

APPROVED

By Olivia Yu at 7:20 am, Apr 10, 2018

NMOCD approves of the
modified remediation plan to
include S-8 for 1RP-4818.

1RP-4818
DELINEATION REPORT
SALADO DRAW RWCS 1RC-11
PRODUCED WATER SPILL
Lea County, New Mexico

Latitude: N32.033822°
Longitude: W-103.638572°

LAI Project No. 17-0186-01

March 30, 2018

Prepared for:

Chevron USA Inc.
6301 Deauville Boulevard
Midland, Texas 79706

Prepared by:

Larson & Associates, Inc.
507 N. Marienfeld Street, Suite 205
Midland, Texas 79701



Mark J. Larson, P.G.
Certified Professional Geologist #10490

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1.0 INTRODUCTION

This delineation report is submitted to the New Mexico Oil Conservation on behalf of Chevron North America Exploration & Production Company (Chevron) by Larson & Associate, Inc. (LAI) for a produced water (treated) spill at the water recycling facility (Site) located in Unit A (NE 1/4, NE 1/4), Section 23, Township 26 South, Range 32 East, in Lea County, New Mexico. The geodetic position is North 32.033156° and West -103.639194°. Figure 1 presents a location and topographic map.

1.1 Background

The spill occurred on September 13, 2017 and was caused by a leak in a hose on the recirculation system. This leak released approximately 1,105 barrels of treated produced water. The source of the flow was isolated and approximately 500 barrels of treated produced water was recovered by vacuum truck. The spill occurred between the North and South treated water pits located south of the RWCS 1RC treatment facility. The spill flowed from the north side of the South pit to a low area between the South and North pits. The spill then flowed east and west for a distance of about 600 feet and covered an area approximately 20,711 square feet or about 0.47 acres. On September 13, 2017, Chevron verbally notified the OCD District 1 and the Bureau of Land Management, as surface and mineral owner. The OCD assigned the spill remediation permit number 1RP-4818. Appendix A presents the initial C-141.

1.2 Physical Setting

The physical setting is as follows:

- Surface elevation is approximately 3,150 feet above mean sea level (MSL);
- The topography slopes towards the south and southwest;
- The nearest surface water features is a seasonal playa located approximately 3,900 feet southeast of the Site.
- The surface soils are designated as “Pyote and Maljamar fine sands” which consist of approximately 30 inches of fine sand underlain by fine sandy loam to approximately 60 inches below ground surface(bgs);
- The soil is sandy eolian deposits derived from sedimentary rocks and underlain by cemented material (caliche);
- Groundwater occurs at roughly 150 feet below ground surface (bgs) according to records from the New Mexico Office of the State Engineer (NMOSE) and the U.S. Geological Survey.

1.3 Remediation Action Levels

Recommended remediation action levels (RRALs) were calculated for benzene, total BTEX (benzene, ethylbenzene, toluene and xylenes) and total petroleum hydrocarbons (TPH) based on the following criteria established by the OCD in “*Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993*”:

Criteria	Result	Score
Depth-to-Groundwater	>100 feet	0
Wellhead Protection Area	No	0
Distance to Surface Water Body	>1000 Horizontal Feet	0

The following RRAL apply to the release for ranking score: 0

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 5,000 mg/Kg

Depth to groundwater greater than 100 feet bgs requires delineation for chloride to 600 milligrams per kilogram (mg/Kg) and maintained 3 to 4 feet farther in depth.

2.0 SPILL DELINEATION

On October 13, 2017, LAI personnel used direct-push technology (DPT) to collect soil samples at ten (10) locations (S-1 through S-4, S-6 and S-8 through S-12). Samples were not collected at location S-5 and S-7 located east of the release due to interference from lay-flat hoses spread across the area. DPT uses hydraulics to push or percussion hammer and stainless steel core barrel approximately 4 feet in length into the subsurface. The core barrel retrieves a soil core approximately 1.7 inches in diameter and about 4 feet in length depending on recovery. The core barrel is equipped with dedicated polyethylene liners to minimize possible cross contamination between samples. Soil samples were collected to a maximum depth of about 16 feet bgs at location S-6 located near the east end of the release. On January 16, 2018, Harrison Cooper, Inc. (HCI), Lubbock, Texas, used an air rotary rig to collect soil samples every 5 feet (10, 15 and 20) feet bgs for vertical delineation of chloride at location S-2 and beginning at ground surface and every 5 feet thereafter to 20 feet bgs at location S-5 to complete spill delineation. The borings were plugged with bentonite and locations were recorded with a Trimble® global position system (GPS) receiver. Figure 3 presents the soil sample locations.

The soil samples were collected in glass containers. Soil samples collected on October 13, 2018 were analyzed by Xenco Laboratories. Soil samples collected on January 16, 2018 were analyzed by Permian Basin Environmental Lab. Both laboratories are located in Midland, Texas. The laboratories analyzed the upper sample (0 to 1 foot) from each location for BTEX and TPH, including gasoline range organics (GRO), diesel range organics (DRO) and oil range organics (ORO) by EPA SW-846 Methods 8021B and 8015 modified, respectively. All samples were analyzed for chloride by EPA Method 300. Table 1 presents the delineation sample laboratory analytical data summary. Figure 3 presents the soil sample locations. Attachment B presents the laboratory reports. Attachment C presents photographs.

Referring to Table 1, BTEX and TPH were below the analytical method reporting limit and RRAL in the upper sample (0 to 1 foot) at each location therefore no additional samples were analyzed for these parameters. Chloride was delineated vertically to 600 mg/Kg at all locations and maintained for 3 – 4 feet farther in depth. Chloride was reported above 600 mg/Kg in the following soil samples:

S-1, 0' to 1' (5,940 mg/Kg)	S-1, 1' to 2' (5,440 mg/Kg)	S-2, 4' to 5' (2,030 mg/Kg)
S-2, 5' to 6' (5,060 mg/Kg)	S-2, 6' to 7' (1,240 mg/Kg)	S-2, 10' (1,420 mg/Kg)
S-3, 0' to 1' (3,280 mg/Kg)	S-5, 0' (773 mg/Kg)	S-6, 0' to 1' (1,390 mg/Kg)
S-6, 2' to 3' (2,320 mg/Kg)	S-11, 2' to 3' (4,410mg/Kg)	S-11, 3' to 4' (10,200 mg/Kg)
S-11, 4' to 5' (2,890 mg/Kg)		

3.0 REMEDIATION PLAN

Per approval from OCD, Chevron will excavate soil in the area presented of S-1 (2 feet), S-2 (4 feet), S-3 (1 foot), S-6 (3 foot) and S-11 (4 feet). The anticipated soil volume is approximately 1,470 cubic yards from the following locations:

S-1 - 125 cubic yards

S-3 - 25 cubic yards

S-8 - 305 cubic yards

S-2 - 655 cubic yards

S-6 - 125 cubic yards

S-11 - 235 cubic yards

A 20-mil thickness polyethylene liner will be placed in the bottom of the excavation at S-2. Confirmation soil samples will be collected from the sidewalls and bottom of the excavation and analyzed for chloride. All excavations will be backfilled with clean soil and proper working surface. Figure 3 presents the proposed remediation areas and confirmation soil sample locations.

Tables

Table 1

1RP-4818

Delineation Soil Sample Analytical Data Summary

Chevron North America Exploration and Production Co., Salado Draw RWCS 1RC-11

UL A, Section 23, Township 26 South, Range 32 East

Lea County, New Mexico

Page 1 of 5

Sample	Depth (Feet)	Collection Date	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:			10	50				5,000	*600
S-1	0 - 1	10/13/2017	<0.00196	<0.01176	<15.0	<15.0	<15.0	<15.0	5,940
	1 - 2	10/13/2017	--	--	--	--	--	--	5,440
	2 - 3	10/13/2017	--	--	--	--	--	--	140
	3 - 4	10/13/2017	--	--	--	--	--	--	32.9
	4 - 5	10/13/2017	--	--	--	--	--	--	448
	5 - 6	10/13/2017	--	--	--	--	--	--	26.0
	6 - 7	10/13/2017	--	--	--	--	--	--	33.7
	7 - 8	10/13/2017	--	--	--	--	--	--	27.3
S-2	0 - 1	10/13/2017	<0.00198	<0.01189	<15.0	<15.0	<15.0	<15.0	41.1
	1 - 2	10/13/2017	--	--	--	--	--	--	109
	2 - 3	10/13/2017	--	--	--	--	--	--	474
	3 - 4	10/13/2017	--	--	--	--	--	--	673
	4 - 5	10/13/2017	--	--	--	--	--	--	2,030
	5 - 6	10/13/2017	--	--	--	--	--	--	5,060
	6 - 7	10/13/2017	--	--	--	--	--	--	1,240
	10	1/16/2018	--	--	--	--	--	--	1,420
	15	1/16/2018	--	--	--	--	--	--	44.2
	20	1/16/2018	--	--	--	--	--	--	56.3
S-3	0 - 1	10/13/2017	<0.00196	<0.01177	<15.0	<15.0	<15.0	<15.0	3,280
	1 - 2	10/13/2017	--	--	--	--	--	--	339
	2 - 3	10/13/2017	--	--	--	--	--	--	96.0
	3 - 4	10/13/2017	--	--	--	--	--	--	89.5
	4 - 5	10/13/2017	--	--	--	--	--	--	571
	5 - 6	10/13/2017	--	--	--	--	--	--	45.9

Table 1

1RP-4818

Delineation Soil Sample Analytical Data Summary

Chevron North America Exploration and Production Co., Salado Draw RWCS 1RC-11

UL A, Section 23, Township 26 South, Range 32 East

Lea County, New Mexico

Page 2 of 5

Sample	Depth (Feet)	Collection Date	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:			10	50			5,000		*600
	6 - 7	10/13/2017	--	--	--	--	--	--	26.0
	7 - 8	10/13/2017	--	--	--	--	--	--	6.19
	8 - 9	10/13/2017	--	--	--	--	--	--	179
	9 - 10	10/13/2017	--	--	--	--	--	--	5.3
	10 - 11	10/13/2017	--	--	--	--	--	--	7.05
S-4	0 - 1	10/13/2017	<0.00197	<0.01182	<15.0	<15.0	<15.0	<15.0	216
	1 - 2	10/13/2017	--	--	--	--	--	--	51.4
	2 - 3	10/13/2017	--	--	--	--	--	--	44.0
	3 - 4	10/13/2017	--	--	--	--	--	--	16.3
	4 - 5	10/13/2017	--	--	--	--	--	--	28.9
	5 - 6	10/13/2017	--	--	--	--	--	--	19.5
	6 - 7	10/13/2017	--	--	--	--	--	--	7.01
	7 - 8	10/13/2017	--	--	--	--	--	--	<4.97
S-5	0	10/13/2017	--	--	--	--	--	--	773
	5	10/13/2017	--	--	--	--	--	--	74.9
	10	10/13/2017	--	--	--	--	--	--	28.5
	15	10/13/2017	--	--	--	--	--	--	33.3
	20	10/13/2017	--	--	--	--	--	--	14.3
S-6	0 - 1	10/18/2017	<0.00200	<0.0120	<15.0	<15.0	<15.0	<15.0	1,390
	1 - 2	10/18/2017	--	--	--	--	--	--	974
	2 - 3	10/18/2017	--	--	--	--	--	--	2,320
	3 - 4	10/18/2017	--	--	--	--	--	--	269
	4 - 5	10/18/2017	--	--	--	--	--	--	22.5

Table 1

1RP-4818

Delineation Soil Sample Analytical Data Summary

Chevron North America Exploration and Production Co., Salado Draw RWCS 1RC-11

UL A, Section 23, Township 26 South, Range 32 East

Lea County, New Mexico

N32.033156° W-103.639194°

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Sample	Depth (Feet)	Collection Date	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:			10	50			5,000	*600	
	5 - 6	10/18/2017	--	--	--	--	--	--	49.4
	6 - 7	10/18/2017	--	--	--	--	--	--	38.4
	7 - 8	10/18/2017	--	--	--	--	--	--	20.9
	8 - 9	10/18/2017	--	--	--	--	--	--	27.3
	9 - 10	10/18/2017	--	--	--	--	--	--	16.2
	10 - 11	10/18/2017	--	--	--	--	--	--	<5.00
	11 - 12	10/18/2017	--	--	--	--	--	--	<4.96
	12 - 13	10/18/2017	--	--	--	--	--	--	103
	13 - 14	10/18/2017	--	--	--	--	--	--	169
	14 - 15	10/18/2017	--	--	--	--	--	--	127
SB-8	0 - 1	10/12/2017	<0.002	<0.01199	<15.0	<15.0	<15.0	<15.0	220
	1 - 2	10/12/2017	--	--	--	--	--	--	3,150
	2 - 3	10/12/2017	--	--	--	--	--	--	533
	3 - 4	10/18/2017	--	--	--	--	--	--	576
	4 - 5	10/18/2017	--	--	--	--	--	--	1,840
	5 - 6	10/18/2017	--	--	--	--	--	--	22.0
	6 - 7	10/18/2017	--	--	--	--	--	--	6.73
SB-9	0 - 1	10/13/2017	<0.002	<0.012	<15.0	<15.0	<15.0	<15.0	37.6
	1 - 2	10/13/2017	--	--	--	--	--	--	23.6
	2 - 3	10/13/2017	--	--	--	--	--	--	30.8
	3 - 4	10/13/2017	--	--	--	--	--	--	24.7
S-10	0 - 1	10/12/2017	<0.00195	<0.01169	<15.0	<15.0	<15.0	<15.0	40.2

