State of New Mexico
Oil Conservation Division

Incident ID	nVV2003555031
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?	70.12 (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

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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: 8-17-20

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

OCD Only

Received by: Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nVV2003555031
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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: 8-17-2020

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

OCD Only

Received by: Date:

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

Signature: Date:

nVV2003555031
Delineation Report and Remediation Plan
SD EA 29 32 Federal Com P10 #017H
Produced Water Release
Lea County, New Mexico

Latitude: N 32.03281°
Longitude: W -103.612884°

LAI Project No. 19-0180-05

August 14, 2020

Prepared for:

Chevron USA Inc.
6301 Deauville Blvd.
Midland, Texas 79706

Prepared by:

Larson & Associates, Inc.
507 North Marienfeld Street, Suite 205
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 1 for a produced water release at the SD EA 29 32 Federal Com P10 #017H also known as Salado Draw Frac Pond 19 (Site) located in Unit C (NE/4, NW/4), Section 19, Township 26 South, Range 33 East in Lea County New Mexico. The geodetic position is North 32.03281° and West -103.612884°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The release was discovered on October 23, 2019, when the coupling on a flowline ruptured allowing for 19 bbls of produced water to be released. No fluid was recovered. Appendix A presents the Chevron spill calculation. The affected area measures approximately 15,271 square feet. The release was assigned a spill identification number of nVV2003555031.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 3,191 feet above mean sea level (msl).
- The surface topography 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 Simona-Upton association, 0 to 3 percent slopes, consisting of 0 to 8 inches of gravelly fine sandy loam, underlain by 8 to 16 inches of a fine sandy loam, and 16 to 26 inches of cemented material (caliche).
- The geology is Quaternary-age sand and silt deposited in sheets, and locally includes cover sand.
- Groundwater occurs at approximately 70.12 feet below ground surface (bgs) based on depth to groundwater measured approximately 72 hours after installing a boring (BH-1) on April 9, 2020.

Appendix B presents BH-1 boring Log.

1.3 Remediation Action 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 10,000 mg/Kg

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

2.0 DELINEATION

On November 13, 2019, LAI personnel used a stainless steel hand auger to collect soil samples from nineteen (19) locations inside of the spill area and in each cardinal direction of the spill (S-1 through S-23) to vertically and horizontally delineate the release. The samples were collected to approximately 1-foot bgs. On November 15 to 17, 2020, LAI personnel used a Geoprobe® 7822DT direct push rig to collect soil samples to a depth of approximately 10 feet bgs, depending on subsurface conditions. On The soil samples were delivered under chain of custody and preservation to Xenco Laboratories (Xenco) in Midland, Texas. The laboratory analyzed the samples for benzene, toluene, ethylbenzene and xylenes (BTEX) and total petroleum hydrocarbons (TPH), including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35), and chloride by EPA SW-846 Methods 8021B and 8015M, and M300, respectively. Figure 2 presents an aerial map showing the sample locations.

Benzene and BTEX reported below the OCD remediation action level (19.15.29 NMAC Table 1) of 10 milligrams per kilogram (mg/Kg) and 50 mg/Kg in all samples. TPH exceeded the OCD cleanup criteria (2,500 mg/Kg) in Table 1 of 19.15.29 NMAC in the following soil samples:

Sample	Depth (Feet)	TPH (mg/Kg)
S-8	0 - 1	51,200
S-13	0 - 1	36,500
S-14	0 - 1	3,370

Chloride was delineated to 600 mg/Kg as required by 15.19.29.11A(5)c except at location S-21.

On July 1, 2020, Scarborough Drilling, Inc. (SDI) vertically delineated chloride to 600 mg/Kg at sample point S-21 (BH-1). Chloride was not reported above OCD cleanup criteria of 10,000 mg/Kg in Table 1 of 19.15.29 NMAC however TPH and chloride exceed the allowable limits of 100 mg/Kg and 600 mg/Kg in the upper four (4) feet of soil in accordance with 19.15.29.13. Table 1 presents the soil sample analytical data summary. Appendix B presents the laboratory reports.

3.0 Remediation Plan

Chevron proposes the following remedial actions:

- Excavate soil from an area measuring approximately 24,458 square feet, encompassing S-2 through S-5, S-7 through S-9, S-11 through S-16, S18, S-19,and S-22 to 1.5 feet bgs.
- Excavate soil from an area measuring approximately 5,531 square feet, encompassing S-20 and S-21 to 5.5 feet bgs.
- Collect five (5) point composite bottom and sidewall confirmation soil samples every 200 square feet of excavation and analyze for BTEX, TPH and chloride.
- Backfill excavations with clean topsoil in pasture assuming upon achievement of OCD remediation levels.
- Seed the pasture area with BLM Mix No. 3.
- Prepare report with photographs and laboratory documentation for submittal to OCD District 1.

Figure 3 presents the proposed excavation areas.

Tables

Table 1

Delineation Soil Sample Analytical Data Summary

Chevron USA, SD EA 29 32 Federal Com P10 #017H

Lea County, New Mexico

North 32 01' 58.46" West 103 36' 50.59"

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 / 10,000**
S-1	0 - 1	11/13/2019	In-Situ	<0.00104	<0.00624	<26.0	52.3	<26.0	52.3	9.76
S-2	0 - 1	11/13/2019	In-Situ	<0.00111	<0.00666	<27.8	40.7	<27.8	40.7	**8,280**
	1	1/15/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	31.2
	3	1/15/2020	In-Situ	<0.0199	<0.0199	<49.8	<49.8	<49.8	<49.8	120
	5	1/15/2020	In-Situ	<0.0201	<0.0201	<49.9	<49.9	<49.9	<49.9	356
	10	1/15/2020	In-Situ	<0.0201	<0.0201	<50.0	<50.0	<50.0	<50.0	144
S-3	0 - 1	11/13/2019	In-Situ	<0.00109	<0.00653	<27.2	<27.2	<27.2	<27.2	**5,320**
	1	1/15/2020	In-Situ	<0.0198	<0.0198	<49.9	<49.9	<49.9	<49.9	313
	3	1/15/2020	In-Situ	<0.0201	<0.0201	<50.0	<50.0	<50.0	<50.0	10.6
	5	1/15/2020	In-Situ	<0.0201	<0.0201	<49.9	<49.9	<49.9	<49.9	51.9
	10	1/15/2020	In-Situ	<0.0201	<0.0201	<49.9	<49.9	<49.9	<49.9	356
S-4	0 - 1	11/13/2019	In-Situ	<0.00112	<0.00673	<28.1	<28.1	<28.1	<28.1	**610**
	1	1/15/2020	In-Situ	<0.0200	<0.0200	<50.0	<50.0	<50.0	<50.0	73.5
	3	1/15/2020	In-Situ	<0.0201	<0.0201	<49.8	<49.8	<49.8	<49.8	219
	5	1/15/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	251
	10	1/15/2020	In-Situ	<0.0200	<0.0200	<49.9	<49.9	<49.9	<49.9	236
S-5	0 - 1	11/13/2019	In-Situ	<0.00109	<0.00653	<27.2	<27.2	<27.2	<27.2	**814**
	1	1/16/2020	In-Situ	<0.0202	<0.0202	<49.9	<49.9	<49.9	<49.9	**914**
	3	1/16/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	8.74
	5	1/16/2020	In-Situ	<0.0200	<0.0200	<49.9	<49.9	<49.9	<49.9	203
	10	1/16/2020	In-Situ	<0.0200	<0.0200	<49.8	<49.8	<49.8	<49.8	448

Table 1

Delineation Soil Sample Analytical Data Summary

Chevron USA, SD EA 29 32 Federal Com P10 #017H

Lea County, New Mexico

North 32 01' 58.46" West 103 36' 50.59"

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 / 10,000**
S-6	0 - 1	11/13/2019	In-Situ	<0.00109	<0.00653	<27.2	<27.2	<27.2	<27.2	129
	1	1/16/2020	In-Situ	<0.0200	<0.0200	<50.0	<50.0	<50.0	<50.0	61.8
	3	1/16/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	39.3
	5	1/16/2020	In-Situ	<0.0201	<0.0201	<49.9	<49.9	<49.9	<49.9	471
	10	1/16/2020	In-Situ	<0.0199	<0.0199	<49.9	<49.9	<49.9	<49.9	336
S-7	0 - 1	11/13/2019	In-Situ	<0.00109	<0.00653	<27.2	75.7	42.9	**119**	**8,190**
	1	1/15/2020	In-Situ	<0.0199	<0.0199	<49.9	<49.9	<49.9	<49.9	205
	3	1/15/2020	In-Situ	<0.0201	<0.0201	<49.8	<49.8	<49.8	<49.8	158
	5	1/15/2020	In-Situ	<0.0202	<0.0202	<50.0	<50.0	<50.0	<50.0	503
	10	1/15/2020	In-Situ	<0.0201	<0.0201	<49.9	<49.9	<49.9	<49.9	356
S-8	0 - 1	11/13/2019	In-Situ	0.0409	38.8409	8,500	42,700	<269	**51,200**	**8,500**
	1	1/16/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	47.2
	3	1/16/2020	In-Situ	<0.0199	<0.0199	<49.8	<49.8	<49.8	<49.8	<5.00
	5	1/16/2020	In-Situ	<0.0200	<0.0200	<50.0	<50.0	<50.0	<50.0	<5.00
	10	1/16/2020	In-Situ	<0.0201	<0.0201	<49.9	<49.9	<49.9	<49.9	120
S-9	0 - 1	11/13/2019	In-Situ	<0.00106	0.07012	<26.6	104	<26.6	**104**	**1,700**
	1	1/16/2020	In-Situ	<0.0201	<0.0201	<49.9	<49.9	<49.9	<49.9	20.3
	3	1/16/2020	In-Situ	<0.0202	<0.0202	<50.0	<50.0	<50.0	<50.0	26.7
	5	1/16/2020	In-Situ	<0.0200	<0.0200	<50.0	<50.0	<50.0	<50.0	163
	10	1/16/2020	In-Situ	<0.0202	<0.0202	<49.9	<49.9	<49.9	<49.9	173
S-10	0 - 1	11/13/2019	In-Situ	<0.00104	0.10575	<26.0	28.4	<26.0	28.4	26.8
S-11	0 - 1	11/13/2019	In-Situ	<0.00106	<0.00637	<26.6	<26.6	<26.6	<26.6	**3,070**

Table 1
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Chevron USA, SD EA 29 32 Federal Com P10 #017H
Lea County, New Mexico
North 32 01' 58.46" West 103 36' 50.59"

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 / 10,000**
	1	1/21/2020	In-Situ	<0.0198	<0.0198	<49.8	<49.8	<49.8	<49.8	**3,260**
	3	1/21/2020	In-Situ	<0.0199	<0.0199	<49.9	<49.9	<49.9	<49.9	87.3
	5	1/21/2020	In-Situ	<0.0201	<0.0201	<50.0	<50.0	<50.0	<50.0	74.5
S-12	0 - 1	11/13/2019	In-Situ	<0.00108	<0.00647	<26.9	<26.9	<26.9	<26.9	**1,890**
	1	1/21/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	6.18
	3	1/21/2020	In-Situ	<0.0198	<0.0198	<49.8	<49.8	<49.8	<49.8	28.7
	5	1/21/2020	In-Situ	<0.0200	<0.0200	<50.0	<50.0	<50.0	<50.0	86.5
S-13	0 - 1	11/13/2019	In-Situ	0.0396	30.7	5,950	30,600	<543	**36,500**	**3,510**
	1	1/16/2020	In-Situ	<0.0200	<0.0200	<49.8	<49.8	<49.8	<49.8	9.33
	3	1/16/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	14.8
	5	1/16/2020	In-Situ	<0.0198	<0.0198	<50.0	<50.0	<50.0	<50.0	578
	10	1/16/2020	In-Situ	<0.0199	<0.0199	<49.9	<49.9	<49.9	<49.9	361
S-14	0 - 1	11/13/2019	In-Situ	<0.00109	0.6186	493	2,870	<27.2	**3,370**	**1,190**
	1	1/16/2020	In-Situ	<0.0201	<0.0201	<50.0	<50.0	<50.0	<50.0	22.5
	3	1/16/2020	In-Situ	<0.0202	<0.0202	<49.8	<49.8	<49.8	<49.8	61.8
	5	1/16/2020	In-Situ	<0.0202	<0.0202	<50.0	<50.0	<50.0	<50.0	102
S-15	0 - 1	11/13/2019	In-Situ	<0.00106	0.01338	<26.6	30.4	<26.6	30.4	**2,120**
	1	1/21/2020	In-Situ	<0.0200	<0.0200	<50.0	<50.0	<50.0	<50.0	**885**
	3	1/21/2020	In-Situ	<0.0202	<0.0202	<49.9	<49.9	<49.9	<49.9	9.67
	5	1/21/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	87.4
	10	1/21/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	208
S-16	0 - 0.5	11/13/2019	In-Situ	<0.00103	<0.00618	<25.8	55.5	<25.8	55.5	**1,150**
	1	1/16/2020	In-Situ	<0.0201	<0.0201	<50.0	<50.0	<50.0	<50.0	7.18

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Lea County, New Mexico
North 32 01' 58.46" West 103 36' 50.59"

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Remediation Level:				**10**	**50**				**100 / 2,500**	**600 / 10,000**
	3	1/16/2020	In-Situ	<0.0200	<0.0200	<50.0	<50.0	<50.0	<50.0	6.91
	5	1/16/2020	In-Situ	<0.0202	<0.0202	<50.0	<50.0	<50.0	<50.0	16.7
S-17	0 - 1	11/13/2019	In-Situ	<0.00106	<0.00637	<26.6	<26.6	<26.6	<26.6	52.3
S-18	0 - 0.5	11/13/2019	In-Situ	<0.00105	<0.00631	<26.3	<26.3	<26.3	<26.3	**1,470**
	1	1/16/2020	In-Situ	<0.0200	<0.0200	<49.9	<49.9	<49.9	<49.9	16.0
	3	1/16/2020	In-Situ	<0.0199	<0.0199	<49.9	<49.9	<49.9	<49.9	25.2
	5	1/16/2020	In-Situ	<0.0201	<0.0201	<50.0	<50.0	<50.0	<50.0	29.7
	10	1/16/2020	In-Situ	<0.0198	<0.0198	<49.9	<49.9	<49.9	<49.9	276
S-19	0 - 1	11/13/2019	In-Situ	<0.00110	<0.00660	<27.5	<27.5	<27.5	<27.5	**1,400**
	1	1/17/2020	In-Situ	<0.0200	<0.0200	<50.0	<50.0	<50.0	<50.0	**1,670**
	3	1/17/2020	In-Situ	<0.0201	<0.0201	<50.0	<50.0	<50.0	<50.0	68.6
	5	1/17/2020	In-Situ	<0.0201	<0.0201	<49.9	<49.9	<49.9	<49.9	77.8
	10	1/17/2020	In-Situ	<0.0201	<0.0201	<50.0	<50.0	<50.0	<50.0	262
S-20	0 - 1	11/13/2019	In-Situ	<0.00108	<0.00647	<26.9	<26.9	<26.9	<26.9	**760**
	1	1/17/2020	In-Situ	<0.0199	<0.0199	<49.9	<49.9	<49.9	<49.9	**1,340**
	3	1/17/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	**5,600**
	5	1/17/2020	In-Situ	<0.0201	<0.0201	<49.9	<49.9	<49.9	<49.9	**686**
	10	1/17/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	322
S-21	0 - 1	11/13/2019	In-Situ	<0.00110	<0.00660	<27.5	64.5	34.1	98.6	**4,680**
	1	1/17/2020	In-Situ	<0.0199	<0.0199	<49.8	<49.8	<49.8	<49.8	28.7
	3	1/17/2020	In-Situ	<0.0200	<0.0200	<49.9	<49.9	<49.9	<49.9	29.4
	5	1/17/2020	In-Situ	<0.0201	<0.0201	<49.9	<49.9	<49.9	<49.9	**758**
	10	1/17/2020	In-Situ	<0.0199	<0.0199	<50.0	<50.0	<50.0	<50.0	**646**

Table 1

Delineation Soil Sample Analytical Data Summary

Chevron USA, SD EA 29 32 Federal Com P10 #017H

Lea County, New Mexico

North 32 01' 58.46" West 103 36' 50.59"

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 / 10,000**
S-22	0 - 1	11/13/2019	In-Situ	<0.00109	<0.00653	<27.2	<27.2	<27.2	<27.2	**3,110**
	1	1/17/2020	In-Situ	<0.0199	<0.0199	<49.9	<49.9	<49.9	<49.9	305
	3	1/17/2020	In-Situ	<0.0199	<0.0199	<49.8	<49.8	<49.8	<49.8	221
	5	1/17/2020	In-Situ	<0.0198	<0.0198	<50.0	<50.0	<50.0	<50.0	33.2
S-23	0 - 1	11/13/2019	In-Situ	<0.00110	<0.00660	<27.5	<27.5	<27.5	<27.5	14.8
S-24	0 - 1	11/13/2019	In-Situ	<0.00106	<0.00637	<26.6	<26.6	<26.6	<26.6	7.35
BH-1 (S-21)	5	7/1/2020	In-Situ	--	--	--	--	--	--	**2,240**
	10	7/1/2020	In-Situ	--	--	--	--	--	--	494
	15	7/1/2020	In-Situ	--	--	--	--	--	--	280
	20	7/1/2020	In-Situ	--	--	--	--	--	--	410

Notes: Analysis performed by Xenco Laboratories by EPA SW-846 Methods 8021B (BTEX), 8015M (TPH), and M300 (chloride)

Depth in feet below ground surface (bgs)

