State of New Mexico
Oil Conservation Division

Incident ID	NPAC0728432741
District RP	1RP-1612
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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State of New Mexico
Oil Conservation Division

Incident ID	NPAC0728432741
District RP	1
Facility ID	
Application ID	

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

Printed Name: Amy Barnhill
Title: Lead Environmental Specialist
Signature: Amy Barnhill
Date: ~~1-8-2021~~ 6-10-21
Email: abarnhill@chevron.com
Telephone: 432-687-7108

OCD Only

Received by: _____
Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NPAC0728432741
District RP	1RP-1612
Facility ID	
Application ID	

Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Amy Barnhill Title: Lead Environmental Specialist

Signature: Amy Barnhill Date: ~~1-8-2021~~ 6-10-21

Email: abarnhill@chevron.com Telephone: 432-687-7108

OCD Only

Received by: _____ Date: _____

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

Signature: Jennifer Nobui Date: 04/18/2022

1RP-1612
Delineation Report and Remediation Plan
Lovington Deep State
Crude Oil and Produced Water Release
Lea County, New Mexico

Latitude: N 32.863950°
Longitude: W 103.385250°

LAI Project No. 20-0107-01

December 4, 2020

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

Prepared by:
Larson & Associates, Inc.
507 North Marienfeld Street, Suite 205
Midland, Texas 79701

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

Daniel St. Germain
Staff Geoscientist

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Figures

Appendices

1.0 INTRODUCTION

Larson & Associates, Inc. (LAI), has prepared this delineation report and remediation plan on behalf of Chevron USA Inc. (Chevron) for submittal to the New Mexico Oil Conservation Division (OCD) District 1 for a crude oil and produced water release at the Lovington Deep State (Site) located in Unit M (SW/4, NW/4), Section 5, Township 17 South, Range 36 East in Lea County, New Mexico. The geodetic position is North 32.863950°and West -103.385250°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The release occurred on October 2, 2007, due to a leak in a water transfer line. Approximately 2 barrels (bbls) of crude oil and 20 bbls of produced water were released. Approximately 1 bbl of crude oil and 13 bbls of produced water were recovered. The affected area measures approximately 10,846 square feet. The State of New Mexico is the surface and mineral owner. The initial C-141 was submitted on October 4, 2007 and assigned a remediation permit number 1RP-1612. Appendix A presents the original C-141.

On November 14 and 15, 2007, personnel from Ocotillo Environmental, LLC (Ocotillo) collected soil samples from 13 boreholes installed with an air rotary drilling rig to determine the horizontal and vertical limits of the spill. The soil samples were delivered to Environmental Lab of Texas (ELOT) in Odessa, Texas. Additionally, a duplicate sample from each borehole was collected and analyzed with a photoionization detector (PID) to measure the concentration of organic vapors.

All samples collected by Ocotillo were analyzed for chloride by EPA Method 325.3. The two uppermost samples from each borehole were analyzed for total petroleum hydrocarbons (TPH) by EPA Method SW-8015 (extended) for gasoline range organics (GRO) and diesel range organics (DRO). Samples that exceeded 100 parts per million (ppm) with the PID were analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA Method SW-8021B.

TPH concentrations were reported above the OCD delineation limit of 1,000 milligrams per kilogram (mg/Kg) or the delineation limit of 100 mg/kg if greater than six (6) feet below ground surface (bgs) in the following samples:

BH-1	0-2 feet	13,350 mg/kg
BH-1	5-7 feet	290.7 mg/kg
BH-1	10-12 feet	1,129 mg/kg
BH-2	0-2 feet	12,406 mg/kg
BH-5	0-2 feet	13,870 mg/kg
BH-5	5-7 feet	510.3 mg/kg
BH-9	0-2 feet	1,240 mg/kg
BH-9	5-7 feet	390.1 mg/kg

BTEX concentrations exceeded the delineation limit of 50 mg/kg in the following samples:

BH-1	0-2 feet	192.544 mg/kg
BH-1	5-7 feet	242.5141 mg/kg
BH-1	10-12 feet	202.1216 mg/kg

Chloride concentrations were reported above the OCD delineation limit of 250 mg/kg until a depth of 20-22 feet bgs in BH-1, 15-17 feet bgs in BH-2, and BH-7, and 10-12 feet bgs in BH-3, BH-5, BH-6, BH-8, and BH-9. Ocotillo submitted the data to OCD on December 10, 2007, in a report titled, "Spill Remediation Workplan". Appendix B presents the Ocotillo spill remediation workplan.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation of the site is approximately 3,913 feet above mean sea level (msl).
- The surface topography slopes gradually to the southeast.
- The soils are designated Lea Loam, consisting of 26 inches of loam, underlain by 10 inches of cemented material (caliche).
- The geology consists of Quaternary-age alluvial and eolian deposits derived from the Blackwater Draw Formation and underlying Ogallala Formation (Lower Pliocene to middle Miocene).
- Karst data provided by the USGS describes the site as "low risk" potential.
- According to the New Mexico Office of the State Engineer (OSE) website the nearest freshwater well (L-01723) is located approximately 0.09 miles southeast of the Site in the northwest quarter (NW/4) of the southwest quarter (SW/4), Section 5, Township 17 South, Range 36 East.
- Groundwater was reported in this well at approximately 120 feet below ground surface (bgs) in 1958.

Appendix C presents data depicting karst risk potential.

1.3 Remediation Levels

The following remediation standards are based on closure criteria for soils impacted by a release as presented in Table 1 of 19.15.29 NMAC:

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 2,500 mg/Kg
- Chloride 10,000 mg/Kg

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

2.0 DELINEATION

On February 11 - 13, 2020, LAI personnel used direct push technology (DPT) to collect soil samples from thirteen (13) soil sample locations. Samples were collected at depths of approximately 0.5, 2, 5, and 10 feet bgs, depending on subsurface conditions. The soil samples were delivered under chain of custody and preservation to Xenco Laboratory Inc. (Xenco) in Midland, Texas. The laboratory analyzed the samples for BTEX by EPA SW-846 Method 8021B, TPH, including gasoline range organics (C6-C12), diesel range

organics (>C12-C28) and oil range organics (>C28-C35) by EPA Method 8015M, and chloride by EPA Method 300. Figure 2 presents an aerial map showing the delineation soil sample location. Table 1 presents the soil sample analytical data summary. Appendix D presents the laboratory reports. Appendix presents present photographs. All samples reported below the OCD delineation limit of 10 mg/Kg and 50 mg/Kg for Benzene and BTEX, respectfully. TPH was reported above the OCD delineation limit of 100 mg/Kg in BH-7 at two (2) feet bgs. Chloride was reported above the OCD delineation limit of 600 mg/Kg in the following samples:

BH-2	0.5 feet	2,760 mg/Kg
BH-2	2 feet	3,150 mg/Kg
BH-2	5 feet	2,730 mg/Kg
BH-2	7 feet	2,640 mg/Kg
BH-3	0.5 feet	3,560 mg/ Kg
BH-5	2 feet	1,600 mg/Kg
BH-5	5 feet	749 mg/Kg
BH-6	0.5 feet	8,460 mg/Kg
BH-6	2 feet	2,730 mg/Kg
BH-7	2 feet	8,530 mg/Kg
BH-8	10 feet	3,090 mg/Kg

On July 23, 2020, Scarborough Drilling Inc. (SDI) under LAI supervision drilled four (4) boreholes (BH-2, BH-3, BH-5, and BH-7) to twenty (20) feet bgs and BH-8 to twenty-five (25) feet bgs to vertically delineate the spill. Samples were collected every five (5) feet and delivered under chain of custody and preservation to Xenco. All samples were analyzed for chloride. Samples from BH-7 at 5 and 10 feet bgs were analyzed for TPH. Chloride was reported above the OCD delineation limit of 600 mg/Kg in the BH-2 at 20 feet (1,060 mg/Kg).

On December 1, 2020, SDI under LAI supervision drilled BH-2 to twenty-five (25) bgs and collected samples at twenty (20) and twenty-five (25) feet bgs. Xenco reported chloride at 20.7 mg/Kg in the sample from 25 feet bgs.

3.0 Remediation Plan

Chevron proposes the following remedial actions:

- Excavate soil to 1-foot bgs from an area measuring approximately 878 square feet, encompassing BH-1.
- Excavate soil to approximately 4.1 feet bgs from an area measuring approximately 10,683 square feet.
- Collect five (5) point composite bottom and sidewall confirmation samples for every 200 square feet of excavation and analyze samples for BTEX, TPH and chloride.
- Backfill excavation with clean topsoil and seeded with BLM Mix #3, assuming OCD remediation levels have been achieved.

Figure 3 presents the proposed excavation areas.

Tables

Table 1
Soil Sample Analytical Data Summary
Lovington Deep State
Eddy County, New Mexico
North 32.863788°, West -103.385368°

Sample	Depth (Feet)	Collection Date	Status	Benzene 10	BTEX 50	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Cl- (mg/Kg)
Remediation Level:									**100 / 2,500**	**600 /10,000**
BH-1	0.5	2/11/2020	In-Situ	0.00245	0.00245	<49.8	55.4	<49.8	55.4	**1,030**
	2	2/11/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	421
BH-2	0.5	2/11/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	**2,760**
	2	2/11/2020	In-Situ	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	**3,150**
	5	2/11/2020	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	**2,730**
		7/23/2020	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	**777**
	7	2/11/2020	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	**2,640**
	10	7/23/2020	In-Situ	--	--	--	--	--	--	**3,120**
	15	7/23/2020	In-Situ	--	--	--	--	--	--	379
	20	7/23/2020	In-Situ	--	--	--	--	--	--	**1,060**
	25	12/1/2020	In-Situ	--	--	--	--	--	--	20.7
BH-3	0.5	2/11/2020	In-Situ	<0.00200	0.0073	<50.0	418	<50.0	**418**	**3,560**
	5	7/23/2020	In-Situ	<0.00199	<0.00198	<50.0	<50.0	<50.0	<50.0	**2,500**
	10	7/23/2020	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	503
	15	7/23/2020	In-Situ	--	--	--	--	--	--	200
	20	7/23/2020	In-Situ	--	--	--	--	--	--	50.6
BH-4	0.5	2/13/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	11.9
	2	2/13/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	136
	5	2/13/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	54.2
BH-5	0.5	2/13/2020	In-Situ	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	557
	2	2/13/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	**1,600**

Table 1
Soil Sample Analytical Data Summary
Lovington Deep State
Eddy County, New Mexico
North 32.863788°, West -103.385368°

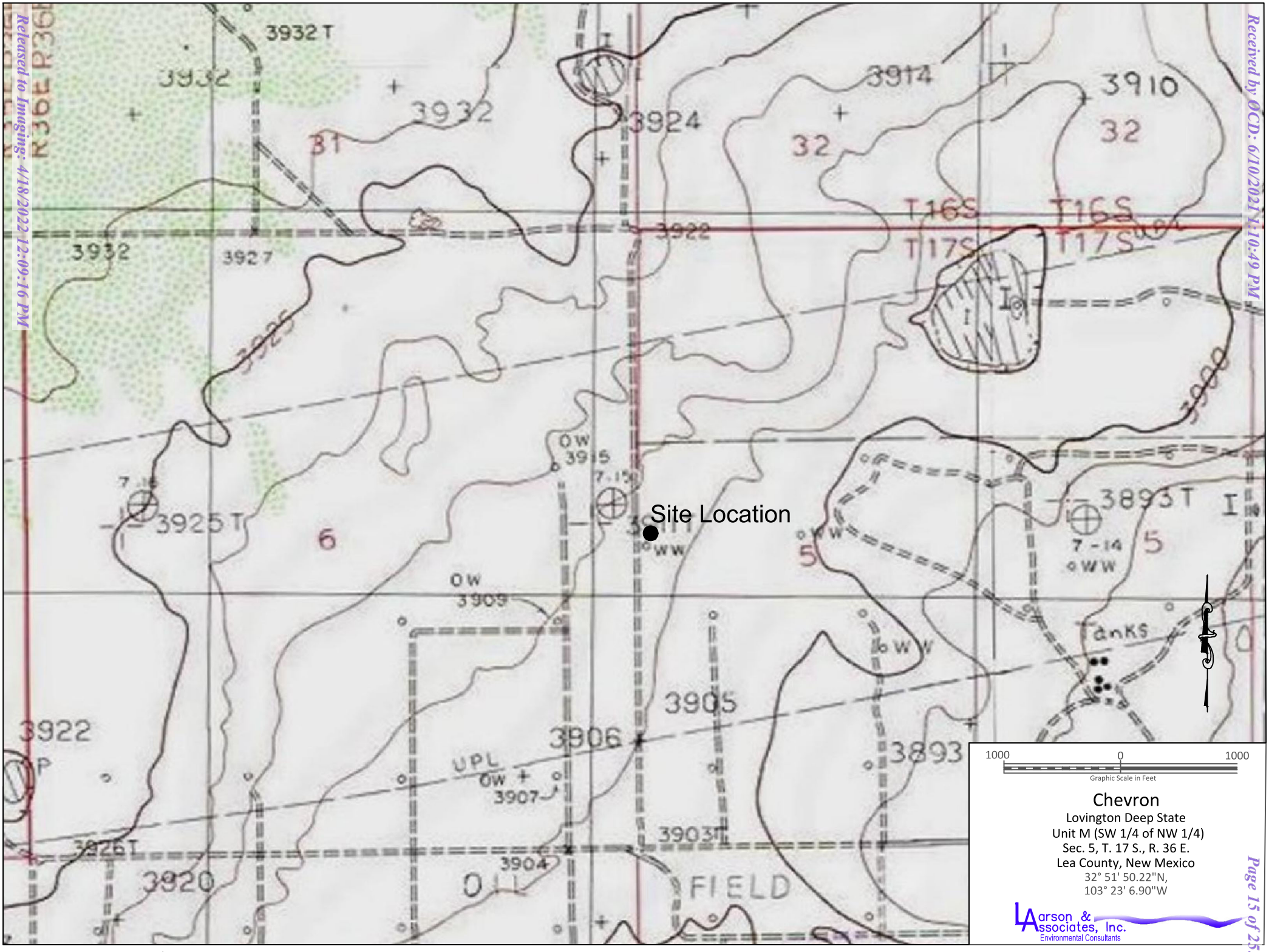
Sample	Depth (Feet)	Collection Date	Status	Benzene 10	BTEX 50	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Cl- (mg/Kg)
Remediation Level:									**100 / 2,500**	**600 /10,000**
	5	2/13/2020	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	**749**
		7/23/2020	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	189
	10	7/23/2020	In-Situ	--	--	--	--	--	--	**1,180**
	15	7/23/2020	In-Situ	--	--	--	--	--	--	68.3
	20	7/23/2020	In-Situ	--	--	--	--	--	--	68.1
BH-6	0.5	2/12/2020	In-Situ	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	**8,460**
	2	2/12/2020	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	**2,730**
	5	2/12/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	330
	10	2/12/2020	In-Situ	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	41.9
BH-7	0.5	2/12/2020	In-Situ	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	222
	2	2/12/2020	In-Situ	<0.00199	<0.00199	<49.9	1150	210	**1360**	**8530**
	5	7/23/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	32.1
	10	7/23/2020	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	13.8
	15	7/23/2020	In-Situ	--	--	--	--	--	--	13.4
	20	7/23/2020	In-Situ	--	--	--	--	--	--	15.6
BH-8	0.5	2/12/2020	In-Situ	<0.00201	<0.00201	<49.9	94.4	<49.9	94.4	521
	2	2/12/2020	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	316
	5	2/12/2020	In-Situ	<0.00200	<0.00200	<50.0	73.5	<50.0	73.5	760
		7/23/2020	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	**1,250**
	10	2/12/2020	In-Situ	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	**3,090**
		7/23/2020	In-Situ	--	--	--	--	--	--	754
	15	7/23/2020	In-Situ	--	--	--	--	--	--	**2,240**
	20	7/23/2020	In-Situ	--	--	--	--	--	--	**2,690**
	25	7/23/2020	In-Situ	--	--	--	--	--	--	97.7