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Lea County, New Mexico

N32.033156° W-103.639194°

Page 4 of 5

Sample	Depth (Feet)	Collection Date	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:			10	50			5,000	*600	
	1 - 2	10/12/2017	--	--	--	--	--	--	28.6
	2 - 3	10/12/2017	--	--	--	--	--	--	16.6
	3 - 4	10/12/2017	--	--	--	--	--	--	<4.97
	4 - 5	10/12/2017	--	--	--	--	--	--	5.73
	5 - 6	10/12/2017	--	--	--	--	--	--	<4.92
S-11	0 - 1	10/12/2017	<0.00197	<0.01182	<15.0	<15.0	<15.0	<15.0	13.3
	1 - 2	10/12/2017	--	--	--	--	--	--	61.8
	2 - 3	10/12/2017	--	--	--	--	--	--	4,410
	3 - 4	10/12/2017	--	--	--	--	--	--	10,200
	4 - 5	10/12/2017	--	--	--	--	--	--	2,890
	5 - 6	10/12/2017	--	--	--	--	--	--	210
	6 - 7	10/12/2017	--	--	--	--	--	--	12.9
	7 - 8	10/12/2017	--	--	--	--	--	--	9.37
	8 - 9	10/12/2017	--	--	--	--	--	--	<4.92
	9 - 10	10/12/2017	--	--	--	--	--	--	26.7
	10 - 11	10/12/2017	--	--	--	--	--	--	95.9
S-12	0 - 1	10/12/2017	<0.002	<0.01199	<15.0	<15.0	<15.0	<15.0	13.3
	1 - 2	10/12/2017	--	--	--	--	--	--	16.9
	2 - 3	10/12/2017	--	--	--	--	--	--	14.4
	3 - 4	10/12/2017	--	--	--	--	--	--	8.10
	4 - 5	10/12/2017	--	--	--	--	--	--	69.1
	5 - 6	10/12/2017	--	--	--	--	--	--	26.8

Table 1
1RP-4818
Delineation Soil Sample Analytical Data Summary
Chevron North America Exploration and Production Co., Salado Draw RWCS 1RC-11
UL A, Section 23, Township 26 South, Range 32 East
Lea County, New Mexico
N32.033156° W-103.639194°

Page 5 of 5

Sample	Depth (Feet)	Collection Date	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
RRAL:			10	50				5,000	*600

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

*: OCD delineation limit plus 3 - 4 feet further in depth

Depth in feet below ground surface (bgs)

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

Figures

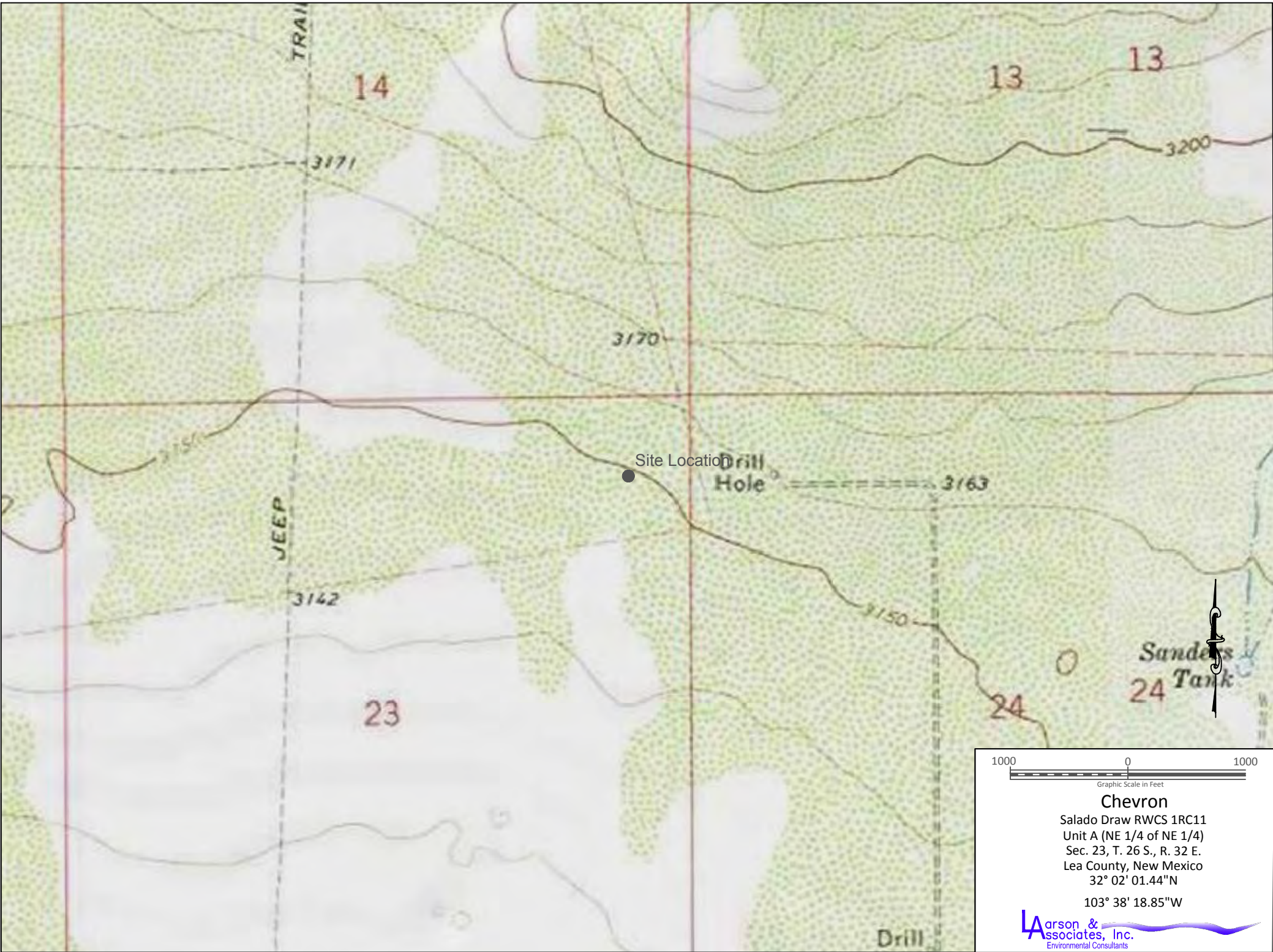


Figure 1 - Topographic Map



Legend

- Spill Area
- Proposed Sample Location
- Fence

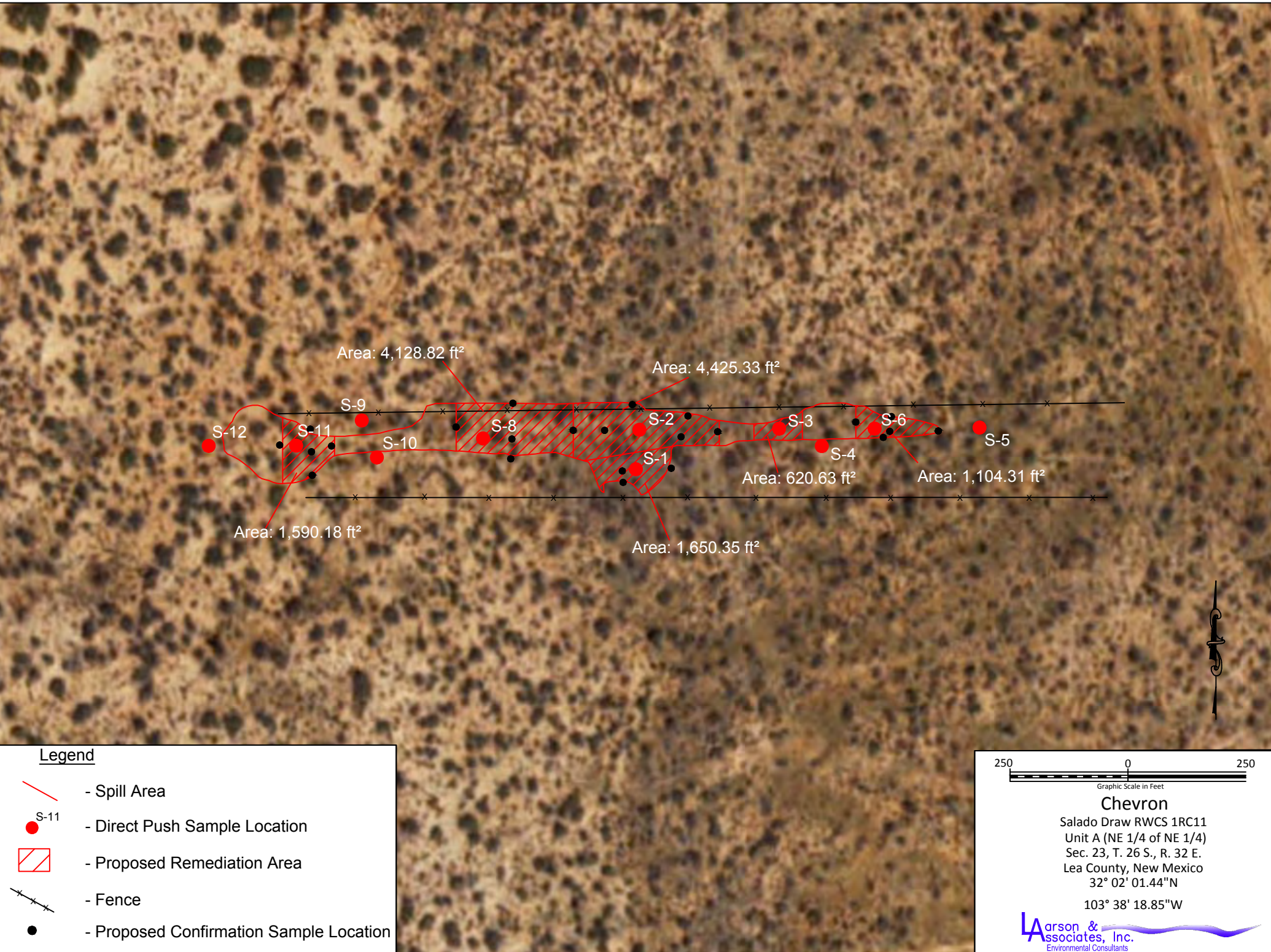
250 0 250
Graphic Scale in Feet

Chevron

Salado Draw RWCS 1RC11
Unit A (NE 1/4 of NE 1/4)
Sec. 23, T. 26 S., R. 32 E.
Lea County, New Mexico
32° 02' 01.44"N
103° 38' 18.85"W

Larson & Associates, Inc.
Environmental Consultants

Figure 2 - Aerial Map



Appendix A

Initial C-141

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Chevron USA Inc.	Contact Josepha DeLeon
Address 631 Deauville Blvd., Midland TX 79706	Telephone No. 575-263-0424 Cell - 432-425-1528
Facility Name Salado Draw Water Recycling	Facility: Water Recycling North / South

Surface Owner Federal	Mineral Owner Federal	API No's. N/A 1RC-11
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LOCATION OF RELEASE

Unit Letter A	Section 23	Township 26S	Range 32E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	---------------

Recycling Facility: Latitude - 32.03634 N Longitude -103.636212 W
Recycling Containment: Latitude - 32.033156 N Longitude -103.639194 W

NATURE OF RELEASE

Type of Release Spill	Volume of Release: 1,105 barrels treated produced water	Volume Recovered: 500 barrels treated produced water
Source of Release: Recirculation System Hose	Date and Hour of Occurrence: 09/13/2017; 02:54 AM	Date and Hour of Discovery 09/13/2017; 10:20 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Maxey Brown - NMOCD, Olivia Yu - NMOCD Jim Amos - BLM, Shelly Tucker - BLM	
By Whom? Josepha DeLeon	Date and Hour: 09/13/2017; 09:37 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
N/A

RECEIVED
By Olivia Yu at 8:46 am, Sep 22, 2017

Describe Cause of Problem and Remedial Action Taken.*

Leak in recirculation system hose caused a spill of 1,105 barrels of treated produced water. A total of 500 barrels were recovered by vacuum truck.

Isolated source of flow and 500 barrels were captured by vacuum truck and hauled.

Describe Area Affected and Cleanup Action Taken.*

Samples of the spilled treated produced water have been collected and sent to analytical lab for analysis. Remediation plan will be submitted to NMOCD and BLM for approval.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Josepha DeLeon		Approved by Environmental Specialist: 	
Title: HES Compliance Support - Environmental		Approval Date: 9/22/2017	Expiration Date:
E-mail Address: jdx@chevron.com	Conditions of Approval: see attached directive		Attached ☒
Date: 09/18/2017	Phone: 575-263-0424		

* Attach Additional Sheets If Necessary

fTO1706148730

1RC-11

1RP-4818

nOY1726532992

pOY1726533422

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 9/19/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-4818 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 1 office in Hobbs on or before 10/22/2017. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

Appendix B

Laboratory Reports



Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	565814-001	565814-002	565814-003	565814-004	565814-005	565814-006
	Field Id:	S-9 0-1	S-9 1-2	S-9 2-3	S-9 3-4	S-1 0-1	S-1 1-2
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-13-17 11:15	Oct-13-17 11:17	Oct-13-17 11:22	Oct-13-17 11:25	Oct-13-17 11:34	Oct-13-17 11:38
BTEX by EPA 8021B	Extracted:	Oct-18-17 12:00				Oct-18-17 12:00	
	Analyzed:	Oct-18-17 19:50				Oct-18-17 20:09	
Units/RL:		mg/kg RL				mg/kg RL	
Benzene		<0.00200 0.00200				<0.00196 0.00196	
Toluene		<0.00200 0.00200				<0.00196 0.00196	
Ethylbenzene		<0.00200 0.00200				<0.00196 0.00196	
m,p-Xylenes		<0.00400 0.00400				<0.00392 0.00392	
o-Xylene		<0.00200 0.00200				<0.00196 0.00196	
Total Xylenes		<0.00200 0.00200				<0.00196 0.00196	
Total BTEX		<0.00200 0.00200				<0.00196 0.00196	
Chloride by EPA 300	Extracted:	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20
	Analyzed:	Oct-18-17 16:39	Oct-18-17 17:02	Oct-18-17 17:09	Oct-18-17 17:17	Oct-18-17 17:25	Oct-18-17 17:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		37.6 4.99	23.6 4.90	30.8 5.00	24.7 4.92	5940 49.1	5440 49.4
TPH By SW8015 Mod	Extracted:	Oct-18-17 11:00				Oct-18-17 11:00	
	Analyzed:	Oct-18-17 16:54				Oct-18-17 17:56	
	Units/RL:	mg/kg RL				mg/kg RL	
Gasoline Range Hydrocarbons		<15.0 15.0				<15.0 15.0	
Diesel Range Organics		<15.0 15.0				<15.0 15.0	
Oil Range Hydrocarbons		<15.0 15.0				<15.0 15.0	
Total TPH		<15.0 15.0				<15.0 15.0	

