00

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3143824 Matrix: Solid Date Prep: 12.02.2020
MB Sample Id: 7716353-1-BLK LCS Sample Id: 7716353-1-BKS LCSD Sample Id: 7716353-1-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	0.0997	100	0.0944	94	70-130	5	35	mg/kg	12.02.2020 16:00	
Toluene	<0.00200	0.100	0.113	113	0.0888	89	70-130	24	35	mg/kg	12.02.2020 16:00	
Ethylbenzene	<0.00200	0.100	0.107	107	0.0959	96	70-130	11	35	mg/kg	12.02.2020 16:00	
m,p-Xylenes	<0.00400	0.200	0.213	107	0.189	95	70-130	12	35	mg/kg	12.02.2020 16:00	
o-Xylene	<0.00200	0.100	0.105	105	0.0936	94	70-130	11	35	mg/kg	12.02.2020 16:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		100		101		70-130	%	12.02.2020 16:00
4-Bromofluorobenzene	108		103		97		70-130	%	12.02.2020 16:00

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3143824 Matrix: Soil Date Prep: 12.02.2020
Parent Sample Id: 678987-018 MS Sample Id: 678987-018 S MSD Sample Id: 678987-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.127	127	0.129	129	70-130	2	35	mg/kg	12.02.2020 16:41	
Toluene	<0.00200	0.0998	0.116	116	0.118	118	70-130	2	35	mg/kg	12.02.2020 16:41	
Ethylbenzene	<0.00200	0.0998	0.116	116	0.118	118	70-130	2	35	mg/kg	12.02.2020 16:41	
m,p-Xylenes	<0.00399	0.200	0.234	117	0.240	120	70-130	3	35	mg/kg	12.02.2020 16:41	
o-Xylene	<0.00200	0.0998	0.110	110	0.113	113	70-130	3	35	mg/kg	12.02.2020 16:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	12.02.2020 16:41
4-Bromofluorobenzene	104		105		70-130	%	12.02.2020 16:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

Nº 1395

6792826

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 12/1/2020 PAGE 1 OF 1

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Salado Draw Frac Pond 13

LAI PROJECT #: 20-0107-14 COLLECTOR: DS

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	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 ☐	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 ☐	pH ☐	CYANIDE ☐	HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐	PECHLORATE ☐	CHLORIDE ☒	ANIONS ☐	ALKALINITY ☐	Hold For Further Analysis	FIELD NOTES
S-12, 1'		11/24/20	11:36	S	1				X		X		X		X	X	X																								X					Analyze chloride to 600 mg/kg
S-12, 2'		"	11:45	"	1				X		—		—		—	—	—																								X					
S-12, 3'		"	11:57	"	1				X		—		—		—	—	—																								X					
TOTAL																																														

RELINQUISHED BY:(Signature) DATE/TIME 12/1/20 9:55 RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

LABORATORY: Xenco

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: -5.°C THERM#:
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: 12.01.2020 09.33.00 AM

Work Order #: 679286

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 12.01.2020

Brianna Teel

Checklist reviewed by: Holly Taylor Date: 12.01.2020

Holly Taylor

Appendix E

Photographs

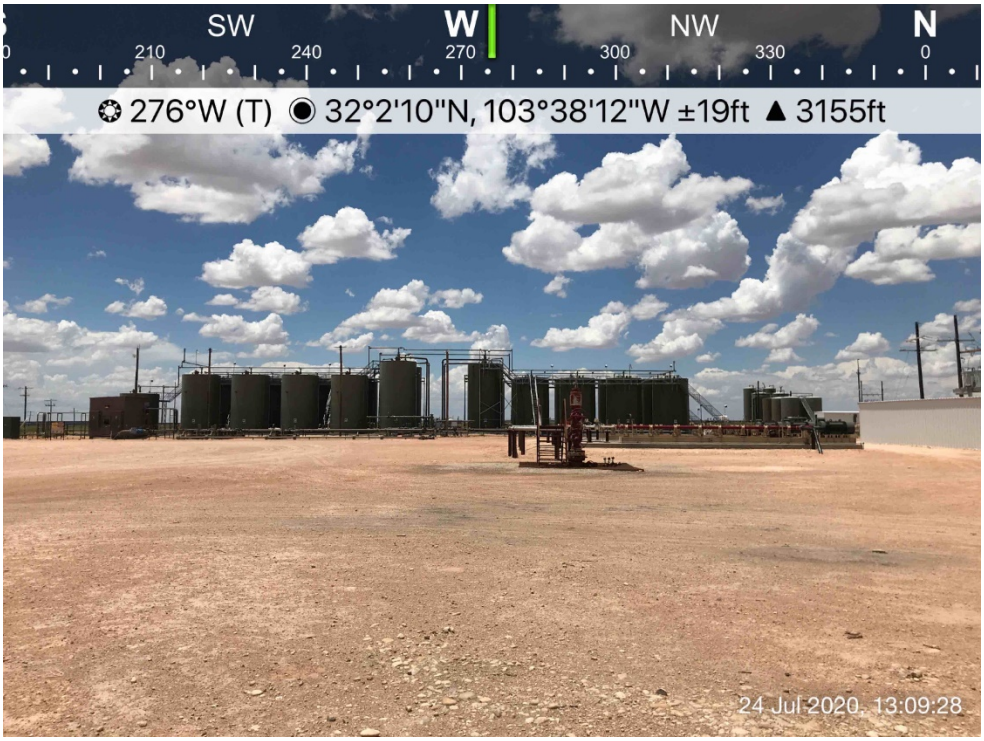
nCS2003553676
Delineation Report and Remediation Plan
Chevron USA, Inc., Salado Draw 13 E Frac Pond
Produced Water Release
December 11, 2020

Release captured by Chevron Personnel Viewing East, July 14, 2020

Release Viewing East, July 24, 2020

nCS2003553676
Delineation Report and Remediation Plan
Chevron USA, Inc., Salado Draw 13 E Frac Pond
Produced Water Release
December 11, 2020

Release Viewing South, July 24, 2020



Release Viewing West, July 24, 2020

nCS2003553676
Delineation Report and Remediation Plan
Chevron USA, Inc., Salado Draw 13 E Frac Pond
Produced Water Release
December 11, 2020

Release Viewing Southeast, July 24, 2020

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 13497

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
CHEVRON U S A INC	6301 Deauville Blvd	Midland, TX79706	4323	13497	C-141

OCD Reviewer	Condition
chensley	Closure due 06/10/2021