Table 1
Soil Sample Analytical Data Summary
Lovington Deep State
Eddy County, New Mexico
North 32.863788°, West -103.385368°

Sample	Depth (Feet)	Collection Date	Status	Benzene 10	BTEX 50	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Cl- (mg/Kg)
Remediation Level:									**100 / 2,500**	**600 /10,000**
BH-9	0.5	2/12/2020	In-Situ	<0.00198	<0.00198	<50.0	96.2	<50.0	96.2	101
	2	2/12/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	55.3
	5	2/12/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	93.2
	7	2/12/2020	In-Situ	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	11.2
BH-10	0.5	2/14/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	7.59
	2	2/14/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	27.1
	5	2/14/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	57.5
BH-11	0.5	2/13/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	29.5
	2	2/13/2020	In-Situ	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	135
	5	2/13/2020	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	130
BH-12	0.5	2/13/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	16.4
	2	2/13/2020	In-Situ	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	132
	5	2/13/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	25.8
BH-13	0.5	2/14/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	11.5
	2	2/14/2020	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	110
	5	2/14/2020	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	106

Notes: Analysis performed by Permian Basin Environmental Laboratory
Depth in feet below ground surface (bgs)
mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)
<: denotes concentration less than analytical method reporting limit
Bold and Highlighted exceeds OCD remediation limit

Figures



Chevron
Lovington Deep State
Unit M (SW 1/4 of NW 1/4)
Sec. 5, T. 17 S., R. 36 E.
Lea County, New Mexico
32° 51' 50.22"N,
103° 23' 6.90"W

Larson & Associates, Inc.
Environmental Consultants

Figure 1 - Topographic Map

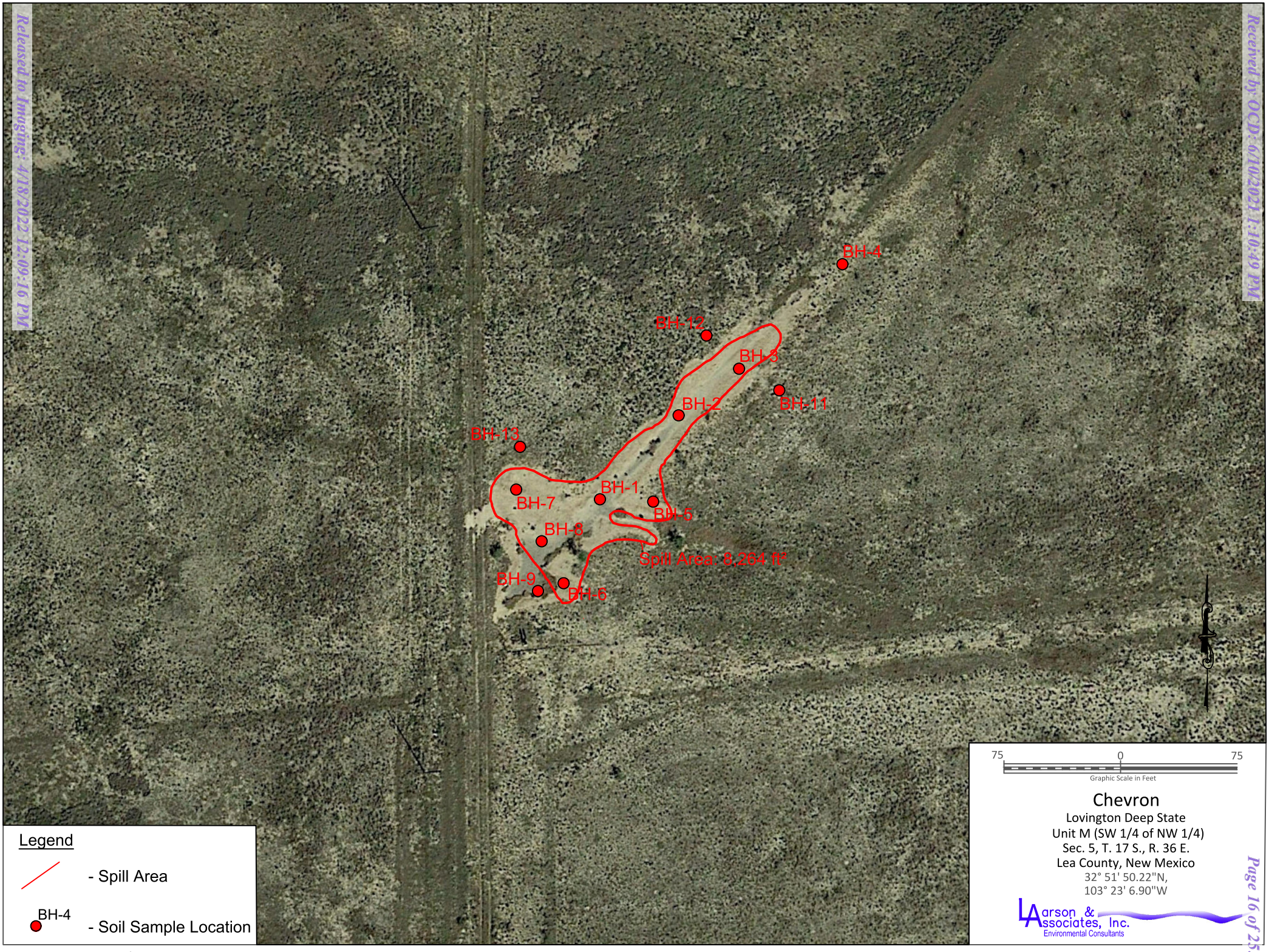


Figure 2 - Aerial Map

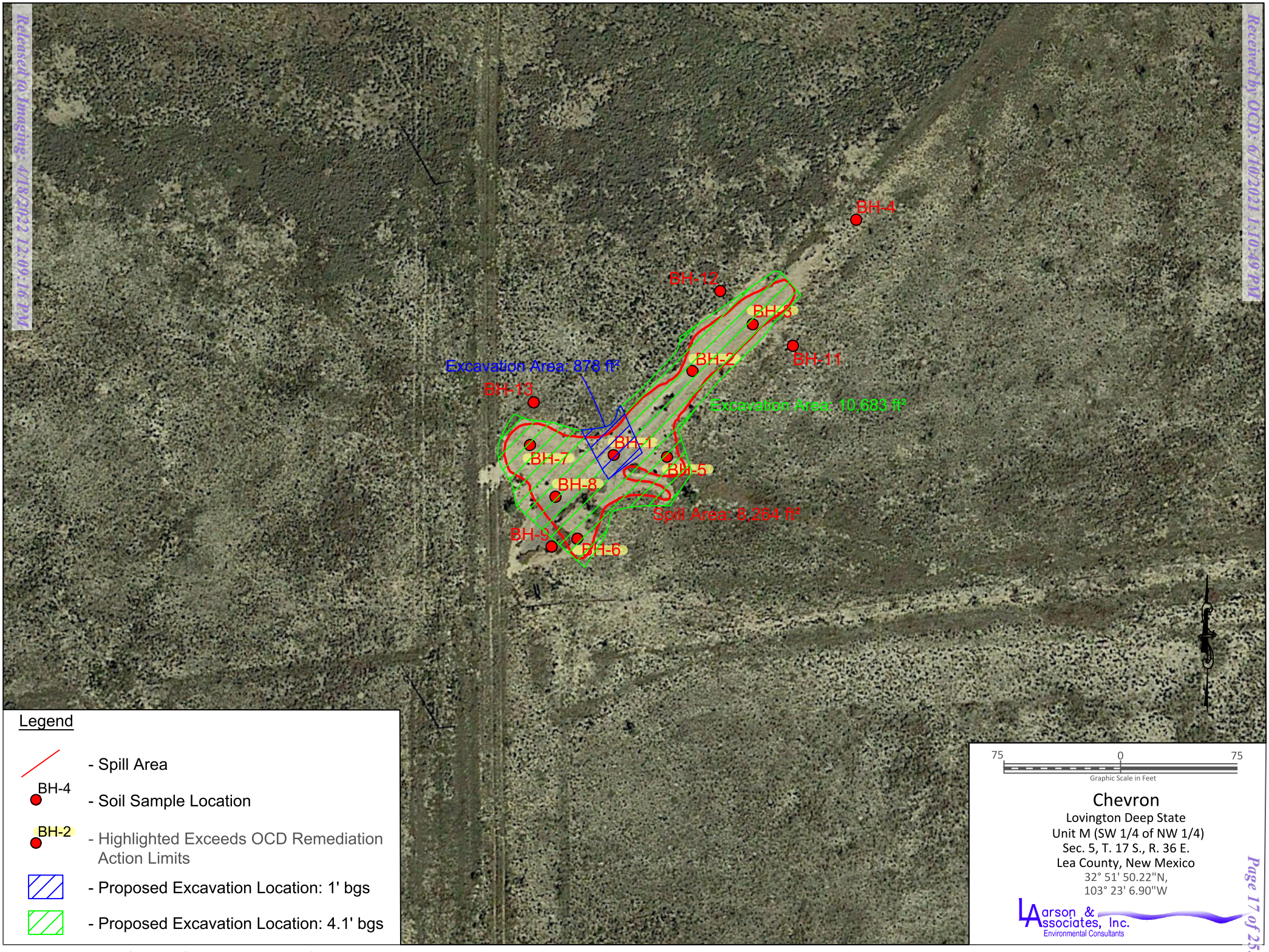


Figure 3 - Aerial Map Showing Proposed Excavation Locations

Appendix A

Initial C-141

2413231

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

X Initial Report Final Report

Name of Company Chevron Midcontinent LP	Contact Larry Ridenour
Address HCR 60 Box 423 Lovington, N.M. 88260	Telephone No. 505-396-4414 X 102
Facility Name Lovington Deep State	Facility Type Water transfer line

Surface Owner State	Mineral Owner State of NM	Lease No. B-4704

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the		Feet from the		County
M	5	17S	36E	1305	South Line	115	East Line	Lea

Latitude N 32 deg 51 min 47.53 sec **Longitude** W 103 deg 23 min 8.11 sec

NATURE OF RELEASE API #3002531451

Type of Release Produced water with some oil	Volume of Release 20 BW - 2BO	Volume Recovered 13 BW – 1 BO
Source of Release water transfer line	Date and Hour of Occurrence 10/2/07 ??	Date and Hour of Discovery 10/2/07 9:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Maxey Brown	
By Whom? Larry Ridenour	Date and Hour 10/2/2007 4:30 P.M.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

OCT 2007 Received Hobbs OCD

Describe Cause of Problem and Remedial Action Taken.*
The location and API # given are for West Lovington Unit #86 which is the nearest well. The GPS coordinates are for the actual location of the spill. The spill is located approximately 2/10 mile north of WLU 86. The leak was from a water transfer line that conducts fluid from the Lovington Deep State tank battery to the West Lovington Unit injection station.