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

<: denotes concentration less than analytical method reporting limit

Bold and Highlighted exceeds OCD remediation levels

Figures

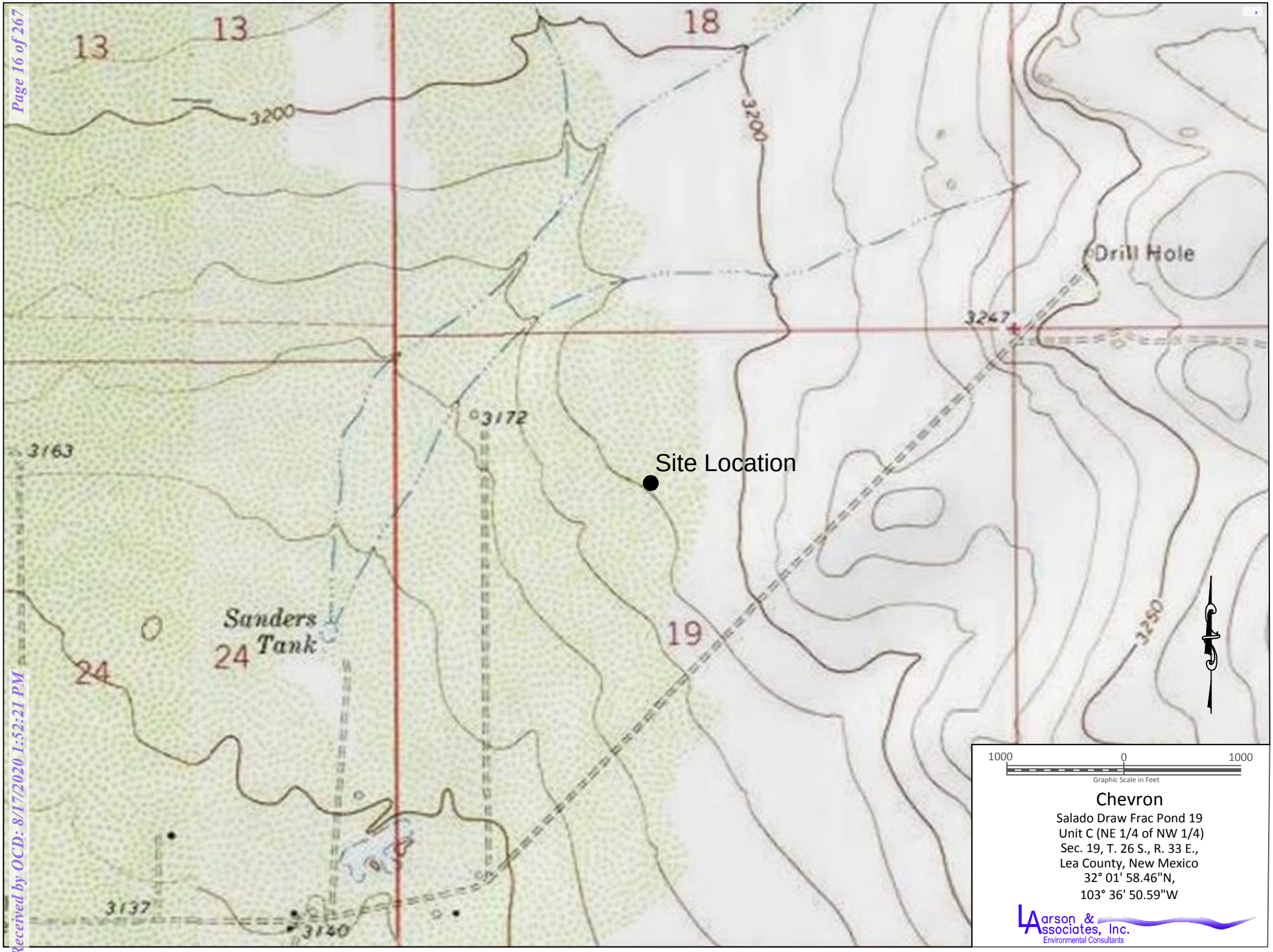


Figure 1 - Topographic Map

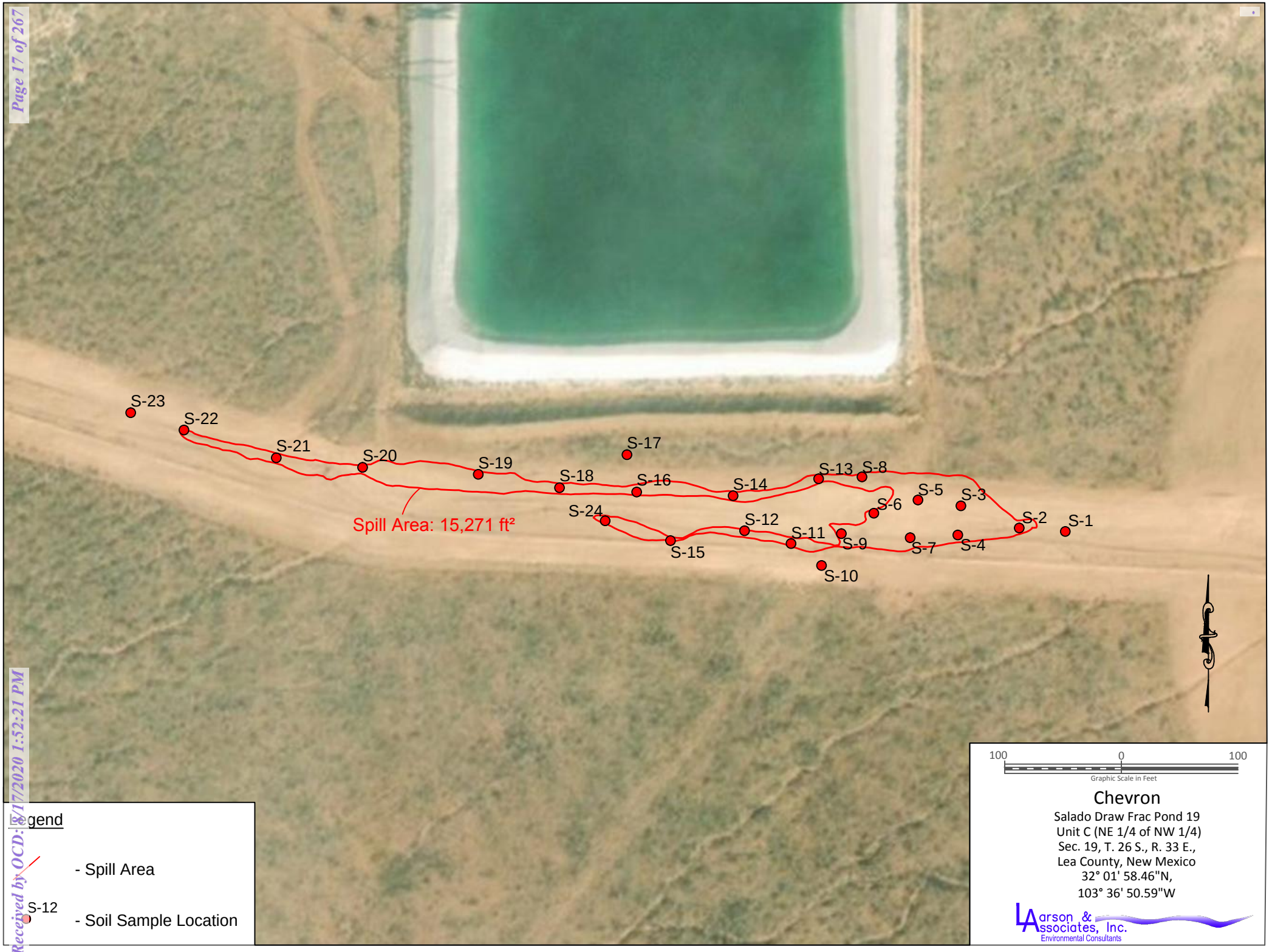


Figure 2 - Aerial Map

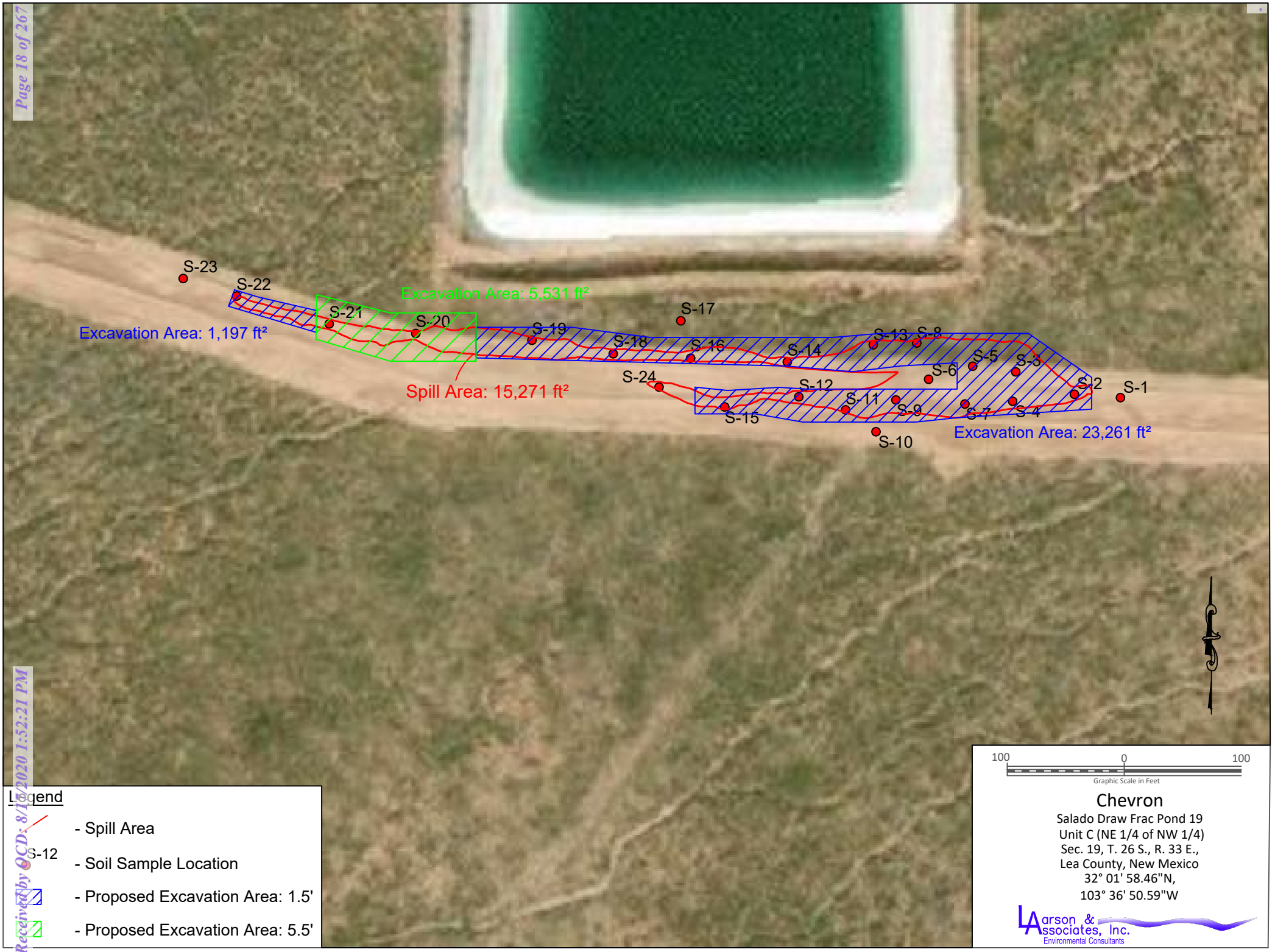
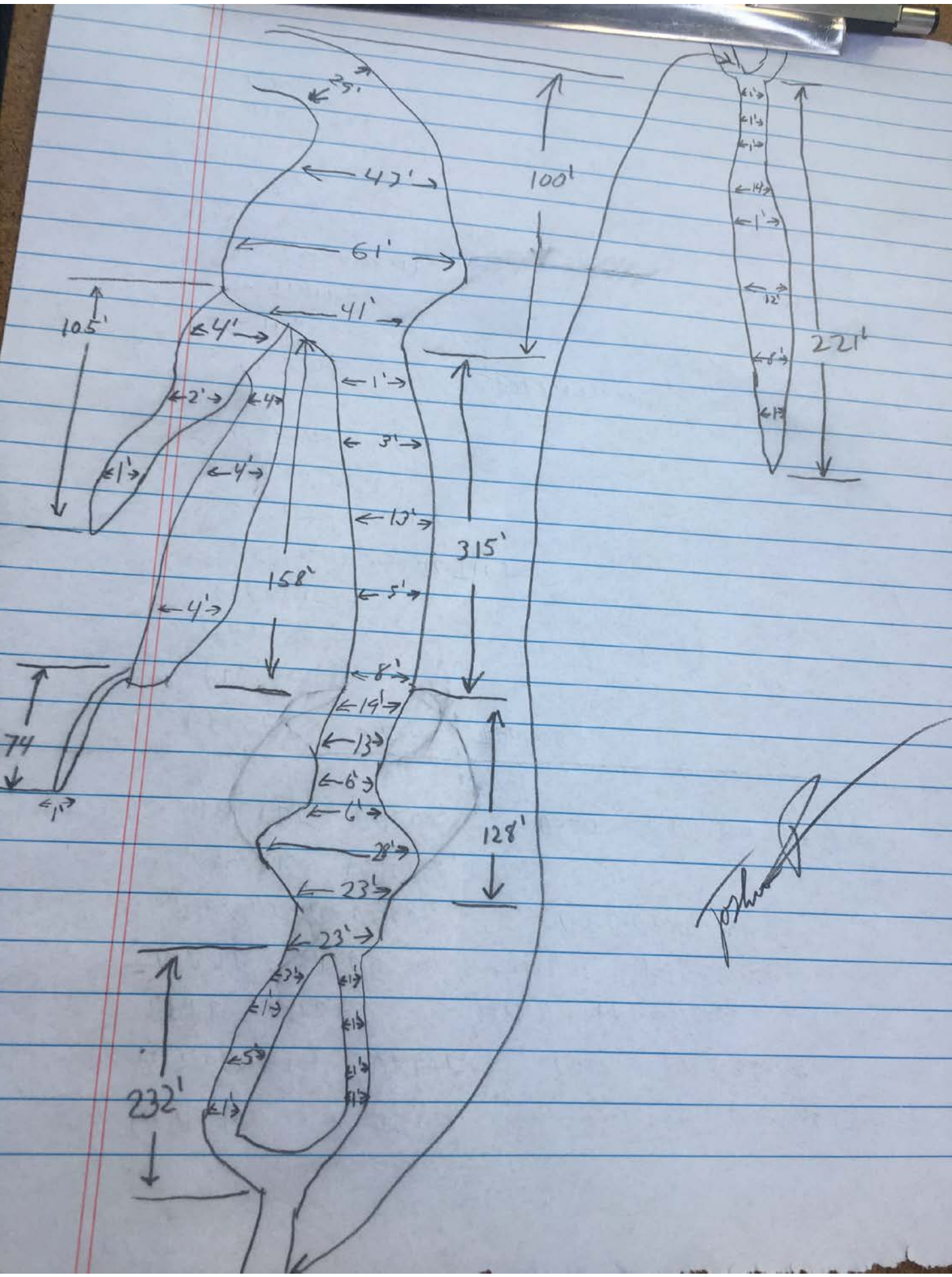


Figure 3 - Aerial Map Showing Proposed Excavation Areas

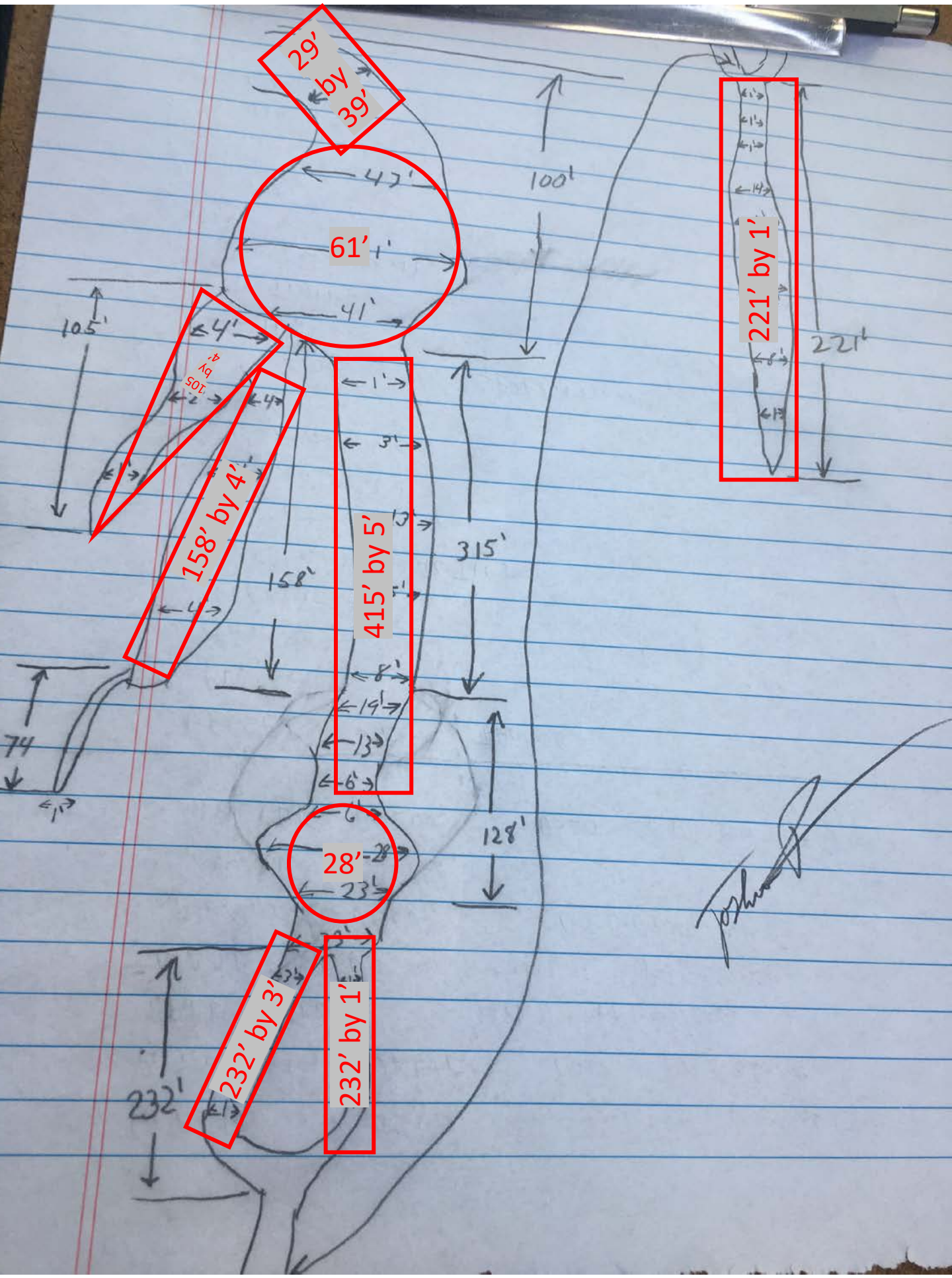
Appendix A

Chevron Spill Calculation

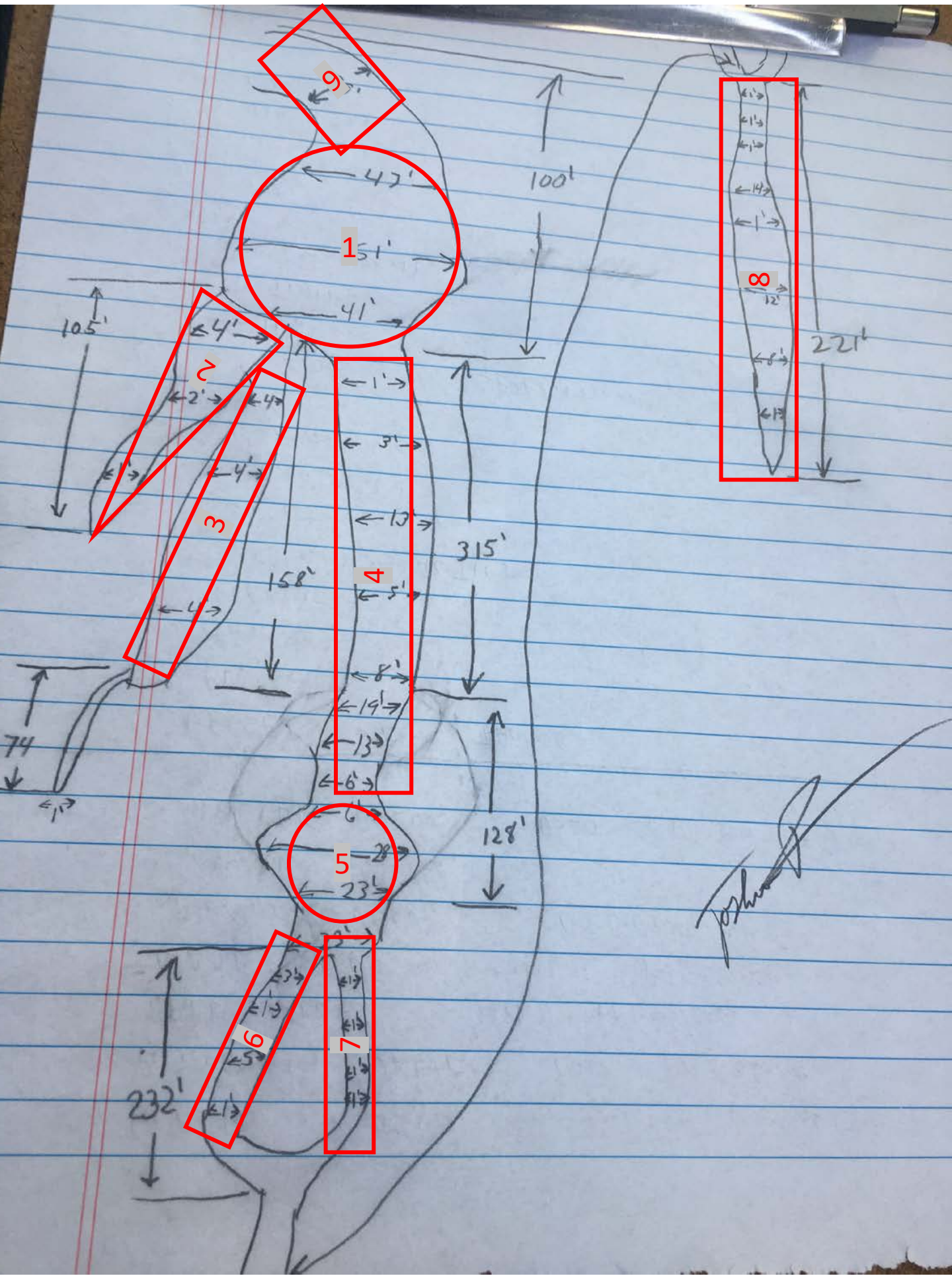
Raw measurements



Measurement assumptions



Area numbers



Appendix B

Boring Log

BORING RECORD

Start: 12:20 MDT
Finish: 15:40

GEOLOGIC UNIT	DEPTH	DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG
	0	Silty Sand, 5YR 5/4, Reddish Brown, Very Fine Grained Quartz Sand, Poorly Sorted, Dry	ML	
	6			
	10	2.5YR 5/4, Light Reddish Brown, Below 4 ft	Caliche	
	20	Caliche, 7.5YR 8/2, Pinkish White, Coarse Grained, Poorly Sorted, Dry		
	25			
	30	Silty Sand, 2.5YR 6/4, Light Reddish Brown, Fine Grained, Well Sorted, Dry	ML	
	40			
	50	Began Injecting Water		
	55			
	60	Caliche, 7.5YR 8/2, Pinkish White, Fine Grained, Dry	Caliche	
	66			
70.12' Depth of Water	70	Silty Sand, 7.5YR 4/2, Fine Grained Quartz Sand, Well Sorted, Dry	ML	
	80			
	90			
	100			
	110			
		TD: 110.75'		

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

SAMPLE NUMBER	PID READING	RECOVERY	DEPTH	REMARKS: BACKGROUND PID READING
1			6	SOIL : PPM
2			25	SOIL : PPM
3			55	
4			66	
5			110.75	

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

Larson & Associates, Inc.
Environmental Consultants

DRILL DATE : 04-09-2020
BORING NUMBER : SB-01

JOB NUMBER : Chevron/19-0180-05
HOLE DIAMETER : 2"
LOCATION : Salado Draw Frac Pond 19
LAI GEOLOGIST : E. Chavez
DRILLING CONTRACTOR : Scarborough
DRILLING METHOD : Air Rotary

Appendix C

Laboratory Report

PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701

PBELAB

Analytical Report

Prepared for:

Mark Larson

Larson & Associates, Inc.

P.O. Box 50685

Midland, TX 79710

Project: Salado Draw Frac Pond 19

Project Number: 19-0180-05

Location: NM

Lab Order Number: 9K14019

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704516-17-8

Report Date: 11/26/19

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Salado Draw Frac Pond 19
Project Number: 19-0180-05
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1 (0-1)	9K14019-01	Soil	11/13/19 12:37	11-14-2019 11:09
S-2 (0-1)	9K14019-02	Soil	11/13/19 12:52	11-14-2019 11:09
S-3 (0-1)	9K14019-03	Soil	11/13/19 13:27	11-14-2019 11:09
S-4 (0-1)	9K14019-04	Soil	11/13/19 13:40	11-14-2019 11:09
S-5 (0-1)	9K14019-05	Soil	11/13/19 13:43	11-14-2019 11:09
S-6 (0-1)	9K14019-06	Soil	11/13/19 13:47	11-14-2019 11:09
S-7 (0-1)	9K14019-07	Soil	11/13/19 13:51	11-14-2019 11:09
S-8 (0-1)	9K14019-08	Soil	11/13/19 13:56	11-14-2019 11:09
S-9 (0-1)	9K14019-09	Soil	11/13/19 14:07	11-14-2019 11:09
S-10 (0-1)	9K14019-10	Soil	11/13/19 14:15	11-14-2019 11:09
S-11 (0-1)	9K14019-11	Soil	11/13/19 14:20	11-14-2019 11:09
S-12 (0-1)	9K14019-12	Soil	11/13/19 14:29	11-14-2019 11:09
S-13 (0-1)	9K14019-13	Soil	11/13/19 14:38	11-14-2019 11:09
S-14 (0-1)	9K14019-14	Soil	11/13/19 14:45	11-14-2019 11:09
S-15 (0-1)	9K14019-15	Soil	11/13/19 15:00	11-14-2019 11:09
S-16 (0-0.5)	9K14019-16	Soil	11/13/19 15:07	11-14-2019 11:09
S-17 (0-1)	9K14019-17	Soil	11/13/19 15:13	11-14-2019 11:09
S-18 (0-0.5)	9K14019-18	Soil	11/13/19 15:20	11-14-2019 11:09
S-19 (0-1)	9K14019-19	Soil	11/13/19 15:25	11-14-2019 11:09
S-20 (0-1)	9K14019-20	Soil	11/13/19 15:30	11-14-2019 11:09
S-21 (0-1)	9K14019-21	Soil	11/13/19 15:37	11-14-2019 11:09
S-22 (0-1)	9K14019-22	Soil	11/13/19 15:41	11-14-2019 11:09
S-23 (0-1)	9K14019-23	Soil	11/13/19 15:49	11-14-2019 11:09
S-24 (0-1)	9K14019-24	Soil	11/13/19 15:52	11-14-2019 11:09

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Salado Draw Frac Pond 19
Project Number: 19-0180-05
Project Manager: Mark Larson

Fax: (432) 687-0456

S-1 (0-1)

9K14019-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00104	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Toluene	ND	0.00104	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*102 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*86.0 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**9.76**	1.04	mg/kg dry	1	P9K1922	11/19/19	11/21/19	EPA 300.0	
% Moisture	**4.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.0	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
>C12-C28	**52.3**	26.0	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*101 %*	*70-130*		*P9K1506*	*11/15/19*	*11/16/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*103 %*	*70-130*		*P9K1506*	*11/15/19*	*11/16/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**52.3**	26.0	mg/kg dry	1	[CALC]	11/15/19	11/16/19	calc	

Larson & Associates, Inc.	Project: Salado Draw Frac Pond 19	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0180-05	
Midland TX, 79710	Project Manager: Mark Larson	

S-2 (0-1)

9K14019-02 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00111	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Toluene	ND	0.00111	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (o)	ND	0.00111	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*103 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*115 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**8280**	11.1	mg/kg dry	10	P9K1922	11/19/19	11/21/19	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
>C12-C28	**40.7**	27.8	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*100 %*	*70-130*		*P9K1506*	*11/15/19*	*11/16/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*105 %*	*70-130*		*P9K1506*	*11/15/19*	*11/16/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**40.7**	27.8	mg/kg dry	1	[CALC]	11/15/19	11/16/19	calc	

Larson & Associates, Inc.	Project: Salado Draw Frac Pond 19	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0180-05	
Midland TX, 79710	Project Manager: Mark Larson	

S-3 (0-1)

9K14019-03 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Toluene	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*95.1 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*111 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**5320**	10.9	mg/kg dry	10	P9K1922	11/19/19	11/21/19	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.2	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*90.9 %*	*70-130*		*P9K1506*	*11/15/19*	*11/16/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*96.4 %*	*70-130*		*P9K1506*	*11/15/19*	*11/16/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/15/19	11/16/19	calc	

Larson & Associates, Inc.	Project: Salado Draw Frac Pond 19	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0180-05	
Midland TX, 79710	Project Manager: Mark Larson	

S-4 (0-1)

9K14019-04 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00112	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Toluene	ND	0.00112	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Ethylbenzene	ND	0.00112	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (p/m)	ND	0.00225	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (o)	ND	0.00112	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*91.3 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*104 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**610**	1.12	mg/kg dry	1	P9K1922	11/19/19	11/21/19	EPA 300.0	
% Moisture	**11.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.1	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
>C12-C28	ND	28.1	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*107 %*	*70-130*		*P9K1506*	*11/15/19*	*11/16/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*112 %*	*70-130*		*P9K1506*	*11/15/19*	*11/16/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.1	mg/kg dry	1	[CALC]	11/15/19	11/16/19	calc	

Larson & Associates, Inc.	Project: Salado Draw Frac Pond 19	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0180-05	
Midland TX, 79710	Project Manager: Mark Larson	

S-5 (0-1)

9K14019-05 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Toluene	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*96.1 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*108 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**814**	5.43	mg/kg dry	5	P9K1922	11/19/19	11/21/19	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.2	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P9K1506	11/15/19	11/16/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*94.8 %*	*70-130*		*P9K1506*	*11/15/19*	*11/16/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*99.2 %*	*70-130*		*P9K1506*	*11/15/19*	*11/16/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/15/19	11/16/19	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

S-6 (0-1)

9K14019-06 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Toluene	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P9K1509	11/15/19	11/16/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*99.6 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*111 %*	*75-125*		*P9K1509*	*11/15/19*	*11/16/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**129**	1.09	mg/kg dry	1	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*78.4 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*86.6 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-7 (0-1)

9K14019-07 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*113 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*95.9 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**8190**	10.9	mg/kg dry	10	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	**75.7**	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	**42.9**	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*123 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*132 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	*S-GC*
Total Petroleum Hydrocarbon C6-C35	**119**	27.2	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-8 (0-1)

9K14019-08 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	**0.0409**	0.0215	mg/kg dry	20	P9K1801	11/18/19	11/19/19	EPA 8021B	
Toluene	**5.75**	0.0215	mg/kg dry	20	P9K1801	11/18/19	11/19/19	EPA 8021B	
Ethylbenzene	**7.78**	0.0215	mg/kg dry	20	P9K1801	11/18/19	11/19/19	EPA 8021B	
Xylene (p/m)	**16.9**	0.0430	mg/kg dry	20	P9K1801	11/18/19	11/19/19	EPA 8021B	
Xylene (o)	**8.37**	0.0215	mg/kg dry	20	P9K1801	11/18/19	11/19/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*102 %*	*75-125*		*P9K1801*	*11/18/19*	*11/19/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*80.9 %*	*75-125*		*P9K1801*	*11/18/19*	*11/19/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**8870**	10.8	mg/kg dry	10	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**7.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**8500**	269	mg/kg dry	10	P9K1511	11/15/19	11/20/19	TPH 8015M	
>C12-C28	**42700**	269	mg/kg dry	10	P9K1511	11/15/19	11/20/19	TPH 8015M	
>C28-C35	ND	269	mg/kg dry	10	P9K1511	11/15/19	11/20/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*80.6 %*	*70-130*		*P9K1511*	*11/15/19*	*11/20/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*129 %*	*70-130*		*P9K1511*	*11/15/19*	*11/20/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**51200**	269	mg/kg dry	10	[CALC]	11/15/19	11/20/19	calc	

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Project Manager: Mark Larson

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S-9 (0-1)

9K14019-09 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	**0.00332**	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	**0.0197**	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	**0.0302**	0.00213	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	**0.0169**	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*89.7 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*93.4 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1700**	5.32	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	**104**	26.6	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*86.7 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*96.2 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**104**	26.6	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-10 (0-1)

9K14019-10 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00104	mg/kg dry	1	P9K1801	11/18/19	11/19/19	EPA 8021B	
Toluene	**0.00485**	0.00104	mg/kg dry	1	P9K1801	11/18/19	11/19/19	EPA 8021B	
Ethylbenzene	**0.0124**	0.00104	mg/kg dry	1	P9K1801	11/18/19	11/19/19	EPA 8021B	
Xylene (p/m)	**0.0597**	0.00208	mg/kg dry	1	P9K1801	11/18/19	11/19/19	EPA 8021B	
Xylene (o)	**0.0288**	0.00104	mg/kg dry	1	P9K1801	11/18/19	11/19/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*114 %*	*75-125*		*P9K1801*	*11/18/19*	*11/19/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*114 %*	*75-125*		*P9K1801*	*11/18/19*	*11/19/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**26.8**	1.04	mg/kg dry	1	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**4.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.0	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	**28.4**	26.0	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*84.7 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*90.5 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**28.4**	26.0	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-11 (0-1)

9K14019-11 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*103 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*108 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**3070**	5.32	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/20/19	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/20/19	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/20/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*102 %*	*70-130*		*P9K1511*	*11/15/19*	*11/20/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*112 %*	*70-130*		*P9K1511*	*11/15/19*	*11/20/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/15/19	11/20/19	calc	

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S-12 (0-1)

9K14019-12 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00108	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00108	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*116 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*96.8 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1890**	5.38	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**7.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.9	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*89.6 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*98.7 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-13 (0-1)

9K14019-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	**0.0396**	0.0217	mg/kg dry	20	P9K1801	11/18/19	11/19/19	EPA 8021B	
Toluene	**4.20**	0.0217	mg/kg dry	20	P9K1801	11/18/19	11/19/19	EPA 8021B	
Ethylbenzene	**5.85**	0.0217	mg/kg dry	20	P9K1801	11/18/19	11/19/19	EPA 8021B	
Xylene (p/m)	**12.5**	0.0435	mg/kg dry	20	P9K1801	11/18/19	11/19/19	EPA 8021B	
Xylene (o)	**8.15**	0.0217	mg/kg dry	20	P9K1801	11/18/19	11/19/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*102 %*	*75-125*		*P9K1801*	*11/18/19*	*11/19/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*81.0 %*	*75-125*		*P9K1801*	*11/18/19*	*11/19/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**3510**	5.43	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**5950**	543	mg/kg dry	20	P9K1511	11/15/19	11/20/19	TPH 8015M	
>C12-C28	**30600**	543	mg/kg dry	20	P9K1511	11/15/19	11/20/19	TPH 8015M	
>C28-C35	ND	543	mg/kg dry	20	P9K1511	11/15/19	11/20/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*128 %*	*70-130*		*P9K1511*	*11/15/19*	*11/20/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*123 %*	*70-130*		*P9K1511*	*11/15/19*	*11/20/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**36500**	543	mg/kg dry	20	[CALC]	11/15/19	11/20/19	calc	

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Midland TX, 79710

Project: Salado Draw Frac Pond 19
Project Number: 19-0180-05
Project Manager: Mark Larson

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S-14 (0-1)

9K14019-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	**0.0642**	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	**0.0974**	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	**0.255**	0.00217	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	**0.202**	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*97.0 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*64.7 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	*S-GC*
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1190**	5.43	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**493**	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	**2870**	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*123 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*134 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	*S-GC*
Total Petroleum Hydrocarbon C6-C35	**3370**	27.2	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-15 (0-1)

9K14019-15 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	**0.00293**	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	**0.00523**	0.00213	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	**0.00522**	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*106 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*88.3 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**2120**	5.32	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	**30.4**	26.6	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*117 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*126 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**30.4**	26.6	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-16 (0-0.5)

9K14019-16 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00103	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00103	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*111 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*98.1 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1150**	5.15	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**3.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.8	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	**55.5**	25.8	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*70.9 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*76.4 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**55.5**	25.8	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-17 (0-1)

9K14019-17 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*95.9 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*99.7 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**52.3**	1.06	mg/kg dry	1	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*124 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*134 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	*S-GC*
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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Project Manager: Mark Larson

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S-18 (0-0.5)

9K14019-18 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00105	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00105	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*107 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*108 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1470**	5.26	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.3	mg/kg dry	1	P9K1511	11/15/19	11/20/19	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P9K1511	11/15/19	11/20/19	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P9K1511	11/15/19	11/20/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*113 %*	*70-130*		*P9K1511*	*11/15/19*	*11/20/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*124 %*	*70-130*		*P9K1511*	*11/15/19*	*11/20/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	11/15/19	11/20/19	calc	

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S-19 (0-1)

9K14019-19 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*97.6 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*98.5 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1400**	5.49	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.5	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*82.0 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*89.0 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-20 (0-1)

9K14019-20 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00108	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00108	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*103 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*96.1 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**760**	1.08	mg/kg dry	1	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**7.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.9	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*93.0 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*98.9 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-21 (0-1)

9K14019-21 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*107 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*112 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**4680**	5.49	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.5	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	**64.5**	27.5	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	**34.1**	27.5	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*128 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*141 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	*S-GC*
Total Petroleum Hydrocarbon C6-C35	**98.6**	27.5	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-22 (0-1)

9K14019-22 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*98.7 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*108 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**3110**	5.43	mg/kg dry	5	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*82.9 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*86.6 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-23 (0-1)

9K14019-23 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*99.3 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*105 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**14.8**	1.10	mg/kg dry	1	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.5	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P9K1511	11/15/19	11/18/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*103 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*111 %*	*70-130*		*P9K1511*	*11/15/19*	*11/18/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	11/15/19	11/18/19	calc	