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	565814-007	565814-008	565814-009	565814-010	565814-011	565814-012
	<i>Field Id:</i>	S-1 2-3	S-1 3-4	S-1 4-5	S-1 5-6	S-1 6-7	S-1 7-8
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-13-17 11:41	Oct-13-17 11:44	Oct-13-17 11:49	Oct-13-17 11:52	Oct-13-17 11:55	Oct-13-17 12:00
Chloride by EPA 300	<i>Extracted:</i>	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20
	<i>Analyzed:</i>	Oct-18-17 17:56	Oct-18-17 18:03	Oct-18-17 18:11	Oct-18-17 18:19	Oct-18-17 18:26	Oct-18-17 18:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		140 4.96	32.9 4.90	448 5.00	26.0 4.94	33.7 4.96	27.3 5.00

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	565814-013	565814-014	565814-015	565814-016	565814-017	565814-018
	Field Id:	S-3 0-1	S-3 1-2	S-3 2-3	S-3 3-4	S-3 4-5	S-3 5-6
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-13-17 12:40	Oct-13-17 12:42	Oct-13-17 12:44	Oct-13-17 12:46	Oct-13-17 12:56	Oct-13-17 12:57
BTEX by EPA 8021B	Extracted:	Oct-18-17 12:00					
	Analyzed:	Oct-18-17 20:27					
	Units/RL:	mg/kg RL					
	Benzene	<0.00196 0.00196					
	Toluene	<0.00196 0.00196					
	Ethylbenzene	<0.00196 0.00196					
	m,p-Xylenes	<0.00393 0.00393					
	o-Xylene	<0.00196 0.00196					
Chloride by EPA 300	Total Xylenes	<0.00196 0.00196					
	Total BTEX	<0.00196 0.00196					
	Extracted:	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 13:20
	Analyzed:	Oct-18-17 18:57	Oct-18-17 19:20	Oct-18-17 19:28	Oct-18-17 19:35	Oct-18-17 19:43	Oct-18-17 19:51
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Chloride	3280 25.0	339 4.99	96.0 4.99	89.5 4.97	571 4.97	45.9 4.90
	Extracted:	Oct-18-17 11:00					
	Analyzed:	Oct-18-17 18:16					
TPH By SW8015 Mod	Units/RL:	mg/kg RL					
	Gasoline Range Hydrocarbons	<15.0 15.0					
	Diesel Range Organics	<15.0 15.0					
	Oil Range Hydrocarbons	<15.0 15.0					
	Total TPH	<15.0 15.0					

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	565814-019	565814-020	565814-021	565814-022	565814-023	565814-024
	Field Id:	S-3 6-7	S-3 7-8	S-3 8-9	S-3 9-10	S-3 10-11	S-4 0-1
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-13-17 12:59	Oct-13-17 13:10	Oct-13-17 13:13	Oct-13-17 13:13	Oct-13-17 13:15	Oct-13-17 13:24
BTEX by EPA 8021B	Extracted:						Oct-18-17 12:00
	Analyzed:						Oct-18-17 20:46
	Units/RL:						mg/kg RL
							<0.00197 0.00197
Benzene							<0.00197 0.00197
Toluene							<0.00197 0.00197
Ethylbenzene							<0.00197 0.00197
m,p-Xylenes							<0.00394 0.00394
o-Xylene							<0.00197 0.00197
Total Xylenes							<0.00197 0.00197
Total BTEX							<0.00197 0.00197
Chloride by EPA 300	Extracted:	Oct-18-17 13:20	Oct-18-17 13:20	Oct-18-17 17:30	Oct-18-17 17:30	Oct-18-17 17:30	Oct-18-17 17:30
	Analyzed:	Oct-18-17 19:58	Oct-18-17 20:06	Oct-19-17 06:20	Oct-19-17 06:28	Oct-19-17 06:51	Oct-19-17 06:59
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		26.0 4.95	6.19 4.99	179 4.98	5.27 4.93	7.05 4.91	216 4.94
TPH By SW8015 Mod	Extracted:						Oct-18-17 11:00
	Analyzed:						Oct-18-17 18:36
	Units/RL:						mg/kg RL
Gasoline Range Hydrocarbons							<15.0 15.0
Diesel Range Organics							<15.0 15.0
Oil Range Hydrocarbons							<15.0 15.0
Total TPH							<15.0 15.0

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	565814-025	565814-026	565814-027	565814-028	565814-029	565814-030
	<i>Field Id:</i>	S-4 1-2	S-4 2-3	S-4 3-4	S-4 4-5	S-4 5-6	S-4 6-7
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-13-17 13:26	Oct-13-17 13:28	Oct-13-17 13:30	Oct-13-17 13:34	Oct-13-17 13:36	Oct-13-17 13:38
Chloride by EPA 300	<i>Extracted:</i>	Oct-18-17 17:30	Oct-18-17 17:30	Oct-18-17 17:30	Oct-18-17 17:30	Oct-18-17 17:30	Oct-19-17 12:10
	<i>Analyzed:</i>	Oct-19-17 07:07	Oct-19-17 07:14	Oct-19-17 07:22	Oct-19-17 07:30	Oct-19-17 07:37	*** ** *
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		51.4 4.90	44.0 4.96	16.3 4.94	28.9 4.93	19.5 4.95	7.01 4.95

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Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	565814-031	565814-032	565814-033	565814-034	565814-035	565814-036
	Field Id:	S-4 7-8	S-2 0-1	S-2 1-2	S-2 2-3	S-2 3-4	S-2 4-5
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-13-17 13:40	Oct-13-17 13:55	Oct-13-17 13:59	Oct-13-17 14:02	Oct-13-17 14:11	Oct-13-17 14:13
BTEX by EPA 8021B	Extracted:		Oct-18-17 12:00				
	Analyzed:		Oct-18-17 21:05				
	Units/RL:		mg/kg RL				
Benzene			<0.00198 0.00198				
Toluene			<0.00198 0.00198				
Ethylbenzene			<0.00198 0.00198				
m,p-Xylenes			<0.00397 0.00397				
o-Xylene			<0.00198 0.00198				
Total Xylenes			<0.00198 0.00198				
Total BTEX			<0.00198 0.00198				
Chloride by EPA 300	Extracted:	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10
	Analyzed:	*** ** *	*** ** *	Oct-19-17 12:10	Oct-19-17 12:17	Oct-19-17 12:40	Oct-19-17 12:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.97 4.97	41.1 4.95	109 4.96	474 4.97	673 4.97	2030 24.8
TPH By SW8015 Mod	Extracted:		Oct-18-17 11:00				
	Analyzed:		Oct-18-17 18:56				
	Units/RL:		mg/kg RL				
Gasoline Range Hydrocarbons			<15.0 15.0				
Diesel Range Organics			<15.0 15.0				
Oil Range Hydrocarbons			<15.0 15.0				
Total TPH			<15.0 15.0				

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	565814-037	565814-038	565814-039	565814-040	565814-041	565814-042
	Field Id:	S-2 5-6	S-2 6-7	S-12 0-1	S-12 1-2	S-12 2-3	S-12 3-4
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-13-17 14:18	Oct-13-17 14:21	Oct-12-17 12:30	Oct-12-17 12:30	Oct-12-17 12:30	Oct-12-17 12:30
BTEX by EPA 8021B	Extracted:			Oct-18-17 12:00			
	Analyzed:			Oct-18-17 21:24			
Units/RL:				mg/kg RL			
Benzene				<0.00200 0.00200			
Toluene				<0.00200 0.00200			
Ethylbenzene				<0.00200 0.00200			
m,p-Xylenes				<0.00399 0.00399			
o-Xylene				<0.00200 0.00200			
Total Xylenes				<0.00200 0.00200			
Total BTEX				<0.00200 0.00200			
Chloride by EPA 300	Extracted:	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10
	Analyzed:	Oct-19-17 12:56	Oct-19-17 13:04	Oct-19-17 13:11	Oct-19-17 13:19	Oct-19-17 13:42	Oct-19-17 13:50
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		5060 49.4	1240 24.8	13.3 4.97	16.9 4.97	14.4 4.96	8.10 4.95
TPH By SW8015 Mod	Extracted:			Oct-18-17 11:00			
	Analyzed:			Oct-18-17 19:17			
Units/RL:				mg/kg RL			
Gasoline Range Hydrocarbons				<15.0 15.0			
Diesel Range Organics				<15.0 15.0			
Oil Range Hydrocarbons				<15.0 15.0			
Total TPH				<15.0 15.0			

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Project Manager



Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	565814-043	565814-044	565814-045	565814-046	565814-047	565814-048
	Field Id:	S-12 4-5	S-12 5-6	S-11 0-1	S-11 1-2	S-11 2-3	S-11 3-4
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-12-17 12:30	Oct-12-17 12:30	Oct-12-17 13:00	Oct-12-17 13:00	Oct-12-17 13:00	Oct-12-17 13:00
BTEX by EPA 8021B	Extracted:			Oct-18-17 12:00			
	Analyzed:			Oct-18-17 21:43			
	Units/RL:			mg/kg RL			
	Benzene			<0.00197 0.00197			
	Toluene			<0.00197 0.00197			
	Ethylbenzene			<0.00197 0.00197			
	m,p-Xylenes			<0.00394 0.00394			
	o-Xylene			<0.00197 0.00197			
Chloride by EPA 300	Extracted:	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10
	Analyzed:	Oct-19-17 14:13	Oct-19-17 14:20	Oct-19-17 14:28	Oct-19-17 14:36	Oct-19-17 14:43	Oct-19-17 14:51
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Chloride	69.1 4.97	26.8 4.96	13.3 4.94	61.8 4.96	4410 49.3	10200 98.6
TPH By SW8015 Mod	Extracted:			Oct-18-17 11:00			
	Analyzed:			Oct-18-17 19:37			
	Units/RL:			mg/kg RL			
	Gasoline Range Hydrocarbons			<15.0 15.0			
	Diesel Range Organics			<15.0 15.0			
	Oil Range Hydrocarbons			<15.0 15.0			
	Total TPH			<15.0 15.0			

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Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	565814-049	565814-050	565814-051	565814-052	565814-053	565814-054
	<i>Field Id:</i>	S-11 4-5	S-11 5-6	S-11 6-7	S-11 7-8	S-11 8-9	S-11 9-10
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-12-17 13:00	Oct-12-17 13:00	Oct-12-17 13:00	Oct-12-17 13:00	Oct-12-17 13:00	Oct-12-17 13:00
Chloride by EPA 300	<i>Extracted:</i>	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10
	<i>Analyzed:</i>	Oct-19-17 14:59	Oct-19-17 15:45	Oct-19-17 16:08	Oct-19-17 16:15	Oct-19-17 16:23	Oct-19-17 16:31
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2890 25.0	210 4.99	12.9 5.00	9.37 4.93	<4.92 4.92	26.7 4.97

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	565814-055	565814-056	565814-057	565814-058	565814-059	565814-060
	Field Id:	S-11 10-11	S-10 0-1	S-10 1-2	S-10 2-3	S-10 3-4	S-10 4-5
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-12-17 13:00	Oct-12-17 14:00	Oct-12-17 14:00	Oct-12-17 14:00	Oct-12-17 14:00	Oct-12-17 14:00
BTEX by EPA 8021B	Extracted:		Oct-18-17 12:00				
	Analyzed:		Oct-18-17 22:01				
	Units/RL:		mg/kg RL				
	Benzene		<0.00195 0.00195				
	Toluene		<0.00195 0.00195				
	Ethylbenzene		<0.00195 0.00195				
	m,p-Xylenes		<0.00389 0.00389				
	o-Xylene		<0.00195 0.00195				
Chloride by EPA 300	Total Xylenes		<0.00195 0.00195				
	Total BTEX		<0.00195 0.00195				
	Extracted:	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10
	Analyzed:	Oct-19-17 16:54	Oct-19-17 17:02	Oct-19-17 17:09	Oct-19-17 17:17	Oct-19-17 17:25	Oct-19-17 17:32
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Chloride	95.9 4.99	40.2 4.92	28.6 4.95	16.6 4.94	<4.97 4.97	5.73 4.92
	Extracted:		Oct-18-17 11:00				
	Analyzed:		Oct-18-17 19:57				
TPH By SW8015 Mod	Units/RL:		mg/kg RL				
	Gasoline Range Hydrocarbons		<15.0 15.0				
	Diesel Range Organics		<15.0 15.0				
	Oil Range Hydrocarbons		<15.0 15.0				
	Total TPH		<15.0 15.0				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 565814