Chlorides 35,000

Describe Area Affected and Cleanup Action Taken.*
Fluid soaked in ground. 60' x 60' area around spill and then 8' x 150' area and 8' x 50' area where fluid traveled down ruts in road. Standing fluid was picked up with a vacuum truck. Area fenced to keep cattle out. Turned site over to Ocotillo Environmental for remediation. They performed emergency one call and have removed top approximately one foot of soil. They will do a survey of the contamination and submit a plan to the OCD 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: Larry D Ridenour	OIL CONSERVATION DIVISION
Printed Name: Larry Ridenour	Approved by District Supervisor: C Johnson ENVIRONMENTAL ENGINEER
Title: Operations Representative	Approval Date: 10.9.07 Expiration Date: 12.10.07
E-mail Address LRidenour@chevron.com	Conditions of Approval: SUBMIT PLAN OR FINAL BY Attached ☐
Date: 10/4/07 Phone: 396-4414 X 102	

RP# 1662

Appendix B

Ocotillo Report

Ocotillo
ENVIRONMENTAL
Dirt Work • On-Site Remediation • Soil Testing • Excavation

December 14, 2007

Mr. Larry Johnson
New Mexico Oil Conservation Division
1625 French Drive
Hobbs, New Mexico 88240

Re: Spill Remediation Workplan, Lovington Deep State,
Unit Letter M (SW/4, SW/4), Section 5, Township 17 South, Range 36 East,
Lea County, New Mexico
1RP #1612

Dear Mr. Johnson:

Attached please find the Spill Remediation Workplan for the Chevron MidContinent L.P., SBU, Lovington Deep State site.

If you have any questions or need additional information, please do not hesitate to call me at (505) 441-7244 or email me at Cindy.Crain@gmail.com.

Sincerely,
Ocotillo Environmental

Cindy K. Crain

Cindy K. Crain, P.G.
Environmental Manager

cc: Larry Ridenour, Chevron

P.O. Box 1816 • Hobbs, NM 88241
Office (505) 393-6371 • Fax (505) 393-6374

1RP#1604 & 1612 - Message

File Edit View Insert Format Tools Table Window Help Type a question for help

Send Options... HTML

To... Cindy Crain <cindy.crain@gmail.com>;

Cc...

Subject: 1RP#1604 & 1612

Arial 10

Approved to proceed as requested. LJ

Start Inbox - ... 1RP-715... Inbox - ... 1RP#1... 10:03 AM

Ocotillo
ENVIRONMENTAL
Dirt Work • On-Site Remediation • Soil Testing • Excavation

December 10, 2007

Mr. Larry Johnson
Environmental Engineer
Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
1625 N. French Drive
Hobbs, New Mexico 88240

Re: Spill Remediation Workplan, Lovington Deep State,
Unit Letter M (SW/4, SW/4), Section 5, Township 17 South, Range 36 East,
Lea County, New Mexico
(Latitude: N 32 deg. 51 min. 47.53 sec. / Longitude: W 103 deg. 23 min. 8.11 sec.)
1RP #1612

Dear Mr. Johnson:

Chevron MidContinent L.P. SBU (Chevron) has retained Ocotillo Environmental, LLC (Ocotillo) to remediate impacts to soil from a leak at a water transfer line located near the Lovington Deep State well. The leak occurred in the southeast quarter (SE/4) of the southwest quarter (SW/4), Section 5, Township 17 South, Range 36 East, Lea County, New Mexico (Site). Approximately 20 barrels of produced water and 2 barrels of oil were released from the transfer line on October 2, 2007, and approximately 14 barrels of fluid was recovered from the site. A C-141 was submitted to the New Mexico Oil Conservation Division (NMOCD) on October 4, 2007, and a Spill Investigation Workplan was submitted on October 4, 2007. Verbal approval was granted for the Spill Investigation Workplan on October 11, 2007. Figure 1 shows the site location.

Based on published literature (1961), well records of the New Mexico State Engineer, and well records of the United States Geological Survey, groundwater occurs at approximately 56 feet bgs in the well located nearest the Site. No domestic water wells are located within 1,000 feet of the site. The NMOCD has established RRALs for benzene, total BTEX and TPH resulting from spills of natural gas liquids ("Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993"). Remediation levels for benzene, total BTEX and TPH were calculated using the following NMOCD criteria:

Criteria	Result	Ranking Score
Depth-to-Groundwater	50 - 99 Feet	10
Wellhead Protection Area	No	0
Distance to Surface Water Body	>1000 Horizontal Feet	0
		Total: 10

The following RRALs have been assigned based on NMOCD criteria:

Benzene	**10 mg/kg**
Total BTEX	**50 mg/kg**
TPH	**1,000 mg/kg**

P.O. Box 1816 • Hobbs, NM 88241
Office (505) 393-6371 • Fax (505) 393-6374

Initial Investigation

On November 14 and 15, 2007, Ocotillo installed thirteen (13) soil borings (BH-1 through BH-13) at the site, using an air rotary drilling rig, in order to assess the horizontal and vertical limits of the spill. Surficially impacted soil had been previously removed from the surface and disposed at an NMOCD approved disposal facility.

Soil samples from the exploratory borings were collected in five foot intervals from the ground surface to a depth of approximately 32 feet below ground surface (bgs) in borings BH-1, BH-2, and BH-7, to a depth of approximately 27 feet bgs in borings BH-3 and BH-8, to a depth of approximately 22 feet bgs in borings BH-4, BH-5, BH-6, and BH-9, and to a depth of approximately 17 feet bgs in borings BH-10, BH-11, BH-12 and BH-13. All samples were collected using a split-spoon sampling device. The sampling equipment was thoroughly cleaned between soil boring locations with a solution of laboratory-grade detergent and potable water, and rinsed with distilled water. All soil borings were plugged with bentonite. Figure 2 shows the locations of the soil borings.

The soil samples from borings BH-1 through BH-13 were placed in clean glass sample jars, labeled, chilled in an ice chest, and delivered under chain-of-custody control to Environmental Lab of Texas (ELOT), located in Odessa, Texas. A duplicate of each sample was also placed in a clean glass sample jar for headspace analysis. The headspace jars were filled approximately ¾ full, and a layer of aluminum foil was placed over the opening of the jar before replacing the cap. The headspace samples were allowed to reach ambient temperature before a BW Technologies GasAlertMicro 5 photoionization detector (PID) was used to measure the concentration of organic vapors in the headspace of the sample jars. The PID probe was inserted into the headspace of the sample jars (through the aluminum foil) and the concentration of organic vapors was displayed by the instrument in parts per million (ppm). The PID readings are shown on the borings logs included in Appendix A.

All soil samples collected from borings BH-1 through BH-13 were analyzed for chlorides by EPA method 325.3. At a minimum, the uppermost two (2) samples from each boring were analyzed for total petroleum hydrocarbons (TPH) by EPA method SW8015 (extended) for gasoline range organics (GRO) and diesel range organics (DRO). If the PID reading for any particular sample was greater than 100 ppm, the sample was also analyzed for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX). Table 1 presents a summary of the laboratory analysis of soil samples. Laboratory analysis and chain of custody documentation are included in Appendix B.

Referring to Table 1, TPH concentrations in the following samples from borings BH-1, BH-2, BH-5, and BH-9, were reported above the RRAL of 1,000 mg/kg, or above the RRAL of 100 mg/kg if located deeper than six (6) feet bgs:

- BH-1 0-2' 13,350 mg/kg
- BH-1 5-7' 290.7 mg/kg
- BH-1 10-12' 1,129 mg/kg

- BH-2 0-2' 12,406 mg/kg

- BH-5 0-2' 13,870 mg/kg
- BH-5 5-7' 510.3 mg/kg

- BH-9 0-2' 1,240 mg/kg
- BH-9 5-7' 390.1 mg/kg.

Concentrations of BTEX exceeded the RRAL of 50 mg/kg in the following samples:

- BH-1 0-2' 192.544 mg/kg

- BH-2 0-2' 242.5141 mg/kg

- BH-5 0-2' 202.1216 mg/kg.

Chloride concentrations were below the RRAL of 250 mg/kg in all samples from borings BH-4, BH-10, BH-11, BH-12 and BH-13. Chloride concentrations were above the RRAL of 250 mg/kg until a depth of approximately 20-22 feet bgs in boring BH-1, 15-17 feet bgs in borings BH-2 and BH-7, and 10-12 feet bgs in borings BH-3, BH-5, BH-6, BH-8 and BH-9.

Proposed Remediation

Chevron proposes to conduct excavation of the impacted soil in the vicinity of boring BH-1 to a depth of approximately 18-19 feet bgs, in the vicinity of borings BH-2 and BH-7 to a depth of approximately 13-14 feet bgs, and in the vicinity of borings BH-3, BH-5, BH-6, BH-8 and BH-9 to a depth of approximately 8-9 feet bgs, until confirmations samples at all locations report chloride and TPH concentrations below the RRALs of 250 mg/kg and 100 mg/kg, respectively. Excavated soil will be removed to an NMOCD approved disposal facility. Analytical results from final confirmation samples will be reported to the NMOCD prior to backfilling of the excavation.

If you have any questions or need additional information, please call Mr. Larry Ridenour at (505) 396-4414 x102, or myself at (505) 441-7244. We may also be reached by email at Lridenour@chevron.com or Cindy.Crain@gmail.com.