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S-24 (0-1)

9K14019-24 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Toluene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P9K1801	11/18/19	11/18/19	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*103 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*91.3 %*	*75-125*		*P9K1801*	*11/18/19*	*11/18/19*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**7.35**	1.06	mg/kg dry	1	P9K1923	11/19/19	11/21/19	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P9K1805	11/18/19	11/18/19	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/20/19	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/20/19	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P9K1511	11/15/19	11/20/19	TPH 8015M	
Surrogate: 1-Chlorooctane		*94.1 %*	*70-130*		*P9K1511*	*11/15/19*	*11/20/19*	*TPH 8015M*	
Surrogate: o-Terphenyl		*106 %*	*70-130*		*P9K1511*	*11/15/19*	*11/20/19*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/15/19	11/20/19	calc	

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Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1509 - General Preparation (GC)										
Blank (P9K1509-BLK1)				Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	*0.106*		*"*	*0.120*		*88.7*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.116*		*"*	*0.120*		*96.9*	*75-125*			
LCS (P9K1509-BS1)				Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	0.0864	0.00100	mg/kg wet	0.100		86.4	70-130			
Toluene	0.0970	0.00100	"	0.100		97.0	70-130			
Ethylbenzene	0.104	0.00100	"	0.100		104	70-130			
Xylene (p/m)	0.193	0.00200	"	0.200		96.6	70-130			
Xylene (o)	0.0984	0.00100	"	0.100		98.4	70-130			
Surrogate: 1,4-Difluorobenzene	*0.125*		*"*	*0.120*		*104*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.119*		*"*	*0.120*		*99.3*	*75-125*			
LCS Dup (P9K1509-BSD1)				Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	0.0948	0.00100	mg/kg wet	0.100		94.8	70-130	9.26	20	
Toluene	0.106	0.00100	"	0.100		106	70-130	8.64	20	
Ethylbenzene	0.109	0.00100	"	0.100		109	70-130	4.93	20	
Xylene (p/m)	0.210	0.00200	"	0.200		105	70-130	8.37	20	
Xylene (o)	0.115	0.00100	"	0.100		115	70-130	15.3	20	
Surrogate: 1,4-Difluorobenzene	*0.131*		*"*	*0.120*		*109*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.135*		*"*	*0.120*		*112*	*75-125*			
Calibration Blank (P9K1509-CCB1)				Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	*0.122*		*"*	*0.120*		*102*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.138*		*"*	*0.120*		*115*	*75-125*			

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Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1509 - General Preparation (GC)										
Calibration Blank (P9K1509-CCB2)				Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	*0.120*		*"*	*0.120*		*100*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.137*		*"*	*0.120*		*114*	*75-125*			
Calibration Blank (P9K1509-CCB3)				Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	*0.121*		*"*	*0.120*		*101*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.142*		*"*	*0.120*		*119*	*75-125*			
Calibration Check (P9K1509-CCV1)				Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	0.0974	0.00100	mg/kg wet	0.100		97.4	80-120			
Toluene	0.112	0.00100	"	0.100		112	80-120			
Ethylbenzene	0.118	0.00100	"	0.100		118	80-120			
Xylene (p/m)	0.220	0.00200	"	0.200		110	80-120			
Xylene (o)	0.118	0.00100	"	0.100		118	80-120			
Surrogate: 4-Bromofluorobenzene	*0.131*		*"*	*0.120*		*109*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.143*		*"*	*0.120*		*119*	*75-125*			
Calibration Check (P9K1509-CCV2)				Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	0.0963	0.00100	mg/kg wet	0.100		96.3	80-120			
Toluene	0.108	0.00100	"	0.100		108	80-120			
Ethylbenzene	0.114	0.00100	"	0.100		114	80-120			
Xylene (p/m)	0.210	0.00200	"	0.200		105	80-120			
Xylene (o)	0.108	0.00100	"	0.100		108	80-120			
Surrogate: 4-Bromofluorobenzene	*0.130*		*"*	*0.120*		*108*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.132*		*"*	*0.120*		*110*	*75-125*			

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Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1509 - General Preparation (GC)										
Calibration Check (P9K1509-CCV3)				Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	0.0931	0.00100	mg/kg wet	0.100		93.1	80-120			
Toluene	0.103	0.00100	"	0.100		103	80-120			
Ethylbenzene	0.111	0.00100	"	0.100		111	80-120			
Xylene (p/m)	0.202	0.00200	"	0.200		101	80-120			
Xylene (o)	0.110	0.00100	"	0.100		110	80-120			
Surrogate: 1,4-Difluorobenzene	*0.129*		*"*	*0.120*		*107*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.125*		*"*	*0.120*		*104*	*75-125*			
Matrix Spike (P9K1509-MS1)		**Source: 9K14018-38**		Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	0.0806	0.00114	mg/kg dry	0.114	ND	70.9	80-120			QM-05
Toluene	0.0873	0.00114	"	0.114	ND	76.8	80-120			QM-05
Ethylbenzene	0.0914	0.00114	"	0.114	ND	80.4	80-120			
Xylene (p/m)	0.154	0.00227	"	0.227	ND	67.6	80-120			QM-05
Xylene (o)	0.0753	0.00114	"	0.114	ND	66.2	80-120			QM-05
Surrogate: 4-Bromofluorobenzene	*0.141*		*"*	*0.136*		*104*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.152*		*"*	*0.136*		*111*	*75-125*			
Matrix Spike Dup (P9K1509-MSD1)		**Source: 9K14018-38**		Prepared: 11/15/19 Analyzed: 11/16/19						
Benzene	0.0790	0.00114	mg/kg dry	0.114	ND	69.5	80-120	2.02	20	QM-05
Toluene	0.0814	0.00114	"	0.114	ND	71.6	80-120	7.02	20	QM-05
Ethylbenzene	0.0759	0.00114	"	0.114	ND	66.8	80-120	18.6	20	QM-05
Xylene (p/m)	0.145	0.00227	"	0.227	ND	63.7	80-120	5.93	20	QM-05
Xylene (o)	0.0747	0.00114	"	0.114	ND	65.7	80-120	0.834	20	QM-05
Surrogate: 1,4-Difluorobenzene	*0.143*		*"*	*0.136*		*105*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.135*		*"*	*0.136*		*99.2*	*75-125*			
Batch P9K1801 - General Preparation (GC)										
Blank (P9K1801-BLK1)				Prepared & Analyzed: 11/18/19						
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	*0.111*		*"*	*0.120*		*92.6*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.134*		*"*	*0.120*		*112*	*75-125*			

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Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1801 - General Preparation (GC)										
LCS (P9K1801-BS1)				Prepared & Analyzed: 11/18/19						
Benzene	0.0870	0.00100	mg/kg wet	0.100		87.0	70-130			
Toluene	0.113	0.00100	"	0.100		113	70-130			
Ethylbenzene	0.117	0.00100	"	0.100		117	70-130			
Xylene (p/m)	0.239	0.00200	"	0.200		119	70-130			
Xylene (o)	0.114	0.00100	"	0.100		114	70-130			
Surrogate: 1,4-Difluorobenzene	*0.141*		*"*	*0.120*		*117*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.131*		*"*	*0.120*		*110*	*75-125*			
LCS Dup (P9K1801-BSD1)				Prepared & Analyzed: 11/18/19						
Benzene	0.0844	0.00100	mg/kg wet	0.100		84.4	70-130	3.04	20	
Toluene	0.108	0.00100	"	0.100		108	70-130	4.38	20	
Ethylbenzene	0.117	0.00100	"	0.100		117	70-130	0.0342	20	
Xylene (p/m)	0.224	0.00200	"	0.200		112	70-130	6.44	20	
Xylene (o)	0.111	0.00100	"	0.100		111	70-130	1.91	20	
Surrogate: 1,4-Difluorobenzene	*0.125*		*"*	*0.120*		*104*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.119*		*"*	*0.120*		*99.1*	*75-125*			
Calibration Blank (P9K1801-CCB1)				Prepared & Analyzed: 11/18/19						
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	*0.119*		*"*	*0.120*		*99.5*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.144*		*"*	*0.120*		*120*	*75-125*			
Calibration Blank (P9K1801-CCB2)				Prepared & Analyzed: 11/18/19						
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 1,4-Difluorobenzene	*0.129*		*"*	*0.120*		*107*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.127*		*"*	*0.120*		*106*	*75-125*			

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Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1801 - General Preparation (GC)										
Calibration Blank (P9K1801-CCB3)				Prepared & Analyzed: 11/18/19						
Benzene	0.00		mg/kg wet							
Toluene	0.00		"							
Ethylbenzene	0.00		"							
Xylene (p/m)	0.00		"							
Xylene (o)	0.00		"							
Surrogate: 4-Bromofluorobenzene	*0.143*		*"*	*0.120*		*119*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.123*		*"*	*0.120*		*103*	*75-125*			
Calibration Check (P9K1801-CCV1)				Prepared & Analyzed: 11/18/19						
Benzene	0.0810	0.00100	mg/kg wet	0.100		81.0	80-120			
Toluene	0.106	0.00100	"	0.100		106	80-120			
Ethylbenzene	0.109	0.00100	"	0.100		109	80-120			
Xylene (p/m)	0.238	0.00200	"	0.200		119	80-120			
Xylene (o)	0.107	0.00100	"	0.100		107	80-120			
Surrogate: 1,4-Difluorobenzene	*0.124*		*"*	*0.120*		*103*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.126*		*"*	*0.120*		*105*	*75-125*			
Calibration Check (P9K1801-CCV2)				Prepared & Analyzed: 11/18/19						
Benzene	0.0849	0.00100	mg/kg wet	0.100		84.9	80-120			
Toluene	0.0972	0.00100	"	0.100		97.2	80-120			
Ethylbenzene	0.108	0.00100	"	0.100		108	80-120			
Xylene (p/m)	0.183	0.00200	"	0.200		91.6	80-120			
Xylene (o)	0.0988	0.00100	"	0.100		98.8	80-120			
Surrogate: 4-Bromofluorobenzene	*0.118*		*"*	*0.120*		*98.7*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.125*		*"*	*0.120*		*104*	*75-125*			
Calibration Check (P9K1801-CCV3)				Prepared & Analyzed: 11/18/19						
Benzene	0.0896	0.00100	mg/kg wet	0.100		89.6	80-120			
Toluene	0.103	0.00100	"	0.100		103	80-120			
Ethylbenzene	0.112	0.00100	"	0.100		112	80-120			
Xylene (p/m)	0.201	0.00200	"	0.200		100	80-120			
Xylene (o)	0.109	0.00100	"	0.100		109	80-120			
Surrogate: 4-Bromofluorobenzene	*0.119*		*"*	*0.120*		*99.6*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.123*		*"*	*0.120*		*103*	*75-125*			

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Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1801 - General Preparation (GC)										
Matrix Spike (P9K1801-MS1)		**Source: 9K14019-07**		Prepared & Analyzed: 11/18/19						
Benzene	0.0899	0.00109	mg/kg dry	0.109	ND	82.7	80-120			
Toluene	0.0978	0.00109	"	0.109	ND	89.9	80-120			
Ethylbenzene	0.119	0.00109	"	0.109	ND	110	80-120			
Xylene (p/m)	0.185	0.00217	"	0.217	ND	84.9	80-120			
Xylene (o)	0.0942	0.00109	"	0.109	ND	86.6	80-120			
Surrogate: 1,4-Difluorobenzene	*0.150*		*"*	*0.130*		*115*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.134*		*"*	*0.130*		*102*	*75-125*			
Matrix Spike Dup (P9K1801-MSD1)		**Source: 9K14019-07**		Prepared & Analyzed: 11/18/19						
Benzene	0.0901	0.00109	mg/kg dry	0.109	ND	82.8	80-120	0.205	20	
Toluene	0.0942	0.00109	"	0.109	ND	86.6	80-120	3.73	20	
Ethylbenzene	0.116	0.00109	"	0.109	ND	107	80-120	2.81	20	
Xylene (p/m)	0.187	0.00217	"	0.217	ND	86.2	80-120	1.53	20	
Xylene (o)	0.0995	0.00109	"	0.109	ND	91.5	80-120	5.50	20	
Surrogate: 1,4-Difluorobenzene	*0.150*		*"*	*0.130*		*115*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.132*		*"*	*0.130*		*101*	*75-125*			

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General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1805 - * DEFAULT PREP *** **										
Blank (P9K1805-BLK1)				Prepared & Analyzed: 11/18/19						
% Moisture	ND	0.1	%							
Duplicate (P9K1805-DUP1)		**Source: 9K14018-46**		Prepared & Analyzed: 11/18/19						
% Moisture	6.0	0.1	%		6.0			0.00	20	
Duplicate (P9K1805-DUP2)		**Source: 9K14020-09**		Prepared & Analyzed: 11/18/19						
% Moisture	6.0	0.1	%		6.0			0.00	20	
Duplicate (P9K1805-DUP3)		**Source: 9K14023-04**		Prepared & Analyzed: 11/18/19						
% Moisture	14.0	0.1	%		14.0			0.00	20	
Duplicate (P9K1805-DUP4)		**Source: 9K14024-24**		Prepared & Analyzed: 11/18/19						
% Moisture	14.0	0.1	%		14.0			0.00	20	
Duplicate (P9K1805-DUP5)		**Source: 9K15002-02**		Prepared & Analyzed: 11/18/19						
% Moisture	2.0	0.1	%		2.0			0.00	20	
Duplicate (P9K1805-DUP6)		**Source: 9K15003-15**		Prepared & Analyzed: 11/18/19						
% Moisture	8.0	0.1	%		8.0			0.00	20	
Batch P9K1922 - * DEFAULT PREP *** **										
Blank (P9K1922-BLK1)				Prepared: 11/19/19 Analyzed: 11/20/19						
Chloride	ND	0.100	mg/kg wet							
LCS (P9K1922-BS1)				Prepared: 11/19/19 Analyzed: 11/20/19						
Chloride	443	1.00	mg/kg wet	400		111	80-120			

Larson & Associates, Inc.	Project: Salado Draw Frac Pond 19	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0180-05	
Midland TX, 79710	Project Manager: Mark Larson	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1922 - * DEFAULT PREP *** **										
LCS Dup (P9K1922-BSD1)				Prepared: 11/19/19 Analyzed: 11/20/19						
Chloride	445	1.00	mg/kg wet	400		111	80-120	0.399	20	
Calibration Blank (P9K1922-CCB1)				Prepared: 11/19/19 Analyzed: 11/20/19						
Chloride	0.00		mg/kg wet							
Calibration Blank (P9K1922-CCB2)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	0.00		mg/kg wet							
Calibration Check (P9K1922-CCV1)				Prepared: 11/19/19 Analyzed: 11/20/19						
Chloride	21.3		mg/kg	20.0		107	0-200			
Calibration Check (P9K1922-CCV2)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	21.2		mg/kg	20.0		106	0-200			
Calibration Check (P9K1922-CCV3)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	20.6		mg/kg	20.0		103	0-200			
Matrix Spike (P9K1922-MS1)		**Source: 9K14014-01**		Prepared: 11/19/19 Analyzed: 11/20/19						
Chloride	4850	10.9	mg/kg dry	1090	3780	99.0	80-120			
Matrix Spike (P9K1922-MS2)		**Source: 9K14016-08**		Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	2030	5.43	mg/kg dry	543	1520	94.6	80-120			
Matrix Spike Dup (P9K1922-MSD1)		**Source: 9K14014-01**		Prepared: 11/19/19 Analyzed: 11/20/19						
Chloride	5030	10.9	mg/kg dry	1090	3780	115	80-120	3.63	20	
Matrix Spike Dup (P9K1922-MSD2)		**Source: 9K14016-08**		Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	2110	5.43	mg/kg dry	543	1520	109	80-120	3.81	20	

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General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1923 - * DEFAULT PREP *** **										
Blank (P9K1923-BLK1)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	ND	0.100	mg/kg wet							
LCS (P9K1923-BS1)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	439	1.00	mg/kg wet	400		110	80-120			
LCS Dup (P9K1923-BSD1)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	434	1.00	mg/kg wet	400		109	80-120	1.07	20	
Calibration Blank (P9K1923-CCB1)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	0.00		mg/kg wet							
Calibration Blank (P9K1923-CCB2)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	0.00		mg/kg wet							
Calibration Check (P9K1923-CCV1)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	20.7		mg/kg	20.0		104	0-200			
Calibration Check (P9K1923-CCV2)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	21.2		mg/kg	20.0		106	0-200			
Calibration Check (P9K1923-CCV3)				Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	20.6		mg/kg	20.0		103	0-200			
Matrix Spike (P9K1923-MS1)		**Source: 9K14019-07**		Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	9580	10.9	mg/kg dry	1090	8190	128	80-120			QM-07
Matrix Spike (P9K1923-MS2)		**Source: 9K14019-16**		Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	1680	5.15	mg/kg dry	515	1150	103	80-120			

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Midland TX, 79710	Project Manager: Mark Larson	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1923 - * DEFAULT PREP *** **										
Matrix Spike Dup (P9K1923-MSD1)	**Source: 9K14019-07**			Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	9800	10.9	mg/kg dry	1090	8190	148	80-120	2.21	20	QM-07
Matrix Spike Dup (P9K1923-MSD2)	**Source: 9K14019-16**			Prepared: 11/19/19 Analyzed: 11/21/19						
Chloride	1730	5.15	mg/kg dry	515	1150	112	80-120	2.79	20	

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Salado Draw Frac Pond 19
Project Number: 19-0180-05
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1506 - TX 1005										
Blank (P9K1506-BLK1)				Prepared: 11/15/19 Analyzed: 11/16/19						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*104*		*"*	*100*		*104*	*70-130*			
Surrogate: o-Terphenyl	*53.3*		*"*	*50.0*		*107*	*70-130*			
LCS (P9K1506-BS1)				Prepared: 11/15/19 Analyzed: 11/16/19						
C6-C12	1220	25.0	mg/kg wet	1000		122	75-125			
>C12-C28	1210	25.0	"	1000		121	75-125			
Surrogate: 1-Chlorooctane	*147*		*"*	*140*		*105*	*70-130*			
Surrogate: o-Terphenyl	*71.2*		*"*	*70.0*		*102*	*70-130*			
LCS Dup (P9K1506-BSD1)				Prepared: 11/15/19 Analyzed: 11/16/19						
C6-C12	963	25.0	mg/kg wet	1000		96.3	75-125	23.6	20	
>C12-C28	1050	25.0	"	1000		105	75-125	14.4	20	
Surrogate: 1-Chlorooctane	*109*		*"*	*100*		*109*	*70-130*			
Surrogate: o-Terphenyl	*45.2*		*"*	*50.0*		*90.5*	*70-130*			
Calibration Blank (P9K1506-CCB1)				Prepared: 11/15/19 Analyzed: 11/16/19						
C6-C12	11.6		mg/kg wet							
>C12-C28	6.42		"							
Surrogate: 1-Chlorooctane	*96.6*		*"*	*100*		*96.6*	*70-130*			
Surrogate: o-Terphenyl	*50.0*		*"*	*50.0*		*99.9*	*70-130*			
Calibration Blank (P9K1506-CCB2)				Prepared: 11/15/19 Analyzed: 11/16/19						
C6-C12	11.8		mg/kg wet							
>C12-C28	20.1		"							
Surrogate: 1-Chlorooctane	*96.5*		*"*	*100*		*96.5*	*70-130*			
Surrogate: o-Terphenyl	*49.5*		*"*	*50.0*		*99.0*	*70-130*			

Larson & Associates, Inc.	Project: Salado Draw Frac Pond 19	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0180-05	
Midland TX, 79710	Project Manager: Mark Larson	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1506 - TX 1005										
Calibration Check (P9K1506-CCV1)				Prepared: 11/15/19 Analyzed: 11/16/19						
C6-C12	525	25.0	mg/kg wet	500		105	85-115			
>C12-C28	550	25.0	"	500		110	85-115			
Surrogate: 1-Chlorooctane	*92.4*		*"*	*100*		*92.4*	*70-130*			
Surrogate: o-Terphenyl	*48.0*		*"*	*50.0*		*96.0*	*70-130*			
Calibration Check (P9K1506-CCV2)				Prepared: 11/15/19 Analyzed: 11/16/19						
C6-C12	513	25.0	mg/kg wet	500		103	85-115			
>C12-C28	550	25.0	"	500		110	85-115			
Surrogate: 1-Chlorooctane	*113*		*"*	*100*		*113*	*70-130*			
Surrogate: o-Terphenyl	*47.8*		*"*	*50.0*		*95.5*	*70-130*			
Matrix Spike (P9K1506-MS1)		**Source: 9K14018-46**		Prepared: 11/15/19 Analyzed: 11/16/19						
C6-C12	1000	26.6	mg/kg dry	1060	11.0	93.0	75-125			
>C12-C28	1060	26.6	"	1060	30.0	96.7	75-125			
Surrogate: 1-Chlorooctane	*120*		*"*	*106*		*112*	*70-130*			
Surrogate: o-Terphenyl	*51.8*		*"*	*53.2*		*97.3*	*70-130*			
Matrix Spike Dup (P9K1506-MSD1)		**Source: 9K14018-46**		Prepared: 11/15/19 Analyzed: 11/16/19						
C6-C12	1040	26.6	mg/kg dry	1060	11.0	96.9	75-125	4.10	20	
>C12-C28	1080	26.6	"	1060	30.0	98.5	75-125	1.78	20	
Surrogate: 1-Chlorooctane	*102*		*"*	*106*		*96.1*	*70-130*			
Surrogate: o-Terphenyl	*54.9*		*"*	*53.2*		*103*	*70-130*			
Batch P9K1511 - TX 1005										
Blank (P9K1511-BLK1)				Prepared: 11/15/19 Analyzed: 11/18/19						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*115*		*"*	*100*		*115*	*70-130*			
Surrogate: o-Terphenyl	*60.6*		*"*	*50.0*		*121*	*70-130*			

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Salado Draw Frac Pond 19
Project Number: 19-0180-05
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1511 - TX 1005										
LCS (P9K1511-BS1)				Prepared: 11/15/19 Analyzed: 11/18/19						
C6-C12	967	25.0	mg/kg wet	1000		96.7	75-125			
>C12-C28	1040	25.0	"	1000		104	75-125			
Surrogate: 1-Chlorooctane	*101*		*"*	*100*		*101*	*70-130*			
Surrogate: o-Terphenyl	*50.4*		*"*	*50.0*		*101*	*70-130*			
LCS Dup (P9K1511-BSD1)				Prepared: 11/15/19 Analyzed: 11/18/19						
C6-C12	971	25.0	mg/kg wet	1000		97.1	75-125	0.376	20	
>C12-C28	982	25.0	"	1000		98.2	75-125	6.24	20	
Surrogate: 1-Chlorooctane	*101*		*"*	*100*		*101*	*70-130*			
Surrogate: o-Terphenyl	*50.2*		*"*	*50.0*		*100*	*70-130*			
Calibration Blank (P9K1511-CCB1)				Prepared: 11/15/19 Analyzed: 11/18/19						
C6-C12	17.6		mg/kg wet							
>C12-C28	14.1		"							
Surrogate: 1-Chlorooctane	*117*		*"*	*100*		*117*	*70-130*			
Surrogate: o-Terphenyl	*61.7*		*"*	*50.0*		*123*	*70-130*			
Calibration Blank (P9K1511-CCB2)				Prepared: 11/15/19 Analyzed: 11/18/19						
C6-C12	14.3		mg/kg wet							
>C12-C28	14.0		"							
Surrogate: 1-Chlorooctane	*126*		*"*	*100*		*126*	*70-130*			
Surrogate: o-Terphenyl	*65.6*		*"*	*50.0*		*131*	*70-130*			*S-GC*
Calibration Check (P9K1511-CCV1)				Prepared: 11/15/19 Analyzed: 11/18/19						
C6-C12	479	25.0	mg/kg wet	500		95.7	85-115			
>C12-C28	501	25.0	"	500		100	85-115			
Surrogate: 1-Chlorooctane	*117*		*"*	*100*		*117*	*70-130*			
Surrogate: o-Terphenyl	*52.2*		*"*	*50.0*		*104*	*70-130*			

Larson & Associates, Inc.	Project: Salado Draw Frac Pond 19	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0180-05	
Midland TX, 79710	Project Manager: Mark Larson	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K1511 - TX 1005										
Calibration Check (P9K1511-CCV2)				Prepared: 11/15/19 Analyzed: 11/18/19						
C6-C12	511	25.0	mg/kg wet	500		102	85-115			
>C12-C28	521	25.0	"	500		104	85-115			
Surrogate: 1-Chlorooctane	*125*		*"*	*100*		*125*	*70-130*			
Surrogate: o-Terphenyl	*56.4*		*"*	*50.0*		*113*	*70-130*			
Calibration Check (P9K1511-CCV3)				Prepared: 11/15/19 Analyzed: 11/19/19						
C6-C12	542	25.0	mg/kg wet	500		108	85-115			
>C12-C28	554	25.0	"	500		111	85-115			
Surrogate: 1-Chlorooctane	*116*		*"*	*100*		*116*	*70-130*			
Surrogate: o-Terphenyl	*58.4*		*"*	*50.0*		*117*	*70-130*			

Larson & Associates, Inc.	Project: Salado Draw Frac Pond 19	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0180-05	
Midland TX, 79710	Project Manager: Mark Larson	

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
ROI	Received on Ice
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
BULK	Samples received in Bulk soil containers
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Brent Barron Date: 11/26/2019

Brent Barron, Laboratory Director/Technical Director

Larson & Associates, Inc.	Project: Salado Draw Frac Pond 19	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0180-05	
Midland TX, 79710	Project Manager: Mark Larson	

Nº 0827

CHAIN-OF-CUSTOD

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

DATE: 11/14/2019 PAGE 1 OF 2

PO#: LAB WORK ORDER#: 9K14019

PROJECT LOCATION OR NAME: Salado Draw Frac Pond 19

LAI PROJECT #: 19-0180-05 COLLECTOR: RD

Data Reported to:

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 ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐	pH ☐ HEXAVALENT CHROMIUM ☐ CYANIDE ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	300.0	FIELD NOTES
S-1 (0-1)	1	11/13/19	12:37	S	1				X		X		X	X	X													X		
S-2 (0-1)	2		12:52																											
S-3 (0-1)	3		13:27																											
S-4 (0-1)	4		13:40																											
S-5 (0-1)	5		13:43																											
S-6 (0-1)	6		13:47																											
S-7 (0-1)	7		13:51																											
S-8 (0-1)	8		13:56																											
S-9 (0-1)	9		14:07																											
S-10 (0-1)	10		14:15																											
S-11 (0-1)	11		14:20																											
S-12 (0-1)	12		14:29																											
S-13 (0-1)	13		14:38																											
S-14 (0-1)	14		14:45																											
S-15 (0-1)	15		15:00																											
TOTAL	15																													

RELINQUISHED BY:(Signature) Rachel Owen DATE/TIME 11-14-19 / 11:09 RECEIVED BY: (Signature)

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

RELINQUISHED BY:(Signature) DATE/TIME 11-14-19/11:09 RECEIVED BY: (Signature) Kramer Chen

LABORATORY: PBEL

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

LABORATORY USE ONLY:
RECEIVING TEMP: 5.0 THERM#:
CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED
☒ CARRIER BILL #
☒ HAND DELIVERED

№ 0828

CHAIN-OF-CUSTODY

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

Data Reported to:

DATE: 11/14/2019 PAGE 2 OF 2

PO#: LAB WORK ORDER#: 9IK14019

PROJECT LOCATION OR NAME: Salado Draw Frac Pond 19

LAI PROJECT #: 19-0180-05 COLLECTOR: RD

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 ☐	CYANIDE ☐	pH ☐	HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐	PECHLORATE ☐	CHLORIDES ☒	ANIONS ☐	ALKALINITY ☐	M3ER	FIELD NOTES
S-16 (0-0.5')	16	11/13/19	15:07	S					X		X			X	X	X																										X				
S-17 (0-1')	17		15:13																																										
S-18 (0-0.5')	18		15:20																																										
S-19 (0-1')	19		15:25																																										
S-20 (0-1')	20		15:30																																										
S-21 (0-1')	21		15:37																																										
S-22 (0-1')	22		15:41																																										
S-23 (0-1')	23		15:49																																										
S-24 (0-1')	24		15:52																																										