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Wed Oct-18-17 09:00 am

Report Date: 20-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	565814-061	565814-062	565814-063	565814-064		
	Field Id:	S-10 5-6	S-8 0-1	S-8 1-2	S-8 2-3		
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Oct-12-17 14:00	Oct-12-17 15:10	Oct-12-17 15:10	Oct-12-17 15:10		
BTEX by EPA 8021B	Extracted:		Oct-18-17 12:00				
	Analyzed:		Oct-18-17 22:20				
	Units/RL:		mg/kg RL				
Benzene			<0.00200 0.00200				
Toluene			<0.00200 0.00200				
Ethylbenzene			<0.00200 0.00200				
m,p-Xylenes			<0.00399 0.00399				
o-Xylene			<0.00200 0.00200				
Total Xylenes			<0.00200 0.00200				
Total BTEX			<0.00200 0.00200				
Chloride by EPA 300	Extracted:	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10	Oct-19-17 12:10		
	Analyzed:	Oct-19-17 17:55	Oct-19-17 18:03	Oct-19-17 18:26	Oct-19-17 18:34		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		<4.92 4.92	220 4.91	3150 24.9	533 4.94		
TPH By SW8015 Mod	Extracted:		Oct-18-17 11:00				
	Analyzed:		Oct-18-17 20:18				
	Units/RL:		mg/kg RL				
Gasoline Range Hydrocarbons			<15.0 15.0				
Diesel Range Organics			<15.0 15.0				
Oil Range Hydrocarbons			<15.0 15.0				
Total TPH			<15.0 15.0				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Analytical Report 565814

for
Larson & Associates

Project Manager: Mark Larson

Chevron Salado Draw

20-OCT-17

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):

Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



20-OCT-17

Project Manager: **Mark Larson**

Larson & Associates

P.O. Box 50685

Midland, TX 79710

Reference: XENCO Report No(s): **565814**

Chevron Salado Draw

Project Address: Chevron Salado Draw

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) 565814. 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. 565814 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,

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-9 0-1	S	10-13-17 11:15		565814-001
S-9 1-2	S	10-13-17 11:17		565814-002
S-9 2-3	S	10-13-17 11:22		565814-003
S-9 3-4	S	10-13-17 11:25		565814-004
S-1 0-1	S	10-13-17 11:34		565814-005
S-1 1-2	S	10-13-17 11:38		565814-006
S-1 2-3	S	10-13-17 11:41		565814-007
S-1 3-4	S	10-13-17 11:44		565814-008
S-1 4-5	S	10-13-17 11:49		565814-009
S-1 5-6	S	10-13-17 11:52		565814-010
S-1 6-7	S	10-13-17 11:55		565814-011
S-1 7-8	S	10-13-17 12:00		565814-012
S-3 0-1	S	10-13-17 12:40		565814-013
S-3 1-2	S	10-13-17 12:42		565814-014
S-3 2-3	S	10-13-17 12:44		565814-015
S-3 3-4	S	10-13-17 12:46		565814-016
S-3 4-5	S	10-13-17 12:56		565814-017
S-3 5-6	S	10-13-17 12:57		565814-018
S-3 6-7	S	10-13-17 12:59		565814-019
S-3 7-8	S	10-13-17 13:10		565814-020
S-3 8-9	S	10-13-17 13:13		565814-021
S-3 9-10	S	10-13-17 13:13		565814-022
S-3 10-11	S	10-13-17 13:15		565814-023
S-4 0-1	S	10-13-17 13:24		565814-024
S-4 1-2	S	10-13-17 13:26		565814-025
S-4 2-3	S	10-13-17 13:28		565814-026
S-4 3-4	S	10-13-17 13:30		565814-027
S-4 4-5	S	10-13-17 13:34		565814-028
S-4 5-6	S	10-13-17 13:36		565814-029
S-4 6-7	S	10-13-17 13:38		565814-030
S-4 7-8	S	10-13-17 13:40		565814-031
S-2 0-1	S	10-13-17 13:55		565814-032
S-2 1-2	S	10-13-17 13:59		565814-033
S-2 2-3	S	10-13-17 14:02		565814-034
S-2 3-4	S	10-13-17 14:11		565814-035
S-2 4-5	S	10-13-17 14:13		565814-036
S-2 5-6	S	10-13-17 14:18		565814-037
S-2 6-7	S	10-13-17 14:21		565814-038
S-12 0-1	S	10-12-17 12:30		565814-039
S-12 1-2	S	10-12-17 12:30		565814-040
S-12 2-3	S	10-12-17 12:30		565814-041
S-12 3-4	S	10-12-17 12:30		565814-042
S-12 4-5	S	10-12-17 12:30		565814-043



Sample Cross Reference 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

S-12 5-6	S	10-12-17 12:30	565814-044
S-11 0-1	S	10-12-17 13:00	565814-045
S-11 1-2	S	10-12-17 13:00	565814-046
S-11 2-3	S	10-12-17 13:00	565814-047
S-11 3-4	S	10-12-17 13:00	565814-048
S-11 4-5	S	10-12-17 13:00	565814-049
S-11 5-6	S	10-12-17 13:00	565814-050
S-11 6-7	S	10-12-17 13:00	565814-051
S-11 7-8	S	10-12-17 13:00	565814-052
S-11 8-9	S	10-12-17 13:00	565814-053
S-11 9-10	S	10-12-17 13:00	565814-054
S-11 10-11	S	10-12-17 13:00	565814-055
S-10 0-1	S	10-12-17 14:00	565814-056
S-10 1-2	S	10-12-17 14:00	565814-057
S-10 2-3	S	10-12-17 14:00	565814-058
S-10 3-4	S	10-12-17 14:00	565814-059
S-10 4-5	S	10-12-17 14:00	565814-060
S-10 5-6	S	10-12-17 14:00	565814-061
S-8 0-1	S	10-12-17 15:10	565814-062
S-8 1-2	S	10-12-17 15:10	565814-063
S-8 2-3	S	10-12-17 15:10	565814-064



CASE NARRATIVE

Client Name: *Larson & Associates*

Project Name: *Chevron Salado Draw*

Project ID:

Work Order Number(s): 565814

Report Date: 20-OCT-17

Date Received: 10/18/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3030943 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-9 0-1
Lab Sample Id: 565814-001

Matrix: Soil
Date Collected: 10.13.17 11.15

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3030886

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 13.20

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	37.6	4.99	mg/kg	10.18.17 16.39		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3030818

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 11.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.18.17 16.54	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	10.18.17 16.54	U	1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	10.18.17 16.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.18.17 16.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	10.18.17 16.54		
o-Terphenyl	84-15-1	100	%	70-135	10.18.17 16.54		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-9 0-1
Lab Sample Id: 565814-001

Matrix: Soil
Date Collected: 10.13.17 11.15

Date Received: 10.18.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.18.17 12.00

Basis: Wet Weight

Seq Number: 3030943

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.18.17 19.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.18.17 19.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.18.17 19.50	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.18.17 19.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.18.17 19.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.18.17 19.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.18.17 19.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	80-120	10.18.17 19.50		
1,4-Difluorobenzene	540-36-3	93	%	80-120	10.18.17 19.50		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-9 1-2
Lab Sample Id: 565814-002

Matrix: Soil
Date Collected: 10.13.17 11.17

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.6	4.90	mg/kg	10.18.17 17.02		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-9 2-3
Lab Sample Id: 565814-003

Matrix: Soil
Date Collected: 10.13.17 11.22

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.8	5.00	mg/kg	10.18.17 17.09		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-9 3-4
Lab Sample Id: 565814-004

Matrix: Soil
Date Collected: 10.13.17 11.25

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.7	4.92	mg/kg	10.18.17 17.17		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-1 0-1
Lab Sample Id: 565814-005

Matrix: Soil
Date Collected: 10.13.17 11.34

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3030886

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 13.20

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5940	49.1	mg/kg	10.18.17 17.25		10

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3030818

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 11.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.18.17 17.56	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	10.18.17 17.56	U	1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	10.18.17 17.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.18.17 17.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	10.18.17 17.56		
o-Terphenyl	84-15-1	101	%	70-135	10.18.17 17.56		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-1 0-1
Lab Sample Id: 565814-005

Matrix: Soil
Date Collected: 10.13.17 11.34

Date Received: 10.18.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.18.17 12.00

Basis: Wet Weight

Seq Number: 3030943

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00196	0.00196	mg/kg	10.18.17 20.09	U	1
Toluene	108-88-3	<0.00196	0.00196	mg/kg	10.18.17 20.09	U	1
Ethylbenzene	100-41-4	<0.00196	0.00196	mg/kg	10.18.17 20.09	U	1
m,p-Xylenes	179601-23-1	<0.00392	0.00392	mg/kg	10.18.17 20.09	U	1
o-Xylene	95-47-6	<0.00196	0.00196	mg/kg	10.18.17 20.09	U	1
Total Xylenes	1330-20-7	<0.00196	0.00196	mg/kg	10.18.17 20.09	U	1
Total BTEX		<0.00196	0.00196	mg/kg	10.18.17 20.09	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101		%	80-120	10.18.17 20.09	
1,4-Difluorobenzene	540-36-3	94		%	80-120	10.18.17 20.09	



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-1 1-2
Lab Sample Id: 565814-006

Matrix: Soil
Date Collected: 10.13.17 11.38

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5440	49.4	mg/kg	10.18.17 17.48		10



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-1 2-3
Lab Sample Id: 565814-007

Matrix: Soil
Date Collected: 10.13.17 11.41

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	140	4.96	mg/kg	10.18.17 17.56		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-1 3-4
Lab Sample Id: 565814-008

Matrix: Soil
Date Collected: 10.13.17 11.44

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.9	4.90	mg/kg	10.18.17 18.03		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-1 4-5
Lab Sample Id: 565814-009

Matrix: Soil
Date Collected: 10.13.17 11.49

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	448	5.00	mg/kg	10.18.17 18.11		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-1 5-6
Lab Sample Id: 565814-010

Matrix: Soil
Date Collected: 10.13.17 11.52

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.0	4.94	mg/kg	10.18.17 18.19		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-1 6-7
Lab Sample Id: 565814-011

Matrix: Soil
Date Collected: 10.13.17 11.55

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	33.7	4.96	mg/kg	10.18.17 18.26		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-1 7-8
Lab Sample Id: 565814-012

Matrix: Soil
Date Collected: 10.13.17 12.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.3	5.00	mg/kg	10.18.17 18.49		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-3 0-1
Lab Sample Id: 565814-013

Matrix: Soil
Date Collected: 10.13.17 12.40

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3030886

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 13.20

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3280	25.0	mg/kg	10.18.17 18.57		5

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3030818

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 11.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.18.17 18.16	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	10.18.17 18.16	U	1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	10.18.17 18.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.18.17 18.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	89	%	70-135	10.18.17 18.16		
o-Terphenyl	84-15-1	86	%	70-135	10.18.17 18.16		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-3 0-1
Lab Sample Id: 565814-013

Matrix: Soil
Date Collected: 10.13.17 12.40

Date Received: 10.18.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.18.17 12.00

Basis: Wet Weight

Seq Number: 3030943

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00196	0.00196	mg/kg	10.18.17 20.27	U	1
Toluene	108-88-3	<0.00196	0.00196	mg/kg	10.18.17 20.27	U	1
Ethylbenzene	100-41-4	<0.00196	0.00196	mg/kg	10.18.17 20.27	U	1
m,p-Xylenes	179601-23-1	<0.00393	0.00393	mg/kg	10.18.17 20.27	U	1
o-Xylene	95-47-6	<0.00196	0.00196	mg/kg	10.18.17 20.27	U	1
Total Xylenes	1330-20-7	<0.00196	0.00196	mg/kg	10.18.17 20.27	U	1
Total BTEX		<0.00196	0.00196	mg/kg	10.18.17 20.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	80-120	10.18.17 20.27		
4-Bromofluorobenzene	460-00-4	96	%	80-120	10.18.17 20.27		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-3 1-2
Lab Sample Id: 565814-014

Matrix: Soil
Date Collected: 10.13.17 12.42

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	339	4.99	mg/kg	10.18.17 19.20		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-3 2-3
Lab Sample Id: 565814-015

Matrix: Soil
Date Collected: 10.13.17 12.44

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	96.0	4.99	mg/kg	10.18.17 19.28		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-3 3-4
Lab Sample Id: 565814-016

Matrix: Soil
Date Collected: 10.13.17 12.46

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	89.5	4.97	mg/kg	10.18.17 19.35		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-3 4-5
Lab Sample Id: 565814-017

Matrix: Soil
Date Collected: 10.13.17 12.56

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	571	4.97	mg/kg	10.18.17 19.43		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-3 5-6
Lab Sample Id: 565814-018

Matrix: Soil
Date Collected: 10.13.17 12.57

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.9	4.90	mg/kg	10.18.17 19.51		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-3 6-7
Lab Sample Id: 565814-019

Matrix: Soil
Date Collected: 10.13.17 12.59

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.0	4.95	mg/kg	10.18.17 19.58		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-3 7-8
Lab Sample Id: 565814-020

Matrix: Soil
Date Collected: 10.13.17 13.10

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 13.20

Basis: Wet Weight

Seq Number: 3030886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.19	4.99	mg/kg	10.18.17 20.06		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-3 8-9**
Lab Sample Id: 565814-021

Matrix: Soil
Date Collected: 10.13.17 13.13

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 17.30

Basis: Wet Weight

Seq Number: 3030843

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	179	4.98	mg/kg	10.19.17 06.20		1



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Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-3 9-10**
Lab Sample Id: 565814-022

Matrix: Soil
Date Collected: 10.13.17 13.13

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 17.30

Basis: Wet Weight

Seq Number: 3030843

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.27	4.93	mg/kg	10.19.17 06.28		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-3 10-11**

Matrix: Soil

Date Received: 10.18.17 09.00

Lab Sample Id: 565814-023

Date Collected: 10.13.17 13.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 17.30

Basis: Wet Weight

Seq Number: 3030843

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.05	4.91	mg/kg	10.19.17 06.51		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-4 0-1
Lab Sample Id: 565814-024

Matrix: Soil
Date Collected: 10.13.17 13.24

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3030843

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 17.30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	216	4.94	mg/kg	10.19.17 06.59		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3030818

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 11.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.18.17 18.36	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	10.18.17 18.36	U	1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	10.18.17 18.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.18.17 18.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	110	%	70-135	10.18.17 18.36		
o-Terphenyl	84-15-1	104	%	70-135	10.18.17 18.36		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-4 0-1
Lab Sample Id: 565814-024