Sincerely,
Ocotillo Environmental, LLC

Cindy K. Crain

Cindy K. Crain, P.G.
Environmental Manager

cc: Larry Ridenour, Chevron

FIGURES

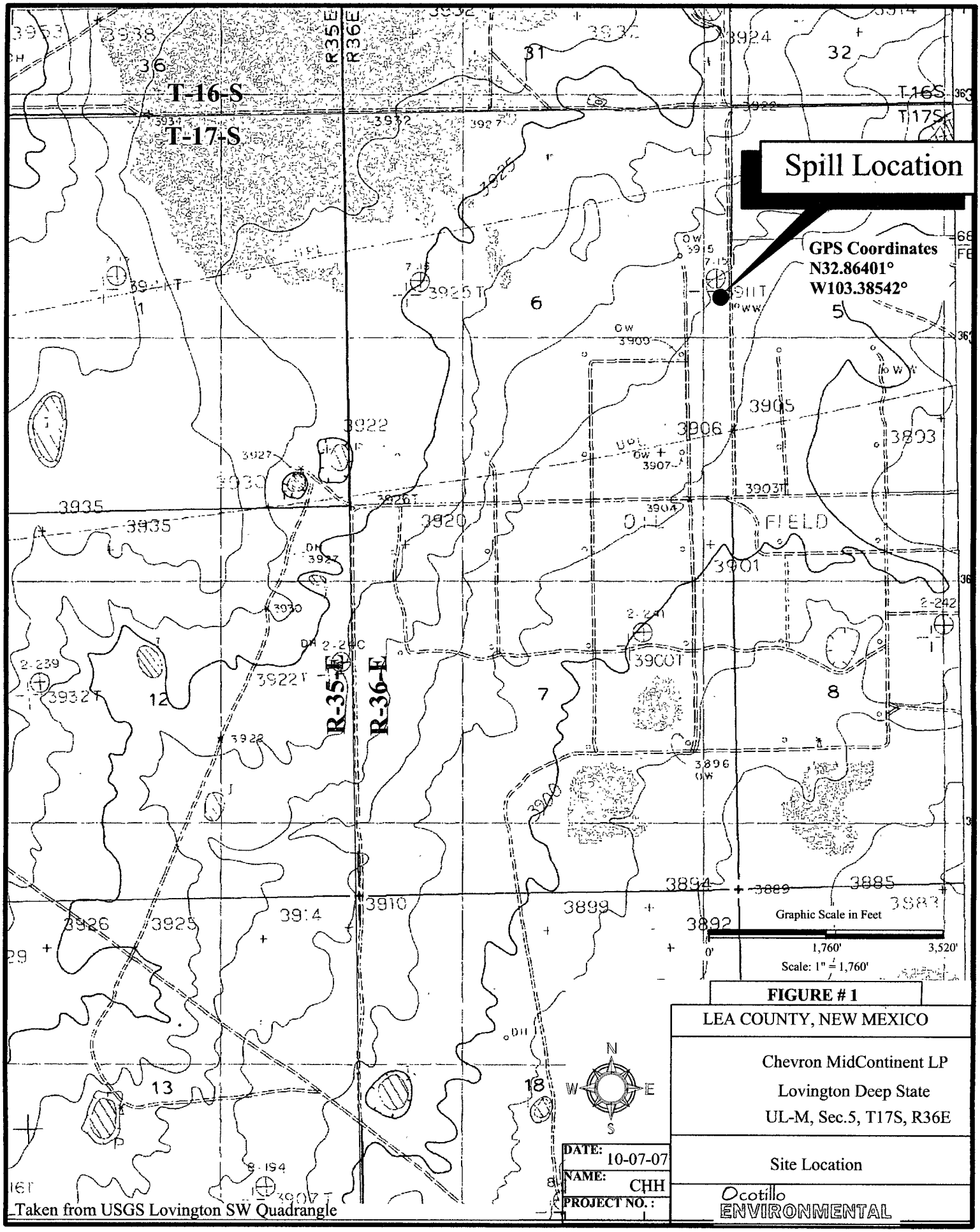


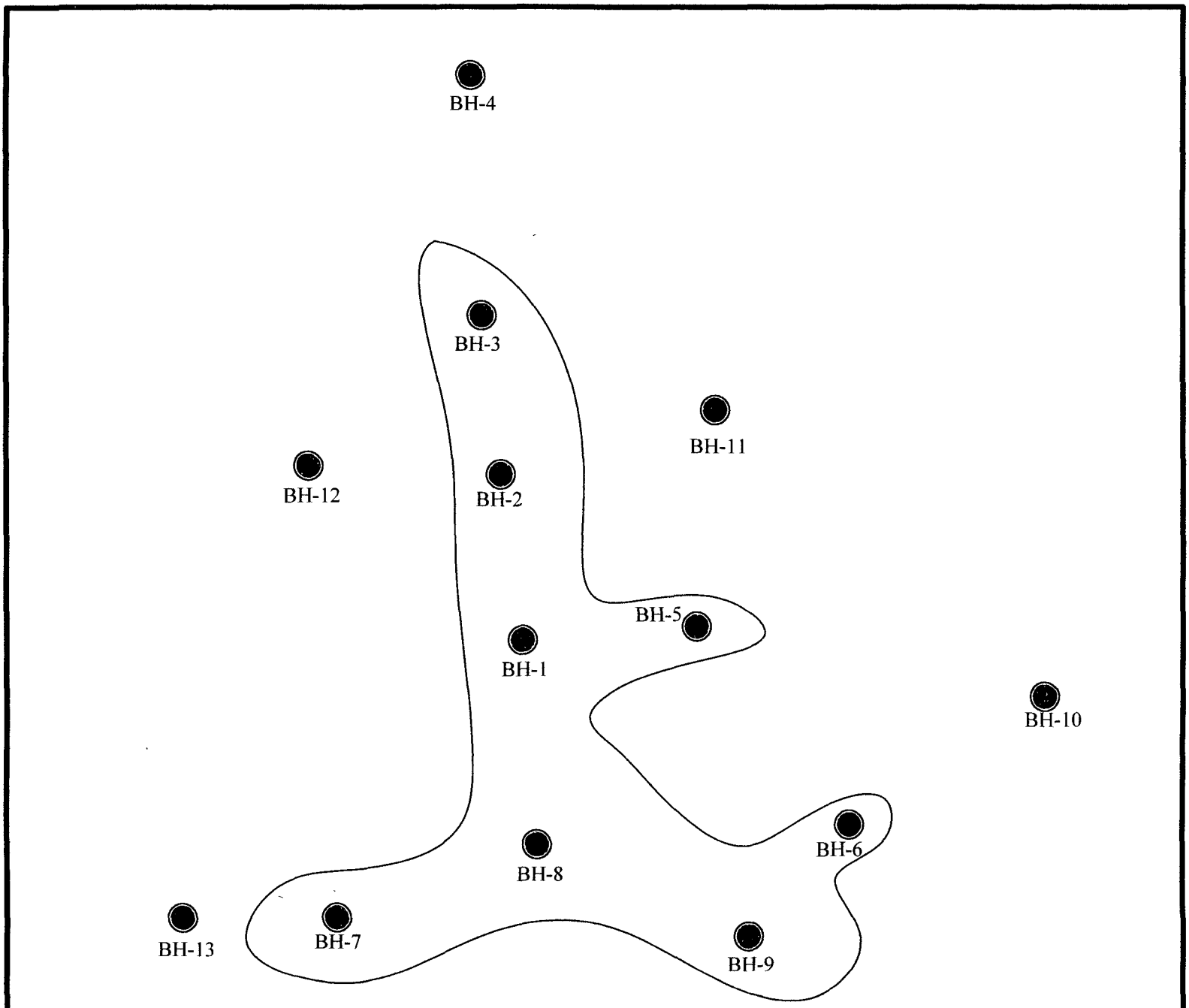
FIGURE # 1

LEA COUNTY, NEW MEXICO

Chevron MidContinent LP
Lovington Deep State
UL-M, Sec.5, T17S, R36E

Site Location

Ocotillo ENVIRONMENTAL



Graphic Scale in Feet

0' 35' 70'

Scale 1" = 35'

FIGURE # 2

LEA COUNTY, NEW MEXICO

Chevron MidContinent LP
Lovington Deep State
U.L.M, Sec.5, T17S, R36E

Site Drawing With
Soil Boring Locations

Ocotillo ENVIRONMENTAL

Legend

Soil Boring Location

Spill boundary

N E S W

DATE:	12-9-07
NAME:	MAC
PROJECT NO.:	1007-023B

TABLE

Table 1:
Summary of Laboratory Analysis of Soil Samples
Chevron MidContinent Alaska, Lovington Deep State
Section 5, Township 17 South, Range 36 East
Lea County, New Mexico

Sample Date	Soil Boring Number	Sample Depth (feet BGS)	TPH (GRO) C6 - C12 mg/kg	TPH (DRO) C12 - C28 mg/kg	TPH (ORO) C28 - C35 mg/kg	Total TPH C6 - C35 mg/kg	Benzene mg/kg	Total BTEX mg/kg	Chloride (mg/kg)
RRAL						**100**	**10**	**50**	**250**
11/14/07	BH-1	0-2	2,690	9,520	1,140	13,350	1.724	192.544	25,300
		5-7	51.3	201	38.4	290.7	---	---	6,420
		10-12	138	879	112	1,129	---	---	1,850
		15-17	---	---	---	---	---	---	936
		20-22	---	---	---	---	---	---	128
		25-27	---	---	---	---	---	---	85.1
		30-32	---	---	---	---	---	---	63.8
11/14/07	BH-2	0-2	3,530	7,950	926	12,406	0.9841	242.5141	13,400
		5-7	18.2	45.4	<16.7	63.6	<0.0011	0.0096	10,900
		10-12	<15.6	<15.6	<15.6	<46.8	---	---	1,290
		15-17	---	---	---	---	---	---	85.1
		20-22	---	---	---	---	---	---	42.5
		25-27	---	---	---	---	---	---	53.2
		30-32	---	---	---	---	---	---	42.5
11/14/07	BH-3	0-2	<17.2	30.5	<17.2	30.5	---	---	17,100
		5-7	<15.9	<15.9	<15.9	<47.7	---	---	6,080
		10-12	---	---	---	---	---	---	191
		15-17	---	---	---	---	---	---	117
		20-22	---	---	---	---	---	---	42.5
		25-27	---	---	---	---	---	---	160

Sample Date	Soil Boring Number	Sample Depth (feet BGS)	TPH (GRO) C6 - C12 mg/kg	TPH (DRO) C12 - C28 mg/kg	TPH (ORO) C28 - C35 mg/kg	Total TPH C6 - C35 mg/kg	Benzene mg/kg	Total BTEX mg/kg	Chloride (mg/kg)
RRAL						**100**	**10**	**50**	**250**
11/14/07	BH-4	0-2	<16	37.1	<16	37.1	---	---	45.4
		5-7	<15.2	37.8	<15.2	37.8	---	---	64.6
		10-12	---	---	---	---	---	---	53.2
		15-17	---	---	---	---	---	---	74.4
		20-22	---	---	---	---	---	---	42.5
11/14/07	BH-5	0-2	2,590	10,100	1,180	13,870	0.0716	202.1216	15,200
		5-7	34.9	409	66.4	510.3	---	---	1,880
		10-12	---	---	---	---	---	---	42.5
		15-17	---	---	---	---	---	---	106
		20-22	---	---	---	---	---	---	74.4
11/14/07	BH-6	0-2	<16.9	86.6	17.2	103.8	---	---	12,600
		5-7	<15.6	<15.6	<15.6	<46.8	---	---	1,130
		10-12	---	---	---	---	---	---	42.5
		15-17	---	---	---	---	---	---	42.5
		20-22	---	---	---	---	---	---	234
11/15/07	BH-7	0-2	<17	<17	<17	<51	---	---	7,850
		5-7	<15.9	<15.9	<15.9	<47.7	---	---	5,060
		10-12	---	---	---	---	---	---	3,400
		15-17	---	---	---	---	---	---	213
		20-22	---	---	---	---	---	---	42.5
		25-27	---	---	---	---	---	---	42.5
		30-32	---	---	---	---	---	---	42.5

Sample Date	Soil Boring Number	Sample Depth (feet BGS)	TPH (GRO) C6 - C12 mg/kg	TPH (DRO) C12 - C28 mg/kg	TPH (ORO) C28 - C35 mg/kg	Total TPH C6 - C35 mg/kg	Benzene mg/kg	Total BTEX mg/kg	Chloride (mg/kg)
RRAL						**100**	**10**	**50**	**250**
11/15/07	BH-8	0-2	<17.2	22.2	<17.2	22.2	---	---	3,770
		5-7	<15.3	<15.3	<15.3	<45.9	---	---	304
		10-12	---	---	---	---	---	---	85.1
		15-17	---	---	---	---	---	---	85.1
		20-22	---	---	---	---	---	---	63.8
		25-27	---	---	---	---	---	---	106
11/15/07	BH-9	0-2	162	893	185	1,240	<0.0012	<0.0082	30,000
		5-7	73.7	285	31.4	390.1	<0.0010	0.0291	2,010
		10-12	<15.5	<15.5	<15.5	<46.5	---	---	176.0
		15-17	---	---	---	---	---	---	74.4
		20-22	---	---	---	---	---	---	74.4
11/15/07	BH-10	0-2	<15.9	<15.9	<15.9	<47.7	---	---	45
		5-7	<15.5	<15.5	<15.5	<46.5	---	---	44
		10-12	---	---	---	---	---	---	42.5
		15-17	---	---	---	---	---	---	31.9
11/15/07	BH-11	0-2	<16.8	<16.8	<16.8	<50.4	---	---	48
		5-7	<15.5	<15.5	<15.5	<46.5	---	---	33
		10-12	---	---	---	---	---	---	42.5
		15-17	---	---	---	---	---	---	31.9
11/15/07	BH-12	0-2	<15.9	48.9	<15.9	48.9	---	---	34
		5-7	<16.1	32.7	<16.1	32.7	---	---	46
		10-12	---	---	---	---	---	---	63.8
		15-17	---	---	---	---	---	---	42.5

Sample Date	Soil Boring Number	Sample Depth (feet BGS)	TPH (GRO) C6 - C12 mg/kg	TPH (DRO) C12 - C28 mg/kg	TPH (ORO) C28 - C35 mg/kg	Total TPH C6 - C35 mg/kg	Benzene mg/kg	Total BTEX mg/kg	Chloride (mg/kg)
RRAL						**100**	**10**	**50**	**250**
11/15/07	BH-13	0-2	<15.5	38.5	<15.5	38.5	---	---	33.1
		5-7	<15.2	<15.2	<15.2	<45.6	---	---	86.2
		10-12	---	---	---	---	---	---	42.5
		15-17	---	---	---	---	---	---	53.2

Notes:

1. BGS: Depth in feet below ground surface
2. mg/kg: Milligrams per kilogram
3. GRO: Gasoline Range Organics
4. DRO: Diesel Range Organics
5. ORO: Oil Range Organics

APPENDIX A
SOIL BORING LOGS

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-1

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand, fine grained,poorly sorted, damp.	1	SS	2	>2500	0-2' bgs Total TPH= 242.5141 mg/kg Chloride 13400 mg/kg
5		**Caliche** Pinkish white quartz sand, non-indurated, dry.	2	SS	2	>2500	5-7' bgs Total TPH= .0096 mg/kg Chloride 10900 mg/kg
10			3	SS	2	>2500	10-12' bgs Chloride 1290 mg/kg
15			4	SS	2	1500	15-17' bgs Chloride 85.1 mg/kg
20			5	SS	2	600	20-22' bgs Chloride 42.5 mg/kg
25		**Sand** Light tan quartz sand, very fine grained, moderately well sorted, loose, dry.	6	SS	2	400	25-27' bgs Chloride 53.2 mg/kg
30			7	SS	2	400	30-32' bgs Chloride 42.5 mg/kg
35		**TD at 32' bgs**					
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Drill Date: 11/14/07

Hole Size: 4"

Elevation: NA

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-2

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
0		Ground Surface					
		Silty Clayey Sand Dark brown, silty clayey quartz sand, fine grained,poorly sorted, damp.	1	SS	2	>2500	0-2' bgs Total TPH= 12406 mg/kg Chloride 13400 mg/kg
5		**Caliche** Pinkish white quartz sand, non-indurated, dry.	2	SS	2	>2500	5-7' bgs Total TPH= 63.6 mg/kg Chloride 10900 mg/kg
10			3	SS	2	>2500	10-12' bgs Total TPH = <46.8 mg/kg Chloride 1290 mg/kg
15			4	SS	2	1500	15-17' bgs Chloride 85.1 mg/kg
20			5	SS	2	600	20-22' bgs Chloride 42.5 mg/kg
25		**Sand** Light tan quartz sand, very fine grained, moderately well sorted, loose, dry.	6	SS	2	0	25-27' bgs Chloride 53.2 mg/kg
30			7	SS	2	0	30-32' bgs Chloride 42.5 mg/kg
35		**TD at 32' bgs**					
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Drill Date: 11/14/07