TOTAL 9

RELINQUISHED BY:(Signature) Rachel Owen	DATE/TIME 11-14-19/11:09	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	DATE/TIME 11.14.19/11:09	RECEIVED BY: (Signature)

LABORATORY: DBEL

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

LABORATORY USE ONLY:
RECEIVING TEMP: 5.0-6.0 THERM#:
CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested		649823-001		649823-002		649823-003		649823-004		649823-005		649823-006	
	Field Id:	S-2 (1')		S-2 (3')		S-2 (5')		S-2 (10')		S-3 (1')		S-3 (3')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-15-20 14:01		Jan-15-20 14:02		Jan-15-20 14:05		Jan-15-20 14:06		Jan-15-20 14:40		Jan-15-20 14:41	
BTEX by EPA 8021B SUB: T104704219-19-21	*Extracted:*	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-27-20 20:14		Jan-27-20 21:51		Jan-27-20 22:15		Jan-27-20 22:39		Jan-27-20 23:03		Jan-27-20 23:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0201	0.0201	<0.0198	0.0198	<0.0201	0.0201
Toluene		<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0201	0.0201	<0.0198	0.0198	<0.0201	0.0201
Ethylbenzene		<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0201	0.0201	<0.0198	0.0198	<0.0201	0.0201
m,p-Xylenes		<0.0398	0.0398	<0.0398	0.0398	<0.0402	0.0402	<0.0402	0.0402	<0.0396	0.0396	<0.0402	0.0402
o-Xylene		<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0201	0.0201	<0.0198	0.0198	<0.0201	0.0201
Total Xylenes		<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0201	0.0201	<0.0198	0.0198	<0.0201	0.0201
Total BTEX		<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0201	0.0201	<0.0198	0.0198	<0.0201	0.0201
Chloride by EPA 300	*Extracted:*	Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45	
	Analyzed:	Jan-23-20 05:36		Jan-23-20 05:56		Jan-23-20 06:02		Jan-23-20 06:09		Jan-23-20 06:15		Jan-23-20 06:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		31.2	5.04	120	4.96	356	5.00	144	5.02	313	4.96	10.6	4.95
TPH by SW8015 Mod	*Extracted:*	Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00	
	Analyzed:	Jan-24-20 12:51		Jan-24-20 13:54		Jan-24-20 14:15		Jan-24-20 14:36		Jan-24-20 14:57		Jan-24-20 15:18	
	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	<49.8	49.8	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<49.8	49.8	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0
Total TPH		<50.0	50.0	<49.8	49.8	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0

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

Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	649823-007		649823-008		649823-009		649823-010		649823-011		649823-012	
	Field Id:	S-3 (5')		S-3 (10')		S-4 (1')		S-4 (3')		S-4 (5')		S-4(10')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-15-20 14:43		Jan-15-20 14:44		Jan-15-20 14:19		Jan-15-20 14:20		Jan-15-20 14:25		Jan-15-20 14:26	
BTEX by EPA 8021B SUB: T104704219-19-21	*Extracted:*	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-27-20 23:52		Jan-28-20 00:16		Jan-28-20 00:40		Jan-28-20 01:04		Jan-28-20 02:40		Jan-28-20 03:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0201	0.0201	<0.0201	0.0201	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0200	0.0200
Toluene		<0.0201	0.0201	<0.0201	0.0201	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0200	0.0200
Ethylbenzene		<0.0201	0.0201	<0.0201	0.0201	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0200	0.0200
m,p-Xylenes		<0.0402	0.0402	<0.0402	0.0402	<0.0401	0.0401	<0.0402	0.0402	<0.0398	0.0398	<0.0401	0.0401
o-Xylene		<0.0201	0.0201	<0.0201	0.0201	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0200	0.0200
Total Xylenes		<0.0201	0.0201	<0.0201	0.0201	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0200	0.0200
Total BTEX		<0.0201	0.0201	<0.0201	0.0201	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0200	0.0200
Chloride by EPA 300	*Extracted:*	Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45	
	Analyzed:	Jan-23-20 06:41		Jan-23-20 06:47		Jan-23-20 06:54		Jan-23-20 07:00		Jan-23-20 07:07		Jan-23-20 07:26	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		51.9	5.04	356	5.01	73.5	4.95	219	5.00	251	5.00	236	4.97
TPH by SW8015 Mod	*Extracted:*	Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00	
	Analyzed:	Jan-24-20 15:39		Jan-24-20 16:00		Jan-24-20 16:21		Jan-24-20 16:42		Jan-24-20 17:24		Jan-24-20 17:45	
	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	<49.9	49.9	<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9
Diesel Range Organics (DRO)		<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9
Total TPH		<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9

Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	649823-013		649823-014		649823-015		649823-016		649823-017		649823-018	
	Field Id:	S-7 (1')		S-7 (3')		S-7 (5')		S-7 (10')		S-5 (1')		S-5 (3')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-15-20 14:58		Jan-15-20 14:59		Jan-15-20 15:01		Jan-15-20 15:02		Jan-16-20 10:08		Jan-16-20 10:06	
BTEX by EPA 8021B SUB: T104704219-19-21	*Extracted:*	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-28-20 03:29		Jan-28-20 03:54		Jan-28-20 04:18		Jan-28-20 04:42		Jan-28-20 05:06		Jan-28-20 05:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0199	0.0199	<0.0201	0.0201	<0.0202	0.0202	<0.0201	0.0201	<0.0202	0.0202	<0.0199	0.0199
Toluene		<0.0199	0.0199	<0.0201	0.0201	<0.0202	0.0202	<0.0201	0.0201	<0.0202	0.0202	<0.0199	0.0199
Ethylbenzene		<0.0199	0.0199	<0.0201	0.0201	<0.0202	0.0202	<0.0201	0.0201	<0.0202	0.0202	<0.0199	0.0199
m,p-Xylenes		<0.0398	0.0398	<0.0402	0.0402	<0.0403	0.0403	<0.0402	0.0402	<0.0403	0.0403	<0.0398	0.0398
o-Xylene		<0.0199	0.0199	<0.0201	0.0201	<0.0202	0.0202	<0.0201	0.0201	<0.0202	0.0202	<0.0199	0.0199
Total Xylenes		<0.0199	0.0199	<0.0201	0.0201	<0.0202	0.0202	<0.0201	0.0201	<0.0202	0.0202	<0.0199	0.0199
Total BTEX		<0.0199	0.0199	<0.0201	0.0201	<0.0202	0.0202	<0.0201	0.0201	<0.0202	0.0202	<0.0199	0.0199
Chloride by EPA 300	*Extracted:*	Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 14:45	
	Analyzed:	Jan-23-20 07:33		Jan-23-20 07:52		Jan-23-20 07:59		Jan-23-20 08:05		Jan-23-20 08:11		Jan-23-20 08:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		205	4.95	158	5.03	503	4.96	356	5.01	914	4.99	8.74	5.00
TPH by SW8015 Mod	*Extracted:*	Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00	
	Analyzed:	Jan-24-20 18:06		Jan-24-20 18:27		Jan-24-20 18:48		Jan-24-20 19:09		Jan-24-20 19:29		Jan-24-20 19:50	
	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	<49.9	49.9	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		<49.9	49.9	<49.8	49.8	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.8	49.8	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Total TPH		<49.9	49.9	<49.8	49.8	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0

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

Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	649823-019		649823-020		649823-021		649823-022		649823-023		649823-024	
	Field Id:	S-5 (5')		S-5 (10')		S-6 (1')		S-6 (3')		S-6 (5')		S-6 (10')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-16-20 10:10		Jan-16-20 10:11		Jan-16-20 10:27		Jan-16-20 10:26		Jan-16-20 10:30		Jan-16-20 10:31	
BTEX by EPA 8021B SUB: T104704219-19-21	*Extracted:*	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-28-20 05:55		Jan-28-20 06:19		Jan-27-20 18:19		Jan-27-20 20:07		Jan-27-20 20:34		Jan-27-20 21:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0200	0.0200	<0.0200	0.0200	<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
Toluene		<0.0200	0.0200	<0.0200	0.0200	<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
Ethylbenzene		<0.0200	0.0200	<0.0200	0.0200	<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
m,p-Xylenes		<0.0400	0.0400	<0.0401	0.0401	<0.0399	0.0399	<0.0398	0.0398	<0.0402	0.0402	<0.0398	0.0398
o-Xylene		<0.0200	0.0200	<0.0200	0.0200	<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
Total Xylenes		<0.0200	0.0200	<0.0200	0.0200	<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
Total BTEX		<0.0200	0.0200	<0.0200	0.0200	<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
Chloride by EPA 300	*Extracted:*	Jan-22-20 14:45		Jan-22-20 14:45		Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00	
	Analyzed:	Jan-23-20 08:24		Jan-23-20 08:31		Jan-22-20 16:58		Jan-22-20 17:17		Jan-22-20 17:23		Jan-22-20 17:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		203	5.04	448	4.96	61.8	5.00	39.3	5.03	471	5.01	336	24.8
TPH by SW8015 Mod	*Extracted:*	Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00	
	Analyzed:	Jan-24-20 20:11		Jan-24-20 20:32		Jan-24-20 12:51		Jan-24-20 13:54		Jan-24-20 14:15		Jan-24-20 14:36	
	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	<49.9	49.9	<49.9	49.9
Diesel Range Organics (DRO)		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9
Total TPH		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9

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

Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	649823-025		649823-026		649823-027		649823-028		649823-029		649823-030	
	Field Id:	S-8 (1')		S-8 (3')		S-8 (5')		S-8 (10')		S-9 (1')		S-9 (3')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-16-20 12:00		Jan-16-20 12:01		Jan-16-20 12:04		Jan-16-20 12:05		Jan-16-20 10:49		Jan-16-20 10:50	
BTEX by EPA 8021B SUB: T104704219-19-21	*Extracted:*	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-27-20 21:28		Jan-27-20 21:55		Jan-27-20 22:22		Jan-27-20 22:49		Jan-27-20 23:16		Jan-27-20 23:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0199	0.0199	<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0201	0.0201	<0.0202	0.0202
Toluene		<0.0199	0.0199	<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0201	0.0201	<0.0202	0.0202
Ethylbenzene		<0.0199	0.0199	<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0201	0.0201	<0.0202	0.0202
m,p-Xylenes		<0.0398	0.0398	<0.0398	0.0398	<0.0400	0.0400	<0.0402	0.0402	<0.0402	0.0402	<0.0404	0.0404
o-Xylene		<0.0199	0.0199	<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0201	0.0201	<0.0202	0.0202
Total Xylenes		<0.0199	0.0199	<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0201	0.0201	<0.0202	0.0202
Total BTEX		<0.0199	0.0199	<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0201	0.0201	<0.0202	0.0202
Chloride by EPA 300	*Extracted:*	Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00	
	Analyzed:	Jan-22-20 17:36		Jan-22-20 17:56		Jan-22-20 18:02		Jan-22-20 18:09		Jan-22-20 18:15		Jan-22-20 18:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		47.2	5.00	<5.00	5.00	<5.00	5.00	120	5.04	20.3	5.05	26.7	5.02
TPH by SW8015 Mod	*Extracted:*	Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00	
	Analyzed:	Jan-24-20 14:57		Jan-24-20 15:18		Jan-24-20 15:39		Jan-24-20 16:00		Jan-24-20 16:21		Jan-24-20 16:42	
	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	<49.8	49.8	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Total TPH		<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0

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Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	649823-031		649823-032		649823-033		649823-034		649823-035		649823-036	
	Field Id:	S-9 (5')		S-9 (10')		S-13 (1')		S-13 (3')		S-13 (5')		S-13 (10')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-16-20 11:05		Jan-16-20 11:06		Jan-16-20 12:13		Jan-16-20 12:14		Jan-16-20 12:15		Jan-16-20 12:25	
BTEX by EPA 8021B SUB: T104704219-19-21	*Extracted:*	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-28-20 01:31		Jan-28-20 01:57		Jan-28-20 02:24		Jan-28-20 02:51		Jan-28-20 03:18		Jan-28-20 03:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0200	0.0200	<0.0202	0.0202	<0.0200	0.0200	<0.0199	0.0199	<0.0198	0.0198	<0.0199	0.0199
Toluene		<0.0200	0.0200	<0.0202	0.0202	<0.0200	0.0200	<0.0199	0.0199	<0.0198	0.0198	<0.0199	0.0199
Ethylbenzene		<0.0200	0.0200	<0.0202	0.0202	<0.0200	0.0200	<0.0199	0.0199	<0.0198	0.0198	<0.0199	0.0199
m,p-Xylenes		<0.0401	0.0401	<0.0403	0.0403	<0.0399	0.0399	<0.0398	0.0398	<0.0397	0.0397	<0.0398	0.0398
o-Xylene		<0.0200	0.0200	<0.0202	0.0202	<0.0200	0.0200	<0.0199	0.0199	<0.0198	0.0198	<0.0199	0.0199
Total Xylenes		<0.0200	0.0200	<0.0202	0.0202	<0.0200	0.0200	<0.0199	0.0199	<0.0198	0.0198	<0.0199	0.0199
Total BTEX		<0.0200	0.0200	<0.0202	0.0202	<0.0200	0.0200	<0.0199	0.0199	<0.0198	0.0198	<0.0199	0.0199
Chloride by EPA 300	*Extracted:*	Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00	
	Analyzed:	Jan-22-20 18:28		Jan-22-20 18:47		Jan-22-20 18:54		Jan-22-20 19:13		Jan-22-20 19:20		Jan-22-20 19:26	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		163	5.00	173	5.01	9.33	4.96	14.8	5.00	578	25.0	361	24.8
TPH by SW8015 Mod	*Extracted:*	Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00	
	Analyzed:	Jan-24-20 17:24		Jan-24-20 17:45		Jan-24-20 18:06		Jan-24-20 18:27		Jan-24-20 18:48		Jan-24-20 19:09	
	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	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9
Total TPH		<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9

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Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	649823-037		649823-038		649823-039		649823-040		649823-041		649823-042	
	Field Id:	S-14 (1')		S-14 (3')		S-14 (5')		S-16 (1')		S-16 (3')		S-16 (5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-16-20 13:06		Jan-16-20 13:07		Jan-16-20 13:08		Jan-16-20 14:18		Jan-16-20 14:19		Jan-16-20 14:20	
BTEX by EPA 8021B SUB: T104704219-19-21	*Extracted:*	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-28-20 04:12		Jan-28-20 04:39		Jan-28-20 05:06		Jan-28-20 05:33		Jan-28-20 09:35		Jan-28-20 11:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0201	0.0201	<0.0202	0.0202	<0.0202	0.0202	<0.0201	0.0201	<0.0200	0.0200	<0.0202	0.0202
Toluene		<0.0201	0.0201	<0.0202	0.0202	<0.0202	0.0202	<0.0201	0.0201	<0.0200	0.0200	<0.0202	0.0202
Ethylbenzene		<0.0201	0.0201	<0.0202	0.0202	<0.0202	0.0202	<0.0201	0.0201	<0.0200	0.0200	<0.0202	0.0202
m,p-Xylenes		<0.0402	0.0402	<0.0403	0.0403	<0.0403	0.0403	<0.0402	0.0402	<0.0401	0.0401	<0.0403	0.0403
o-Xylene		<0.0201	0.0201	<0.0202	0.0202	<0.0202	0.0202	<0.0201	0.0201	<0.0200	0.0200	<0.0202	0.0202
Total Xylenes		<0.0201	0.0201	<0.0202	0.0202	<0.0202	0.0202	<0.0201	0.0201	<0.0200	0.0200	<0.0202	0.0202
Total BTEX		<0.0201	0.0201	<0.0202	0.0202	<0.0202	0.0202	<0.0201	0.0201	<0.0200	0.0200	<0.0202	0.0202
Chloride by EPA 300	*Extracted:*	Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:00		Jan-22-20 15:40		Jan-22-20 15:40	
	Analyzed:	Jan-22-20 19:33		Jan-22-20 19:39		Jan-22-20 19:46		Jan-22-20 19:52		Jan-23-20 16:20		Jan-23-20 16:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		22.5	4.95	61.8	4.95	102	4.95	7.18	5.03	6.91	4.99	16.7	5.04
TPH by SW8015 Mod	*Extracted:*	Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 09:00		Jan-24-20 13:00		Jan-24-20 13:00	
	Analyzed:	Jan-24-20 19:29		Jan-24-20 19:50		Jan-24-20 20:11		Jan-24-20 20:32		Jan-24-20 22:17		Jan-24-20 23:20	
	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	<49.8	49.8	<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<49.8	49.8	<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0
Total TPH		<50.0	50.0	<49.8	49.8	<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0

Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	649823-043		649823-044		649823-045		649823-046		649823-047		649823-048	
	Field Id:	S-18 (1')		S-18 (3')		S-18 (5')		S-18 (10')		S-19 (1')		S-19 (3')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-16-20 14:58		Jan-16-20 14:59		Jan-16-20 15:00		Jan-16-20 15:07		Jan-17-20 09:49		Jan-17-20 09:53	
BTEX by EPA 8021B SUB: T104704219-19-21	***Extracted:***	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-28-20 11:50		Jan-28-20 12:17		Jan-28-20 12:43		Jan-28-20 13:10		Jan-28-20 13:37		Jan-28-20 14:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0198	0.0198	<0.0200	0.0200	<0.0201	0.0201
Toluene		<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0198	0.0198	<0.0200	0.0200	<0.0201	0.0201
Ethylbenzene		<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0198	0.0198	<0.0200	0.0200	<0.0201	0.0201
m,p-Xylenes		<0.0400	0.0400	<0.0398	0.0398	<0.0402	0.0402	<0.0397	0.0397	<0.0399	0.0399	<0.0402	0.0402
o-Xylene		<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0198	0.0198	<0.0200	0.0200	<0.0201	0.0201
Total Xylenes		<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0198	0.0198	<0.0200	0.0200	<0.0201	0.0201
Total BTEX		<0.0200	0.0200	<0.0199	0.0199	<0.0201	0.0201	<0.0198	0.0198	<0.0200	0.0200	<0.0201	0.0201
Chloride by EPA 300	***Extracted:***	Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40	
	Analyzed:	Jan-23-20 16:46		Jan-23-20 16:52		Jan-23-20 16:59		Jan-23-20 17:18		Jan-24-20 09:12		Jan-23-20 17:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		16.0	4.96	25.2	5.00	29.7	5.03	276	4.96	1670	24.8	68.6	4.95
TPH by SW8015 Mod	***Extracted:***	Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00	
	Analyzed:	Jan-24-20 23:41		Jan-25-20 00:03		Jan-25-20 00:24		Jan-25-20 00:45		Jan-25-20 01:06		Jan-25-20 01:28	
	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	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0
Diesel Range Organics (DRO)		<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0
Total TPH		<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0

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Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	649823-049		649823-050		649823-051		649823-052		649823-053		649823-054	
	Field Id:	S-19 (5')		S-19 (10')		S-20 (1')		S-20 (3')		S-20 (5')		S-20(10')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-17-20 10:00		Jan-17-20 10:10		Jan-17-20 10:41		Jan-17-20 10:42		Jan-17-20 10:43		Jan-17-20 10:45	
BTEX by EPA 8021B SUB: T104704219-19-21	*Extracted:*	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-28-20 14:35		Jan-28-20 15:02		Jan-28-20 16:49		Jan-28-20 17:16		Jan-28-20 17:43		Jan-28-20 18:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0201	0.0201	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
Toluene		<0.0201	0.0201	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
Ethylbenzene		<0.0201	0.0201	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
m,p-Xylenes		<0.0402	0.0402	<0.0402	0.0402	<0.0398	0.0398	<0.0398	0.0398	<0.0402	0.0402	<0.0398	0.0398
o-Xylene		<0.0201	0.0201	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
Total Xylenes		<0.0201	0.0201	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
Total BTEX		<0.0201	0.0201	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199
Chloride by EPA 300	*Extracted:*	Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40	
	Analyzed:	Jan-23-20 17:50		Jan-23-20 17:37		Jan-23-20 17:44		Jan-23-20 18:10		Jan-23-20 18:16		Jan-23-20 18:36	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		77.8	5.00	262	24.9	1340	5.00	5600	25.2	686	5.01	322	4.96
TPH by SW8015 Mod	*Extracted:*	Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00	
	Analyzed:	Jan-25-20 01:49		Jan-25-20 02:10		Jan-25-20 02:53		Jan-25-20 03:14		Jan-25-20 03:35		Jan-25-20 03:56	
	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	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0
Total TPH		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0

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Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	649823-055		649823-056		649823-057		649823-058		649823-059		649823-060	
	Field Id:	S-21 (1')		S-21 (3')		S-21 (5')		S-21 (10')		S-22 (1')		S-22 (3')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-17-20 11:00		Jan-17-20 11:01		Jan-17-20 11:02		Jan-17-20 11:05		Jan-17-20 11:27		Jan-17-20 11:28	
BTEX by EPA 8021B SUB: T104704219-19-21	***Extracted:***	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-28-20 18:36		Jan-28-20 19:03		Jan-28-20 19:29		Jan-28-20 19:56		Jan-28-20 20:22		Jan-28-20 20:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0199	0.0199
Toluene		<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0199	0.0199
Ethylbenzene		<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0199	0.0199
m,p-Xylenes		<0.0398	0.0398	<0.0399	0.0399	<0.0402	0.0402	<0.0398	0.0398	<0.0398	0.0398	<0.0398	0.0398
o-Xylene		<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0199	0.0199
Total Xylenes		<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0199	0.0199
Total BTEX		<0.0199	0.0199	<0.0200	0.0200	<0.0201	0.0201	<0.0199	0.0199	<0.0199	0.0199	<0.0199	0.0199
Chloride by EPA 300	***Extracted:***	Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40		Jan-22-20 15:40	
	Analyzed:	Jan-23-20 18:42		Jan-23-20 18:49		Jan-23-20 18:55		Jan-23-20 19:02		Jan-23-20 19:08		Jan-23-20 19:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		28.7	4.97	29.4	4.99	758	5.02	646	25.0	305	5.00	221	5.00
TPH by SW8015 Mod	***Extracted:***	Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00		Jan-24-20 13:00	
	Analyzed:	Jan-25-20 04:17		Jan-25-20 04:37		Jan-25-20 04:58		Jan-25-20 05:19		Jan-25-20 05:40		Jan-25-20 06:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.8	49.8
Diesel Range Organics (DRO)		<49.8	49.8	<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.8	49.8
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.8	49.8
Total TPH		<49.8	49.8	<49.9	49.9	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.8	49.8

Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	649823-061		649823-062		649823-063		649823-064		649823-065		649823-066	
	Field Id:	S-22 (5')		S-15 (1')		S-15 (3')		S-15 (5')		S-15 (10')		S-11 (1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-17-20 11:35		Jan-21-20 12:22		Jan-21-20 12:23		Jan-21-20 12:27		Jan-21-20 12:28		Jan-21-20 11:54	
BTEX by EPA 8021B SUB: T104704219-19-21	***Extracted:***	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-28-20 16:59		Jan-28-20 18:36		Jan-28-20 19:00		Jan-28-20 19:24		Jan-28-20 19:48		Jan-28-20 20:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0198	0.0198	<0.0200	0.0200	<0.0202	0.0202	<0.0199	0.0199	<0.0199	0.0199	<0.0198	0.0198
Toluene		<0.0198	0.0198	<0.0200	0.0200	<0.0202	0.0202	<0.0199	0.0199	<0.0199	0.0199	<0.0198	0.0198
Ethylbenzene		<0.0198	0.0198	<0.0200	0.0200	<0.0202	0.0202	<0.0199	0.0199	<0.0199	0.0199	<0.0198	0.0198
m,p-Xylenes		<0.0396	0.0396	<0.0400	0.0400	<0.0403	0.0403	<0.0398	0.0398	<0.0398	0.0398	<0.0397	0.0397
o-Xylene		<0.0198	0.0198	<0.0200	0.0200	<0.0202	0.0202	<0.0199	0.0199	<0.0199	0.0199	<0.0198	0.0198
Total Xylenes		<0.0198	0.0198	<0.0200	0.0200	<0.0202	0.0202	<0.0199	0.0199	<0.0199	0.0199	<0.0198	0.0198
Total BTEX		<0.0198	0.0198	<0.0200	0.0200	<0.0202	0.0202	<0.0199	0.0199	<0.0199	0.0199	<0.0198	0.0198
Chloride by EPA 300	***Extracted:***	Jan-22-20 16:00		Jan-22-20 16:00		Jan-22-20 16:00		Jan-22-20 16:00		Jan-22-20 16:00		Jan-22-20 16:00	
	Analyzed:	Jan-22-20 20:31		Jan-22-20 20:50		Jan-22-20 20:57		Jan-22-20 21:03		Jan-22-20 21:10		Jan-23-20 13:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		33.2	5.04	885	4.97	9.67	4.95	87.4	5.00	208	5.03	3260	24.8
TPH by SW8015 Mod	***Extracted:***	Jan-25-20 08:00		Jan-25-20 08:00		Jan-25-20 08:00		Jan-25-20 08:00		Jan-25-20 08:00		Jan-25-20 08:00	
	Analyzed:	Jan-25-20 15:03		Jan-25-20 15:24		Jan-25-20 15:45		Jan-25-20 16:06		Jan-25-20 16:27		Jan-25-20 17:10	
	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	<50.0	50.0	<49.8	49.8
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0	<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	<50.0	50.0	<49.8	49.8
Total TPH		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.8	49.8

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

Holly Taylor
Project Manager

Certificate of Analysis Summary 649823

Larson and Associates, Inc., Midland, TX

Project Name: Sadado Draw Frac 14

Project Id: 19-0180-05
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Jan-22-20 10:31 am
Report Date: 31-JAN-20
Project Manager: Holly Taylor

Analysis Requested											
	Lab Id:	649823-067		649823-068		649823-069		649823-070		649823-071	
	Field Id:	S-11 (3')		S-11 (5')		S-12 (1')		S-12 (3')		S-12 (5')	
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-21-20 11:55		Jan-21-20 11:56		Jan-21-20 12:12		Jan-21-20 12:13		Jan-21-20 12:14	
BTEX by EPA 8021B SUB: T104704219-19-21	*Extracted:*	Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30		Jan-27-20 12:30	
	Analyzed:	Jan-28-20 20:35		Jan-28-20 20:58		Jan-28-20 21:22		Jan-28-20 21:46		Jan-28-20 23:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199	<0.0198	0.0198	<0.0200	0.0200
Toluene		<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199	<0.0198	0.0198	<0.0200	0.0200
Ethylbenzene		<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199	<0.0198	0.0198	<0.0200	0.0200
m,p-Xylenes		<0.0398	0.0398	<0.0402	0.0402	<0.0398	0.0398	<0.0397	0.0397	<0.0400	0.0400
o-Xylene		<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199	<0.0198	0.0198	<0.0200	0.0200
Total Xylenes		<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199	<0.0198	0.0198	<0.0200	0.0200
Total BTEX		<0.0199	0.0199	<0.0201	0.0201	<0.0199	0.0199	<0.0198	0.0198	<0.0200	0.0200
Chloride by EPA 300	*Extracted:*	Jan-22-20 16:00		Jan-22-20 16:00		Jan-22-20 16:00		Jan-22-20 16:00		Jan-22-20 16:00	
	Analyzed:	Jan-22-20 21:36		Jan-22-20 21:42		Jan-22-20 21:49		Jan-22-20 21:55		Jan-22-20 22:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		87.3	4.98	74.5	4.99	6.18	5.02	28.7	5.00	86.5	4.96
TPH by SW8015 Mod	*Extracted:*	Jan-25-20 08:00		Jan-25-20 08:00		Jan-25-20 08:00		Jan-25-20 08:00		Jan-25-20 08:00	
	Analyzed:	Jan-25-20 17:31		Jan-25-20 17:52		Jan-25-20 18:13		Jan-25-20 18:34		Jan-25-20 18:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.0	50.0
Diesel Range Organics (DRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.0	50.0
Total TPH		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.0	50.0

Holly Taylor
Project Manager

Analytical Report 649823

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Sadado Draw Frac 14

19-0180-05

31-JAN-20

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

31-JAN-20

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

Reference: XENCO Report No(s): **649823**
Sadado Draw Frac 14
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 XENCO Report Number(s) 649823. 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 XENCO Laboratories. 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. 649823 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 XENCO Laboratories 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