Matrix: Soil
Date Collected: 10.13.17 13.24

Date Received: 10.18.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.18.17 12.00

Basis: Wet Weight

Seq Number: 3030943

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00197	0.00197	mg/kg	10.18.17 20.46	U	1
Toluene	108-88-3	<0.00197	0.00197	mg/kg	10.18.17 20.46	U	1
Ethylbenzene	100-41-4	<0.00197	0.00197	mg/kg	10.18.17 20.46	U	1
m,p-Xylenes	179601-23-1	<0.00394	0.00394	mg/kg	10.18.17 20.46	U	1
o-Xylene	95-47-6	<0.00197	0.00197	mg/kg	10.18.17 20.46	U	1
Total Xylenes	1330-20-7	<0.00197	0.00197	mg/kg	10.18.17 20.46	U	1
Total BTEX		<0.00197	0.00197	mg/kg	10.18.17 20.46	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98		%	80-120	10.18.17 20.46	
1,4-Difluorobenzene	540-36-3	93		%	80-120	10.18.17 20.46	



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-4 1-2
Lab Sample Id: 565814-025

Matrix: Soil
Date Collected: 10.13.17 13.26

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 17.30

Basis: Wet Weight

Seq Number: 3030843

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	51.4	4.90	mg/kg	10.19.17 07.07		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-4 2-3
Lab Sample Id: 565814-026

Matrix: Soil
Date Collected: 10.13.17 13.28

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 17.30

Basis: Wet Weight

Seq Number: 3030843

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.0	4.96	mg/kg	10.19.17 07.14		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-4 3-4
Lab Sample Id: 565814-027

Matrix: Soil
Date Collected: 10.13.17 13.30

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 17.30

Basis: Wet Weight

Seq Number: 3030843

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.3	4.94	mg/kg	10.19.17 07.22		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-4 4-5
Lab Sample Id: 565814-028

Matrix: Soil
Date Collected: 10.13.17 13.34

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 17.30

Basis: Wet Weight

Seq Number: 3030843

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.9	4.93	mg/kg	10.19.17 07.30		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-4 5-6
Lab Sample Id: 565814-029

Matrix: Soil
Date Collected: 10.13.17 13.36

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.18.17 17.30

Basis: Wet Weight

Seq Number: 3030843

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.5	4.95	mg/kg	10.19.17 07.37		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-4 6-7
Lab Sample Id: 565814-030

Matrix: Soil
Date Collected: 10.13.17 13.38

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.01	4.95	mg/kg	10.19.17 11.31		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-4 7-8
Lab Sample Id: 565814-031

Matrix: Soil
Date Collected: 10.13.17 13.40

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	10.19.17 11.54	U	1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-2 0-1
Lab Sample Id: 565814-032

Matrix: Soil
Date Collected: 10.13.17 13.55

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3030941

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.19.17 12.10

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	41.1	4.95	mg/kg	10.19.17 12.02		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3030818

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 11.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.18.17 18.56	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	10.18.17 18.56	U	1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	10.18.17 18.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.18.17 18.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	110	%	70-135	10.18.17 18.56		
o-Terphenyl	84-15-1	104	%	70-135	10.18.17 18.56		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-2 0-1
Lab Sample Id: 565814-032

Matrix: Soil
Date Collected: 10.13.17 13.55

Date Received: 10.18.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.18.17 12.00

Basis: Wet Weight

Seq Number: 3030943

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.18.17 21.05	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.18.17 21.05	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.18.17 21.05	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.18.17 21.05	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.18.17 21.05	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.18.17 21.05	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.18.17 21.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	80-120	10.18.17 21.05		
4-Bromofluorobenzene	460-00-4	98	%	80-120	10.18.17 21.05		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-2 1-2
Lab Sample Id: 565814-033

Matrix: Soil
Date Collected: 10.13.17 13.59

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	109	4.96	mg/kg	10.19.17 12.10		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-2 2-3
Lab Sample Id: 565814-034

Matrix: Soil
Date Collected: 10.13.17 14.02

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	474	4.97	mg/kg	10.19.17 12.17		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-2 3-4
Lab Sample Id: 565814-035

Matrix: Soil
Date Collected: 10.13.17 14.11

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	673	4.97	mg/kg	10.19.17 12.40		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-2 4-5
Lab Sample Id: 565814-036

Matrix: Soil
Date Collected: 10.13.17 14.13

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2030	24.8	mg/kg	10.19.17 12.48		5



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-2 5-6
Lab Sample Id: 565814-037

Matrix: Soil
Date Collected: 10.13.17 14.18

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5060	49.4	mg/kg	10.19.17 12.56		10



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-2 6-7
Lab Sample Id: 565814-038

Matrix: Soil
Date Collected: 10.13.17 14.21

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1240	24.8	mg/kg	10.19.17 13.04		5



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-12 0-1
Lab Sample Id: 565814-039

Matrix: Soil
Date Collected: 10.12.17 12.30

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3030941

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.19.17 12.10

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.3	4.97	mg/kg	10.19.17 13.11		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3030818

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 11.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.18.17 19.17	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	10.18.17 19.17	U	1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	10.18.17 19.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.18.17 19.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	10.18.17 19.17		
o-Terphenyl	84-15-1	97	%	70-135	10.18.17 19.17		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-12 0-1
Lab Sample Id: 565814-039

Matrix: Soil
Date Collected: 10.12.17 12.30

Date Received: 10.18.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.18.17 12.00

Basis: Wet Weight

Seq Number: 3030943

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.18.17 21.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.18.17 21.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.18.17 21.24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.18.17 21.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.18.17 21.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.18.17 21.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.18.17 21.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	80-120	10.18.17 21.24		
1,4-Difluorobenzene	540-36-3	94	%	80-120	10.18.17 21.24		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-12 1-2
Lab Sample Id: 565814-040

Matrix: Soil
Date Collected: 10.12.17 12.30

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.9	4.97	mg/kg	10.19.17 13.19		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-12 2-3
Lab Sample Id: 565814-041

Matrix: Soil
Date Collected: 10.12.17 12.30

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.4	4.96	mg/kg	10.19.17 13.42		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-12 3-4
Lab Sample Id: 565814-042

Matrix: Soil
Date Collected: 10.12.17 12.30

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.10	4.95	mg/kg	10.19.17 13.50		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-12 4-5
Lab Sample Id: 565814-043

Matrix: Soil
Date Collected: 10.12.17 12.30

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	69.1	4.97	mg/kg	10.19.17 14.13		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-12 5-6
Lab Sample Id: 565814-044

Matrix: Soil
Date Collected: 10.12.17 12.30

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.8	4.96	mg/kg	10.19.17 14.20		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 0-1
Lab Sample Id: 565814-045

Matrix: Soil
Date Collected: 10.12.17 13.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3030941

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.19.17 12.10

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.3	4.94	mg/kg	10.19.17 14.28		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3030818

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 11.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.18.17 19.37	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	10.18.17 19.37	U	1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	10.18.17 19.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.18.17 19.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-135	10.18.17 19.37		
o-Terphenyl	84-15-1	96	%	70-135	10.18.17 19.37		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 0-1
Lab Sample Id: 565814-045

Matrix: Soil
Date Collected: 10.12.17 13.00

Date Received: 10.18.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.18.17 12.00

Basis: Wet Weight

Seq Number: 3030943

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00197	0.00197	mg/kg	10.18.17 21.43	U	1
Toluene	108-88-3	<0.00197	0.00197	mg/kg	10.18.17 21.43	U	1
Ethylbenzene	100-41-4	<0.00197	0.00197	mg/kg	10.18.17 21.43	U	1
m,p-Xylenes	179601-23-1	<0.00394	0.00394	mg/kg	10.18.17 21.43	U	1
o-Xylene	95-47-6	<0.00197	0.00197	mg/kg	10.18.17 21.43	U	1
Total Xylenes	1330-20-7	<0.00197	0.00197	mg/kg	10.18.17 21.43	U	1
Total BTEX		<0.00197	0.00197	mg/kg	10.18.17 21.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	80-120	10.18.17 21.43		
1,4-Difluorobenzene	540-36-3	95	%	80-120	10.18.17 21.43		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 1-2
Lab Sample Id: 565814-046

Matrix: Soil
Date Collected: 10.12.17 13.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	61.8	4.96	mg/kg	10.19.17 14.36		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 2-3
Lab Sample Id: 565814-047

Matrix: Soil
Date Collected: 10.12.17 13.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4410	49.3	mg/kg	10.19.17 14.43		10



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 3-4
Lab Sample Id: 565814-048

Matrix: Soil
Date Collected: 10.12.17 13.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10200	98.6	mg/kg	10.19.17 14.51		20



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 4-5
Lab Sample Id: 565814-049

Matrix: Soil
Date Collected: 10.12.17 13.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2890	25.0	mg/kg	10.19.17 14.59		5



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 5-6
Lab Sample Id: 565814-050

Matrix: Soil
Date Collected: 10.12.17 13.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	210	4.99	mg/kg	10.19.17 15.45		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 6-7
Lab Sample Id: 565814-051

Matrix: Soil
Date Collected: 10.12.17 13.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.9	5.00	mg/kg	10.19.17 16.08		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 7-8
Lab Sample Id: 565814-052

Matrix: Soil
Date Collected: 10.12.17 13.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.37	4.93	mg/kg	10.19.17 16.15		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 8-9
Lab Sample Id: 565814-053

Matrix: Soil
Date Collected: 10.12.17 13.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	10.19.17 16.23	U	1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-11 9-10**

Matrix: Soil

Date Received: 10.18.17 09.00

Lab Sample Id: 565814-054

Date Collected: 10.12.17 13.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.7	4.97	mg/kg	10.19.17 16.31		1



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Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-11 10-11

Matrix: Soil

Date Received: 10.18.17 09.00

Lab Sample Id: 565814-055

Date Collected: 10.12.17 13.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	95.9	4.99	mg/kg	10.19.17 16.54		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-10 0-1**
Lab Sample Id: 565814-056

Matrix: Soil
Date Collected: 10.12.17 14.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3030944

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.19.17 12.10

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	40.2	4.92	mg/kg	10.19.17 17.02		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3030818

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 11.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.18.17 19.57	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	10.18.17 19.57	U	1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	10.18.17 19.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.18.17 19.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	10.18.17 19.57		
o-Terphenyl	84-15-1	98	%	70-135	10.18.17 19.57		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-10 0-1**
Lab Sample Id: 565814-056

Matrix: Soil
Date Collected: 10.12.17 14.00

Date Received: 10.18.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.18.17 12.00

Basis: Wet Weight

Seq Number: 3030943

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00195	0.00195	mg/kg	10.18.17 22.01	U	1
Toluene	108-88-3	<0.00195	0.00195	mg/kg	10.18.17 22.01	U	1
Ethylbenzene	100-41-4	<0.00195	0.00195	mg/kg	10.18.17 22.01	U	1
m,p-Xylenes	179601-23-1	<0.00389	0.00389	mg/kg	10.18.17 22.01	U	1
o-Xylene	95-47-6	<0.00195	0.00195	mg/kg	10.18.17 22.01	U	1
Total Xylenes	1330-20-7	<0.00195	0.00195	mg/kg	10.18.17 22.01	U	1
Total BTEX		<0.00195	0.00195	mg/kg	10.18.17 22.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	80-120	10.18.17 22.01		
4-Bromofluorobenzene	460-00-4	97	%	80-120	10.18.17 22.01		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-10 1-2
Lab Sample Id: 565814-057

Matrix: Soil
Date Collected: 10.12.17 14.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.6	4.95	mg/kg	10.19.17 17.09		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-10 2-3
Lab Sample Id: 565814-058

Matrix: Soil
Date Collected: 10.12.17 14.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.6	4.94	mg/kg	10.19.17 17.17		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-10 3-4
Lab Sample Id: 565814-059

Matrix: Soil
Date Collected: 10.12.17 14.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	10.19.17 17.25	U	1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-10 4-5
Lab Sample Id: 565814-060

Matrix: Soil
Date Collected: 10.12.17 14.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.73	4.92	mg/kg	10.19.17 17.32		1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-10 5-6
Lab Sample Id: 565814-061

Matrix: Soil
Date Collected: 10.12.17 14.00

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	10.19.17 17.55	U	1



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-8 0-1
Lab Sample Id: 565814-062

Matrix: Soil
Date Collected: 10.12.17 15.10

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3030944

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.19.17 12.10

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	220	4.91	mg/kg	10.19.17 18.03		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3030818

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 10.18.17 11.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.18.17 20.18	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	10.18.17 20.18	U	1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	10.18.17 20.18	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.18.17 20.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	10.18.17 20.18	
o-Terphenyl	84-15-1	98	%	70-135	10.18.17 20.18	



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-8 0-1
Lab Sample Id: 565814-062

Matrix: Soil
Date Collected: 10.12.17 15.10

Date Received: 10.18.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 10.18.17 12.00

Basis: Wet Weight

Seq Number: 3030943

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.18.17 22.20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.18.17 22.20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.18.17 22.20	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.18.17 22.20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.18.17 22.20	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.18.17 22.20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.18.17 22.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	80-120	10.18.17 22.20		
4-Bromofluorobenzene	460-00-4	101	%	80-120	10.18.17 22.20		



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-8 1-2
Lab Sample Id: 565814-063

Matrix: Soil
Date Collected: 10.12.17 15.10

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3150	24.9	mg/kg	10.19.17 18.26		5



Certificate of Analytical Results 565814



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-8 2-3
Lab Sample Id: 565814-064

Matrix: Soil
Date Collected: 10.12.17 15.10

Date Received: 10.18.17 09.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 12.10

Basis: Wet Weight

Seq Number: 3030944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	533	4.94	mg/kg	10.19.17 18.34		1

- 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

+ NELAC certification not offered for this compound.