Hole Size: 4"

Elevation: NA

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-3

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand, fine grained,poorly sorted, damp.	1	SS	2	>2500	0-2' bgs Total TPH= 30.5 mg/kg Chloride 17100 mg/kg
5		**Caliche** Pinkish white quartz sand, non indurated, damp.	2	SS	2	>2500	5-7' bgs Total TPH= <47.7 Chloride 6080 mg/kg
10			3	SS	2	400	10-12' bgs Chloride 191 mg/kg
15			4	SS	2	1200	15-17' bgs Chloride 117 mg/kg
20			5	SS	2	0	20-22' bgs Chloride 42.5 mg/kg
25			6	SS	2	0	25-27' bgs Chloride 160 mg/kg
30							
		TD@32'					
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Drill Date: 11/14/07

Hole Size: 4"

Elevation: NA

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-4

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand, fine grained,poorly sorted, dry.	1	SS	2	0	0-2' bgs Total TPH= 37.1 mg/kg Chloride 45.4 mg/kg
5		**Caliche** Pinkish white quartz sand caliche, non indurated, dry.	2	SS	2	0	5-7' bgs Total TPH= 37.8 mg/kg Chloride 64.6 mg/kg
10			3	SS	2	0	10-12' bgs Chloride 53.2 mg/kg
15			4	SS	2	0	15-17' bgs Chloride 74.4 mg/kg
20			5	SS	2	0	20-22' bgs Chloride 42.5 mg/kg
		TD@22'					
25							
30							
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Elevation: NA

Drill Date: 11/14/07

Checked by: CKC

Hole Size: 4"

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-5

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand, fine grained,poorly sorted, dry.	1	SS	2	>2500	0-2' bgs Total TPH= 13870 mg/kg Chloride 15200mg/kg
5		**Caliche** Pinkish white quartz sand, non indurated, dry.	2	SS	2	2500	5-7' bgs Total TPH= 510.3 mg/kg Chloride 1880 mg/kg
10			3	SS	2	0	10-12' bgs Chloride 42.5 mg/kg
15			4	SS	2	0	15-17' bgs Chloride 106 mg/kg
20			5	SS	2	0	20-22' bgs Chloride 74.4 mg/kg
		TD@22'					
25							
30							
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Elevation: NA

Drill Date: 11/14/07

Checked by: CKC

Hole Size: 4"

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-6

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand, fine grained, poorly sorted, dry.	1	SS	2	>2500	0-2' bgs Total TPH= 103.8 mg/kg Chloride 12,600 mg/kg
5		**Caliche** Pinkish white quartz sand, non indurated, dry.	2	SS	2	2500	5-7' bgs Total TPH= <46.8 mg/kg Chloride 1,130 mg/kg
10			3	SS	2	0	10-12' bgs Chloride 42.5 mg/kg
15			4	SS	2	0	15-17' bgs Chloride 42.5 mg/kg
20			5	SS	2	0	20-22' bgs Chloride 234 mg/kg
		TD@22'					
25							
30							
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Drill Date: 11/14/07

Hole Size: 4"

Elevation: NA

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-7

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
0		Ground Surface					
		Silty Clayey Sand Dark brown, silty clayey quartz sand, poorly sorted, damp.	1	SS	2	>2500	0-2' bgs Total TPH= <51 mg/kg Chloride 7850 mg/kg
5		**Caliche** Pinkish white quartz sand, non indurated, dry.	2	SS	2	>2500	5-7' bgs Total TPH= <47.7 mg/kg Chloride 5060 mg/kg
10			3	SS	2	2000	10-12' bgs Chloride 3400 mg/kg
15			4	SS	2	1800	15-17' bgs Chloride 213 mg/kg
20			5	SS	2	>2500	20-22' bgs Chloride 42.5 mg/kg
25		**Silty Sand** Light brown silty quartz sand, moderately well sorted, moderately loose, dry.	6	SS		0	25-27' bgs Chloride 42.5 mg/kg
30			7	SS		300	30-32'bgs Chloridie 42.5 mg/kg
		TD@32'					
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Elevation: NA

Drill Date: 11/15/07

Checked by: CKC

Hole Size: 4"

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-8

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand, fine grained, poorly sorted, dry.	1	SS	2	>2500	0-2' bgs Total TPH= 22.2 mg/kg Chloride 3770 mg/kg
5		**Caliche** Pinkish white quartz sand, non indurated, dry.	2	SS	2	400	5-7' bgs Total TPH= <45.9 mg/kg Chloride 304 mg/kg
10			3	SS	2	0	10-12' bgs Chloride 85.1 mg/kg
15			4	SS	2	250	15-17' bgs Chloride 85.1 mg/kg
20			5	SS	2	100	20-22' bgs Chlorides 63.8 mg/kg
25		**Silty Sand** Light tan silty quartz sand, fine grained moderately well sorted, moderately loose, dry.	6	SS		500	25-27' bgs Chlorides 106 mg/kg
		TD@27'					
30							
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Drill Date: 11/15/07

Hole Size: 4"

Elevation: NA

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-9

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand, fine grained, poorly sorted, dry.	1	SS	2	2500	0-2' bgs Total TPH= 1,240 mg/kg Chloride: 30,000 mg/kg
5		**Caliche** Pinkish white quartz sand, non indurated, dry.	2	SS	2	2200	5-7' bgs Total TPH= 390.1 mg/kg Chloride: 2.010 mg/kg
10			3	SS	2	0	10-12' bgs Chloride: 176 mg/kg
15			4	SS	2	750	15-17' bgs Chloride: 74.4 mg/kg
20			5	SS	2	0	20-22' bgs Chloride: 74.4 mg/kg
		TD@22'					
25							
30							
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Drill Date: 11/15/07

Hole Size: 4"

Elevation: NA

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-10

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand, fine grained, poorly sorted, dry.	1	SS	2	0	0-2' bgs Total TPH= <47.7 mg/kg Chloride 45 mg/kg
5		**Caliche** Pinkish white quartz sand, non indurated, dry.	2	SS	2	0	5-7' bgs Total TPH= <46.5 mg/kg Chloride 44 mg/kg
10			3	SS	2	0	10-12' bgs Chloride 42.5 mg/kg
15			4	SS	2	0	15-17' bgs Chloride 31.9 mg/kg
		TD@17'					
20							
25							
30							
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Drill Date: 11/15/07

Hole Size: 4"

Elevation: NA

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-11

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand,poorly sorted, dry.	1	SS	2	0	0-2' bgs Total TPH= <50.4 mg/kg Chloride 48 mg/kg
5		**Caliche** Pinkish white quartz sand, non indurated, dry.	2	SS	2	0	5-7' bgs Total TPH= <46.5 mg/kg Chloride 33 mg/kg
10			3	SS	2	0	10-12' bgs Chloride 42.5 mg/kg
15			4	SS	2	0	15-17' bgs Chloride 31.9 mg/kg
		TD@17'					
20							
25							
30							
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Drill Date: 11/15/07

Hole Size: 4"

Elevation: NA

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-12

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand,poorly sorted, dry.	1	SS	2	0	0-2' bgs Total TPH= 48.9 mg/kg Chloride 34 mg/kg
5		**Caliche** Pinkish white quartz sand, non indurated, dry.	2	SS	2	0	5-7' bgs Total TPH= 32.7 mg/kg Chloride 46 mg/kg
10			3	SS	2	0	10-12' bgs Chloride 63.8 mg/kg
15			4	SS	2	0	15-17' bgs Chloride 42.5 mg/kg
		TD@17'					
20							
25							
30							
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Drill Date: 11/15/07

Hole Size: 4"

Elevation: NA

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Chevron MidContinent L.P., SBU

Project: Lovington Deep State

Project No.: 1007-023B

Location: Sec 5, T17S, R36E

Log: BH-13

Page: 1 of 1

Geologist: C. Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	Field Chloride ppm (500 1500)	Analytical Data
		Ground Surface					
0		**Silty Clayey Sand** Dark brown, silty clayey quartz sand,fine grained, poorly sorted, dry.	1	SS	2	0	0-2' bgs Total TPH= 38.5 mg/kg Chloride 33.1 mg/kg
5		**Caliche** Pinkish white quartz sand, non indurated, dry.	2	SS	2	0	5-7' bgs Total TPH= <45.6 mg/kg Chloride 86.2 mg/kg
10			3	SS	2	0	10-12' bgs Chloride 42.5 mg/kg
15			4	SS	2	0	15-17' bgs Chloride 53.2 mg/kg
		TD@17'					
20							
25							
30							
35							
40							

Ocotillo Environmental, LLC
2125 French Drive
Hobbs, NM 88240
(505) 393-6371

Drill Method: Air Rotary

Drill Date: 11/15/07

Hole Size: 4"

Elevation: NA

Checked by: CKC

Drilled by: Scarborough Drilling

APPENDIX B
LABORATORY DATA AND CHAIN OF CUSTODY DOCUMENTATION

Analytical Report 293282

for

Ocotillo Environmental, LLC

Project Manager: Cindy Crain

Chevron Lovington Deep State
1007-023B

30-NOV-07

12600 West I-20 East Odessa, Texas 79765

A Xenco Laboratories Company

Texas certification numbers:
Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

XENCO Laboratories

30-NOV-07

Project Manager: **Cindy Crain**
Ocotillo Environmental, LLC
P.O. Box 1816
Hobbs, NM 88241

Reference: XENCO Report No: **293282**
Chevron Lovington Deep State
Project Address: Sec. 5, T17S, R36E, Lea Co., NM

Cindy Crain:

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 293282. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 293282 will be filed for 60 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,

Brent Barron, II
Odessa Laboratory Manager

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 - Austin - Tampa - Miami - Latin America

Sample Cross Reference 293282

Ocotillo Environmental, LLC, Hobbs, NM

Chevron Lovington Deep State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1 (0-2')	S	Nov-14-07 09:30	0 - 2 ft	293282-001
BH-1 (5-7')	S	Nov-14-07 09:42	5 - 7 ft	293282-002
BH-1 (10-12')	S	Nov-14-07 09:50	10 - 12 ft	293282-003
BH-1 (15-17')	S	Nov-14-07 09:58	15 - 17 ft	293282-004
BH-1 (20-22)	S	Nov-14-07 10:05	20 - 22 ft	293282-005
BH-1 (25-27')	S	Nov-14-07 10:13	25 - 27 ft	293282-006
BH-1 (30-32')	S	Nov-14-07 10:20	30 - 32 ft	293282-007
BH-2 (0-2')	S	Nov-14-07 10:38	0 - 2 ft	293282-008
BH-2 (5-7')	S	Nov-14-07 10:42	5 - 7 ft	293282-009
BH-2 (10-12')	S	Nov-14-07 10:50	10 - 12 ft	293282-010
BH-2 (15-17')	S	Nov-14-07 10:58	15 - 17 ft	293282-011
BH-2 (20-22')	S	Nov-14-07 11:02	20 - 22 ft	293282-012
BH-2 (25-27')	S	Nov-14-07 12:59	25 - 27 ft	293282-013
BH-2 (30-32')	S	Nov-14-07 13:04	30 - 32 ft	293282-014
BH-3 (0-2')	S	Nov-14-07 12:16	0 - 2 ft	293282-015
BH-3 (5-7')	S	Nov-14-07 12:21	5 - 7 ft	293282-016
BH-3 (10-12')	S	Nov-14-07 12:23	10 - 12 ft	293282-017
BH-3 (15-17')	S	Nov-14-07 12:31	15 - 17 ft	293282-018
BH-3 (20-22')	S	Nov-14-07 12:36	20 - 22 ft	293282-019
BH-3 (25-27')	S	Nov-14-07 12:46	25 - 27 ft	293282-020
BH-4 (0-2')	S	Nov-14-07 13:10	0 - 2 ft	293282-021
BH-4 (5-7')	S	Nov-14-07 13:21	5 - 7 ft	293282-022
BH-4 (10-12')	S	Nov-14-07 13:23	10 - 12 ft	293282-023
BH-4 (15-17')	S	Nov-14-07 13:25	15 - 17 ft	293282-024
BH-4 (20-22')	S	Nov-14-07 13:31	20 - 22 ft	293282-025
BH-5 (0-2')	S	Nov-14-07 13:42	0 - 2 ft	293282-026
BH-5 (5-7')	S	Nov-14-07 13:49	5 - 7 ft	293282-027
BH-5 (10-12')	S	Nov-14-07 14:01	10 - 12 ft	293282-028
BH-5 (15-17')	S	Nov-14-07 14:07	15 - 17 ft	293282-029
BH-5 (20-22')	S	Nov-14-07 14:11	20 - 22 ft	293282-030
BH-6 (0-2')	S	Nov-14-07 14:28	0 - 2 ft	293282-031
BH-6 (5-7')	S	Nov-14-07 14:31	5 - 7 ft	293282-032
BH-6 (10-12')	S	Nov-14-07 14:40	10 - 12 ft	293282-033
BH-6 (15-17')	S	Nov-14-07 14:44	15 - 17 ft	293282-034
BH-6 (20-22')	S	Nov-14-07 14:50	20 - 22 ft	293282-035
BH-7 (0-2')	S	Nov-15-07 09:25	0 - 2 ft	293282-036
BH-7 (5-7')	S	Nov-15-07 09:31	5 - 7 ft	293282-037
BH-7 (10-12')	S	Nov-15-07 09:37	10 - 12 ft	293282-038
BH-7 (15-17')	S	Nov-15-07 09:47	15 - 17 ft	293282-039
BH-7 (20-22')	S	Nov-15-07 09:53	20 - 22 ft	293282-040
BH-7 (25-27')	S	Nov-15-07 10:02	25 - 27 ft	293282-041
BH-7 (30-32')	S	Nov-15-07 10:10	30 - 32 ft	293282-042
BH-8 (0-2')	S	Nov-15-07 10:20	0 - 2 ft	293282-043