Sample Cross Reference 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-2 (1')	S	01-15-20 14:01		649823-001
S-2 (3')	S	01-15-20 14:02		649823-002
S-2 (5')	S	01-15-20 14:05		649823-003
S-2 (10')	S	01-15-20 14:06		649823-004
S-3 (1')	S	01-15-20 14:40		649823-005
S-3 (3')	S	01-15-20 14:41		649823-006
S-3 (5')	S	01-15-20 14:43		649823-007
S-3 (10')	S	01-15-20 14:44		649823-008
S-4 (1')	S	01-15-20 14:19		649823-009
S-4 (3')	S	01-15-20 14:20		649823-010
S-4 (5')	S	01-15-20 14:25		649823-011
S-4(10')	S	01-15-20 14:26		649823-012
S-7 (1')	S	01-15-20 14:58		649823-013
S-7 (3')	S	01-15-20 14:59		649823-014
S-7 (5')	S	01-15-20 15:01		649823-015
S-7 (10')	S	01-15-20 15:02		649823-016
S-5 (1')	S	01-16-20 10:08		649823-017
S-5 (3')	S	01-16-20 10:06		649823-018
S-5 (5')	S	01-16-20 10:10		649823-019
S-5 (10')	S	01-16-20 10:11		649823-020
S-6 (1')	S	01-16-20 10:27		649823-021
S-6 (3')	S	01-16-20 10:26		649823-022
S-6 (5')	S	01-16-20 10:30		649823-023
S-6 (10')	S	01-16-20 10:31		649823-024
S-8 (1')	S	01-16-20 12:00		649823-025
S-8 (3')	S	01-16-20 12:01		649823-026
S-8 (5')	S	01-16-20 12:04		649823-027
S-8 (10')	S	01-16-20 12:05		649823-028
S-9 (1')	S	01-16-20 10:49		649823-029
S-9 (3')	S	01-16-20 10:50		649823-030
S-9 (5')	S	01-16-20 11:05		649823-031
S-9 (10')	S	01-16-20 11:06		649823-032
S-13 (1')	S	01-16-20 12:13		649823-033
S-13 (3')	S	01-16-20 12:14		649823-034
S-13 (5')	S	01-16-20 12:15		649823-035
S-13 (10')	S	01-16-20 12:25		649823-036
S-14 (1')	S	01-16-20 13:06		649823-037
S-14 (3')	S	01-16-20 13:07		649823-038
S-14 (5')	S	01-16-20 13:08		649823-039
S-16 (1')	S	01-16-20 14:18		649823-040
S-16 (3')	S	01-16-20 14:19		649823-041
S-16 (5')	S	01-16-20 14:20		649823-042
S-18 (1')	S	01-16-20 14:58		649823-043

Sample Cross Reference 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

S-18 (3')	S	01-16-20 14:59	649823-044
S-18 (5')	S	01-16-20 15:00	649823-045
S-18 (10')	S	01-16-20 15:07	649823-046
S-19 (1')	S	01-17-20 09:49	649823-047
S-19 (3')	S	01-17-20 09:53	649823-048
S-19 (5')	S	01-17-20 10:00	649823-049
S-19 (10')	S	01-17-20 10:10	649823-050
S-20 (1')	S	01-17-20 10:41	649823-051
S-20 (3')	S	01-17-20 10:42	649823-052
S-20 (5')	S	01-17-20 10:43	649823-053
S-20(10')	S	01-17-20 10:45	649823-054
S-21 (1')	S	01-17-20 11:00	649823-055
S-21 (3')	S	01-17-20 11:01	649823-056
S-21 (5')	S	01-17-20 11:02	649823-057
S-21 (10')	S	01-17-20 11:05	649823-058
S-22 (1')	S	01-17-20 11:27	649823-059
S-22 (3')	S	01-17-20 11:28	649823-060
S-22 (5')	S	01-17-20 11:35	649823-061
S-15 (1')	S	01-21-20 12:22	649823-062
S-15 (3')	S	01-21-20 12:23	649823-063
S-15 (5')	S	01-21-20 12:27	649823-064
S-15 (10')	S	01-21-20 12:28	649823-065
S-11 (1')	S	01-21-20 11:54	649823-066
S-11 (3')	S	01-21-20 11:55	649823-067
S-11 (5')	S	01-21-20 11:56	649823-068
S-12 (1')	S	01-21-20 12:12	649823-069
S-12 (3')	S	01-21-20 12:13	649823-070
S-12 (5')	S	01-21-20 12:14	649823-071

CASE NARRATIVE

Client Name: Larson and Associates, Inc.
Project Name: Sadado Draw Frac 14

Project ID: *19-0180-05*
Work Order Number(s): *649823*

Report Date: *31-JAN-20*
Date Received: *01/22/2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3114506 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 649823-069,649823-066.

Batch: LBA-3114610 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene, Surrogate a,a,a-Trifluorotoluene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 649823-021 SD.

Lab Sample ID 649823-021 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 649823-021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036, -037, -038, -039, -040.
The Laboratory Control Sample for m,p-Xylenes, o-Xylene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.
Samples in the analytical batch are: 649823-021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036, -037, -038, -039, -040

Batch: LBA-3114613 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3114760 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3114906 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: Sadado Draw Frac 14

Project ID:	*19-0180-05*	Report Date:	*31-JAN-20*
Work Order Number(s):	*649823*	Date Received:	*01/22/2020*

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-2 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-001 Date Collected: 01.15.20 14.01

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**31.2**	5.04	mg/kg	01.23.20 05.36		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 12.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 12.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 12.51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 12.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	01.24.20 12.51	
o-Terphenyl	84-15-1	102	%	70-135	01.24.20 12.51	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-2 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-001	Date Collected:	01.15.20 14.01		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.27.20 20.14	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.27.20 20.14	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.27.20 20.14	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.27.20 20.14	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.27.20 20.14	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.27.20 20.14	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.27.20 20.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	01.27.20 20.14	
a,a,a-Trifluorotoluene	98-08-8	110	%	71-121	01.27.20 20.14	

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Sadado Draw Frac 14

Sample Id: **S-2 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-002 Date Collected: 01.15.20 14.02

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**120**	4.96	mg/kg	01.23.20 05.56		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.24.20 13.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.24.20 13.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.24.20 13.54	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.24.20 13.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	01.24.20 13.54	
o-Terphenyl	84-15-1	109	%	70-135	01.24.20 13.54	

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Sadado Draw Frac 14

Sample Id:	**S-2 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-002	Date Collected:	01.15.20 14.02		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.27.20 21.51	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.27.20 21.51	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.27.20 21.51	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.27.20 21.51	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.27.20 21.51	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.27.20 21.51	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.27.20 21.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	01.27.20 21.51	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	01.27.20 21.51	

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Sadado Draw Frac 14

Sample Id: **S-2 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-003 Date Collected: 01.15.20 14.05

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**356**	5.00	mg/kg	01.23.20 06.02		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 14.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 14.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 14.15	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 14.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	01.24.20 14.15	
o-Terphenyl	84-15-1	105	%	70-135	01.24.20 14.15	

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Sadado Draw Frac 14

Sample Id:	**S-2 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-003	Date Collected:	01.15.20 14.05		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.27.20 22.15	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.27.20 22.15	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.27.20 22.15	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.27.20 22.15	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.27.20 22.15	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.27.20 22.15	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.27.20 22.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	01.27.20 22.15	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	01.27.20 22.15	

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Sadado Draw Frac 14

Sample Id: **S-2 (10')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-004 Date Collected: 01.15.20 14.06

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**144**	5.02	mg/kg	01.23.20 06.09		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 14.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 14.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 14.36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 14.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	01.24.20 14.36	
o-Terphenyl	84-15-1	106	%	70-135	01.24.20 14.36	

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Sadado Draw Frac 14

Sample Id:	**S-2 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-004	Date Collected:	01.15.20 14.06		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.27.20 22.39	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.27.20 22.39	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.27.20 22.39	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.27.20 22.39	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.27.20 22.39	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.27.20 22.39	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.27.20 22.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	68-120	01.27.20 22.39	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	01.27.20 22.39	

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Sadado Draw Frac 14

Sample Id:	**S-3 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-005	Date Collected:	01.15.20 14.40		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.20 14.45	Basis:	Wet Weight
Seq Number:	3114290				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**313**	4.96	mg/kg	01.23.20 06.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	01.24.20 09.00	Basis:	Wet Weight
Seq Number:	3114491				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 14.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 14.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 14.57	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 14.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	01.24.20 14.57	
o-Terphenyl	84-15-1	108	%	70-135	01.24.20 14.57	

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Sadado Draw Frac 14

Sample Id:	**S-3 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-005	Date Collected:	01.15.20 14.40		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0198	0.0198	mg/kg	01.27.20 23.03	U	1
Toluene	108-88-3	<0.0198	0.0198	mg/kg	01.27.20 23.03	U	1
Ethylbenzene	100-41-4	<0.0198	0.0198	mg/kg	01.27.20 23.03	U	1
m,p-Xylenes	179601-23-1	<0.0396	0.0396	mg/kg	01.27.20 23.03	U	1
o-Xylene	95-47-6	<0.0198	0.0198	mg/kg	01.27.20 23.03	U	1
Total Xylenes	1330-20-7	<0.0198	0.0198	mg/kg	01.27.20 23.03	U	1
Total BTEX		<0.0198	0.0198	mg/kg	01.27.20 23.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	01.27.20 23.03	
a,a,a-Trifluorotoluene	98-08-8	109	%	71-121	01.27.20 23.03	

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Sadado Draw Frac 14

Sample Id: **S-3 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-006 Date Collected: 01.15.20 14.41

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.6**	4.95	mg/kg	01.23.20 06.34		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 15.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 15.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 15.18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 15.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	01.24.20 15.18	
o-Terphenyl	84-15-1	105	%	70-135	01.24.20 15.18	

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Sadado Draw Frac 14

Sample Id:	**S-3 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-006	Date Collected:	01.15.20 14.41		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.27.20 23.27	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.27.20 23.27	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.27.20 23.27	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.27.20 23.27	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.27.20 23.27	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.27.20 23.27	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.27.20 23.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	68-120	01.27.20 23.27	
a,a,a-Trifluorotoluene	98-08-8	100	%	71-121	01.27.20 23.27	

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Sadado Draw Frac 14

Sample Id:	**S-3 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-007	Date Collected:	01.15.20 14.43		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.20 14.45	Basis:	Wet Weight
Seq Number:	3114290				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**51.9**	5.04	mg/kg	01.23.20 06.41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	01.24.20 09.00	Basis:	Wet Weight
Seq Number:	3114491				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 15.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 15.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 15.39	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 15.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	01.24.20 15.39	
o-Terphenyl	84-15-1	105	%	70-135	01.24.20 15.39	

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Sadado Draw Frac 14

Sample Id:	**S-3 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-007	Date Collected:	01.15.20 14.43		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.27.20 23.52	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.27.20 23.52	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.27.20 23.52	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.27.20 23.52	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.27.20 23.52	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.27.20 23.52	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.27.20 23.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	01.27.20 23.52	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	01.27.20 23.52	

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Sadado Draw Frac 14

Sample Id: **S-3 (10')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-008 Date Collected: 01.15.20 14.44

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**356**	5.01	mg/kg	01.23.20 06.47		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 16.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 16.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 16.00	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 16.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	01.24.20 16.00	
o-Terphenyl	84-15-1	109	%	70-135	01.24.20 16.00	

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Sadado Draw Frac 14

Sample Id:	**S-3 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-008	Date Collected:	01.15.20 14.44		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 00.16	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 00.16	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 00.16	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 00.16	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 00.16	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 00.16	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 00.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	68-120	01.28.20 00.16	
a,a,a-Trifluorotoluene	98-08-8	99	%	71-121	01.28.20 00.16	

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Sadado Draw Frac 14

Sample Id: **S-4 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-009 Date Collected: 01.15.20 14.19

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**73.5**	4.95	mg/kg	01.23.20 06.54		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 16.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 16.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 16.21	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 16.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	01.24.20 16.21	
o-Terphenyl	84-15-1	109	%	70-135	01.24.20 16.21	

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Sadado Draw Frac 14

Sample Id:	**S-4 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-009	Date Collected:	01.15.20 14.19		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 00.40	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 00.40	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 00.40	U	1
m,p-Xylenes	179601-23-1	<0.0401	0.0401	mg/kg	01.28.20 00.40	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 00.40	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 00.40	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 00.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	01.28.20 00.40	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	01.28.20 00.40	

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Sadado Draw Frac 14

Sample Id: **S-4 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-010 Date Collected: 01.15.20 14.20

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**219**	5.00	mg/kg	01.23.20 07.00		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.24.20 16.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.24.20 16.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.24.20 16.42	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.24.20 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	01.24.20 16.42	
o-Terphenyl	84-15-1	106	%	70-135	01.24.20 16.42	

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Sadado Draw Frac 14

Sample Id:	**S-4 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-010	Date Collected:	01.15.20 14.20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 01.04	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 01.04	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 01.04	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 01.04	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 01.04	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 01.04	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 01.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	68-120	01.28.20 01.04	
a,a,a-Trifluorotoluene	98-08-8	103	%	71-121	01.28.20 01.04	

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Sadado Draw Frac 14

Sample Id: **S-4 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-011 Date Collected: 01.15.20 14.25

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**251**	5.00	mg/kg	01.23.20 07.07		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 17.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 17.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 17.24	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 17.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	01.24.20 17.24	
o-Terphenyl	84-15-1	107	%	70-135	01.24.20 17.24	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-4 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-011	Date Collected:	01.15.20 14.25		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 02.40	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 02.40	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 02.40	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 02.40	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 02.40	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 02.40	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 02.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	01.28.20 02.40	
a,a,a-Trifluorotoluene	98-08-8	107	%	71-121	01.28.20 02.40	

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Sadado Draw Frac 14

Sample Id:	**S-4(10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-012	Date Collected:	01.15.20 14.26		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.20 14.45	Basis:	Wet Weight
Seq Number:	3114290				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**236**	4.97	mg/kg	01.23.20 07.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	01.24.20 09.00	Basis:	Wet Weight
Seq Number:	3114491				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 17.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 17.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 17.45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 17.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	01.24.20 17.45	
o-Terphenyl	84-15-1	101	%	70-135	01.24.20 17.45	

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Sadado Draw Frac 14

Sample Id:	**S-4(10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-012	Date Collected:	01.15.20 14.26		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 03.05	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 03.05	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 03.05	U	1
m,p-Xylenes	179601-23-1	<0.0401	0.0401	mg/kg	01.28.20 03.05	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 03.05	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 03.05	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 03.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	01.28.20 03.05	
a,a,a-Trifluorotoluene	98-08-8	110	%	71-121	01.28.20 03.05	

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Sadado Draw Frac 14

Sample Id: **S-7 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-013 Date Collected: 01.15.20 14.58

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**205**	4.95	mg/kg	01.23.20 07.33		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 18.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 18.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 18.06	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 18.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	01.24.20 18.06	
o-Terphenyl	84-15-1	109	%	70-135	01.24.20 18.06	

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Sadado Draw Frac 14

Sample Id:	**S-7 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-013	Date Collected:	01.15.20 14.58		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 03.29	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 03.29	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 03.29	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 03.29	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 03.29	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 03.29	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 03.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	68-120	01.28.20 03.29	
a,a,a-Trifluorotoluene	98-08-8	103	%	71-121	01.28.20 03.29	

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Sadado Draw Frac 14

Sample Id: **S-7 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-014 Date Collected: 01.15.20 14.59

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**158**	5.03	mg/kg	01.23.20 07.52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.24.20 18.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.24.20 18.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.24.20 18.27	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.24.20 18.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	01.24.20 18.27	
o-Terphenyl	84-15-1	106	%	70-135	01.24.20 18.27	

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Sadado Draw Frac 14

Sample Id:	**S-7 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-014	Date Collected:	01.15.20 14.59		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 03.54	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 03.54	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 03.54	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 03.54	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 03.54	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 03.54	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 03.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	68-120	01.28.20 03.54	
a,a,a-Trifluorotoluene	98-08-8	92	%	71-121	01.28.20 03.54	

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Sadado Draw Frac 14

Sample Id: **S-7 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-015 Date Collected: 01.15.20 15.01

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**503**	4.96	mg/kg	01.23.20 07.59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 18.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 18.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 18.48	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 18.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	01.24.20 18.48	
o-Terphenyl	84-15-1	107	%	70-135	01.24.20 18.48	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-7 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-015	Date Collected:	01.15.20 15.01		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0202	0.0202	mg/kg	01.28.20 04.18	U	1
Toluene	108-88-3	<0.0202	0.0202	mg/kg	01.28.20 04.18	U	1
Ethylbenzene	100-41-4	<0.0202	0.0202	mg/kg	01.28.20 04.18	U	1
m,p-Xylenes	179601-23-1	<0.0403	0.0403	mg/kg	01.28.20 04.18	U	1
o-Xylene	95-47-6	<0.0202	0.0202	mg/kg	01.28.20 04.18	U	1
Total Xylenes	1330-20-7	<0.0202	0.0202	mg/kg	01.28.20 04.18	U	1
Total BTEX		<0.0202	0.0202	mg/kg	01.28.20 04.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	01.28.20 04.18	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	01.28.20 04.18	

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Sadado Draw Frac 14

Sample Id:	**S-7 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-016	Date Collected:	01.15.20 15.02		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.20 14.45	Basis:	Wet Weight
Seq Number:	3114290				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**356**	5.01	mg/kg	01.23.20 08.05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	01.24.20 09.00	Basis:	Wet Weight
Seq Number:	3114491				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 19.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 19.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 19.09	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 19.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	01.24.20 19.09	
o-Terphenyl	84-15-1	104	%	70-135	01.24.20 19.09	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-7 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-016	Date Collected:	01.15.20 15.02		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 04.42	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 04.42	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 04.42	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 04.42	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 04.42	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 04.42	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 04.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	68-120	01.28.20 04.42	
a,a,a-Trifluorotoluene	98-08-8	109	%	71-121	01.28.20 04.42	

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Sadado Draw Frac 14

Sample Id: **S-5 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-017 Date Collected: 01.16.20 10.08

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**914**	4.99	mg/kg	01.23.20 08.11		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 19.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 19.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 19.29	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 19.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.24.20 19.29	
o-Terphenyl	84-15-1	105	%	70-135	01.24.20 19.29	

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Sadado Draw Frac 14

Sample Id:	**S-5 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-017	Date Collected:	01.16.20 10.08		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1
Toluene	108-88-3	<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1
Ethylbenzene	100-41-4	<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1
m,p-Xylenes	179601-23-1	<0.0403	0.0403	mg/kg	01.28.20 05.06	U	1
o-Xylene	95-47-6	<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1
Total Xylenes	1330-20-7	<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1
Total BTEX		<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	81	%	68-120	01.28.20 05.06	
a,a,a-Trifluorotoluene	98-08-8	89	%	71-121	01.28.20 05.06	

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Sadado Draw Frac 14

Sample Id:	**S-5 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-018	Date Collected:	01.16.20 10.06		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.20 14.45	Basis:	Wet Weight
Seq Number:	3114290				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.74**	5.00	mg/kg	01.23.20 08.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	01.24.20 09.00	Basis:	Wet Weight
Seq Number:	3114491				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 19.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 19.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 19.50	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 19.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	01.24.20 19.50	
o-Terphenyl	84-15-1	111	%	70-135	01.24.20 19.50	

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Sadado Draw Frac 14

Sample Id:	**S-5 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-018	Date Collected:	01.16.20 10.06		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 05.30	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 05.30	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 05.30	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 05.30	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 05.30	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 05.30	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 05.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	81	%	68-120	01.28.20 05.30	
a,a,a-Trifluorotoluene	98-08-8	88	%	71-121	01.28.20 05.30	

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Sadado Draw Frac 14

Sample Id: **S-5 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-019 Date Collected: 01.16.20 10.10

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**203**	5.04	mg/kg	01.23.20 08.24		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 20.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 20.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 20.11	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 20.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	01.24.20 20.11	
o-Terphenyl	84-15-1	109	%	70-135	01.24.20 20.11	

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Sadado Draw Frac 14

Sample Id:	**S-5 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-019	Date Collected:	01.16.20 10.10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 05.55	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 05.55	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 05.55	U	1
m,p-Xylenes	179601-23-1	<0.0400	0.0400	mg/kg	01.28.20 05.55	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 05.55	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 05.55	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 05.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	68-120	01.28.20 05.55	
a,a,a-Trifluorotoluene	98-08-8	108	%	71-121	01.28.20 05.55	

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Sadado Draw Frac 14

Sample Id: **S-5 (10')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-020 Date Collected: 01.16.20 10.11

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 14.45 Basis: Wet Weight

Seq Number: 3114290

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**448**	4.96	mg/kg	01.23.20 08.31		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.24.20 20.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.24.20 20.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.24.20 20.32	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.24.20 20.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	01.24.20 20.32	
o-Terphenyl	84-15-1	112	%	70-135	01.24.20 20.32	

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Sadado Draw Frac 14

Sample Id:	**S-5 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-020	Date Collected:	01.16.20 10.11		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114613			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 06.19	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 06.19	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 06.19	U	1
m,p-Xylenes	179601-23-1	<0.0401	0.0401	mg/kg	01.28.20 06.19	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 06.19	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 06.19	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 06.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	68-120	01.28.20 06.19	
a,a,a-Trifluorotoluene	98-08-8	91	%	71-121	01.28.20 06.19	

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Sadado Draw Frac 14

Sample Id: **S-6 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-021 Date Collected: 01.16.20 10.27

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**61.8**	5.00	mg/kg	01.22.20 16.58		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 12.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 12.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 12.51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 12.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	01.24.20 12.51	
o-Terphenyl	84-15-1	89	%	70-135	01.24.20 12.51	

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Sadado Draw Frac 14

Sample Id:	**S-6 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-021	Date Collected:	01.16.20 10.27		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.27.20 18.19	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.27.20 18.19	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.27.20 18.19	U	1
m,p-Xylenes	179601-23-1	<0.0399	0.0399	mg/kg	01.27.20 18.19	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.27.20 18.19	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.27.20 18.19	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.27.20 18.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	68-120	01.27.20 18.19	
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	01.27.20 18.19	

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Sadado Draw Frac 14

Sample Id: **S-6 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-022 Date Collected: 01.16.20 10.26

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.3**	5.03	mg/kg	01.22.20 17.17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 13.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 13.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 13.54	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 13.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	01.24.20 13.54	
o-Terphenyl	84-15-1	86	%	70-135	01.24.20 13.54	

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Sadado Draw Frac 14

Sample Id:	**S-6 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-022	Date Collected:	01.16.20 10.26		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.27.20 20.07	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.27.20 20.07	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.27.20 20.07	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.27.20 20.07	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.27.20 20.07	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.27.20 20.07	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.27.20 20.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	01.27.20 20.07	
a,a,a-Trifluorotoluene	98-08-8	108	%	71-121	01.27.20 20.07	

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Sadado Draw Frac 14

Sample Id: **S-6 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-023 Date Collected: 01.16.20 10.30

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**471**	5.01	mg/kg	01.22.20 17.23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 14.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 14.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 14.15	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 14.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	01.24.20 14.15	
o-Terphenyl	84-15-1	84	%	70-135	01.24.20 14.15	

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Sadado Draw Frac 14

Sample Id:	**S-6 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-023	Date Collected:	01.16.20 10.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.27.20 20.34	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.27.20 20.34	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.27.20 20.34	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.27.20 20.34	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.27.20 20.34	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.27.20 20.34	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.27.20 20.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	68-120	01.27.20 20.34	
a,a,a-Trifluorotoluene	98-08-8	102	%	71-121	01.27.20 20.34	

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Sadado Draw Frac 14

Sample Id: **S-6 (10')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-024 Date Collected: 01.16.20 10.31

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**336**	24.8	mg/kg	01.22.20 17.30		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 14.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 14.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 14.36	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 14.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	01.24.20 14.36	
o-Terphenyl	84-15-1	83	%	70-135	01.24.20 14.36	

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Sadado Draw Frac 14

Sample Id:	**S-6 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-024	Date Collected:	01.16.20 10.31		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.27.20 21.01	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.27.20 21.01	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.27.20 21.01	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.27.20 21.01	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.27.20 21.01	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.27.20 21.01	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.27.20 21.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	68-120	01.27.20 21.01	
a,a,a-Trifluorotoluene	98-08-8	102	%	71-121	01.27.20 21.01	

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Sadado Draw Frac 14

Sample Id: **S-8 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-025 Date Collected: 01.16.20 12.00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**47.2**	5.00	mg/kg	01.22.20 17.36		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 14.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 14.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 14.57	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 14.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	01.24.20 14.57	
o-Terphenyl	84-15-1	85	%	70-135	01.24.20 14.57	

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Sadado Draw Frac 14

Sample Id:	**S-8 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-025	Date Collected:	01.16.20 12.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.27.20 21.28	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.27.20 21.28	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.27.20 21.28	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.27.20 21.28	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.27.20 21.28	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.27.20 21.28	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.27.20 21.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	68-120	01.27.20 21.28	
a,a,a-Trifluorotoluene	98-08-8	100	%	71-121	01.27.20 21.28	

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Sadado Draw Frac 14

Sample Id: **S-8 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-026 Date Collected: 01.16.20 12.01

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	01.22.20 17.56	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.24.20 15.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.24.20 15.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.24.20 15.18	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.24.20 15.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	01.24.20 15.18	
o-Terphenyl	84-15-1	87	%	70-135	01.24.20 15.18	

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Sadado Draw Frac 14

Sample Id:	**S-8 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-026	Date Collected:	01.16.20 12.01		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.27.20 21.55	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.27.20 21.55	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.27.20 21.55	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.27.20 21.55	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.27.20 21.55	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.27.20 21.55	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.27.20 21.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	68-120	01.27.20 21.55	
a,a,a-Trifluorotoluene	98-08-8	102	%	71-121	01.27.20 21.55	

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Sadado Draw Frac 14

Sample Id: **S-8 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-027 Date Collected: 01.16.20 12.04

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	01.22.20 18.02	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 15.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 15.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 15.39	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 15.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	01.24.20 15.39	
o-Terphenyl	84-15-1	83	%	70-135	01.24.20 15.39	

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Sadado Draw Frac 14

Sample Id:	**S-8 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-027	Date Collected:	01.16.20 12.04		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.27.20 22.22	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.27.20 22.22	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.27.20 22.22	U	1
m,p-Xylenes	179601-23-1	<0.0400	0.0400	mg/kg	01.27.20 22.22	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.27.20 22.22	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.27.20 22.22	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.27.20 22.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	68-120	01.27.20 22.22	
a,a,a-Trifluorotoluene	98-08-8	98	%	71-121	01.27.20 22.22	

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Sadado Draw Frac 14

Sample Id: **S-8 (10')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-028 Date Collected: 01.16.20 12.05

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**120**	5.04	mg/kg	01.22.20 18.09		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 16.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 16.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 16.00	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 16.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	01.24.20 16.00	
o-Terphenyl	84-15-1	84	%	70-135	01.24.20 16.00	

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Sadado Draw Frac 14

Sample Id:	**S-8 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-028	Date Collected:	01.16.20 12.05		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.27.20 22.49	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.27.20 22.49	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.27.20 22.49	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.27.20 22.49	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.27.20 22.49	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.27.20 22.49	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.27.20 22.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	01.27.20 22.49	
a,a,a-Trifluorotoluene	98-08-8	100	%	71-121	01.27.20 22.49	

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Sadado Draw Frac 14

Sample Id: **S-9 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-029 Date Collected: 01.16.20 10.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.3**	5.05	mg/kg	01.22.20 18.15		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 16.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 16.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 16.21	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 16.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	01.24.20 16.21	
o-Terphenyl	84-15-1	87	%	70-135	01.24.20 16.21	

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Sadado Draw Frac 14

Sample Id:	**S-9 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-029	Date Collected:	01.16.20 10.49		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.27.20 23.16	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.27.20 23.16	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.27.20 23.16	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.27.20 23.16	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.27.20 23.16	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.27.20 23.16	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.27.20 23.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	01.27.20 23.16	
a,a,a-Trifluorotoluene	98-08-8	100	%	71-121	01.27.20 23.16	