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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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 5332 Blackberry Drive, San Antonio TX 78238
 1211 W Florida Ave, Midland, TX 79701
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	

Larson & Associates
Chevron Salado Draw

Analytical Method: Chloride by EPA 300

Seq Number: 3030886

MB Sample Id: 7632813-1-BLK

Matrix: Solid

LCS Sample Id: 7632813-1-BKS

Prep Method: E300P

Date Prep: 10.18.17

LCSD Sample Id: 7632813-1-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	239	96	240	96	90-110	0	20	mg/kg	10.18.17 16:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3030843

MB Sample Id: 7632828-1-BLK

Matrix: Solid

LCS Sample Id: 7632828-1-BKS

Prep Method: E300P

Date Prep: 10.18.17

LCSD Sample Id: 7632828-1-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	243	97	240	96	90-110	1	20	mg/kg	10.19.17 03:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3030941

MB Sample Id: 7632899-1-BLK

Matrix: Solid

LCS Sample Id: 7632899-1-BKS

Prep Method: E300P

Date Prep: 10.19.17

LCSD Sample Id: 7632899-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	261	104	262	105	90-110	0	20	mg/kg	10.19.17 11:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3030944

MB Sample Id: 7632901-1-BLK

Matrix: Solid

LCS Sample Id: 7632901-1-BKS

Prep Method: E300P

Date Prep: 10.19.17

LCSD Sample Id: 7632901-1-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	242	97	242	97	90-110	0	20	mg/kg	10.19.17 15:29	

Analytical Method: Chloride by EPA 300

Seq Number: 3030886

Parent Sample Id: 565814-001

Matrix: Soil

MS Sample Id: 565814-001 S

Prep Method: E300P

Date Prep: 10.18.17

MSD Sample Id: 565814-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	37.6	250	283	98	284	99	90-110	0	20	mg/kg	10.18.17 16:46	

Analytical Method: Chloride by EPA 300

Seq Number: 3030886

Parent Sample Id: 565814-011

Matrix: Soil

MS Sample Id: 565814-011 S

Prep Method: E300P

Date Prep: 10.18.17

MSD Sample Id: 565814-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	33.7	248	282	100	283	101	90-110	0	20	mg/kg	10.18.17 18:34	



QC Summary 565814

Larson & Associates Chevron Salado Draw

Analytical Method: Chloride by EPA 300

Seq Number: 3030843

Parent Sample Id: 565841-004

Matrix: Soil

MS Sample Id: 565841-004 S

Prep Method: E300P

Date Prep: 10.18.17

MSD Sample Id: 565841-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.92	246	259	105	256	104	90-110	1	20	mg/kg	10.19.17 06:05	

Analytical Method: Chloride by EPA 300

Seq Number: 3030843

Parent Sample Id: 565870-021

Matrix: Soil

MS Sample Id: 565870-021 S

Prep Method: E300P

Date Prep: 10.18.17

MSD Sample Id: 565870-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	559	247	768	85	770	85	90-110	0	20	mg/kg	10.19.17 04:18	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030941

Parent Sample Id: 565814-030

Matrix: Soil

MS Sample Id: 565814-030 S

Prep Method: E300P

Date Prep: 10.19.17

MSD Sample Id: 565814-030 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.01	248	264	104	263	103	90-110	0	20	mg/kg	10.19.17 11:39	

Analytical Method: Chloride by EPA 300

Seq Number: 3030941

Parent Sample Id: 565814-040

Matrix: Soil

MS Sample Id: 565814-040 S

Prep Method: E300P

Date Prep: 10.19.17

MSD Sample Id: 565814-040 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	16.9	249	268	101	271	102	90-110	1	20	mg/kg	10.19.17 13:27	

Analytical Method: Chloride by EPA 300

Seq Number: 3030944

Parent Sample Id: 565814-050

Matrix: Soil

MS Sample Id: 565814-050 S

Prep Method: E300P

Date Prep: 10.19.17

MSD Sample Id: 565814-050 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	210	250	442	93	444	94	90-110	0	20	mg/kg	10.19.17 15:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3030944

Parent Sample Id: 565814-060

Matrix: Soil

MS Sample Id: 565814-060 S

Prep Method: E300P

Date Prep: 10.19.17

MSD Sample Id: 565814-060 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.73	246	253	101	251	100	90-110	1	20	mg/kg	10.19.17 17:40	



QC Summary 565814

Larson & Associates

Chevron Salado Draw

Analytical Method: TPH By SW8015 Mod

Seq Number: 3030818

MB Sample Id: 7632853-1-BLK

Matrix: Solid

LCS Sample Id: 7632853-1-BKS

Prep Method: TX1005P

Date Prep: 10.18.17

LCSD Sample Id: 7632853-1-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	<15.0	1000	1020	102	1090	109	70-135	7	35	mg/kg	10.18.17 16:12	
Diesel Range Organics	<15.0	1000	1070	107	1140	114	70-135	6	35	mg/kg	10.18.17 16:12	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	96		108		106		70-135	%	10.18.17 16:12			
o-Terphenyl	92		100		95		70-135	%	10.18.17 16:12			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3030818

Parent Sample Id: 565814-001

Matrix: Soil

MS Sample Id: 565814-001 S

Prep Method: TX1005P

Date Prep: 10.18.17

MSD Sample Id: 565814-001 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	<15.0	999	1090	109	1130	113	70-135	4	35	mg/kg	10.18.17 17:15	
Diesel Range Organics	<15.0	999	1160	116	1170	117	70-135	1	35	mg/kg	10.18.17 17:15	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			129		109		70-135	%	10.18.17 17:15			
o-Terphenyl			103		106		70-135	%	10.18.17 17:15			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030943

MB Sample Id: 7632948-1-BLK

Matrix: Solid

LCS Sample Id: 7632948-1-BKS

Prep Method: SW5030B

Date Prep: 10.18.17

LCSD Sample Id: 7632948-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00197	0.0984	0.118	120	0.115	116	70-130	3	35	mg/kg	10.18.17 18:00	
Toluene	<0.00197	0.0984	0.109	111	0.108	109	70-130	1	35	mg/kg	10.18.17 18:00	
Ethylbenzene	<0.00197	0.0984	0.111	113	0.107	108	71-129	4	35	mg/kg	10.18.17 18:00	
m,p-Xylenes	<0.00394	0.197	0.221	112	0.213	108	70-135	4	35	mg/kg	10.18.17 18:00	
o-Xylene	<0.00197	0.0984	0.106	108	0.104	105	71-133	2	35	mg/kg	10.18.17 18:00	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1,4-Difluorobenzene	87		86		84		80-120	%	10.18.17 18:00			
4-Bromofluorobenzene	92		86		91		80-120	%	10.18.17 18:00			



QC Summary 565814

Larson & Associates

Chevron Salado Draw

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030943

Parent Sample Id: 565814-001

Matrix: Soil

MS Sample Id: 565814-001 S

Prep Method: SW5030B

Date Prep: 10.18.17

MSD Sample Id: 565814-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.115	115	0.118	119	70-130	3	35	mg/kg	10.18.17 18:36	
Toluene	<0.00200	0.0998	0.108	108	0.113	114	70-130	5	35	mg/kg	10.18.17 18:36	
Ethylbenzene	<0.00200	0.0998	0.106	106	0.110	111	71-129	4	35	mg/kg	10.18.17 18:36	
m,p-Xylenes	<0.00399	0.200	0.210	105	0.218	110	70-135	4	35	mg/kg	10.18.17 18:36	
o-Xylene	<0.00200	0.0998	0.103	103	0.106	107	71-133	3	35	mg/kg	10.18.17 18:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		100		80-120	%	10.18.17 18:36
4-Bromofluorobenzene	107		110		80-120	%	10.18.17 18:36

565811

Varson & Associates Inc.

arson &
associates, Inc.
Environmental Consultants

507 N. Marientfeld St. 200

Midland, TX 79701

432-687-0901

DATE: 10/18/17

PC #.

LAB WORK ORDER #:

PAGE 2 OF 5

PROJECT LOCATION OR NAME: Chevron Salado Draw

LAI PROJECT #: 17-0186-01

COLLECTOR: ZC/B3

TRRP report?		S=SOIL		P=PAINT		PRESERVATION		ANALYSES		FIELD NOTES	
☐ Yes ☒ No		W=WATER A=AIR		SL=SLUDGE OT=OTHER		☐ HCl ☐ HNO ₃ ☐ H ₂ SO ₄ ☐ NaOH ☐ ☐ ICE ☐ UNPRESERVED		BTX ☐ MTBE ☐ TRPH 418 ☐ TPH 1005 ☐ TPH 1006 ☐ GASOLINE MOD 8015 ☐ DIESEL - MOD 8015 ☐ VOC 8260 ☐ SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ 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 ☐ PENTACHLORATE ☐ CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐		FIELD NOTES	
5-3	3-4	10/13	12:46	5	1						
4-5			12:56								
5-6			12:57								
6-7			12:59								
7-8			13:10								
8-9			13:13								
9-10			13:13								
10-11			13:15								
5-4	0-1		13:24								
1-2			13:24								
2-3			13:26								
3-4			13:30								
4-5			13:34								
5-6			13:36								
6-7			13:38								
TOTAL											

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

LABORATORY USE ONLY:

RELINQUISHEN D.V.M.

DATE/TIME
12/12/17 9:00

RECEIVED BY: (Signature)

IR ID: R-8

RELING	Temp.	CE (%)
	0.0	0.2%

CF: (0-6; -0.2°C)

RECEIVED BY: (Signature)

~~2 DAY~~

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

(6-23: +0.2°C)

—

OTHER ☐

☐ CARRIER BILL #

Corrected Temp: -8.6

1

☐ HAND DELIVERED

Aarson &
associates, Inc.
Environmental Group

Data Reported to:

432-687-0901

PO #: _____

LAB WORK ORDER #

PAGE 4 OF 5

CHAIN-OF-CUSTODY

~~Final 1.000~~

XENUC 565814

Arson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 10/16/17 PAGE 5 OF 5
PO #: _____ LAB WORK ORDER #: _____
PROJECT LOCATION OR NAME: Chavon Silacho Drive
LAI PROJECT #: 17-0160-01 COLLECTOR: ZCB

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

TIME ZONE: MST
Time zone/State:

Field
Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

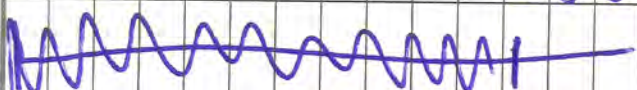
UNPRESERVED

ANALYSES

BTEX ☒ MTBE ☐
TPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐
GASOLINE MOD 8015 ☒
DIESEL MOD 8015 ☒
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 ☐ PECTHOLATE ☐
CHLORIDE ANIONS ☐ ALKALINITY ☐
NO

FIELD NOTES

S-10 5-6
S-8 0-1
1-2
2-3
10/12 14:00
10/12 15:10
10/12 15:10
10/12 15:10



TOTAL

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

Temp: -8.8

IR ID: R-8

TIME

RECEIVED BY: (Signature)

CF: (0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: -8.6

TURN AROUND TIME

NORMAL ☐

1 DAY ☐

2 DAY ☒

OTHER ☐

LABORATORY USE ONLY:

RECEIVING TEMP: _____

THERM #: _____

CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED

CARRIER BILL # _____

☐ HAND DELIVERED



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Larson & Associates

Date/ Time Received: 10/18/2017 09:00:00 AM

Work Order #: 565814

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)?	-8.6
#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)?	No
#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:

Connie Hernandez

Date: 10/18/2017

Checklist reviewed by:

Kelsey Brooks

Date: 10/19/2017



Certificate of Analysis Summary 565936

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Thu Oct-19-17 10:30 am

Report Date: 24-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	565936-001	565936-002	565936-003	565936-004	565936-005	565936-006
	Field Id:	S-6 0-1	S-6 1-2	S-6 2-3	S-6 3-4	S-6 4-5	S-6 5-6
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-18-17 12:35	Oct-18-17 12:35	Oct-18-17 12:35	Oct-18-17 12:35	Oct-18-17 12:40	Oct-18-17 12:40
BTEX by EPA 8021B	Extracted:	Oct-20-17 10:00					
	Analyzed:	Oct-20-17 17:21					
	Units/RL:	mg/kg RL					
	Benzene	<0.00200 0.00200					
	Toluene	<0.00200 0.00200					
	Ethylbenzene	<0.00200 0.00200					
	m,p-Xylenes	<0.00399 0.00399					
	o-Xylene	<0.00200 0.00200					
Chloride by EPA 300	Extracted:	Oct-19-17 16:15	Oct-19-17 16:15	Oct-19-17 16:15	Oct-19-17 16:15	Oct-19-17 16:15	Oct-19-17 16:15
	Analyzed:	Oct-19-17 21:46	Oct-19-17 21:53	Oct-19-17 22:01	Oct-19-17 22:09	Oct-19-17 22:16	Oct-19-17 22:39
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Chloride	1390 24.6	974 24.8	2320 24.5	269 4.91	22.5 4.89	49.4 4.98
TPH By SW8015 Mod	Extracted:	Oct-20-17 17:00					
	Analyzed:	Oct-21-17 05:09					
	Units/RL:	mg/kg RL					
	Gasoline Range Hydrocarbons	<15.0 15.0					
	Diesel Range Organics	<15.0 15.0					
	Oil Range Hydrocarbons	<15.0 15.0					
	Total TPH	<15.0 15.0					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 565936

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Thu Oct-19-17 10:30 am

Report Date: 24-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	565936-007	565936-008	565936-009	565936-010	565936-011	565936-012
	<i>Field Id:</i>	S-6 6-7	S-6 7-8	S-6 8-9	S-6 9-10	S-6 10-11	S-6 11-12
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-18-17 12:40	Oct-18-17 12:40	Oct-18-17 12:45	Oct-18-17 12:45	Oct-18-17 12:45	Oct-18-17 12:45
Chloride by EPA 300	<i>Extracted:</i>	Oct-19-17 16:15	Oct-19-17 16:15	Oct-19-17 16:15	Oct-19-17 16:15	Oct-19-17 16:15	Oct-19-17 16:15
	<i>Analyzed:</i>	Oct-19-17 22:47	Oct-19-17 23:10	Oct-19-17 23:18	Oct-19-17 23:26	Oct-19-17 23:33	Oct-19-17 23:41
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		38.4 4.95	20.9 4.96	27.3 4.97	16.2 4.90	<5.00 5.00	<4.96 4.96