Sample Cross Reference 293282

Ocotillo Environmental, LLC, Hobbs, NM

Chevron Lovington Deep State

BH-8 (5-7')	S	Nov-15-07 10:29	5 - 7 ft	293282-044
BH-8 (10-12')	S	Nov-15-07 10:32	10 - 12 ft	293282-045
BH-8 (15-17')	S	Nov-15-07 10:36	15 - 17 ft	293282-046
BH-8 (20-22')	S	Nov-15-07 10:40	20 - 22 ft	293282-047
BH-8 (25-27')	S	Nov-15-07 10:47	25 - 27 ft	293282-048
BH-9 (0-2')	S	Nov-15-07 11:00	0 - 2 ft	293282-049
BH-9 (5-7')	S	Nov-15-07 11:06	5 - 7 ft	293282-050
BH-9 (10-12')	S	Nov-15-07 11:15	10 - 12 ft	293282-051
BH-9 (15-17')	S	Nov-15-07 11:20	15 - 17 ft	293282-052
BH-9 (20-22')	S	Nov-15-07 11:25	20 - 22 ft	293282-053
BH-10 (0-2')	S	Nov-15-07 12:04	0 - 2 ft	293282-054
BH-10 (5-7')	S	Nov-15-07 12:12	5 - 7 ft	293282-055
BH-10 (10-12')	S	Nov-15-07 12:19	10 - 12 ft	293282-056
BH-10 (15-17')	S	Nov-15-07 12:24	15 - 17 ft	293282-057
BH-11 (0-2')	S	Nov-15-07 12:31	0 - 2 ft	293282-058
BH-11 (5-7')	S	Nov-15-07 12:35	5 - 7 ft	293282-059
BH-11 (10-12')	S	Nov-15-07 12:40	10 - 12 ft	293282-060
BH-11 (15-17')	S	Nov-15-07 12:46	15 - 17 ft	293282-061
BH-12 (0-2')	S	Nov-15-07 12:56	0 - 2 ft	293282-062
BH-12 (5-7')	S	Nov-15-07 13:00	5 - 7 ft	293282-063
BH-12 (10-12')	S	Nov-15-07 13:10	10 - 12 ft	293282-064
BH-12 (15-17')	S	Nov-15-07 13:14	15 - 17 ft	293282-065
BH-13 (0-2')	S	Nov-15-07 13:18	0 - 2 ft	293282-066
BH-13 (5-7')	S	Nov-15-07 13:22	5 - 7 ft	293282-067
BH-13 (10-12')	S	Nov-15-07 13:28	10 - 12 ft	293282-068
BH-13 (15-17')	S	Nov-15-07 13:35	15 - 17 ft	293282-069

Certificate of Analysis Summary 293282

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Chevron Lovington Deep State

Project Id: 1007-023B
Contact: Cindy Crain
Project Location: Sec. 5, T17S, R36E, Lea Co., NM

Date Received in Lab: Sat Nov-17-07 11:27 am
Report Date: 30-NOV-07
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	293282-001		293282-002		293282-003		293282-004		293282-005		293282-006	
	Field Id:	BH-1 (0-2')		BH-1 (5-7')		BH-1 (10-12')		BH-1 (15-17')		BH-1 (20-22)		BH-1 (25-27')	
	Depth:	0-2 ft		5-7 ft		10-12 ft		15-17 ft		20-22 ft		25-27 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-14-07 09 30		Nov-14-07 09 42		Nov-14-07 09 50		Nov-14-07 09.58		Nov-14-07 10:05		Nov-14-07 10·13	
BTEX by EPA 8021B	*Extracted:*	Nov-28-07 12 27											
	Analyzed:	Nov-29-07 13·36											
	Units/RL:	mg/kg	RL										
Benzene		1 724	0 1190										
Toluene		43.48	0.2380										
Ethylbenzene		34 43	0 1190										
m,p-Xylenes		81.51	0.2380										
o-Xylene		31 40	0 1190										
Xylenes, Total		112.91											
Total BTEX		192.544											
Percent Moisture	*Extracted:*												
	Analyzed:	Nov-19-07 15·00		Nov-19-07 15.00		Nov-19-07 15·00							
	Units/RL:	%	RL	%	RL	%	RL						
Percent Moisture		16 0	1.00	7.24	1 00	8 21	1 00						
TPH by SW8015 Mod	*Extracted:*	Nov-20-07 14.20		Nov-20-07 14 20		Nov-20-07 14.20							
	Analyzed:	Nov-25-07 17.56		Nov-25-07 18:23		Nov-25-07 18:50							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
C6-C12 Gasoline Range Hydrocarbons		2690	89.3	51.3	16.2	138	16 3						
C12-C28 Diesel Range Hydrocarbons		9520	89.3	201	16 2	879	16 3						
C28-C35 Oil Range Hydrocarbons		1140	89 3	38.4	16.2	112	16.3						
Total TPH		13350		290.7		1129							
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 08:30		Nov-20-07 08·30		Nov-20-07 08·30		Nov-20-07 08:30		Nov-20-07 08:30		Nov-20-07 08·30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		25300	5.95	6420	5 39	1850	5.45	936	5.00	128	5.00	85.1	5.00

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Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 293282

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Chevron Lovington Deep State

Project Id: 1007-023B
Contact: Cindy Crain
Project Location: Sec. 5, T17S, R36E, Lea Co., NM

Date Received in Lab: Sat Nov-17-07 11:27 am
Report Date: 30-NOV-07
Project Manager: Brent Barron, II

Analysis Requested	*Lab Id:*	293282-007		293282-008		293282-009		293282-010		293282-011		293282-012	
	Field Id:	BH-1 (30-32')		BH-2 (0-2')		BH-2 (5-7')		BH-2 (10-12')		BH-2 (15-17')		BH-2 (20-22')	
	Depth:	30-32 ft		0-2 ft		5-7 ft		10-12 ft		15-17 ft		20-22 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-14-07 10:20		Nov-14-07 10:38		Nov-14-07 10:42		Nov-14-07 10:50		Nov-14-07 10.58		Nov-14-07 11:02	
BTEX by EPA 8021B	*Extracted:*			Nov-28-07 12.27		Nov-28-07 13.51							
	Analyzed:			Nov-29-07 16:06		Nov-28-07 19:51							
	Units/RL:			mg/kg	RL	mg/kg	RL						
Benzene				0 9841	0 2326	ND	0 0011						
Toluene				44.11	0.4653	ND	0.0022						
Ethylbenzene				49.95	0 2326	0 0019	0 0011						
m,p-Xylenes				102 0	0.4653	0.0077	0.0022						
o-Xylene				45 47	0.2326	ND	0 0011						
Xylenes, Total				147.47		0.0077							
Total BTEX				242 5141		0 0096							
Percent Moisture	*Extracted:*												
	Analyzed:			Nov-19-07 15:00		Nov-19-07 15 00		Nov-19-07 15.00					
	Units/RL:			%	RL	%	RL	%	RL				
Percent Moisture				14.0	1.00	10.1	1 00	4.01	1.00				
TPH by SW8015 Mod	*Extracted:*			Nov-20-07 14 20		Nov-20-07 14:20		Nov-20-07 14:20					
	Analyzed:			Nov-25-07 19:16		Nov-25-07 19:43		Nov-25-07 20:09					
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons				3530	87 2	18 2	16.7	ND	15 6				
C12-C28 Diesel Range Hydrocarbons				7950	87.2	45.4	16 7	ND	15 6				
C28-C35 Oil Range Hydrocarbons				926	87.2	ND	16.7	ND	15.6				
Total TPH				12406		63.6		ND					
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 08.30		Nov-20-07 08:30		Nov-20-07 08:30		Nov-20-07 00:00		Nov-20-07 00.00		Nov-20-07 00.00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		63.8	5.00	13400	5 82	10900	5.56	1290	5.21	85.1	5.00	42.5	5.00

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Certificate of Analysis Summary 293282

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Chevron Lovington Deep State

Project Id: 1007-023B
Contact: Cindy Crain
Project Location: Sec. 5, T17S, R36E, Lea Co., NM

Date Received in Lab: Sat Nov-17-07 11:27 am
Report Date: 30-NOV-07
Project Manager: Brent Barron, II

Analysis Requested	*Lab Id:*	293282-013		293282-014		293282-015		293282-016		293282-017		293282-018	
	Field Id:	BH-2 (25-27')		BH-2 (30-32')		BH-3 (0-2')		BH-3 (5-7')		BH-3 (10-12')		BH-3 (15-17')	
	Depth:	25-27 ft		30-32 ft		0-2 ft		5-7 ft		10-12 ft		15-17 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-14-07 12:59		Nov-14-07 13:04		Nov-14-07 12 16		Nov-14-07 12.21		Nov-14-07 12:23		Nov-14-07 12:31	
Percent Moisture	*Extracted:*												
	Analyzed:					Nov-19-07 15:00		Nov-19-07 15:00					
	Units/RL:					%	RL	%	RL				
Percent Moisture						13.0	1 00	5.48	1.00				
TPH by SW8015 Mod	*Extracted:*					Nov-20-07 14 20		Nov-20-07 14 20					
	Analyzed:					Nov-25-07 20:35		Nov-25-07 21.01					
	Units/RL:					mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons						ND	17 2	ND	15.9				
C12-C28 Diesel Range Hydrocarbons						30 5	17.2	ND	15 9				
C28-C35 Oil Range Hydrocarbons						ND	17 2	ND	15.9				
Total TPH						30 5		ND					
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 00.00		Nov-20-07 00:00		Nov-20-07 00.00		Nov-20-07 00 00		Nov-20-07 00:00		Nov-20-07 00.00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		53.2	5.00	42.5	5.00	17100	5.75	6080	5.29	191	5.00	117	5.00

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Analysis Requested	*Lab Id:*	293282-019		293282-020		293282-021		293282-022		293282-023		293282-024	
	Field Id:	BH-3 (20-22')		BH-3 (25-27')		BH-4 (0-2')		BH-4 (5-7')		BH-4 (10-12')		BH-4 (15-17')	
	Depth:	20-22 ft		25-27 ft		0-2 ft		5-7 ft		10-12 ft		15-17 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-14-07 12.36		Nov-14-07 12.46		Nov-14-07 13 10		Nov-14-07 13 21		Nov-14-07 13·23		Nov-14-07 13·25	
Percent Moisture	*Extracted:*												
	Analyzed:					Nov-19-07 15.00		Nov-19-07 15:00					
	Units/RL:					%	RL	%	RL				
Percent Moisture						6 34	1 00	1.20	1 00				
TPH by SW8015 Mod	*Extracted:*					Nov-20-07 14.20		Nov-20-07 14 20					
	Analyzed:					Nov-25-07 21.27		Nov-25-07 21.53					
	Units/RL:					mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons						ND	16 0	ND	15.2				
C12-C28 Diesel Range Hydrocarbons						37.1	16 0	37 8	15 2				
C28-C35 Oil Range Hydrocarbons						ND	16 0	ND	15.2				
Total TPH						37.1		37 8					
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 00:00		Nov-20-07 00.00		Nov-20-07 00 00		Nov-20-07 00.00		Nov-20-07 00:00		Nov-20-07 00:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		42 5	5 00	160	5.00	45.4	5.34	64.6	5.06	53.2	5.00	74 4	5.00

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Analysis Requested													
	Lab Id:	293282-025		293282-026		293282-027		293282-028		293282-029		293282-030	
	Field Id:	BH-4 (20-22')		BH-5 (0-2')		BH-5 (5-7')		BH-5 (10-12')		BH-5 (15-17')		BH-5 (20-22')	
	Depth:	20-22 ft		0-2 ft		5-7 ft		10-12 ft		15-17 ft		20-22 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-14-07 13.31		Nov-14-07 13.42		Nov-14-07 13·49		Nov-14-07 14·01		Nov-14-07 14·07		Nov-14-07 14·11	
BTEX by EPA 8021B	*Extracted:*			Nov-28-07 12:27									
	Analyzed:			Nov-29-07 16:23									
	Units/RL:			mg/kg	RL								
Benzene				0 0716	0.0577								
Toluene				20.43	0.2308								
Ethylbenzene				43 65	0 1154								
m,p-Xylenes				97.00	0.2308								
o-Xylene				40.97	0 1154								
Xylenes, Total				137.97									
Total BTEX				202.1216									
Percent Moisture	*Extracted:*												
	Analyzed:			Nov-19-07 15:00		Nov-19-07 15 00							
	Units/RL:			%	RL	%	RL						
Percent Moisture				13 3	1 00	3.93	1.00						
TPH by SW8015 Mod	*Extracted:*			Nov-20-07 14 13		Nov-20-07 14·13							
	Analyzed:			Nov-26-07 02:37		Nov-26-07 03.03							
	Units/RL:			mg/kg	RL	mg/kg	RL						
C6-C12 Gasoline Range Hydrocarbons				2590	86.6	34.9	15 6						
C12-C28 Diesel Range Hydrocarbons				10100	86.6	409	15.6						
C28-C35 Oil Range Hydrocarbons				1180	86.6	66.4	15 6						
Total TPH				13870		510.3							
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 00·00		Nov-20-07 00:00		Nov-20-07 00·00		Nov-20-07 00·00		Nov-20-07 00·00		Nov-20-07 00·00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		42.5	5.00	15200	5.77	1880	5.20	42.5	5 00	106	5.00	74.4	5.00