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Sadado Draw Frac 14

Sample Id: **S-9 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-030 Date Collected: 01.16.20 10.50

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.7**	5.02	mg/kg	01.22.20 18.22		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 16.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 16.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 16.42	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	01.24.20 16.42	
o-Terphenyl	84-15-1	87	%	70-135	01.24.20 16.42	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-9 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-030	Date Collected:	01.16.20 10.50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0202	0.0202	mg/kg	01.27.20 23.43	U	1
Toluene	108-88-3	<0.0202	0.0202	mg/kg	01.27.20 23.43	U	1
Ethylbenzene	100-41-4	<0.0202	0.0202	mg/kg	01.27.20 23.43	U	1
m,p-Xylenes	179601-23-1	<0.0404	0.0404	mg/kg	01.27.20 23.43	U	1
o-Xylene	95-47-6	<0.0202	0.0202	mg/kg	01.27.20 23.43	U	1
Total Xylenes	1330-20-7	<0.0202	0.0202	mg/kg	01.27.20 23.43	U	1
Total BTEX		<0.0202	0.0202	mg/kg	01.27.20 23.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	01.27.20 23.43	
a,a,a-Trifluorotoluene	98-08-8	100	%	71-121	01.27.20 23.43	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-9 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-031 Date Collected: 01.16.20 11.05

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**163**	5.00	mg/kg	01.22.20 18.28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 17.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 17.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 17.24	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 17.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	01.24.20 17.24	
o-Terphenyl	84-15-1	83	%	70-135	01.24.20 17.24	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-9 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-031	Date Collected:	01.16.20 11.05		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 01.31	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 01.31	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 01.31	U	1
m,p-Xylenes	179601-23-1	<0.0401	0.0401	mg/kg	01.28.20 01.31	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 01.31	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 01.31	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 01.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	01.28.20 01.31	
a,a,a-Trifluorotoluene	98-08-8	98	%	71-121	01.28.20 01.31	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-9 (10')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-032 Date Collected: 01.16.20 11.06

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**173**	5.01	mg/kg	01.22.20 18.47		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 17.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 17.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 17.45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 17.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	01.24.20 17.45	
o-Terphenyl	84-15-1	83	%	70-135	01.24.20 17.45	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-9 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-032	Date Collected:	01.16.20 11.06		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0202	0.0202	mg/kg	01.28.20 01.57	U	1
Toluene	108-88-3	<0.0202	0.0202	mg/kg	01.28.20 01.57	U	1
Ethylbenzene	100-41-4	<0.0202	0.0202	mg/kg	01.28.20 01.57	U	1
m,p-Xylenes	179601-23-1	<0.0403	0.0403	mg/kg	01.28.20 01.57	U	1
o-Xylene	95-47-6	<0.0202	0.0202	mg/kg	01.28.20 01.57	U	1
Total Xylenes	1330-20-7	<0.0202	0.0202	mg/kg	01.28.20 01.57	U	1
Total BTEX		<0.0202	0.0202	mg/kg	01.28.20 01.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	01.28.20 01.57	
a,a,a-Trifluorotoluene	98-08-8	98	%	71-121	01.28.20 01.57	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-13 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-033 Date Collected: 01.16.20 12.13

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.33**	4.96	mg/kg	01.22.20 18.54		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.24.20 18.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.24.20 18.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.24.20 18.06	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.24.20 18.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	01.24.20 18.06	
o-Terphenyl	84-15-1	86	%	70-135	01.24.20 18.06	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-13 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-033	Date Collected:	01.16.20 12.13		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 02.24	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 02.24	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 02.24	U	1
m,p-Xylenes	179601-23-1	<0.0399	0.0399	mg/kg	01.28.20 02.24	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 02.24	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 02.24	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 02.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	01.28.20 02.24	
a,a,a-Trifluorotoluene	98-08-8	101	%	71-121	01.28.20 02.24	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-13 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-034 Date Collected: 01.16.20 12.14

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.8**	5.00	mg/kg	01.22.20 19.13		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 18.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 18.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 18.27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 18.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	01.24.20 18.27	
o-Terphenyl	84-15-1	88	%	70-135	01.24.20 18.27	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-13 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-034	Date Collected:	01.16.20 12.14		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 02.51	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 02.51	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 02.51	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 02.51	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 02.51	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 02.51	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 02.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	01.28.20 02.51	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	01.28.20 02.51	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-13 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-035 Date Collected: 01.16.20 12.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**578**	25.0	mg/kg	01.22.20 19.20		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 18.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 18.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 18.48	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 18.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	01.24.20 18.48	
o-Terphenyl	84-15-1	86	%	70-135	01.24.20 18.48	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-13 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-035	Date Collected:	01.16.20 12.15		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0198	0.0198	mg/kg	01.28.20 03.18	U	1
Toluene	108-88-3	<0.0198	0.0198	mg/kg	01.28.20 03.18	U	1
Ethylbenzene	100-41-4	<0.0198	0.0198	mg/kg	01.28.20 03.18	U	1
m,p-Xylenes	179601-23-1	<0.0397	0.0397	mg/kg	01.28.20 03.18	U	1
o-Xylene	95-47-6	<0.0198	0.0198	mg/kg	01.28.20 03.18	U	1
Total Xylenes	1330-20-7	<0.0198	0.0198	mg/kg	01.28.20 03.18	U	1
Total BTEX		<0.0198	0.0198	mg/kg	01.28.20 03.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	01.28.20 03.18	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	01.28.20 03.18	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-13 (10')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-036 Date Collected: 01.16.20 12.25

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**361**	24.8	mg/kg	01.22.20 19.26		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 19.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 19.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 19.09	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 19.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	01.24.20 19.09	
o-Terphenyl	84-15-1	89	%	70-135	01.24.20 19.09	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-13 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-036	Date Collected:	01.16.20 12.25		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 03.45	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 03.45	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 03.45	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 03.45	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 03.45	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 03.45	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 03.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	01.28.20 03.45	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	01.28.20 03.45	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-14 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-037 Date Collected: 01.16.20 13.06

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22.5**	4.95	mg/kg	01.22.20 19.33		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 19.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 19.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 19.29	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 19.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	01.24.20 19.29	
o-Terphenyl	84-15-1	85	%	70-135	01.24.20 19.29	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-14 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-037	Date Collected:	01.16.20 13.06		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 04.12	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 04.12	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 04.12	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 04.12	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 04.12	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 04.12	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 04.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	01.28.20 04.12	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	01.28.20 04.12	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-14 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-038 Date Collected: 01.16.20 13.07

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**61.8**	4.95	mg/kg	01.22.20 19.39		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.24.20 19.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.24.20 19.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.24.20 19.50	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.24.20 19.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	01.24.20 19.50	
o-Terphenyl	84-15-1	89	%	70-135	01.24.20 19.50	

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Sadado Draw Frac 14

Sample Id:	**S-14 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-038	Date Collected:	01.16.20 13.07		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0202	0.0202	mg/kg	01.28.20 04.39	U	1
Toluene	108-88-3	<0.0202	0.0202	mg/kg	01.28.20 04.39	U	1
Ethylbenzene	100-41-4	<0.0202	0.0202	mg/kg	01.28.20 04.39	U	1
m,p-Xylenes	179601-23-1	<0.0403	0.0403	mg/kg	01.28.20 04.39	U	1
o-Xylene	95-47-6	<0.0202	0.0202	mg/kg	01.28.20 04.39	U	1
Total Xylenes	1330-20-7	<0.0202	0.0202	mg/kg	01.28.20 04.39	U	1
Total BTEX		<0.0202	0.0202	mg/kg	01.28.20 04.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	01.28.20 04.39	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	01.28.20 04.39	

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Sadado Draw Frac 14

Sample Id: **S-14 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-039 Date Collected: 01.16.20 13.08

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**102**	4.95	mg/kg	01.22.20 19.46		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 20.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 20.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 20.11	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 20.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	01.24.20 20.11	
o-Terphenyl	84-15-1	84	%	70-135	01.24.20 20.11	

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Sadado Draw Frac 14

Sample Id:	**S-14 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-039	Date Collected:	01.16.20 13.08		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1
Toluene	108-88-3	<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1
Ethylbenzene	100-41-4	<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1
m,p-Xylenes	179601-23-1	<0.0403	0.0403	mg/kg	01.28.20 05.06	U	1
o-Xylene	95-47-6	<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1
Total Xylenes	1330-20-7	<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1
Total BTEX		<0.0202	0.0202	mg/kg	01.28.20 05.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	68-120	01.28.20 05.06	
a,a,a-Trifluorotoluene	98-08-8	98	%	71-121	01.28.20 05.06	

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Sadado Draw Frac 14

Sample Id: **S-16 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-040 Date Collected: 01.16.20 14.18

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.00 Basis: Wet Weight

Seq Number: 3114292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.18**	5.03	mg/kg	01.22.20 19.52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 09.00 Basis: Wet Weight

Seq Number: 3114494

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 20.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 20.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 20.32	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 20.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	01.24.20 20.32	
o-Terphenyl	84-15-1	89	%	70-135	01.24.20 20.32	

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Sadado Draw Frac 14

Sample Id:	**S-16 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-040	Date Collected:	01.16.20 14.18		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114610			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 05.33	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 05.33	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 05.33	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 05.33	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 05.33	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 05.33	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 05.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	01.28.20 05.33	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	01.28.20 05.33	

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Sadado Draw Frac 14

Sample Id: **S-16 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-041 Date Collected: 01.16.20 14.19

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.91**	4.99	mg/kg	01.23.20 16.20		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 22.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 22.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 22.17	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 22.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	01.24.20 22.17	
o-Terphenyl	84-15-1	91	%	70-135	01.24.20 22.17	

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Sadado Draw Frac 14

Sample Id:	**S-16 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-041	Date Collected:	01.16.20 14.19		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 09.35	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 09.35	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 09.35	U	1
m,p-Xylenes	179601-23-1	<0.0401	0.0401	mg/kg	01.28.20 09.35	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 09.35	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 09.35	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 09.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	68-120	01.28.20 09.35	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	01.28.20 09.35	

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Sadado Draw Frac 14

Sample Id: **S-16 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-042 Date Collected: 01.16.20 14.20

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.7**	5.04	mg/kg	01.23.20 16.39		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.24.20 23.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.24.20 23.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.24.20 23.20	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.24.20 23.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	01.24.20 23.20	
o-Terphenyl	84-15-1	95	%	70-135	01.24.20 23.20	

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Sadado Draw Frac 14

Sample Id:	**S-16 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-042	Date Collected:	01.16.20 14.20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0202	0.0202	mg/kg	01.28.20 11.23	U	1
Toluene	108-88-3	<0.0202	0.0202	mg/kg	01.28.20 11.23	U	1
Ethylbenzene	100-41-4	<0.0202	0.0202	mg/kg	01.28.20 11.23	U	1
m,p-Xylenes	179601-23-1	<0.0403	0.0403	mg/kg	01.28.20 11.23	U	1
o-Xylene	95-47-6	<0.0202	0.0202	mg/kg	01.28.20 11.23	U	1
Total Xylenes	1330-20-7	<0.0202	0.0202	mg/kg	01.28.20 11.23	U	1
Total BTEX		<0.0202	0.0202	mg/kg	01.28.20 11.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	68-120	01.28.20 11.23	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	01.28.20 11.23	

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Sadado Draw Frac 14

Sample Id: **S-18 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-043 Date Collected: 01.16.20 14.58

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.0**	4.96	mg/kg	01.23.20 16.46		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.24.20 23.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.24.20 23.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.24.20 23.41	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.24.20 23.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	01.24.20 23.41	
o-Terphenyl	84-15-1	96	%	70-135	01.24.20 23.41	

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Sadado Draw Frac 14

Sample Id:	**S-18 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-043	Date Collected:	01.16.20 14.58		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 11.50	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 11.50	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 11.50	U	1
m,p-Xylenes	179601-23-1	<0.0400	0.0400	mg/kg	01.28.20 11.50	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 11.50	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 11.50	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 11.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	01.28.20 11.50	
a,a,a-Trifluorotoluene	98-08-8	94	%	71-121	01.28.20 11.50	

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Sadado Draw Frac 14

Sample Id: **S-18 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-044 Date Collected: 01.16.20 14.59

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**25.2**	5.00	mg/kg	01.23.20 16.52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.25.20 00.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.25.20 00.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.25.20 00.03	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.25.20 00.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.25.20 00.03	
o-Terphenyl	84-15-1	92	%	70-135	01.25.20 00.03	

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Sadado Draw Frac 14

Sample Id:	**S-18 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-044	Date Collected:	01.16.20 14.59		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 12.17	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 12.17	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 12.17	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 12.17	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 12.17	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 12.17	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 12.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	01.28.20 12.17	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	01.28.20 12.17	

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Sadado Draw Frac 14

Sample Id: **S-18 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-045 Date Collected: 01.16.20 15.00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.7**	5.03	mg/kg	01.23.20 16.59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 00.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 00.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 00.24	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 00.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.25.20 00.24	
o-Terphenyl	84-15-1	93	%	70-135	01.25.20 00.24	

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Sadado Draw Frac 14

Sample Id:	**S-18 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-045	Date Collected:	01.16.20 15.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 12.43	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 12.43	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 12.43	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 12.43	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 12.43	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 12.43	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 12.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	01.28.20 12.43	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	01.28.20 12.43	

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Sadado Draw Frac 14

Sample Id:	**S-18 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-046	Date Collected:	01.16.20 15.07		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.20 15.40	Basis:	Wet Weight
Seq Number:	3114296				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**276**	4.96	mg/kg	01.23.20 17.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	01.24.20 13.00	Basis:	Wet Weight
Seq Number:	3114497				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.25.20 00.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.25.20 00.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.25.20 00.45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.25.20 00.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	01.25.20 00.45	
o-Terphenyl	84-15-1	91	%	70-135	01.25.20 00.45	

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Sadado Draw Frac 14

Sample Id:	**S-18 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-046	Date Collected:	01.16.20 15.07		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0198	0.0198	mg/kg	01.28.20 13.10	U	1
Toluene	108-88-3	<0.0198	0.0198	mg/kg	01.28.20 13.10	U	1
Ethylbenzene	100-41-4	<0.0198	0.0198	mg/kg	01.28.20 13.10	U	1
m,p-Xylenes	179601-23-1	<0.0397	0.0397	mg/kg	01.28.20 13.10	U	1
o-Xylene	95-47-6	<0.0198	0.0198	mg/kg	01.28.20 13.10	U	1
Total Xylenes	1330-20-7	<0.0198	0.0198	mg/kg	01.28.20 13.10	U	1
Total BTEX		<0.0198	0.0198	mg/kg	01.28.20 13.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	01.28.20 13.10	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	01.28.20 13.10	

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Sadado Draw Frac 14

Sample Id: **S-19 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-047 Date Collected: 01.17.20 09.49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1670**	24.8	mg/kg	01.24.20 09.12		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 01.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 01.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 01.06	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 01.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.25.20 01.06	
o-Terphenyl	84-15-1	94	%	70-135	01.25.20 01.06	

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Sadado Draw Frac 14

Sample Id:	**S-19 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-047	Date Collected:	01.17.20 09.49		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 13.37	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 13.37	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 13.37	U	1
m,p-Xylenes	179601-23-1	<0.0399	0.0399	mg/kg	01.28.20 13.37	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 13.37	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 13.37	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 13.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	01.28.20 13.37	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	01.28.20 13.37	

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Sadado Draw Frac 14

Sample Id: **S-19 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-048 Date Collected: 01.17.20 09.53

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**68.6**	4.95	mg/kg	01.23.20 17.31		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 01.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 01.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 01.28	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 01.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.25.20 01.28	
o-Terphenyl	84-15-1	92	%	70-135	01.25.20 01.28	

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Sadado Draw Frac 14

Sample Id:	**S-19 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-048	Date Collected:	01.17.20 09.53		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 14.04	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 14.04	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 14.04	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 14.04	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 14.04	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 14.04	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 14.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	01.28.20 14.04	
a,a,a-Trifluorotoluene	98-08-8	98	%	71-121	01.28.20 14.04	

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Sadado Draw Frac 14

Sample Id: **S-19 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-049 Date Collected: 01.17.20 10.00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**77.8**	5.00	mg/kg	01.23.20 17.50		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.25.20 01.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.25.20 01.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.25.20 01.49	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.25.20 01.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.25.20 01.49	
o-Terphenyl	84-15-1	93	%	70-135	01.25.20 01.49	

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Sadado Draw Frac 14

Sample Id:	**S-19 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-049	Date Collected:	01.17.20 10.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 14.35	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 14.35	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 14.35	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 14.35	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 14.35	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 14.35	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 14.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	01.28.20 14.35	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	01.28.20 14.35	

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Sadado Draw Frac 14

Sample Id: **S-19 (10')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-050 Date Collected: 01.17.20 10.10

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**262**	24.9	mg/kg	01.23.20 17.37		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 02.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 02.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 02.10	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 02.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.25.20 02.10	
o-Terphenyl	84-15-1	90	%	70-135	01.25.20 02.10	

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Sadado Draw Frac 14

Sample Id:	**S-19 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-050	Date Collected:	01.17.20 10.10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 15.02	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 15.02	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 15.02	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 15.02	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 15.02	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 15.02	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 15.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	68-120	01.28.20 15.02	
a,a,a-Trifluorotoluene	98-08-8	99	%	71-121	01.28.20 15.02	

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Sadado Draw Frac 14

Sample Id: **S-20 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-051 Date Collected: 01.17.20 10.41

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1340**	5.00	mg/kg	01.23.20 17.44		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.25.20 02.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.25.20 02.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.25.20 02.53	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.25.20 02.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.25.20 02.53	
o-Terphenyl	84-15-1	92	%	70-135	01.25.20 02.53	

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Sadado Draw Frac 14

Sample Id:	**S-20 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-051	Date Collected:	01.17.20 10.41		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 16.49	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 16.49	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 16.49	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 16.49	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 16.49	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 16.49	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 16.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	01.28.20 16.49	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	01.28.20 16.49	

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Sadado Draw Frac 14

Sample Id: **S-20 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-052 Date Collected: 01.17.20 10.42

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5600**	25.2	mg/kg	01.23.20 18.10		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 03.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 03.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 03.14	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 03.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.25.20 03.14	
o-Terphenyl	84-15-1	93	%	70-135	01.25.20 03.14	

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Sadado Draw Frac 14

Sample Id:	**S-20 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-052	Date Collected:	01.17.20 10.42		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 17.16	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 17.16	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 17.16	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 17.16	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 17.16	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 17.16	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 17.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	01.28.20 17.16	
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	01.28.20 17.16	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-20 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-053 Date Collected: 01.17.20 10.43

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**686**	5.01	mg/kg	01.23.20 18.16		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.25.20 03.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.25.20 03.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.25.20 03.35	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.25.20 03.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.25.20 03.35	
o-Terphenyl	84-15-1	92	%	70-135	01.25.20 03.35	

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Sadado Draw Frac 14

Sample Id:	**S-20 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-053	Date Collected:	01.17.20 10.43		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 17.43	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 17.43	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 17.43	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 17.43	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 17.43	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 17.43	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 17.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	68-120	01.28.20 17.43	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	01.28.20 17.43	

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Sadado Draw Frac 14

Sample Id: **S-20(10')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-054 Date Collected: 01.17.20 10.45

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**322**	4.96	mg/kg	01.23.20 18.36		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 03.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 03.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 03.56	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 03.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.25.20 03.56	
o-Terphenyl	84-15-1	92	%	70-135	01.25.20 03.56	

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Sadado Draw Frac 14

Sample Id:	**S-20(10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-054	Date Collected:	01.17.20 10.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 18.10	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 18.10	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 18.10	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 18.10	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 18.10	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 18.10	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 18.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	01.28.20 18.10	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	01.28.20 18.10	

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Sadado Draw Frac 14

Sample Id: **S-21 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-055 Date Collected: 01.17.20 11.00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**28.7**	4.97	mg/kg	01.23.20 18.42		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.25.20 04.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.25.20 04.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.25.20 04.17	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.25.20 04.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.25.20 04.17	
o-Terphenyl	84-15-1	94	%	70-135	01.25.20 04.17	

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Sadado Draw Frac 14

Sample Id:	**S-21 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-055	Date Collected:	01.17.20 11.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 18.36	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 18.36	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 18.36	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 18.36	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 18.36	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 18.36	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 18.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	01.28.20 18.36	
a,a,a-Trifluorotoluene	98-08-8	98	%	71-121	01.28.20 18.36	

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Sadado Draw Frac 14

Sample Id: **S-21 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-056 Date Collected: 01.17.20 11.01

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.4**	4.99	mg/kg	01.23.20 18.49		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.25.20 04.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.25.20 04.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.25.20 04.37	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.25.20 04.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.25.20 04.37	
o-Terphenyl	84-15-1	94	%	70-135	01.25.20 04.37	

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Sadado Draw Frac 14

Sample Id:	**S-21 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-056	Date Collected:	01.17.20 11.01		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 19.03	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 19.03	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 19.03	U	1
m,p-Xylenes	179601-23-1	<0.0399	0.0399	mg/kg	01.28.20 19.03	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 19.03	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 19.03	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 19.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	68-120	01.28.20 19.03	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	01.28.20 19.03	

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Sadado Draw Frac 14

Sample Id: **S-21 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-057 Date Collected: 01.17.20 11.02

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**758**	5.02	mg/kg	01.23.20 18.55		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.25.20 04.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.25.20 04.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.25.20 04.58	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.25.20 04.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.25.20 04.58	
o-Terphenyl	84-15-1	92	%	70-135	01.25.20 04.58	

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Sadado Draw Frac 14

Sample Id:	**S-21 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-057	Date Collected:	01.17.20 11.02		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 19.29	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 19.29	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 19.29	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 19.29	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 19.29	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 19.29	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 19.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	68-120	01.28.20 19.29	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	01.28.20 19.29	

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Sadado Draw Frac 14

Sample Id:	**S-21 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-058	Date Collected:	01.17.20 11.05		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.20 15.40	Basis:	Wet Weight
Seq Number:	3114296				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**646**	25.0	mg/kg	01.23.20 19.02		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	01.24.20 13.00	Basis:	Wet Weight
Seq Number:	3114497				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 05.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 05.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 05.19	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 05.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.25.20 05.19	
o-Terphenyl	84-15-1	92	%	70-135	01.25.20 05.19	

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Sadado Draw Frac 14

Sample Id:	**S-21 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-058	Date Collected:	01.17.20 11.05		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 19.56	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 19.56	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 19.56	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 19.56	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 19.56	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 19.56	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 19.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	68-120	01.28.20 19.56	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	01.28.20 19.56	

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Sadado Draw Frac 14

Sample Id: **S-22 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-059 Date Collected: 01.17.20 11.27

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**305**	5.00	mg/kg	01.23.20 19.08		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.25.20 05.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.25.20 05.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.25.20 05.40	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.25.20 05.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.25.20 05.40	
o-Terphenyl	84-15-1	95	%	70-135	01.25.20 05.40	

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Sadado Draw Frac 14

Sample Id:	**S-22 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-059	Date Collected:	01.17.20 11.27		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 20.22	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 20.22	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 20.22	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 20.22	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 20.22	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 20.22	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 20.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	01.28.20 20.22	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	01.28.20 20.22	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-22 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-060 Date Collected: 01.17.20 11.28

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 15.40 Basis: Wet Weight

Seq Number: 3114296

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**221**	5.00	mg/kg	01.23.20 19.15		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.24.20 13.00 Basis: Wet Weight

Seq Number: 3114497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.25.20 06.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.25.20 06.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.25.20 06.01	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.25.20 06.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.25.20 06.01	
o-Terphenyl	84-15-1	92	%	70-135	01.25.20 06.01	

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Sadado Draw Frac 14

Sample Id:	**S-22 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-060	Date Collected:	01.17.20 11.28		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114760			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 20.49	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 20.49	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 20.49	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 20.49	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 20.49	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 20.49	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 20.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	01.28.20 20.49	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	01.28.20 20.49	

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Sadado Draw Frac 14

Sample Id: **S-22 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-061 Date Collected: 01.17.20 11.35

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**33.2**	5.04	mg/kg	01.22.20 20.31		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 15.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 15.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 15.03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 15.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	01.25.20 15.03	
o-Terphenyl	84-15-1	123	%	70-135	01.25.20 15.03	

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Sadado Draw Frac 14

Sample Id:	**S-22 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-061	Date Collected:	01.17.20 11.35		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0198	0.0198	mg/kg	01.28.20 16.59	U	1
Toluene	108-88-3	<0.0198	0.0198	mg/kg	01.28.20 16.59	U	1
Ethylbenzene	100-41-4	<0.0198	0.0198	mg/kg	01.28.20 16.59	U	1
m,p-Xylenes	179601-23-1	<0.0396	0.0396	mg/kg	01.28.20 16.59	U	1
o-Xylene	95-47-6	<0.0198	0.0198	mg/kg	01.28.20 16.59	U	1
Total Xylenes	1330-20-7	<0.0198	0.0198	mg/kg	01.28.20 16.59	U	1
Total BTEX		<0.0198	0.0198	mg/kg	01.28.20 16.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	68-120	01.28.20 16.59	
a,a,a-Trifluorotoluene	98-08-8	84	%	71-121	01.28.20 16.59	

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Sadado Draw Frac 14

Sample Id: **S-15 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-062 Date Collected: 01.21.20 12.22

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**885**	4.97	mg/kg	01.22.20 20.50		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 15.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 15.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 15.24	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 15.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	01.25.20 15.24	
o-Terphenyl	84-15-1	116	%	70-135	01.25.20 15.24	

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Sadado Draw Frac 14

Sample Id:	**S-15 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-062	Date Collected:	01.21.20 12.22		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 18.36	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 18.36	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 18.36	U	1
m,p-Xylenes	179601-23-1	<0.0400	0.0400	mg/kg	01.28.20 18.36	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 18.36	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 18.36	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 18.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	68-120	01.28.20 18.36	
a,a,a-Trifluorotoluene	98-08-8	110	%	71-121	01.28.20 18.36	

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Sadado Draw Frac 14

Sample Id: **S-15 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-063 Date Collected: 01.21.20 12.23

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.67**	4.95	mg/kg	01.22.20 20.57		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.25.20 15.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.25.20 15.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.25.20 15.45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.25.20 15.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	01.25.20 15.45	
o-Terphenyl	84-15-1	122	%	70-135	01.25.20 15.45	

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Sadado Draw Frac 14

Sample Id:	**S-15 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-063	Date Collected:	01.21.20 12.23		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0202	0.0202	mg/kg	01.28.20 19.00	U	1
Toluene	108-88-3	<0.0202	0.0202	mg/kg	01.28.20 19.00	U	1
Ethylbenzene	100-41-4	<0.0202	0.0202	mg/kg	01.28.20 19.00	U	1
m,p-Xylenes	179601-23-1	<0.0403	0.0403	mg/kg	01.28.20 19.00	U	1
o-Xylene	95-47-6	<0.0202	0.0202	mg/kg	01.28.20 19.00	U	1
Total Xylenes	1330-20-7	<0.0202	0.0202	mg/kg	01.28.20 19.00	U	1
Total BTEX		<0.0202	0.0202	mg/kg	01.28.20 19.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	68-120	01.28.20 19.00	
a,a,a-Trifluorotoluene	98-08-8	91	%	71-121	01.28.20 19.00	

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Sadado Draw Frac 14

Sample Id: **S-15 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-064 Date Collected: 01.21.20 12.27

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**87.4**	5.00	mg/kg	01.22.20 21.03		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 16.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 16.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 16.06	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 16.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	01.25.20 16.06	
o-Terphenyl	84-15-1	128	%	70-135	01.25.20 16.06	

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Sadado Draw Frac 14

Sample Id:	**S-15 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-064	Date Collected:	01.21.20 12.27		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 19.24	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 19.24	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 19.24	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 19.24	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 19.24	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 19.24	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 19.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	01.28.20 19.24	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	01.28.20 19.24	

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Sadado Draw Frac 14

Sample Id: **S-15 (10')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-065 Date Collected: 01.21.20 12.28