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 565936

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Thu Oct-19-17 10:30 am

Report Date: 24-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	565936-013	565936-014	565936-015	565936-016	565936-017	565936-018
	<i>Field Id:</i>	S-6 12-13	S-6 13-14	S-6 14-15	S-8 3-4	S-8 4-5	S-8 5-6
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-18-17 12:55	Oct-18-17 12:55	Oct-18-17 12:55	Oct-18-17 13:30	Oct-18-17 13:35	Oct-18-17 13:40
Chloride by EPA 300	<i>Extracted:</i>	Oct-19-17 16:15	Oct-19-17 16:15	Oct-23-17 12:00	Oct-23-17 12:00	Oct-23-17 12:00	Oct-23-17 12:00
	<i>Analyzed:</i>	Oct-19-17 23:49	Oct-19-17 23:56	Oct-23-17 16:35	Oct-23-17 18:01	Oct-23-17 18:08	Oct-23-17 18:15
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		103 4.91	169 4.97	127 4.91	576 4.97	1840 24.9	22.0 4.94

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 565936

Larson & Associates, Midland, TX

Project Name: Chevron Salado Draw



Project Id:

Contact: Mark Larson

Project Location: Chevron Salado Draw

Date Received in Lab: Thu Oct-19-17 10:30 am

Report Date: 24-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	565936-019					
	Field Id:	S-8 6-7					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Oct-18-17 13:45					
Chloride by EPA 300	Extracted:	Oct-23-17 12:00					
	Analyzed:	Oct-23-17 18:22					
	Units/RL:	mg/kg RL					
Chloride		6.73 4.97					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager

Analytical Report 565936

for
Larson & Associates

Project Manager: Mark Larson

Chevron Salado Draw

24-OCT-17

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):

Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



24-OCT-17

Project Manager: **Mark Larson**

Larson & Associates

P.O. Box 50685

Midland, TX 79710

Reference: XENCO Report No(s): **565936**

Chevron Salado Draw

Project Address: Chevron Salado Draw

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) 565936. 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. 565936 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,

Kelsey Brooks

Project Manager

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Sample Cross Reference 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-6 0-1	S	10-18-17 12:35		565936-001
S-6 1-2	S	10-18-17 12:35		565936-002
S-6 2-3	S	10-18-17 12:35		565936-003
S-6 3-4	S	10-18-17 12:35		565936-004
S-6 4-5	S	10-18-17 12:40		565936-005
S-6 5-6	S	10-18-17 12:40		565936-006
S-6 6-7	S	10-18-17 12:40		565936-007
S-6 7-8	S	10-18-17 12:40		565936-008
S-6 8-9	S	10-18-17 12:45		565936-009
S-6 9-10	S	10-18-17 12:45		565936-010
S-6 10-11	S	10-18-17 12:45		565936-011
S-6 11-12	S	10-18-17 12:45		565936-012
S-6 12-13	S	10-18-17 12:55		565936-013
S-6 13-14	S	10-18-17 12:55		565936-014
S-6 14-15	S	10-18-17 12:55		565936-015
S-8 3-4	S	10-18-17 13:30		565936-016
S-8 4-5	S	10-18-17 13:35		565936-017
S-8 5-6	S	10-18-17 13:40		565936-018
S-8 6-7	S	10-18-17 13:45		565936-019



CASE NARRATIVE

Client Name: *Larson & Associates*

Project Name: *Chevron Salado Draw*

Project ID:

Work Order Number(s): 565936

Report Date: 24-OCT-17

Date Received: 10/19/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3031040 BTEX by EPA 8021B

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

Samples affected are: 566044-021 S.

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 0-1
Lab Sample Id: 565936-001

Matrix: Soil
Date Collected: 10.18.17 12.35

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3030949

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.19.17 16.15

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1390	24.6	mg/kg	10.19.17 21.46		5

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3031144

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 10.20.17 17.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.21.17 05.09	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	10.21.17 05.09	U	1
Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	10.21.17 05.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.21.17 05.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	109	%	70-135	10.21.17 05.09		
o-Terphenyl	84-15-1	105	%	70-135	10.21.17 05.09		



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 0-1
Lab Sample Id: 565936-001

Matrix: Soil
Date Collected: 10.18.17 12.35

Date Received: 10.19.17 10.30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: JUM

% Moisture:

Analyst: JUM

Date Prep: 10.20.17 10.00

Basis: Wet Weight

Seq Number: 3031040

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.20.17 17.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.20.17 17.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.20.17 17.21	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.20.17 17.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.20.17 17.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.20.17 17.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.20.17 17.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	80-120	10.20.17 17.21		
4-Bromofluorobenzene	460-00-4	117	%	80-120	10.20.17 17.21		



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 1-2
Lab Sample Id: 565936-002

Matrix: Soil
Date Collected: 10.18.17 12.35

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	974	24.8	mg/kg	10.19.17 21.53		5



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 2-3
Lab Sample Id: 565936-003

Matrix: Soil
Date Collected: 10.18.17 12.35

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2320	24.5	mg/kg	10.19.17 22.01		5



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 3-4
Lab Sample Id: 565936-004

Matrix: Soil
Date Collected: 10.18.17 12.35

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	269	4.91	mg/kg	10.19.17 22.09		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 4-5
Lab Sample Id: 565936-005

Matrix: Soil
Date Collected: 10.18.17 12.40

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.5	4.89	mg/kg	10.19.17 22.16		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 5-6
Lab Sample Id: 565936-006

Matrix: Soil
Date Collected: 10.18.17 12.40

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	49.4	4.98	mg/kg	10.19.17 22.39		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 6-7
Lab Sample Id: 565936-007

Matrix: Soil
Date Collected: 10.18.17 12.40

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	38.4	4.95	mg/kg	10.19.17 22.47		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 7-8
Lab Sample Id: 565936-008

Matrix: Soil
Date Collected: 10.18.17 12.40

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.9	4.96	mg/kg	10.19.17 23.10		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-6 8-9**
Lab Sample Id: 565936-009

Matrix: Soil
Date Collected: 10.18.17 12.45

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.3	4.97	mg/kg	10.19.17 23.18		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-6 9-10**
Lab Sample Id: 565936-010

Matrix: Soil
Date Collected: 10.18.17 12.45

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.2	4.90	mg/kg	10.19.17 23.26		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-6 10-11**

Matrix: Soil

Date Received: 10.19.17 10.30

Lab Sample Id: 565936-011

Date Collected: 10.18.17 12.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	10.19.17 23.33	U	1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 11-12

Matrix: Soil

Date Received: 10.19.17 10.30

Lab Sample Id: 565936-012

Date Collected: 10.18.17 12.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	10.19.17 23.41	U	1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 12-13

Matrix: Soil

Date Received: 10.19.17 10.30

Lab Sample Id: 565936-013

Date Collected: 10.18.17 12.55

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	103	4.91	mg/kg	10.19.17 23.49		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-6 13-14**

Matrix: Soil

Date Received: 10.19.17 10.30

Lab Sample Id: 565936-014

Date Collected: 10.18.17 12.55

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.19.17 16.15

Basis: Wet Weight

Seq Number: 3030949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	169	4.97	mg/kg	10.19.17 23.56		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-6 14-15

Matrix: Soil

Date Received: 10.19.17 10.30

Lab Sample Id: 565936-015

Date Collected: 10.18.17 12.55

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.23.17 12.00

Basis: Wet Weight

Seq Number: 3031231

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	127	4.91	mg/kg	10.23.17 16.35		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-8 3-4
Lab Sample Id: 565936-016

Matrix: Soil
Date Collected: 10.18.17 13.30

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.23.17 12.00

Basis: Wet Weight

Seq Number: 3031231

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	576	4.97	mg/kg	10.23.17 18.01		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-8 4-5**
Lab Sample Id: 565936-017

Matrix: Soil
Date Collected: 10.18.17 13.35

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.23.17 12.00

Basis: Wet Weight

Seq Number: 3031231

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1840	24.9	mg/kg	10.23.17 18.08		5



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: **S-8 5-6**
Lab Sample Id: 565936-018

Matrix: Soil
Date Collected: 10.18.17 13.40

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.23.17 12.00

Basis: Wet Weight

Seq Number: 3031231

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.0	4.94	mg/kg	10.23.17 18.15		1



Certificate of Analytical Results 565936



Larson & Associates, Midland, TX

Chevron Salado Draw

Sample Id: S-8 6-7
Lab Sample Id: 565936-019

Matrix: Soil
Date Collected: 10.18.17 13.45

Date Received: 10.19.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 10.23.17 12.00

Basis: Wet Weight

Seq Number: 3031231

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.73	4.97	mg/kg	10.23.17 18.22		1

- 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

+ NELAC certification not offered for this compound.

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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

4147 Greenbriar Dr, Stafford, TX 77477
 9701 Harry Hines Blvd , Dallas, TX 75220
 5332 Blackberry Drive, San Antonio TX 78238
 1211 W Florida Ave, Midland, TX 79701
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	

Larson & Associates
Chevron Salado Draw

Analytical Method: Chloride by EPA 300

Seq Number: 3030949

MB Sample Id: 7632950-1-BLK

Matrix: Solid

LCS Sample Id: 7632950-1-BKS

Prep Method: E300P

Date Prep: 10.19.17

LCSD Sample Id: 7632950-1-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	246	98	246	98	90-110	0	20	mg/kg	10.19.17 20:14	

Analytical Method: Chloride by EPA 300

Seq Number: 3031231

MB Sample Id: 7633092-1-BLK

Matrix: Solid

LCS Sample Id: 7633092-1-BKS

Prep Method: E300P

Date Prep: 10.23.17

LCSD Sample Id: 7633092-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	246	98	90-110	0	20	mg/kg	10.23.17 16:22	

Analytical Method: Chloride by EPA 300

Seq Number: 3030949

Parent Sample Id: 565936-005

Matrix: Soil

MS Sample Id: 565936-005 S

Prep Method: E300P

Date Prep: 10.19.17

MSD Sample Id: 565936-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	22.5	245	277	104	275	103	90-110	1	20	mg/kg	10.19.17 22:24	

Analytical Method: Chloride by EPA 300

Seq Number: 3030949

Parent Sample Id: 565937-001

Matrix: Soil

MS Sample Id: 565937-001 S

Prep Method: E300P

Date Prep: 10.19.17

MSD Sample Id: 565937-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.92	246	242	98	244	99	90-110	1	20	mg/kg	10.19.17 20:37	

Analytical Method: Chloride by EPA 300

Seq Number: 3031231

Parent Sample Id: 565936-015

Matrix: Soil

MS Sample Id: 565936-015 S

Prep Method: E300P

Date Prep: 10.23.17

MSD Sample Id: 565936-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	127	246	365	97	369	98	90-110	1	20	mg/kg	10.23.17 16:42	

Analytical Method: Chloride by EPA 300

Seq Number: 3031231

Parent Sample Id: 565936-019

Matrix: Soil

MS Sample Id: 565936-019 S

Prep Method: E300P

Date Prep: 10.23.17

MSD Sample Id: 565936-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.73	249	258	101	259	101	90-110	0	20	mg/kg	10.23.17 18:28	



QC Summary 565936

Larson & Associates Chevron Salado Draw

Analytical Method: TPH By SW8015 Mod

Seq Number: 3031144

MB Sample Id: 7633054-1-BLK

Matrix: Solid

LCS Sample Id: 7633054-1-BKS

Prep Method: TX1005P

Date Prep: 10.20.17

LCSD Sample Id: 7633054-1-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	<15.0	1000	1120	112	1050	105	70-135	6	35	mg/kg	10.21.17 04:28	
Diesel Range Organics	<15.0	1000	1120	112	1110	111	70-135	1	35	mg/kg	10.21.17 04:28	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	112		122		110		70-135	%	10.21.17 04:28			
o-Terphenyl	109		120		104		70-135	%	10.21.17 04:28			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3031144

Parent Sample Id: 565936-001

Matrix: Soil

MS Sample Id: 565936-001 S

Prep Method: TX1005P

Date Prep: 10.20.17

MSD Sample Id: 565936-001 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	<15.0	997	1040	104	1050	105	70-135	1	35	mg/kg	10.21.17 05:29	
Diesel Range Organics	<15.0	997	1120	112	1110	111	70-135	1	35	mg/kg	10.21.17 05:29	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			110		108		70-135	%	10.21.17 05:29			
o-Terphenyl			107		100		70-135	%	10.21.17 05:29			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3031040

MB Sample Id: 7632991-1-BLK

Matrix: Solid

LCS Sample Id: 7632991-1-BKS

Prep Method: SW5030B

Date Prep: 10.20.17

LCSD Sample Id: 7632991-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0988	0.0967	98	0.0970	98	70-130	0	35	mg/kg	10.20.17 14:15	
Toluene	<0.00198	0.0988	0.0974	99	0.0961	97	70-130	1	35	mg/kg	10.20.17 14:15	
Ethylbenzene	<0.00198	0.0988	0.0997	101	0.0981	99	71-129	2	35	mg/kg	10.20.17 14:15	
m,p-Xylenes	<0.00395	0.198	0.196	99	0.193	97	70-135	2	35	mg/kg	10.20.17 14:15	
o-Xylene	<0.00198	0.0988	0.0959	97	0.0945	95	71-133	1	35	mg/kg	10.20.17 14:15	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1,4-Difluorobenzene	106		90		84		80-120	%	10.20.17 14:15			
4-Bromofluorobenzene	118		103		102		80-120	%	10.20.17 14:15			