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Project Id: 1007-023B
Contact: Cindy Crain
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Analysis Requested													
	Lab Id:	293282-031		293282-032		293282-033		293282-034		293282-035		293282-036	
	Field Id:	BH-6 (0-2')		BH-6 (5-7')		BH-6 (10-12')		BH-6 (15-17')		BH-6 (20-22')		BH-7 (0-2')	
	Depth:	0-2 ft		5-7 ft		10-12 ft		15-17 ft		20-22 ft		0-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-14-07 14·28		Nov-14-07 14.31		Nov-14-07 14 40		Nov-14-07 14 44		Nov-14-07 14:50		Nov-15-07 09 25	
Percent Moisture	*Extracted:*												
	Analyzed:	Nov-19-07 15:00		Nov-19-07 15:00								Nov-19-07 15·00	
	Units/RL:	%	RL	%	RL							%	RL
Percent Moisture		11.5	1.00	4.00	1 00							11.9	1 00
TPH by SW8015 Mod	*Extracted:*	Nov-20-07 14 13		Nov-20-07 14·13								Nov-20-07 14 13	
	Analyzed:	Nov-26-07 03.28		Nov-26-07 03:54								Nov-26-07 04:20	
	Units/RL:	mg/kg	RL	mg/kg	RL							mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16 9	ND	15.6							ND	17.0
C12-C28 Diesel Range Hydrocarbons		86 6	16 9	ND	15.6							ND	17.0
C28-C35 Oil Range Hydrocarbons		17 2	16.9	ND	15 6							ND	17.0
Total TPH		103 8		ND								ND	
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 00·00		Nov-20-07 00.00		Nov-20-07 00·00		Nov-20-07 00 00		Nov-20-07 00·00		Nov-20-07 00·00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		12600	5.65	1130	5.21	42.5	5.00	42.5	5.00	234	5.00	7850	5.68

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Date Received in Lab: Sat Nov-17-07 11.27 am
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Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	293282-037		293282-038		293282-039		293282-040		293282-041		293282-042	
	Field Id:	BH-7 (5-7')		BH-7 (10-12')		BH-7 (15-17')		BH-7 (20-22')		BH-7 (25-27')		BH-7 (30-32')	
	Depth:	5-7 ft		10-12 ft		15-17 ft		20-22 ft		25-27 ft		30-32 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-15-07 09·31		Nov-15-07 09·37		Nov-15-07 09·47		Nov-15-07 09.53		Nov-15-07 10:02		Nov-15-07 10·10	
Percent Moisture	*Extracted:*												
	Analyzed:	Nov-19-07 16·00											
	Units/RL:	%	RL										
Percent Moisture		5 47	1.00										
TPH by SW8015 Mod	*Extracted:*	Nov-20-07 14·13											
	Analyzed:	Nov-26-07 04:45											
	Units/RL:	mg/kg	RL										
C6-C12 Gasoline Range Hydrocarbons		ND	15.9										
C12-C28 Diesel Range Hydrocarbons		ND	15 9										
C28-C35 Oil Range Hydrocarbons		ND	15.9										
Total TPH		ND											
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 00.00		Nov-20-07 00.00		Nov-20-07 00·00		Nov-20-07 00·00		Nov-20-07 00·00		Nov-20-07 00 00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5060	5.29	3400	5.00	213	5.00	42.5	5.00	42.5	5.00	42 5	5.00

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Project Id: 1007-023B
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Project Location: Sec. 5, T17S, R36E, Lea Co., NM

Date Received in Lab: Sat Nov-17-07 11:27 am
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Analysis Requested													
	Lab Id:	293282-043		293282-044		293282-045		293282-046		293282-047		293282-048	
	Field Id:	BH-8 (0-2')		BH-8 (5-7')		BH-8 (10-12')		BH-8 (15-17')		BH-8 (20-22')		BH-8 (25-27')	
	Depth:	0-2 ft		5-7 ft		10-12 ft		15-17 ft		20-22 ft		25-27 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-15-07 10·20		Nov-15-07 10:29		Nov-15-07 10·32		Nov-15-07 10.36		Nov-15-07 10:40		Nov-15-07 10·47	
Percent Moisture	*Extracted:*												
	Analyzed:	Nov-19-07 16·00		Nov-19-07 16·00									
	Units/RL:	%	RL	%	RL								
Percent Moisture		12 6	1.00	1.91	1.00								
TPH by SW8015 Mod	*Extracted:*	Nov-20-07 14·13		Nov-20-07 14 13									
	Analyzed:	Nov-26-07 05:11		Nov-26-07 05:36									
	Units/RL:	mg/kg	RL	mg/kg	RL								
C6-C12 Gasoline Range Hydrocarbons		ND	17.2	ND	15.3								
C12-C28 Diesel Range Hydrocarbons		22.2	17.2	ND	15.3								
C28-C35 Oil Range Hydrocarbons		ND	17.2	ND	15.3								
Total TPH		22.2		ND									
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 00.00		Nov-20-07 00 00		Nov-20-07 00·00		Nov-20-07 00.00		Nov-20-07 00·00		Nov-20-07 00.00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3770	5.72	304	5.10	85.1	5.00	85.1	5.00	63.8	5.00	106	5.00

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Date Received in Lab: Sat Nov-17-07 11 27 am
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Analysis Requested													
	Lab Id:	293282-049		293282-050		293282-051		293282-052		293282-053		293282-054	
	Field Id:	BH-9 (0-2')		BH-9 (5-7')		BH-9 (10-12')		BH-9 (15-17')		BH-9 (20-22')		BH-10 (0-2')	
	Depth:	0-2 ft		5-7 ft		10-12 ft		15-17 ft		20-22 ft		0-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-15-07 11·00		Nov-15-07 11.06		Nov-15-07 11·15		Nov-15-07 11·20		Nov-15-07 11:25		Nov-15-07 12 04	
BTEX by EPA 8021B	*Extracted:*	Nov-28-07 12 27		Nov-28-07 13·51									
	Analyzed:	Nov-29-07 15 33		Nov-28-07 20 24									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		ND	0 0012	ND	0.0010								
Toluene		ND	0 0023	ND	0.0021								
Ethylbenzene		ND	0 0012	0 0042	0 0010								
m,p-Xylenes		ND	0 0023	0.0058	0 0021								
o-Xylene		ND	0.0012	0 0191	0.0010								
Xylenes, Total		ND		0.0249									
Total BTEX		ND		0.0291									
Percent Moisture	*Extracted:*												
	Analyzed:	Nov-19-07 16·00		Nov-19-07 16·00		Nov-19-07 16 00						Nov-19-07 16·00	
	Units/RL:	%	RL	%	RL	%	RL					%	RL
Percent Moisture		14.2	1 00	4.67	1.00	3.49	1 00					5 54	1.00
TPH by SW8015 Mod	*Extracted:*	Nov-20-07 14.13		Nov-20-07 14 13		Nov-20-07 14 13						Nov-20-07 14.13	
	Analyzed:	Nov-26-07 06:02		Nov-26-07 06:53		Nov-26-07 07:18						Nov-26-07 07:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		162	87 4	73.7	15 7	ND	15.5					ND	15 9
C12-C28 Diesel Range Hydrocarbons		893	87 4	285	15 7	ND	15 5					ND	15 9
C28-C35 Oil Range Hydrocarbons		185	87.4	31.4	15.7	ND	15.5					ND	15.9
Total TPH		1240		390.1		ND						ND	
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 00.00		Nov-20-07 00 00		Nov-20-07 00.00		Nov-20-07 00:00		Nov-20-07 00:00		Nov-20-07 00·00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		30000	5.83	2010	5.24	176	5.18	74.4	5.00	74.4	5.00	45.0	5.29

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Analysis Requested													
	Lab Id:	293282-055		293282-056		293282-057		293282-058		293282-059		293282-060	
	Field Id:	BH-10 (5-7')		BH-10 (10-12')		BH-10 (15-17')		BH-11 (0-2')		BH-11 (5-7')		BH-11 (10-12')	
	Depth:	5-7 ft		10-12 ft		15-17 ft		0-2 ft		5-7 ft		10-12 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-15-07 12.12		Nov-15-07 12.19		Nov-15-07 12·24		Nov-15-07 12.31		Nov-15-07 12.35		Nov-15-07 12 40	
Percent Moisture	*Extracted:*												
	Analyzed:	Nov-19-07 16·00						Nov-19-07 16·00		Nov-19-07 16.00			
	Units/RL:	%	RL					%	RL	%	RL		
Percent Moisture		3 39	1.00					11 0	1.00	2 98	1.00		
TPH by SW8015 Mod	*Extracted:*	Nov-20-07 14·13						Nov-20-07 14 13		Nov-20-07 14 13			
	Analyzed:	Nov-26-07 08:09						Nov-26-07 08.36		Nov-26-07 09:02			
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		ND	15.5					ND	16.8	ND	15.5		
C12-C28 Diesel Range Hydrocarbons		ND	15 5					ND	16 8	ND	15 5		
C28-C35 Oil Range Hydrocarbons		ND	15.5					ND	16.8	ND	15.5		
Total TPH		ND						ND		ND			
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 00 00		Nov-20-07 00:00		Nov-20-07 00 00		Nov-20-07 00.00		Nov-20-07 00.00		Nov-20-07 00.00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		44.0	5.18	42.5	5.00	31.9	5.00	47.7	5 62	32 9	5 15	42.5	5.00

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Odessa Laboratory Director

ENVIRONMENTAL LAB OF

Certificate of Analysis Summary 293282

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Chevron Lovington Deep State

Project Id: 1007-023B
Contact: Cindy Crain
Project Location: Sec. 5, T17S, R36E, Lea Co., NM

Date Received in Lab: Sat Nov-17-07 11:27 am
Report Date: 30-NOV-07
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	293282-061		293282-062		293282-063		293282-064		293282-065		293282-066	
	Field Id:	BH-11 (15-17')		BH-12 (0-2')		BH-12 (5-7')		BH-12 (10-12')		BH-12 (15-17')		BH-13 (0-2')	
	Depth:	15-17 ft		0-2 ft		5-7 ft		10-12 ft		15-17 ft		0-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-15-07 12.46		Nov-15-07 12·56		Nov-15-07 13·00		Nov-15-07 13·10		Nov-15-07 13:14		Nov-15-07 13:18	
Percent Moisture	*Extracted:*												
	Analyzed:			Nov-19-07 16·00		Nov-19-07 16·00						Nov-19-07 16·00	
	Units/RL:			%	RL	%	RL					%	RL
Percent Moisture				5.44	1.00	6.92	1.00					3.52	1.00
TPH by SW8015 Mod	*Extracted:*			Nov-20-07 14·13		Nov-20-07 14 13						Nov-20-07 14·13	
	Analyzed:			Nov-26-07 09:30		Nov-26-07 09:58						Nov-26-07 10·29	
	Units/RL:			mg/kg	RL	mg/kg	RL					mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons				ND	15.9	ND	16 1					ND	15.5
C12-C28 Diesel Range Hydrocarbons				48.9	15.9	32.7	16.1					38.5	15.5
C28-C35 Oil Range Hydrocarbons				ND	15.9	ND	16.1					ND	15 5
Total TPH				48.9		32.7						38.5	
Total Chloride by EPA 325.3	*Extracted:*												
	Analyzed:	Nov-20-07 00:00		Nov-20-07 00 00		Nov-20-07 00:00		Nov-20-07 00:00		Nov-20-07 00·00		Nov-20-07 00·00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		31 9	5.00	33.7	5.29	45.7	5.37	63.8	5.00	42.5	5.00	33.1	5.18

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Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 293282

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Chevron Lovington Deep State

Project Id: 1007-023B
Contact: Cindy Crain
Project Location: Sec. 5, T17S, R36E, Lea Co , NM

Date Received in Lab: Sat Nov-17-07 11:27 am
Report Date: 30-NOV-07
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	293282-067		293282-068		293282-069					
	Field Id:	BH-13 (5-7')		BH-13 (10-12')		BH-13 (15-17')					
	Depth:	5-7 ft		10-12 ft		15-17 ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Nov-15-07 13.22		Nov-15-07 13:28		Nov-15-07 13·35					
Percent Moisture	*Extracted:*										
	Analyzed:	Nov-19-07 16·00									
	Units/RL:	%	RL								
Percent Moisture		1.32	1 00								
TPH by SW8015 Mod	*Extracted:*	Nov-20-07 14·13									
	Analyzed:	Nov-26-07 10.59									
	Units/RL:	mg/kg	RL								
C6-C12 Gasoline Range Hydrocarbons		ND	15 2								
C12-C28 Diesel Range Hydrocarbons		ND	15.2								
C28-C35 Oil Range Hydrocarbons		ND	15 2								
Total TPH		ND									
Total Chloride by EPA 325.3	*Extracted:*										
	Analyzed:	Nov-20-07 00·00		Nov-20-07 00.00		Nov-20-07 00.00					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		86 2	5.07	42.5	5.00	53.2	5.00				

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Brent Barron
Odessa Laboratory Director

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect 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 MQL and above the SQL.