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**208**	5.03	mg/kg	01.22.20 21.10		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 16.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 16.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 16.27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 16.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	01.25.20 16.27	
o-Terphenyl	84-15-1	121	%	70-135	01.25.20 16.27	

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Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-15 (10')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-065	Date Collected:	01.21.20 12.28		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 19.48	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 19.48	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 19.48	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 19.48	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 19.48	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 19.48	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 19.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	68-120	01.28.20 19.48	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	01.28.20 19.48	

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Sadado Draw Frac 14

Sample Id: **S-11 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-066 Date Collected: 01.21.20 11.54

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3260**	24.8	mg/kg	01.23.20 13.35		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.25.20 17.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.25.20 17.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.25.20 17.10	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.25.20 17.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	69	%	70-135	01.25.20 17.10	**
o-Terphenyl	84-15-1	70	%	70-135	01.25.20 17.10	

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Sadado Draw Frac 14

Sample Id:	**S-11 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-066	Date Collected:	01.21.20 11.54		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0198	0.0198	mg/kg	01.28.20 20.11	U	1
Toluene	108-88-3	<0.0198	0.0198	mg/kg	01.28.20 20.11	U	1
Ethylbenzene	100-41-4	<0.0198	0.0198	mg/kg	01.28.20 20.11	U	1
m,p-Xylenes	179601-23-1	<0.0397	0.0397	mg/kg	01.28.20 20.11	U	1
o-Xylene	95-47-6	<0.0198	0.0198	mg/kg	01.28.20 20.11	U	1
Total Xylenes	1330-20-7	<0.0198	0.0198	mg/kg	01.28.20 20.11	U	1
Total BTEX		<0.0198	0.0198	mg/kg	01.28.20 20.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	01.28.20 20.11	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	01.28.20 20.11	

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Sadado Draw Frac 14

Sample Id: **S-11 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-067 Date Collected: 01.21.20 11.55

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**87.3**	4.98	mg/kg	01.22.20 21.36		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.25.20 17.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	01.25.20 17.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.25.20 17.31	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.25.20 17.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	01.25.20 17.31	
o-Terphenyl	84-15-1	129	%	70-135	01.25.20 17.31	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-11 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-067	Date Collected:	01.21.20 11.55		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 20.35	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 20.35	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 20.35	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 20.35	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 20.35	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 20.35	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 20.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	68-120	01.28.20 20.35	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	01.28.20 20.35	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-11 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-068 Date Collected: 01.21.20 11.56

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**74.5**	4.99	mg/kg	01.22.20 21.42		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 17.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 17.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 17.52	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 17.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	01.25.20 17.52	
o-Terphenyl	84-15-1	132	%	70-135	01.25.20 17.52	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-11 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-068	Date Collected:	01.21.20 11.56		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0201	0.0201	mg/kg	01.28.20 20.58	U	1
Toluene	108-88-3	<0.0201	0.0201	mg/kg	01.28.20 20.58	U	1
Ethylbenzene	100-41-4	<0.0201	0.0201	mg/kg	01.28.20 20.58	U	1
m,p-Xylenes	179601-23-1	<0.0402	0.0402	mg/kg	01.28.20 20.58	U	1
o-Xylene	95-47-6	<0.0201	0.0201	mg/kg	01.28.20 20.58	U	1
Total Xylenes	1330-20-7	<0.0201	0.0201	mg/kg	01.28.20 20.58	U	1
Total BTEX		<0.0201	0.0201	mg/kg	01.28.20 20.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	01.28.20 20.58	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	01.28.20 20.58	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-12 (1')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-069 Date Collected: 01.21.20 12.12

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.18**	5.02	mg/kg	01.22.20 21.49		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 18.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 18.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 18.13	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 18.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	69	%	70-135	01.25.20 18.13	**
o-Terphenyl	84-15-1	73	%	70-135	01.25.20 18.13	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-12 (1')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-069	Date Collected:	01.21.20 12.12		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	01.28.20 21.22	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	01.28.20 21.22	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	01.28.20 21.22	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	01.28.20 21.22	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	01.28.20 21.22	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	01.28.20 21.22	U	1
Total BTEX		<0.0199	0.0199	mg/kg	01.28.20 21.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	68-120	01.28.20 21.22	
a,a,a-Trifluorotoluene	98-08-8	107	%	71-121	01.28.20 21.22	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-12 (3')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-070 Date Collected: 01.21.20 12.13

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**28.7**	5.00	mg/kg	01.22.20 21.55		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.25.20 18.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.25.20 18.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.25.20 18.34	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.25.20 18.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	01.25.20 18.34	
o-Terphenyl	84-15-1	125	%	70-135	01.25.20 18.34	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-12 (3')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-070	Date Collected:	01.21.20 12.13		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0198	0.0198	mg/kg	01.28.20 21.46	U	1
Toluene	108-88-3	<0.0198	0.0198	mg/kg	01.28.20 21.46	U	1
Ethylbenzene	100-41-4	<0.0198	0.0198	mg/kg	01.28.20 21.46	U	1
m,p-Xylenes	179601-23-1	<0.0397	0.0397	mg/kg	01.28.20 21.46	U	1
o-Xylene	95-47-6	<0.0198	0.0198	mg/kg	01.28.20 21.46	U	1
Total Xylenes	1330-20-7	<0.0198	0.0198	mg/kg	01.28.20 21.46	U	1
Total BTEX		<0.0198	0.0198	mg/kg	01.28.20 21.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	68-120	01.28.20 21.46	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	01.28.20 21.46	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id: **S-12 (5')** Matrix: Soil Date Received:01.22.20 10.31

Lab Sample Id: 649823-071 Date Collected: 01.21.20 12.14

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.22.20 16.00 Basis: Wet Weight

Seq Number: 3114301

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**86.5**	4.96	mg/kg	01.22.20 22.02		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: DVM % Moisture:

Analyst: ARM Date Prep: 01.25.20 08.00 Basis: Wet Weight

Seq Number: 3114506

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.25.20 18.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.25.20 18.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.25.20 18.55	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.25.20 18.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	01.25.20 18.55	
o-Terphenyl	84-15-1	126	%	70-135	01.25.20 18.55	

Certificate of Analytical Results 649823

Larson and Associates, Inc., Midland, TX

Sadado Draw Frac 14

Sample Id:	**S-12 (5')**	Matrix:	Soil	Date Received:	01.22.20 10.31
Lab Sample Id:	649823-071	Date Collected:	01.21.20 12.14		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	01.27.20 12.30	Basis:	Wet Weight
Seq Number:	3114906			SUB:	T104704219-19-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.28.20 23.20	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.28.20 23.20	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.28.20 23.20	U	1
m,p-Xylenes	179601-23-1	<0.0400	0.0400	mg/kg	01.28.20 23.20	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.28.20 23.20	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.28.20 23.20	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.28.20 23.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	01.28.20 23.20	
a,a,a-Trifluorotoluene	98-08-8	109	%	71-121	01.28.20 23.20	

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.

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

QC Summary 649823

Larson and Associates, Inc.

Sadado Draw Frac 14

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114290 — Matrix: Solid — Date Prep: 01.22.20
MB Sample Id: 7694962-1-BLK — LCS Sample Id: 7694962-1-BKS — LCSD Sample Id: 7694962-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	262	105	261	104	90-110	0	20	mg/kg	01.23.20 05:23	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114292 — Matrix: Solid — Date Prep: 01.22.20
MB Sample Id: 7694963-1-BLK — LCS Sample Id: 7694963-1-BKS — LCSD Sample Id: 7694963-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	254	102	255	102	90-110	0	20	mg/kg	01.22.20 16:44	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114296 — Matrix: Solid — Date Prep: 01.22.20
MB Sample Id: 7694999-1-BLK — LCS Sample Id: 7694999-1-BKS — LCSD Sample Id: 7694999-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	274	110	273	109	90-110	0	20	mg/kg	01.23.20 16:07	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114301 — Matrix: Solid — Date Prep: 01.22.20
MB Sample Id: 7695000-1-BLK — LCS Sample Id: 7695000-1-BKS — LCSD Sample Id: 7695000-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	258	103	256	102	90-110	1	20	mg/kg	01.22.20 20:18	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114290 — Matrix: Soil — Date Prep: 01.22.20
Parent Sample Id: 649823-001 — MS Sample Id: 649823-001 S — MSD Sample Id: 649823-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	31.2	252	300	107	304	108	90-110	1	20	mg/kg	01.23.20 05:43	

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

QC Summary 649823

Larson and Associates, Inc.

Sadado Draw Frac 14

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114290 — Matrix: Soil — Date Prep: 01.22.20
Parent Sample Id: 649823-011 — MS Sample Id: 649823-011 S — MSD Sample Id: 649823-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	251	250	507	102	506	102	90-110	0	20	mg/kg	01.23.20 07:13	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114292 — Matrix: Soil — Date Prep: 01.22.20
Parent Sample Id: 649823-021 — MS Sample Id: 649823-021 S — MSD Sample Id: 649823-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	61.8	250	316	102	315	101	90-110	0	20	mg/kg	01.22.20 17:04	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114292 — Matrix: Soil — Date Prep: 01.22.20
Parent Sample Id: 649823-031 — MS Sample Id: 649823-031 S — MSD Sample Id: 649823-031 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	163	250	412	100	418	102	90-110	1	20	mg/kg	01.22.20 18:35	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114296 — Matrix: Soil — Date Prep: 01.22.20
Parent Sample Id: 649823-041 — MS Sample Id: 649823-041 S — MSD Sample Id: 649823-041 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.91	299	293	96	286	93	90-110	2	20	mg/kg	01.23.20 16:26	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114296 — Matrix: Soil — Date Prep: 01.22.20
Parent Sample Id: 649823-049 — MS Sample Id: 649823-049 S — MSD Sample Id: 649823-049 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	77.8	300	374	99	370	97	90-110	1	20	mg/kg	01.23.20 17:57	

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

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

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

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

QC Summary 649823

Larson and Associates, Inc.

Sadado Draw Frac 14

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114301 — Matrix: Soil — Date Prep: 01.22.20
Parent Sample Id: 649823-061 — MS Sample Id: 649823-061 S — MSD Sample Id: 649823-061 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	33.2	252	289	102	287	101	90-110	1	20	mg/kg	01.22.20 20:37	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114301 — Matrix: Soil — Date Prep: 01.22.20
Parent Sample Id: 649823-071 — MS Sample Id: 649823-071 S — MSD Sample Id: 649823-071 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	248	343	103	341	103	90-110	1	20	mg/kg	01.22.20 22:08	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114491 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695210-1-BLK — LCS Sample Id: 7695210-1-BKS — LCSD Sample Id: 7695210-1-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)	<15.0	1000	877	88	872	87	70-135	1	20	mg/kg	01.24.20 12:08	
Diesel Range Organics (DRO)	<15.0	1000	912	91	954	95	70-135	5	20	mg/kg	01.24.20 12:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		99		99		70-135	%	01.24.20 12:08
o-Terphenyl	106		103		105		70-135	%	01.24.20 12:08

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114494 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695212-1-BLK — LCS Sample Id: 7695212-1-BKS — LCSD Sample Id: 7695212-1-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)	<15.0	1000	893	89	849	85	70-135	5	20	mg/kg	01.24.20 12:08	
Diesel Range Organics (DRO)	<15.0	1000	906	91	907	91	70-135	0	20	mg/kg	01.24.20 12:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		101		94		70-135	%	01.24.20 12:08
o-Terphenyl	91		100		89		70-135	%	01.24.20 12:08

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

QC Summary 649823

Larson and Associates, Inc.

Sadado Draw Frac 14

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114497 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695214-1-BLK — LCS Sample Id: 7695214-1-BKS — LCSD Sample Id: 7695214-1-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)	<15.0	1000	843	84	814	81	70-135	4	20	mg/kg	01.24.20 21:35	
Diesel Range Organics (DRO)	<15.0	1000	864	86	834	83	70-135	4	20	mg/kg	01.24.20 21:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		96		94		70-135	%	01.24.20 21:35
o-Terphenyl	94		92		91		70-135	%	01.24.20 21:35

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114506 — Matrix: Solid — Date Prep: 01.25.20
MB Sample Id: 7695225-1-BLK — LCS Sample Id: 7695225-1-BKS — LCSD Sample Id: 7695225-1-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)	<15.0	1000	924	92	905	91	70-135	2	20	mg/kg	01.25.20 11:53	
Diesel Range Organics (DRO)	<15.0	1000	986	99	975	98	70-135	1	20	mg/kg	01.25.20 11:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		106		102		70-135	%	01.25.20 11:53
o-Terphenyl	114		110		107		70-135	%	01.25.20 11:53

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114491 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695210-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.24.20 11:47	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114494 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695212-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.24.20 11:47	

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

QC Summary 649823

Larson and Associates, Inc.

Sadado Draw Frac 14

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114497 — Matrix: Solid — Date Prep: 01.24.20
MB Sample Id: 7695214-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.24.20 21:14	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114506 — Matrix: Solid — Date Prep: 01.25.20
MB Sample Id: 7695225-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.25.20 11:32	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114491 — Matrix: Soil — Date Prep: 01.24.20
Parent Sample Id: 649823-001 — MS Sample Id: 649823-001 S — MSD Sample Id: 649823-001 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)	24.2	997	918	90	898	87	70-135	2	20	mg/kg	01.24.20 13:12	
Diesel Range Organics (DRO)	<15.0	997	971	97	972	97	70-135	0	20	mg/kg	01.24.20 13:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		100		70-135	%	01.24.20 13:12
o-Terphenyl	105		106		70-135	%	01.24.20 13:12

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114494 — Matrix: Soil — Date Prep: 01.24.20
Parent Sample Id: 649823-021 — MS Sample Id: 649823-021 S — MSD Sample Id: 649823-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	801	80	814	82	70-135	2	20	mg/kg	01.24.20 13:12	
Diesel Range Organics (DRO)	<15.0	997	809	81	807	81	70-135	0	20	mg/kg	01.24.20 13:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		104		70-135	%	01.24.20 13:12
o-Terphenyl	87		87		70-135	%	01.24.20 13:12

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

QC Summary 649823

Larson and Associates, Inc.

Sadado Draw Frac 14

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3114497 | Matrix: Soil | Date Prep: 01.24.20
Parent Sample Id: 649823-041 | MS Sample Id: 649823-041 S | MSD Sample Id: 649823-041 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)	<15.0	997	817	82	842	85	70-135	3	20	mg/kg	01.24.20 22:38	
Diesel Range Organics (DRO)	<15.0	997	842	84	861	86	70-135	2	20	mg/kg	01.24.20 22:38	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		99		70-135	%	01.24.20 22:38
o-Terphenyl	93		92		70-135	%	01.24.20 22:38

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3114506 | Matrix: Soil | Date Prep: 01.25.20
Parent Sample Id: 649821-001 | MS Sample Id: 649821-001 S | MSD Sample Id: 649821-001 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)	<15.0	997	830	83	909	90	70-135	9	20	mg/kg	01.25.20 12:56	
Diesel Range Organics (DRO)	1030	997	1880	85	1920	89	70-135	2	20	mg/kg	01.25.20 12:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		126		70-135	%	01.25.20 12:56
o-Terphenyl	104		116		70-135	%	01.25.20 12:56

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3114610 | Matrix: Solid | Date Prep: 01.27.20
MB Sample Id: 7695287-1-BLK | LCS Sample Id: 7695287-1-BKS | LCSD Sample Id: 7695287-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.91	96	2.02	101	55-120	6	20	mg/kg	01.27.20 15:23	
Toluene	<0.0200	2.00	1.92	96	1.95	98	77-120	2	20	mg/kg	01.27.20 15:23	
Ethylbenzene	<0.0200	2.00	1.85	93	1.86	93	77-120	1	20	mg/kg	01.27.20 15:23	
m,p-Xylenes	<0.0400	4.00	3.64	91	3.65	91	78-120	0	20	mg/kg	01.27.20 15:23	
o-Xylene	<0.0200	2.00	1.77	89	1.81	91	78-120	2	20	mg/kg	01.27.20 15:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		95		94		68-120	%	01.27.20 15:23
a,a,a-Trifluorotoluene	101		96		92		71-121	%	01.27.20 15:23

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

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

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

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

QC Summary 649823

Larson and Associates, Inc.

Sadado Draw Frac 14

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114613 — Matrix: Solid — Date Prep: 01.27.20
MB Sample Id: 7695281-1-BLK — LCS Sample Id: 7695281-1-BKS — LCSD Sample Id: 7695281-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.96	98	1.95	98	55-120	1	20	mg/kg	01.27.20 18:13	
Toluene	<0.0200	2.00	1.89	95	1.82	91	77-120	4	20	mg/kg	01.27.20 18:13	
Ethylbenzene	<0.0200	2.00	1.91	96	1.85	93	77-120	3	20	mg/kg	01.27.20 18:13	
m,p-Xylenes	<0.0400	4.00	3.80	95	3.70	93	78-120	3	20	mg/kg	01.27.20 18:13	
o-Xylene	<0.0200	2.00	1.93	97	1.88	94	78-120	3	20	mg/kg	01.27.20 18:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	79		76		77		68-120	%	01.27.20 18:13
a,a,a-Trifluorotoluene	77		77		79		71-121	%	01.27.20 18:13

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114760 — Matrix: Solid — Date Prep: 01.27.20
MB Sample Id: 7695288-1-BLK — LCS Sample Id: 7695288-1-BKS — LCSD Sample Id: 7695288-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.86	93	1.97	99	55-120	6	20	mg/kg	01.28.20 07:20	
Toluene	<0.0200	2.00	1.88	94	1.91	96	77-120	2	20	mg/kg	01.28.20 07:20	
Ethylbenzene	<0.0200	2.00	1.78	89	1.82	91	77-120	2	20	mg/kg	01.28.20 07:20	
m,p-Xylenes	<0.0400	4.00	3.48	87	3.58	90	78-120	3	20	mg/kg	01.28.20 07:20	
o-Xylene	<0.0200	2.00	1.73	87	1.77	89	78-120	2	20	mg/kg	01.28.20 07:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	92		81		83		68-120	%	01.28.20 07:20
a,a,a-Trifluorotoluene	87		81		79		71-121	%	01.28.20 07:20

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114906 — Matrix: Solid — Date Prep: 01.27.20
MB Sample Id: 7695364-1-BLK — LCS Sample Id: 7695364-1-BKS — LCSD Sample Id: 7695364-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.88	94	1.91	96	55-120	2	20	mg/kg	01.28.20 14:58	
Toluene	<0.0200	2.00	1.82	91	1.86	93	77-120	2	20	mg/kg	01.28.20 14:58	
Ethylbenzene	<0.0200	2.00	1.87	94	1.90	95	77-120	2	20	mg/kg	01.28.20 14:58	
m,p-Xylenes	<0.0400	4.00	3.73	93	3.79	95	78-120	2	20	mg/kg	01.28.20 14:58	
o-Xylene	<0.0200	2.00	1.89	95	1.92	96	78-120	2	20	mg/kg	01.28.20 14:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	109		85		103		68-120	%	01.28.20 14:58
a,a,a-Trifluorotoluene	105		86		105		71-121	%	01.28.20 14:58

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

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

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

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

Final 1.000

QC Summary 649823

Larson and Associates, Inc.

Sadado Draw Frac 14

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114610 — Matrix: Soil — Date Prep: 01.27.20
Parent Sample Id: 649823-021 — MS Sample Id: 649823-021 S — MSD Sample Id: 649823-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0199	1.99	1.88	94	1.28	63	54-120	38	25	mg/kg	01.27.20 18:46	F
Toluene	<0.0199	1.99	2.01	101	1.31	65	57-120	42	25	mg/kg	01.27.20 18:46	F
Ethylbenzene	<0.0199	1.99	1.97	99	1.30	64	58-131	41	25	mg/kg	01.27.20 18:46	F
m,p-Xylenes	0.00798	3.98	3.89	98	2.40	59	62-124	47	25	mg/kg	01.27.20 18:46	XF
o-Xylene	<0.0199	1.99	1.92	96	1.24	61	62-124	43	25	mg/kg	01.27.20 18:46	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		64	**	68-120	%	01.27.20 18:46
a,a,a-Trifluorotoluene	95		70	**	71-121	%	01.27.20 18:46

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114613 — Matrix: Soil — Date Prep: 01.27.20
Parent Sample Id: 649823-001 — MS Sample Id: 649823-001 S — MSD Sample Id: 649823-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0198	1.98	1.94	98	1.91	96	54-120	2	25	mg/kg	01.27.20 20:38	
Toluene	<0.0198	1.98	1.89	95	1.84	92	57-120	3	25	mg/kg	01.27.20 20:38	
Ethylbenzene	<0.0198	1.98	1.88	95	1.82	91	58-131	3	25	mg/kg	01.27.20 20:38	
m,p-Xylenes	<0.0396	3.96	3.73	94	3.61	90	62-124	3	25	mg/kg	01.27.20 20:38	
o-Xylene	<0.0198	1.98	1.87	94	1.82	91	62-124	3	25	mg/kg	01.27.20 20:38	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	79		94		68-120	%	01.27.20 20:38
a,a,a-Trifluorotoluene	85		111		71-121	%	01.27.20 20:38

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3114760 — Matrix: Soil — Date Prep: 01.27.20
Parent Sample Id: 649823-041 — MS Sample Id: 649823-041 S — MSD Sample Id: 649823-041 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0199	1.99	1.67	84	1.61	80	54-120	4	25	mg/kg	01.28.20 10:02	
Toluene	<0.0199	1.99	1.81	91	1.78	89	57-120	2	25	mg/kg	01.28.20 10:02	
Ethylbenzene	<0.0199	1.99	1.80	90	1.80	90	58-131	0	25	mg/kg	01.28.20 10:02	
m,p-Xylenes	<0.0398	3.98	3.55	89	3.55	88	62-124	0	25	mg/kg	01.28.20 10:02	
o-Xylene	<0.0199	1.99	1.73	87	1.74	87	62-124	1	25	mg/kg	01.28.20 10:02	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	86		84		68-120	%	01.28.20 10:02
a,a,a-Trifluorotoluene	84		85		71-121	%	01.28.20 10:02

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

QC Summary 649823

Larson and Associates, Inc.

Sadado Draw Frac 14

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3114906 Matrix: Soil Date Prep: 01.27.20

Parent Sample Id: 649823-061 MS Sample Id: 649823-061 S MSD Sample Id: 649823-061 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0202	2.02	1.66	82	1.69	85	54-120	2	25	mg/kg	01.28.20 17:24	
Toluene	<0.0202	2.02	1.59	79	1.70	85	57-120	7	25	mg/kg	01.28.20 17:24	
Ethylbenzene	<0.0202	2.02	1.58	78	1.71	86	58-131	8	25	mg/kg	01.28.20 17:24	
m,p-Xylenes	<0.0403	4.03	3.14	78	3.41	85	62-124	8	25	mg/kg	01.28.20 17:24	
o-Xylene	<0.0202	2.02	1.57	78	1.70	85	62-124	8	25	mg/kg	01.28.20 17:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	79		96		68-120	%	01.28.20 17:24
a,a,a-Trifluorotoluene	90		110		71-121	%	01.28.20 17:24

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

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

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

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

Final 1.000

649823

Nº 0909

CHAIN-OF-CUSTODY

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

DATE: 1/22/2020 PAGE 1 OF 5
PO#: LAB WORK ORDER#:
PROJECT LOCATION OR NAME: Sabado Draw Frac 19
LAI PROJECT #: 19-0180-05 COLLECTOR: BS/EC

Data Reported to:

TRRP report? ☐ Yes ☒ No

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

TIME ZONE:
Time zone/State: MST

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 ☐	FIELD NOTES
S-2 (1')		1/15/20	1401	S	1				X		X		X	X	X													X	
S-2 (3')			1402																										
S-2 (5')			1405																										
S-2 (10')			1406																										
S-3 (1')			1440																										
S-3 (3')			1441																										
S-3 (5')			1443																										
S-3 (10')			1444																										
S-4 (1')			1419																										
S-4 (3')			1420																										
S-4 (5')			1425																										
S-4 (10')			1426																										
S-7 (1')			1454																										
S-7 (3')			1455																										
S-7 (5')			1501																										
TOTAL		15																											

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[signature]	1/22 10:31	[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: 1.0 THERM#: R8
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

604903

№ 0910

CHAIN-OF-CUSTODY

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

Data Reported to:

DATE: 11/22/2020 PAGE 2 OF 5

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Soledad Draw Frac 19

LAI PROJECT #: 19-0180-05 COLLECTOR: DS/EC

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 | UNPRESERVED

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 ☐ | TCLP - METALS (RCRA) ☐ TCLP VOC ☐ | TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ | TOTAL METALS (RCRA) ☐ OTHER LIST ☐ | LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐ | RCI ☐ TOX ☐ FLASHPOINT ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ | pH ☐ HEXAVALENT CHROMIUM ☐ | EXPLOSIVES ☐ PECHLORATE ☐ | CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX ☒	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 ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
S-7 (10')		11/16/20	1502	S	1				X		X		X	X	X													X			
S-5 (1')		11/16/20	1005																											
S-5 (3')		11/16/20	1006																											
S-5 (5')			1010																											
S-5 (10')			1041																											
S-6 (1')			1022																											
S-6 (3')			1026																											
S-6 (5')			1030																											
S-6 (10')			1031																											
S-8 (1')			1200																											
S-8 (3')			1201																											
S-8 (5')			1204																											
S-8 (10')			1205																											
S-9 (1')			1049																											
S-9 (3')			1050																											
TOTAL					15																									

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LABORATORY: Xenco

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.0 THERM#: 18
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

Nº 0911

CHAIN-OF-CUSTODY

1049803

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

DATE: 1/22/2020 PAGE 3 OF 5

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Salado Draw Frac 19

LAI PROJECT #: 190180-05 COLLECTOR: DSIEC

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	TRPH	GASOLINE MOD 8015	DIESEL - MOD 8015	FIELD NOTES
S9 (5')		1/16/20	1105	S	1				X		X	X	X	X	
S9 (10')		1/16/20	1106	S	1										
S-13 (1')		"	1213	"	"										
S-13 (3')			1214												
S-13 (5')			1215												
S-13 (10')			1225												
S-14 (1)			1306												
S-14 (3)			1307												
S-14 (5)			1308												
S-16 (1)			1418												
S-16 (3)			1419												
S-16 (5)			1420												
S-18 (1)			1458												
S-18 (3)			1459												
S-18 (5')		—	1500												

TOTAL 15

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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 THERM#: 128
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

№ 0912

6049823

CHAIN-OF-CUSTODY

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

Data Reported to:

DATE: 1/22/2020 PAGE 4 OF 5

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Salado Draw - Frac 19

LAI PROJECT #: 19-0180-05 COLLECTOR: DS/EC

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 ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
S-19 (1)		1/16/20	1507	S	1				X		X		X	X	X												X		
S-19 (1)		1/17/20	0945																										
S-19 (3)			0953																										
S-19 (5)			1000																										
S-19 (10)			1010																										
S-20 (1)			1041																										
S-20 (3)			1042																										
S-20 (5)			1043																										
S-20 (10)			1045																										
S-21 (1)			1100																										
S-21 (3)			1101																										
S-21 (5)			1102																										
S-21 (10)			1105																										
S-22 (1)			1127																										
S-22 (3)			1124																										
TOTAL					15																								

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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 THERM#: R8
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

1049823

Nº 0913

CHAIN-OF-CUSTODY

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

Data Reported to:

DATE: 1/22/20 PAGE 5 OF 5

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: Salado Draw Frac 19

LAI PROJECT #: 19-0150-05 COLLECTOR: DS/RC

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	FIELD NOTES
S-22(5)		1/17/20	1135	S	1				X		X	
S-15(1)		1/21/20	1122									
S-15(3)			1123									
S-15(5)			1127									
S-15(7)			1129									
S-11(1)			1154									
S-11(3)			1155									
S-11(5)			1156									
S-12(1')			1212									
S-12(3)			1213									
S-12(5)			1214									

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 ☐

TOTAL 1

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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 THERM#: R8
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