Larson & Associates
Chevron Salado Draw

Analytical Method: BTEX by EPA 8021B

Seq Number: 3031040

Parent Sample Id: 566044-021

Matrix: Soil

MS Sample Id: 566044-021 S

Prep Method: SW5030B

Date Prep: 10.20.17

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.00197	0.0986	0.0372	38	70-130	mg/kg	10.20.17 14:51	X
Toluene	<0.00197	0.0986	0.0345	35	70-130	mg/kg	10.20.17 14:51	X
Ethylbenzene	<0.00197	0.0986	0.0332	34	71-129	mg/kg	10.20.17 14:51	X
m,p-Xylenes	<0.00394	0.197	0.0639	32	70-135	mg/kg	10.20.17 14:51	X
o-Xylene	<0.00197	0.0986	0.0314	32	71-133	mg/kg	10.20.17 14:51	X

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	114		80-120	%	10.20.17 14:51
4-Bromofluorobenzene	137		80-120	%	10.20.17 14:51

SL05936

CHAIN-OF-CUSTODY



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

Data Reported to:

DATE: 10-18-2017 PAGE 2 OF 2
PO #: LAB WORK ORDER #:
PROJECT LOCATION OR NAME: Chevron Salado Draw
LAI PROJECT #: 17-0186-01 COLLECTOR: ZCB

TRRP report?
☐ Yes ☒ No

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

TIME ZONE:
Time zone/State:
MST

Field
Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

ANALYSES

- BTEX ☒ TPH 1005 ☒ TPH 1006 ☒
GASOLINE MOD 8015 ☒ DIESEL - MOD 8016 ☒
VOC 8260 ☒ SVOC 8270 ☒ PAH 8270 ☒ HOLDPAH ☒
8081 PESTICIDES ☒ 8151 HERBICIDES ☒
TCLP - METALS (RCRA) ☒ TCLP VOC ☒
TCLP - PEST ☒ HERB ☒ Semi-VOC ☒
TOTAL METALS (RCRA) ☒ OTHER LIST ☒
LEAD - TOTAL ☒ D.W. 200.8 ☒ TCLP ☒
RCL ☒ TOX ☒ FLASHPOINT ☒
TDS ☒ TSS ☒ % MOISTURE ☒ CYANIDE ☒
pH ☒ HEXAVALENT CHROMIUM ☒ PENTACHLORATE ☒
EXPLOSIVES ☒ ANIONS ☒ ALKALINITY ☒
CHLORIDE ☒

FIELD NOTES

3-4'

4-5'

5-6'

6-7'

10/18

13:30

13:35

13:40

13:45

5

1

1

TOTAL

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

DATE/TIME

TURN AROUND TIME

LABORATORY USE ONLY:

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

DATE/TIME

TURN AROUND TIME

LABORATORY USE ONLY:

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

DATE/TIME

TURN AROUND TIME

LABORATORY USE ONLY:

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

CARRIER BILL #

HAND DELIVERED

Temp: -1.3 IR ID: R-8
CF: (0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: -1.1



APEX

Office Location Midland

505 N. Big Spring St., Suite 301A

Midland, TX 79701

Project Manager Sharon Hall-Hunt

Laboratory: Xeno Labs
Address: 1211 W. Florida Ave
Midland, TX 79701

Contact: Kelsey Brooks

Phone: _____

PO/SO #: 7250715107

Sampler's Name Simon Hudgens Sampler's Signature [Signature]

Proj. No. 7250715107 Project Name Magellan Colorado City No/Type of Containers 8 plastic

Matrix	Date	Time	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 L.	250 ml Glass Jar	P/O
--------	------	------	--------------------------------	-------------	-----------	-----	----------	------------------	-----

W	10/19/17	0835	Pre-Filter	/	/				4
W	10/19/17	0845	Post-Filter	/	/				4

ANALYSIS REQUESTED

Alkalinity
pH
Chlorides
TDS
Sulfate
Nitrates/Nitrite
Fecal Coliform
Hardness (Ca, Mg, Fe)

Lab Sample ID (Lab Use Only) S05940

Lab use only
Due Date: _____

Temp. of coolers when received (C°):

1	2	3	4	5
---	---	---	---	---

Page 1 of 1

Turn around time ☒ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
-----------------------------	-------	-------	--------------------------	-------	-------

<u>[Signature]</u>	<u>10/19/17</u>	<u>1012</u>	<u>[Signature]</u>	<u>10/19/17</u>	<u>10:15</u>
--------------------	-----------------	-------------	--------------------	-----------------	--------------

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
-----------------------------	-------	-------	--------------------------	-------	-------

--	--	--	--	--	--

NOTES: * Fecal Coliform hold time is only 30 hrs. Please rush. *

Temp: 5.8 IR ID: R-8
CF: (0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 5.4

Matrix Container WW - Wastewater VOA - 40 ml vial W - Water AG - Amber / Or Glass 1 Liter S - Soil SD - Solid L - Liquid A - Air Bag 250 ml - Glass wide mouth C - Charcoal tube P/O - Plastic or other SL - Sludge O - Oil



Inter-Office Shipment

Page 1 of 1

IOS Number 1050622

Date/Time: 10/20/17 11:14

Created by: Shawnee Smith

Please send report to: Kelsey Brooks

Lab# From: **Midland**

Delivery Priority:

Address: 1211 W. Florida Ave, Midland TX 79701

Lab# To: **Lubbock**

Air Bill No.:

Phone:

E-Mail: kelsey.brooks@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
565936-001	S	S-6 0-1	10/18/17 12:35	SW8021B	BTEX by EPA 8021B	10/23/17	11/01/17	KEB	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By

Shawnee Smith

Received By: _____

Date Relinquished: 10/20/2017

Date Received: _____

Cooler Temperature: _____



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Larson & Associates

Date/ Time Received: 10/19/2017 10:30:00 AM

Work Order #: 565936

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)?	-1.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#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:

Shawnee Smith

Date: 10/20/2017

Checklist reviewed by:

Kelsey Brooks

Date: 10/20/2017

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



Analytical Report

Prepared for:

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

Project: RWCS Solodo Draw

Project Number: 17-0186-01

Location:

Lab Order Number: 8A17002



NELAP/TCEQ # T104704516-16-7

Report Date: 01/18/18

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

Project: RWCS Solodo Draw
Project Number: 17-0186-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-2 (5')	8A17002-01	Soil	01/16/18 12:20	01-17-2018 08:40
S-2 (10')	8A17002-02	Soil	01/16/18 12:21	01-17-2018 08:40
S-2 (15')	8A17002-03	Soil	01/16/18 12:22	01-17-2018 08:40
S-2 (20')	8A17002-04	Soil	01/16/18 12:23	01-17-2018 08:40
S-5 (0)	8A17002-06	Soil	01/16/18 12:38	01-17-2018 08:40
S-5 (5')	8A17002-07	Soil	01/16/18 12:33	01-17-2018 08:40
S-5 (10')	8A17002-08	Soil	01/16/18 12:34	01-17-2018 08:40
S-5 (15')	8A17002-09	Soil	01/16/18 12:35	01-17-2018 08:40
S-5 (20')	8A17002-10	Soil	01/16/18 12:36	01-17-2018 08:40

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

Project: RWCS Solodo Draw
Project Number: 17-0186-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S-2 (5')
8A17002-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	2270	10.9	mg/kg dry	10	P8A1704	01/17/18	01/18/18	EPA 300.0
% Moisture	8.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216

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

Project: RWCS Solodo Draw
Project Number: 17-0186-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S-2 (10')
8A17002-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	1420	5.43	mg/kg dry	5	P8A1704	01/17/18	01/18/18	EPA 300.0
% Moisture	8.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216

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

Project: RWCS Solodo Draw
Project Number: 17-0186-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S-2 (15')
8A17002-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	44.2	1.10	mg/kg dry	1	P8A1704	01/17/18	01/18/18	EPA 300.0	
% Moisture	9.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216	

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

Project: RWCS Solodo Draw
Project Number: 17-0186-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S-2 (20')
8A17002-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	56.3	1.06	mg/kg dry	1	P8A1704	01/17/18	01/18/18	EPA 300.0	
% Moisture	6.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216	

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

Project: RWCS Solodo Draw
Project Number: 17-0186-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S-5 (0)
8A17002-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	773	5.38	mg/kg dry	5	P8A1704	01/17/18	01/18/18	EPA 300.0	
% Moisture	7.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216	

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

Project: RWCS Solodo Draw
Project Number: 17-0186-01
Project Manager: Mark Larson

Fax: (432) 687-0456

S-5 (5')
8A17002-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	74.9	1.10	mg/kg dry	1	P8A1704	01/17/18	01/18/18	EPA 300.0
% Moisture	9.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216

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S-5 (10')
8A17002-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	28.5	1.08	mg/kg dry	1	P8A1704	01/17/18	01/18/18	EPA 300.0
% Moisture	7.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216

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S-5 (15')
8A17002-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	33.3	1.04	mg/kg dry	1	P8A1704	01/17/18	01/18/18	EPA 300.0	
% Moisture	4.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216	

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S-5 (20')
8A17002-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	14.3	1.04	mg/kg dry	1	P8A1704	01/17/18	01/18/18	EPA 300.0	
% Moisture	4.0	0.1	%	1	P8A1710	01/17/18	01/17/18	ASTM D2216	

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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
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Batch P8A1704 - * DEFAULT PREP *****

Blank (P8A1704-BLK1)		Prepared: 01/17/18 Analyzed: 01/18/18								
Chloride	ND	1.00	mg/kg wet							
LCS (P8A1704-BS1)		Prepared: 01/17/18 Analyzed: 01/18/18								
Chloride	407	1.00	mg/kg wet	400		102	80-120			
LCS Dup (P8A1704-BSD1)		Prepared: 01/17/18 Analyzed: 01/18/18								
Chloride	411	1.00	mg/kg wet	400		103	80-120	1.14	20	
Duplicate (P8A1704-DUP1)		Source: 8A17001-01		Prepared: 01/17/18 Analyzed: 01/18/18						
Chloride	721	1.05	mg/kg dry		651			10.1	20	
Duplicate (P8A1704-DUP2)		Source: 8A17002-01		Prepared: 01/17/18 Analyzed: 01/18/18						
Chloride	2280	10.9	mg/kg dry		2270			0.755	20	
Matrix Spike (P8A1704-MS1)		Source: 8A17001-01		Prepared: 01/17/18 Analyzed: 01/18/18						
Chloride	1730	1.05	mg/kg dry	1050	651	103	80-120			

Batch P8A1710 - * DEFAULT PREP *****

Blank (P8A1710-BLK1)		Prepared & Analyzed: 01/17/18								
% Moisture	ND	0.1	%							
Duplicate (P8A1710-DUP1)		Source: 8A13003-02		Prepared & Analyzed: 01/17/18						
% Moisture	14.0	0.1	%		15.0			6.90	20	
Duplicate (P8A1710-DUP2)		Source: 8A13004-05		Prepared & Analyzed: 01/17/18						
% Moisture	5.0	0.1	%		4.0			22.2	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
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Batch P8A1710 - * DEFAULT PREP *****

Duplicate (P8A1710-DUP3)		Source: 8A13005-08		Prepared & Analyzed: 01/17/18						
% Moisture	6.0	0.1	%		7.0			15.4	20	
Duplicate (P8A1710-DUP4)		Source: 8A15010-12		Prepared & Analyzed: 01/17/18						
% Moisture	6.0	0.1	%		6.0			0.00	20	
Duplicate (P8A1710-DUP5)		Source: 8A15010-34		Prepared & Analyzed: 01/17/18						
% Moisture	2.0	0.1	%		3.0			40.0	20	
Duplicate (P8A1710-DUP6)		Source: 8A17002-11		Prepared & Analyzed: 01/17/18						
% Moisture	4.0	0.1	%		4.0			0.00	20	

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Notes and Definitions

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:



Date:

1/18/2018

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

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

Data Reported to:

DATE: 1/17/18 PAGE 1 OF 1
PO #: _____ LAB WORK ORDER # SA11002
PROJECT LOCATION OR NAME: RW25 Selade Drew
LAI PROJECT #: 17-0186-01 COLLECTOR: AT

Page 15 of 15

TRRP report?		S=SOIL	P=PAINT
☐ Yes	☒ No	W=WATER	SL=SLUDGE
TIME ZONE:		A=AIR	OT=OTHER
Mst			
Field Sample I.D.	Lab #	Date	Time
3-2 (64)	1	1/6/18	12:20
(64)	2		12:21
(156)	3		12:22
(204)	4		12:23
(254)	5		12:24
5-5 (64)	6		12:38
(54)	7		12:33
(104)	8		12:34
(154)	9		12:35
(204)	10		12:36
(254)	11		12:37
TOTAL			
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)	
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)	
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)	
PRESERVATION		HCl	
		HNO ₃	
		H ₂ SO ₄ ☐ NaOH ☐	
		ICE	
		UNPRESERVED	
ANALYSES			
BTEX ☐ MTBE ☐			
TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐			
GASOLINE MOD 8015 ☐			
DIESEL - MOD 8015 ☐			
VOC 8260 ☐			
SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐			
8081 PESTICIDES ☐ 8151 HERBICIDES ☐			
TCLP - METALS (RCRA) ☐ TCLP VOC ☐			
TCLP - PEST ☐ Herb ☐ Semi-VOC ☐			
TOTAL METALS (RCRA) ☐ OTHER LIST ☐			
LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐			
RCL ☐ TOX ☐ FLASHPOINT ☐			
TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐			
PH ☐ HEXAVALENT CHROMIUM ☐			
EXPLOSIVES ☐ PECHLORATE ☐			
CHLORIDE ANIONS ☐ ALKALINITY ☐			
FIELD NOTES			

Appendix C
Photographs



Source of Spill Viewing South



East End of Spill Viewing West



West End of Spill Viewing East



West End of Spill Viewing East