Inter-Office Shipment

IOS Number : 56764

Date/Time:	01.24.2020	Created by:	Brianna Teel	Please send report to:	Holly Taylor
Lab# From:	**Midland**	Delivery Priority:		Address:	1211 W. Florida Ave
Lab# To:	**Lubbock**	Air Bill No.:	FEDEX	E-Mail:	holly.taylor@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
649823-001	S	S-2 (1')	01.15.2020 14:01	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:01	HTA	BR4FBZ BZ BZME EBZ	
649823-002	S	S-2 (3')	01.15.2020 14:02	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:02	HTA	BR4FBZ BZ BZME EBZ	
649823-003	S	S-2 (5')	01.15.2020 14:05	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:05	HTA	BR4FBZ BZ BZME EBZ	
649823-004	S	S-2 (10')	01.15.2020 14:06	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:06	HTA	BR4FBZ BZ BZME EBZ	
649823-005	S	S-3 (1')	01.15.2020 14:40	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:40	HTA	BR4FBZ BZ BZME EBZ	
649823-006	S	S-3 (3')	01.15.2020 14:41	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:41	HTA	BR4FBZ BZ BZME EBZ	
649823-007	S	S-3 (5')	01.15.2020 14:43	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:43	HTA	BR4FBZ BZ BZME EBZ	
649823-008	S	S-3 (10')	01.15.2020 14:44	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:44	HTA	BR4FBZ BZ BZME EBZ	
649823-009	S	S-4 (1')	01.15.2020 14:19	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:19	HTA	BR4FBZ BZ BZME EBZ	
649823-010	S	S-4 (3')	01.15.2020 14:20	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:20	HTA	BR4FBZ BZ BZME EBZ	
649823-011	S	S-4 (5')	01.15.2020 14:25	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:25	HTA	BR4FBZ BZ BZME EBZ	
649823-012	S	S-4(10')	01.15.2020 14:26	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:26	HTA	BR4FBZ BZ BZME EBZ	
649823-013	S	S-7 (1')	01.15.2020 14:58	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:58	HTA	BR4FBZ BZ BZME EBZ	
649823-014	S	S-7 (3')	01.15.2020 14:59	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 14:59	HTA	BR4FBZ BZ BZME EBZ	
649823-015	S	S-7 (5')	01.15.2020 15:01	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 15:01	HTA	BR4FBZ BZ BZME EBZ	
649823-016	S	S-7 (10')	01.15.2020 15:02	SW8021B	BTEX by EPA 8021B	01.28.2020	01.29.2020 15:02	HTA	BR4FBZ BZ BZME EBZ	
649823-017	S	S-5 (1')	01.16.2020 10:08	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 10:08	HTA	BR4FBZ BZ BZME EBZ	
649823-018	S	S-5 (3')	01.16.2020 10:06	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 10:06	HTA	BR4FBZ BZ BZME EBZ	
649823-019	S	S-5 (5')	01.16.2020 10:10	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 10:10	HTA	BR4FBZ BZ BZME EBZ	
649823-020	S	S-5 (10')	01.16.2020 10:11	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 10:11	HTA	BR4FBZ BZ BZME EBZ	
649823-021	S	S-6 (1')	01.16.2020 10:27	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 10:27	HTA	BR4FBZ BZ BZME EBZ	
649823-022	S	S-6 (3')	01.16.2020 10:26	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 10:26	HTA	BR4FBZ BZ BZME EBZ	
649823-023	S	S-6 (5')	01.16.2020 10:30	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 10:30	HTA	BR4FBZ BZ BZME EBZ	
649823-024	S	S-6 (10')	01.16.2020 10:31	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 10:31	HTA	BR4FBZ BZ BZME EBZ	
649823-025	S	S-8 (1')	01.16.2020 12:00	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 12:00	HTA	BR4FBZ BZ BZME EBZ	

Inter-Office Shipment

IOS Number : 56764

Date/Time:	01.24.2020	Created by:	Brianna Teel	Please send report to:	Holly Taylor
Lab# From:	**Midland**	Delivery Priority:		Address:	1211 W. Florida Ave
Lab# To:	**Lubbock**	Air Bill No.:	FEDEX	E-Mail:	holly.taylor@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
649823-026	S	S-8 (3')	01.16.2020 12:01	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 12:01	HTA	BR4FBZ BZ BZME EBZ	
649823-027	S	S-8 (5')	01.16.2020 12:04	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 12:04	HTA	BR4FBZ BZ BZME EBZ	
649823-028	S	S-8 (10')	01.16.2020 12:05	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 12:05	HTA	BR4FBZ BZ BZME EBZ	
649823-029	S	S-9 (1')	01.16.2020 10:49	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 10:49	HTA	BR4FBZ BZ BZME EBZ	
649823-030	S	S-9 (3')	01.16.2020 10:50	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 10:50	HTA	BR4FBZ BZ BZME EBZ	
649823-031	S	S-9 (5')	01.16.2020 11:05	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 11:05	HTA	BR4FBZ BZ BZME EBZ	
649823-032	S	S-9 (10')	01.16.2020 11:06	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 11:06	HTA	BR4FBZ BZ BZME EBZ	
649823-033	S	S-13 (1')	01.16.2020 12:13	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 12:13	HTA	BR4FBZ BZ BZME EBZ	
649823-034	S	S-13 (3')	01.16.2020 12:14	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 12:14	HTA	BR4FBZ BZ BZME EBZ	
649823-035	S	S-13 (5')	01.16.2020 12:15	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 12:15	HTA	BR4FBZ BZ BZME EBZ	
649823-036	S	S-13 (10')	01.16.2020 12:25	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 12:25	HTA	BR4FBZ BZ BZME EBZ	
649823-037	S	S-14 (1')	01.16.2020 13:06	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 13:06	HTA	BR4FBZ BZ BZME EBZ	
649823-038	S	S-14 (3')	01.16.2020 13:07	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 13:07	HTA	BR4FBZ BZ BZME EBZ	
649823-039	S	S-14 (5')	01.16.2020 13:08	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 13:08	HTA	BR4FBZ BZ BZME EBZ	
649823-040	S	S-16 (1')	01.16.2020 14:18	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 14:18	HTA	BR4FBZ BZ BZME EBZ	
649823-041	S	S-16 (3')	01.16.2020 14:19	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 14:19	HTA	BR4FBZ BZ BZME EBZ	
649823-042	S	S-16 (5')	01.16.2020 14:20	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 14:20	HTA	BR4FBZ BZ BZME EBZ	
649823-043	S	S-18 (1')	01.16.2020 14:58	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 14:58	HTA	BR4FBZ BZ BZME EBZ	
649823-044	S	S-18 (3')	01.16.2020 14:59	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 14:59	HTA	BR4FBZ BZ BZME EBZ	
649823-045	S	S-18 (5')	01.16.2020 15:00	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 15:00	HTA	BR4FBZ BZ BZME EBZ	
649823-046	S	S-18 (10')	01.16.2020 15:07	SW8021B	BTEX by EPA 8021B	01.28.2020	01.30.2020 15:07	HTA	BR4FBZ BZ BZME EBZ	
649823-047	S	S-19 (1')	01.17.2020 09:49	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-048	S	S-19 (3')	01.17.2020 09:53	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-049	S	S-19 (5')	01.17.2020 10:00	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-050	S	S-19 (10')	01.17.2020 10:10	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	

Inter Office Shipment or Sample Comments:

Inter-Office Shipment

IOS Number : 56764

Date/Time: 01.24.2020
Lab# From: **Midland**
Lab# To: **Lubbock**

Created by: Brianna Teel
Delivery Priority:
Air Bill No.: FEDEX

Please send report to: Holly Taylor
Address: 1211 W. Florida Ave
E-Mail: holly.taylor@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
649823-051	S	S-20 (1')	01.17.2020 10:41	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-052	S	S-20 (3')	01.17.2020 10:42	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-053	S	S-20 (5')	01.17.2020 10:43	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-054	S	S-20(10')	01.17.2020 10:45	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-055	S	S-21 (1')	01.17.2020 11:00	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-056	S	S-21 (3')	01.17.2020 11:01	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-057	S	S-21 (5')	01.17.2020 11:02	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-058	S	S-21 (10')	01.17.2020 11:05	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-059	S	S-22 (1')	01.17.2020 11:27	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-060	S	S-22 (3')	01.17.2020 11:28	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-061	S	S-22 (5')	01.17.2020 11:35	SW8021B	BTEX by EPA 8021B	01.28.2020	01.31.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-062	S	S-15 (1')	01.21.2020 12:22	SW8021B	BTEX by EPA 8021B	01.28.2020	02.04.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-063	S	S-15 (3')	01.21.2020 12:23	SW8021B	BTEX by EPA 8021B	01.28.2020	02.04.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-064	S	S-15 (5')	01.21.2020 12:27	SW8021B	BTEX by EPA 8021B	01.28.2020	02.04.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-065	S	S-15 (10')	01.21.2020 12:28	SW8021B	BTEX by EPA 8021B	01.28.2020	02.04.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-066	S	S-11 (1')	01.21.2020 11:54	SW8021B	BTEX by EPA 8021B	01.28.2020	02.04.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-067	S	S-11 (3')	01.21.2020 11:55	SW8021B	BTEX by EPA 8021B	01.28.2020	02.04.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-068	S	S-11 (5')	01.21.2020 11:56	SW8021B	BTEX by EPA 8021B	01.28.2020	02.04.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-069	S	S-12 (1')	01.21.2020 12:12	SW8021B	BTEX by EPA 8021B	01.28.2020	02.04.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-070	S	S-12 (3')	01.21.2020 12:13	SW8021B	BTEX by EPA 8021B	01.28.2020	02.04.2020	HTA	BR4FBZ BZ BZME EBZ	
649823-071	S	S-12 (5')	01.21.2020 12:14	SW8021B	BTEX by EPA 8021B	01.28.2020	02.04.2020	HTA	BR4FBZ BZ BZME EBZ	

Inter Office Shipment or Sample Comments:

Relinquished By: Brianna Teel

Date Relinquished: 01.24.2020

Received By: Ashley Derstine

Date Received: 01.25.2020

Inter-Office Shipment

IOS Number : 56764

Date/Time:	01.24.2020	Created by:	Brianna Teel	Please send report to:	Holly Taylor
Lab# From:	**Midland**	Delivery Priority:		Address:	1211 W. Florida Ave
Lab# To:	**Lubbock**	Air Bill No.:	FEDEX	E-Mail:	holly.taylor@xenco.com

Inter Office Shipment or Sample Comments:

Cooler Temperature: 2.6

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Lubbock

IOS #: 56764

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

Sent By: Brianna Teel **Date Sent:** 01.24.2020 10.34 AM

Received By: Ashley Derstine **Date Received:** 01.25.2020 10.30 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.6	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: _____ Date: 01.25.2020

Ashley Derstine

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 01/22/2020 10:31:00 AM

Work Order #: 649823

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

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.6	
#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)?	**Yes**	Xenco Lubbock: BTEX
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 01/22/2020

Brianna Teel

Checklist reviewed by: Holly Taylor Date: 01/30/2020

Holly Taylor

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Certificate of Analysis Summary 666165

Larson and Associates, Inc., Midland, TX

Project Name: Salado Draw Frac 19

Project Id: 20-0107-13
Contact: Mark Larson
Project Location:

Date Received in Lab: Thu 07.02.2020 08:21
Report Date: 07.09.2020 13:47
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	666165-001		666165-002		666165-003		666165-004					
	Field Id:	S-21 BH-1 5'		S-21 BH-1 10'		S-21 BH-1 15'		S-21 BH-1 20'					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	07.01.2020 13:50		07.01.2020 13:53		07.01.2020 13:55		07.01.2020 14:00					
Chloride by EPA 300	***Extracted:***	07.06.2020 17:00		07.06.2020 17:00		07.06.2020 17:00		07.06.2020 17:00					
	Analyzed:	07.06.2020 21:01		07.06.2020 21:06		07.06.2020 21:11		07.06.2020 21:16					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		2240	24.8	494	25.0	280	24.9	410	25.2				

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 666165

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Salado Draw Frac 19

20-0107-13

07.09.2020

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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07.09.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **666165**
Salado Draw Frac 19
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) 666165. 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. 666165 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

Sample Cross Reference 666165

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 19

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-21 BH-1 5'	S	07.01.2020 13:50		666165-001
S-21 BH-1 10'	S	07.01.2020 13:53		666165-002
S-21 BH-1 15'	S	07.01.2020 13:55		666165-003
S-21 BH-1 20'	S	07.01.2020 14:00		666165-004

CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: Salado Draw Frac 19

Project ID: *20-0107-13*
Work Order Number(s): *666165*

Report Date: *07.09.2020*
Date Received: *07.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 666165

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 19

Sample Id:	**S-21 BH-1 5'**	Matrix:	Soil	Date Received:	07.02.2020 08:21
Lab Sample Id:	666165-001	Date Collected:	07.01.2020 13:50		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.06.2020 17:00	Basis:	Wet Weight
Seq Number:	3130872				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2240**	24.8	mg/kg	07.06.2020 21:01		5

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Certificate of Analytical Results 666165

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 19

Sample Id:	**S-21 BH-1 10'**	Matrix:	Soil	Date Received:	07.02.2020 08:21
Lab Sample Id:	666165-002	Date Collected:	07.01.2020 13:53		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.06.2020 17:00	Basis:	Wet Weight
Seq Number:	3130872				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**494**	25.0	mg/kg	07.06.2020 21:06		5

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Certificate of Analytical Results 666165

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 19

Sample Id:	**S-21 BH-1 15'**	Matrix:	Soil	Date Received:	07.02.2020 08:21
Lab Sample Id:	666165-003	Date Collected:	07.01.2020 13:55		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.06.2020 17:00	Basis:	Wet Weight
Seq Number:	3130872				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**280**	24.9	mg/kg	07.06.2020 21:11		5

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Certificate of Analytical Results 666165

Larson and Associates, Inc., Midland, TX

Salado Draw Frac 19

Sample Id:	**S-21 BH-1 20'**	Matrix:	Soil	Date Received:	07.02.2020 08:21
Lab Sample Id:	666165-004	Date Collected:	07.01.2020 14:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.06.2020 17:00	Basis:	Wet Weight
Seq Number:	3130872				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**410**	25.2	mg/kg	07.06.2020 21:16		5

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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 666165

Larson and Associates, Inc.

Salado Draw Frac 19

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3130872 Matrix: Solid Date Prep: 07.06.2020
MB Sample Id: 7706808-1-BLK LCS Sample Id: 7706808-1-BKS LCSD Sample Id: 7706808-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	256	102	257	103	90-110	0	20	mg/kg	07.06.2020 20:36	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3130872 Matrix: Soil Date Prep: 07.06.2020
Parent Sample Id: 666164-053 MS Sample Id: 666164-053 S MSD Sample Id: 666164-053 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	350	253	600	99	603	100	90-110	0	20	mg/kg	07.06.2020 20:51	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3130872 Matrix: Soil Date Prep: 07.06.2020
Parent Sample Id: 666230-004 MS Sample Id: 666230-004 S MSD Sample Id: 666230-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10.9	248	278	108	278	108	90-110	0	20	mg/kg	07.06.2020 22:02	

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

№ 1195

CHAIN-OF-CUSTODY

660165

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

Data Reported to:

DATE: 7/1/20 PAGE 1 OF 1
PO#: LAB WORK ORDER#:
PROJECT LOCATION OR NAME: Salado Draw Frac 19
LAI PROJECT #: 20-0107-13 COLLECTOR: TS + 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 ☐ PECHLORATE ☐ / CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO$_3$	H$_2$SO$_4$ ☐ NaOH ☐	ICE	UNPRESSERVED	CHLORIDE	FIELD NOTES
S-21 BH-1 5'		7/1/20	1350	S	1						X	
S-21 BH-1 10'		|	1353	|	|						|	
S-21 BH-1 15'		|	1355	|	|						|	
S-21 BH-1 20'		|	1400	|	|						|	

TOTAL 4

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
Trent Sant [signature]	7/2 804	[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: 26.8/26.4 THERM#: TR8
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: 07.02.2020 08.21.00 AM

Work Order #: 666165

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)?	26.4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**No**
#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#:

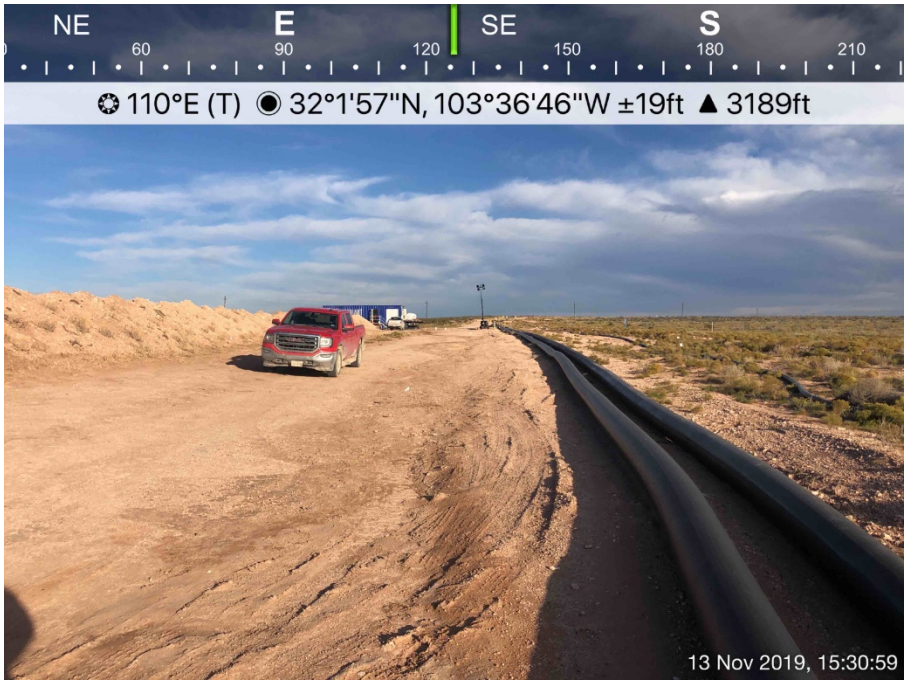
Checklist completed by: Brianna Teel Date: 07.02.2020
Brianna Teel

Checklist reviewed by: Holly Taylor Date: 07.02.2020
Holly Taylor

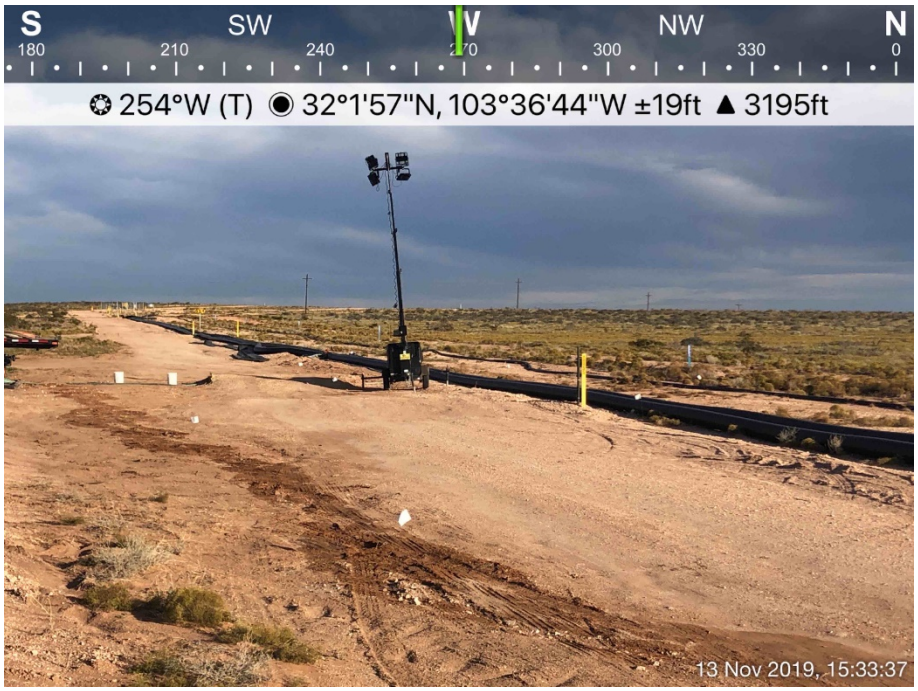
Appendix D

Photographs

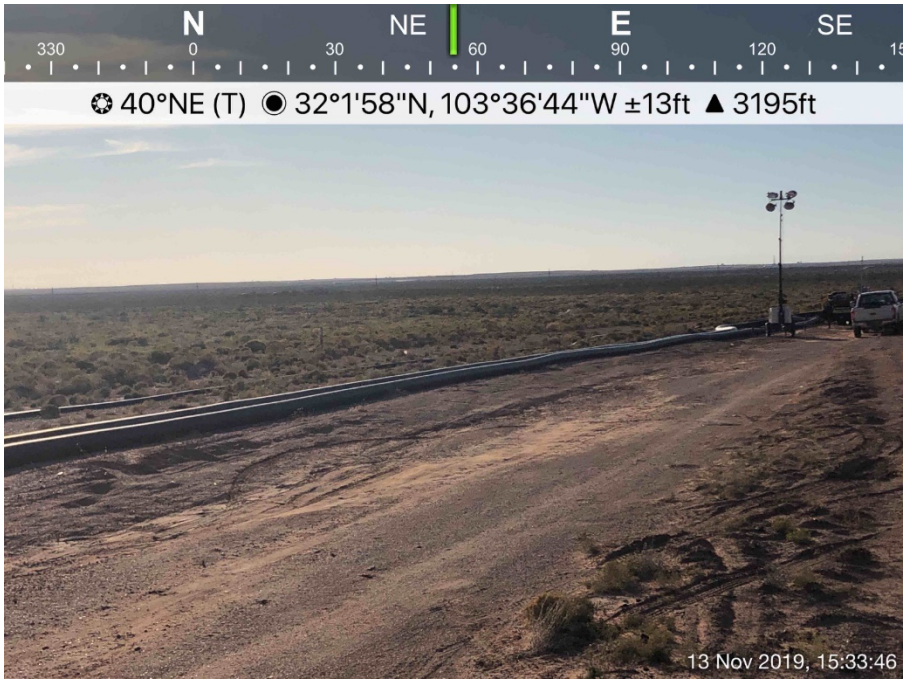
nVV2003555031
Delineation Report and Remediation Plan
Chevron USA, Inc., SD EA 29 32 Federal Com P10 #017H
Produced Water Release
August 14, 2020



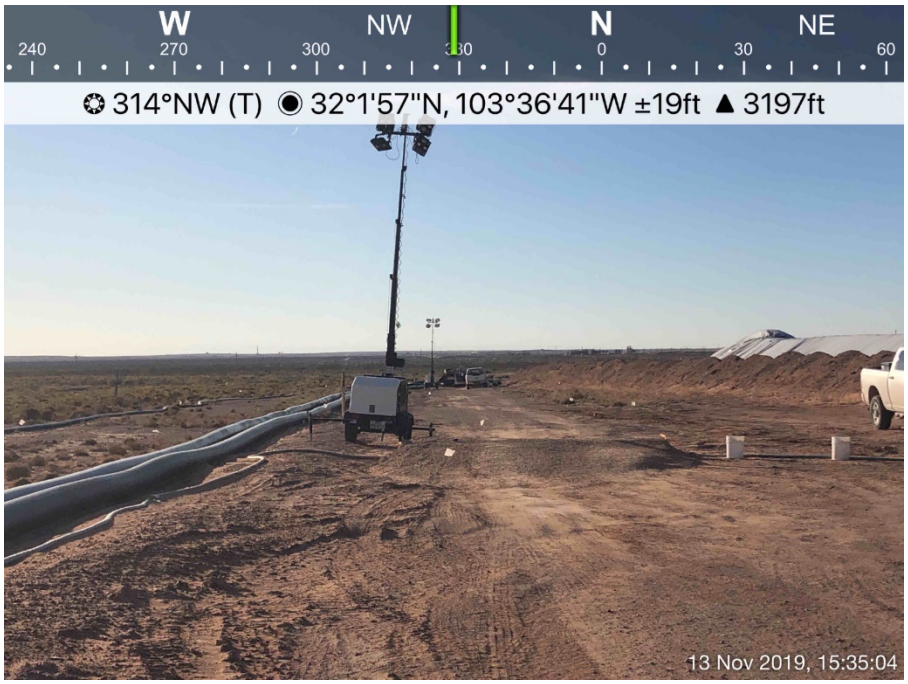
Spill area viewing southeast



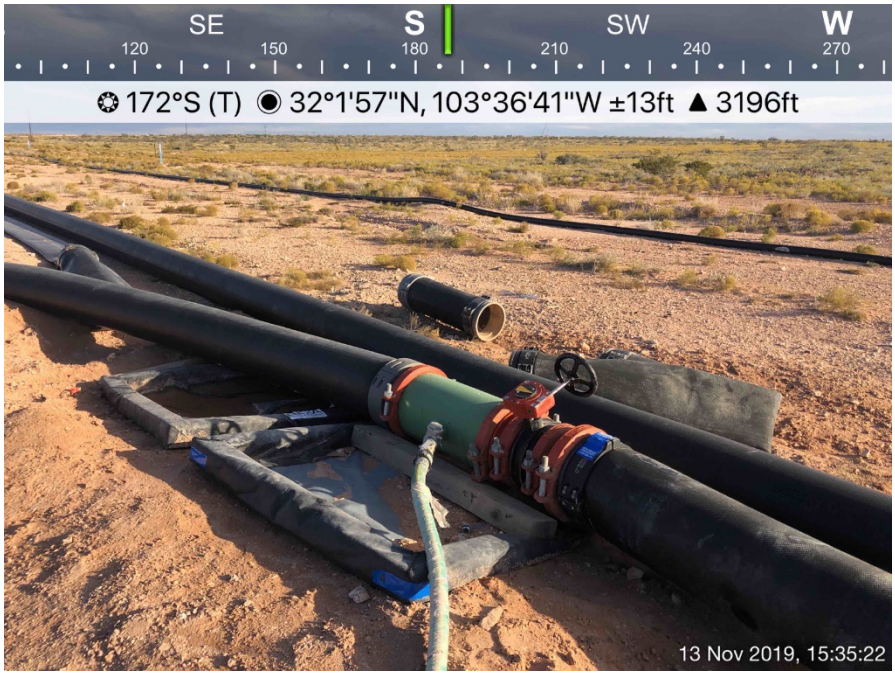
Spill area viewing west



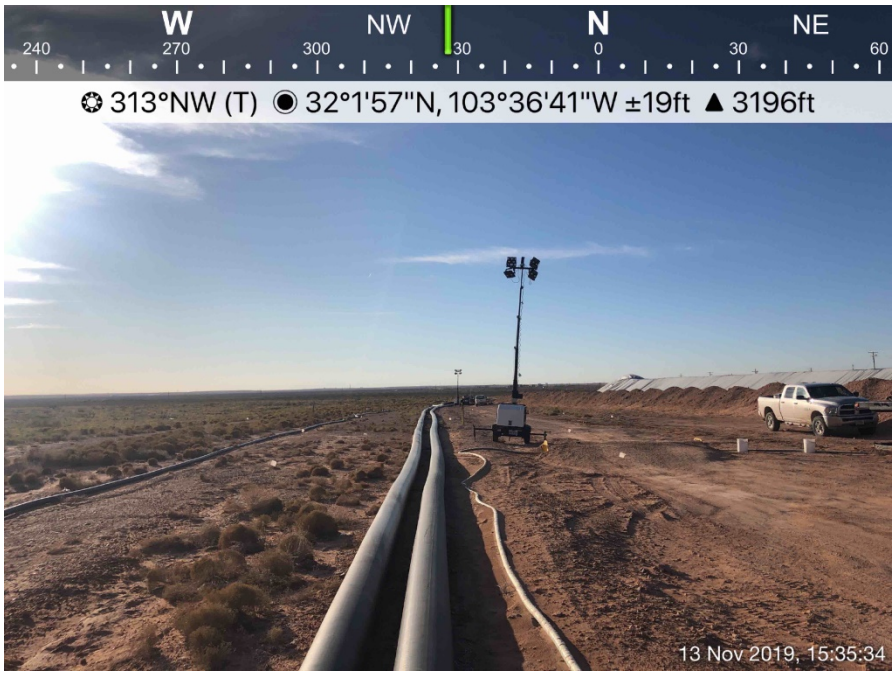
Spill area viewing northeast



Spill area viewing northwest



Release source viewing south



Spill area viewing northwest