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.

* Outside XENCO'S scope of NELAC Accreditation

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Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709436 **Sample:** 293282-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	80-120	
4-Bromofluorobenzene	0.0355	0.0300	118	80-120	

Lab Batch #: 709436 **Sample:** 293282-050 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0355	0.0300	118	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	80-120	

Lab Batch #: 709436 **Sample:** 501986-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 709436 **Sample:** 501986-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0352	0.0300	117	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 709436 **Sample:** 501986-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709491 **Sample:** 293282-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.3434	0.0300	1145	80-120	**
4-Bromofluorobenzene	0.0383	0.0300	128	80-120	**

Lab Batch #: 709491 **Sample:** 293282-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.2682	0.0300	894	80-120	**
4-Bromofluorobenzene	0.0399	0.0300	133	80-120	**

Lab Batch #: 709491 **Sample:** 293282-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0396	0.0300	132	80-120	**
4-Bromofluorobenzene	0.0664	0.0300	221	80-120	**

Lab Batch #: 709491 **Sample:** 293282-049 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0356	0.0300	119	80-120	
4-Bromofluorobenzene	0.0336	0.0300	112	80-120	

Lab Batch #: 709491 **Sample:** 502014-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0413	0.0300	138	80-120	*

** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709491 **Sample:** 502014-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0350	0.0300	117	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 709491 **Sample:** 502014-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0326	0.0300	109	80-120	
4-Bromofluorobenzene	0.0335	0.0300	112	80-120	

Lab Batch #: 709244 **Sample:** 293280-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	53.8	50.0	108	70-135	

Lab Batch #: 709244 **Sample:** 293280-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	55.2	50.0	110	70-135	

Lab Batch #: 709244 **Sample:** 293282-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	148	100	148	70-135	**
o-Terphenyl	123	50.0	246	70-135	**

** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709244 **Sample:** 293282-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.0	100	99	70-135	
o-Terphenyl	51.3	50.0	103	70-135	

Lab Batch #: 709244 **Sample:** 293282-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	64.8	50.0	130	70-135	

Lab Batch #: 709244 **Sample:** 293282-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	166	100	166	70-135	**
o-Terphenyl	105	50.0	210	70-135	**

Lab Batch #: 709244 **Sample:** 293282-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	51.5	50.0	103	70-135	

Lab Batch #: 709244 **Sample:** 293282-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.2	100	97	70-135	
o-Terphenyl	49.8	50.0	100	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

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Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709244 **Sample:** 293282-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	52.6	50.0	105	70-135	

Lab Batch #: 709244 **Sample:** 293282-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 709244 **Sample:** 293282-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.0	100	98	70-135	
o-Terphenyl	50.1	50.0	100	70-135	

Lab Batch #: 709244 **Sample:** 293282-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.6	100	97	70-135	
o-Terphenyl	47.6	50.0	95	70-135	

Lab Batch #: 709244 **Sample:** 501860-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709244 **Sample:** 501860-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	51.0	50.0	102	70-135	

Lab Batch #: 709244 **Sample:** 501860-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	49.8	50.0	100	70-135	

Lab Batch #: 709250 **Sample:** 293282-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	159	100	159	70-135	**
o-Terphenyl	114	50.0	228	70-135	**

Lab Batch #: 709250 **Sample:** 293282-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	53.9	50.0	108	70-135	

Lab Batch #: 709250 **Sample:** 293282-031 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis
***. Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709250 **Sample:** 293282-031 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	100	99	70-135	
o-Terphenyl	48.1	50.0	96	70-135	

Lab Batch #: 709250 **Sample:** 293282-031 SD / MSD **Batch:** 1 **Matrix:** Sludge

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	49.6	50.0	99	70-135	

Lab Batch #: 709250 **Sample:** 293282-032 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	51.9	50.0	104	70-135	

Lab Batch #: 709250 **Sample:** 293282-036 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 709250 **Sample:** 293282-037 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.7	100	97	70-135	
o-Terphenyl	49.4	50.0	99	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

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Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709250 **Sample:** 293282-043 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.4	100	96	70-135	
o-Terphenyl	49.7	50.0	99	70-135	

Lab Batch #: 709250 **Sample:** 293282-044 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.9	100	89	70-135	
o-Terphenyl	45.8	50.0	92	70-135	

Lab Batch #: 709250 **Sample:** 293282-049 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.8	100	95	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 709250 **Sample:** 293282-050 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.3	100	94	70-135	
o-Terphenyl	48.8	50.0	98	70-135	

Lab Batch #: 709250 **Sample:** 293282-051 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.6	100	96	70-135	
o-Terphenyl	48.5	50.0	97	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709250 **Sample:** 293282-054 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.1	100	97	70-135	
o-Terphenyl	49.5	50.0	99	70-135	

Lab Batch #: 709250 **Sample:** 293282-055 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.8	100	90	70-135	
o-Terphenyl	45.7	50.0	91	70-135	

Lab Batch #: 709250 **Sample:** 293282-058 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.8	100	86	70-135	
o-Terphenyl	44.7	50.0	89	70-135	

Lab Batch #: 709250 **Sample:** 293282-059 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.5	100	90	70-135	
o-Terphenyl	45.5	50.0	91	70-135	

Lab Batch #: 709250 **Sample:** 293282-062 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.6	100	93	70-135	
o-Terphenyl	47.0	50.0	94	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709250 **Sample:** 293282-063 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.6	100	89	70-135	
o-Terphenyl	45.7	50.0	91	70-135	

Lab Batch #: 709250 **Sample:** 293282-066 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.4	100	85	70-135	
o-Terphenyl	43.1	50.0	86	70-135	

Lab Batch #: 709250 **Sample:** 293282-067 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.5	100	83	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 709250 **Sample:** 501858-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	54.5	50.0	109	70-135	

Lab Batch #: 709250 **Sample:** 501858-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	53.2	50.0	106	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 709250 **Sample:** 501858-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	51.7	50.0	103	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Lab Batch #: 708892 **Sample:** 708892-1-BKS **Matrix:** Solid
Date Analyzed: 11/20/2007 **Date Prepared:** 11/20/2007 **Analyst:** IRO
Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

Total Chloride by EPA 325.3 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	100	93.6	94	75-125	

Lab Batch #: 708894 **Sample:** 708894-1-BKS **Matrix:** Solid
Date Analyzed: 11/20/2007 **Date Prepared:** 11/20/2007 **Analyst:** LATCOR
Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

Total Chloride by EPA 325.3 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	100	95.7	96	75-125	

Lab Batch #: 708897 **Sample:** 708897-1-BKS **Matrix:** Solid
Date Analyzed: 11/20/2007 **Date Prepared:** 11/20/2007 **Analyst:** LATCOR
Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

Total Chloride by EPA 325.3 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	100	93.6	94	75-125	

Lab Batch #: 708898 **Sample:** 708898-1-BKS **Matrix:** Solid
Date Analyzed: 11/20/2007 **Date Prepared:** 11/20/2007 **Analyst:** LATCOR
Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

Total Chloride by EPA 325.3 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	100	93.6	94	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

XENCO Laboratories

BS / BSD Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Analyst: SHE **Date Prepared:** 11/28/2007 **Date Analyzed:** 11/28/2007

Lab Batch ID: 709436 **Sample:** 501986-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1094	109	0.1	0.1088	109	1	70-130	35	
Toluene	ND	0.1000	0.1083	108	0.1	0.1090	109	1	70-130	35	
Ethylbenzene	ND	0.1000	0.1094	109	0.1	0.1125	113	3	71-129	35	
m,p-Xylenes	ND	0.2000	0.2144	107	0.2	0 2208	110	3	70-135	35	
o-Xylene	ND	0.1000	0.1084	108	0.1	0.1122	112	3	71-133	35	

Analyst: SHE **Date Prepared:** 11/28/2007 **Date Analyzed:** 11/29/2007

Lab Batch ID: 709491 **Sample:** 502014-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1039	104	0.1	0.1056	106	2	70-130	35	
Toluene	ND	0.1000	0.1056	106	0.1	0.1079	108	2	70-130	35	
Ethylbenzene	ND	0.1000	0.1165	117	0.1	0.1172	117	1	71-129	35	
m,p-Xylenes	ND	0.2000	0.2323	116	0.2	0.2312	116	0	70-135	35	
o-Xylene	ND	0.1000	0.1178	118	0.1	0.1166	117	1	71-133	35	

Relative Percent Difference RPD = 200*|(D-F)/(D+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

XENCO Laboratories

BS / BSD Recoveries

Project Name: Chevron Lovington Deep State

Work Order #: 293282 **Project ID:** 1007-023B

Analyst: SHE **Date Prepared:** 11/20/2007 **Date Analyzed:** 11/26/2007

Lab Batch ID: 709250 **Sample:** 501858-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	927	93	1000	950	95	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	876	88	1000	879	88	0	70-135	35	

Analyst: SHE **Date Prepared:** 11/20/2007 **Date Analyzed:** 11/25/2007

Lab Batch ID: 709244 **Sample:** 501860-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	929	93	1000	911	91	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	814	81	1000	827	83	2	70-135	35	

Relative Percent Difference RPD = 200*|(D-F)/(D+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: Chevron Lovington Deep State

Work Order # : 293282 **Project ID:** 1007-023B

Lab Batch ID: 709244 **QC- Sample ID:** 293280-001 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 11/25/2007 **Date Prepared:** 11/20/2007 **Analyst:** SHE
Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1110	1070	96	1110	1140	103	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1110	1010	91	1110	1080	97	6	70-135	35	

Lab Batch ID: 709250 **QC- Sample ID:** 293282-031 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 11/26/2007 **Date Prepared:** 11/20/2007 **Analyst:** SHE
Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1130	1000	88	1130	1040	92	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	86.6	1130	949	76	1130	963	78	3	70-135	35	

Lab Batch ID: 708892 **QC- Sample ID:** 293280-017 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 11/20/2007 **Date Prepared:** 11/20/2007 **Analyst:** IRO
Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Total Chloride by EPA 325.3 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	128	1000	1060	93	1000	1110	98	5	75-125	30	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(D-G)/(D+G)

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: Chevron Lovington Deep State

Work Order # : 293282 **Project ID:** 1007-023B

Lab Batch ID: 708894 **QC- Sample ID:** 293282-016 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 11/20/2007 **Date Prepared:** 11/20/2007 **Analyst:** LATCOR
Reporting Units: mg/kg

Total Chloride by EPA 325.3 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	6080	10600	16000	94	10600	15300	87	8	75-125	30	

Lab Batch ID: 708897 **QC- Sample ID:** 293282-037 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 11/20/2007 **Date Prepared:** 11/20/2007 **Analyst:** LATCOR
Reporting Units: mg/kg

Total Chloride by EPA 325.3 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	5060	10600	16200	105	10600	15600	99	6	75-125	30	

Lab Batch ID: 708898 **QC- Sample ID:** 293282-059 S **Batch #:** 1 **Matrix:** Soil
Date Analyzed: 11/20/2007 **Date Prepared:** 11/20/2007 **Analyst:** LATCOR
Reporting Units: mg/kg

Total Chloride by EPA 325.3 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	32.9	1030	1040	98	1030	1060	100	2	75-125	30	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(D-G)/(D+G)

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: Chevron Lovington Deep State

Work Order #: 293282

Lab Batch #: 708848 **Project ID:** 1007-023B
Date Analyzed: 11/19/2007 **Date Prepared:** 11/19/2007 **Analyst:** RBA
QC- Sample ID: 293280-022 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	2.62	2.99	13	20	

Lab Batch #: 708850
Date Analyzed: 11/19/2007 **Date Prepared:** 11/19/2007 **Analyst:** RBA
QC- Sample ID: 293282-037 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	5.47	5.79	6	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone. 432-563-1800
Fax: 432-563-1713

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental, LLC
Company Address: PO Box 1816
City/State/Zip: Hobbs, NM 88241
Telephone No: (505) 441-7244
Fax No: (432) 272-0304
Sampler Signature: Cindy Crain
e-mail: cindy.crain@gmail.com

Project Name: Chevron Lovington Deep State
Project #: 1007-023B
Project Loc: Sec 5, T17S, R36E, Lea Co. NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 293282

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For (TCLP/TOTAL): TPH 418.1	TPH 8015M	TPH TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	NORM	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
001	BH-1 (0-2')	0	2	11/14/07	0930														X									X					
002	" (5-7')	5	7	"	0942														X														
003	" (10-12')	10	12	"	0950														X														
004	" (15-17')	15	17	"	0958																												
005	" (20-22')	20	22	"	1005																												
006	" (25-27')	25	27	"	1013																												
007	" (30-32')	30	32	"	1020																												
008	BH-2 (0-2')	0	2	"	1038														X									X					
009	" (5-7')	5	7	"	1042														X									X					
010	" (10-12')	10	12	"	1050														X														

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
Cindy Crain	11/17/07	11:27			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT	Date	Time
			Julie Garcia	11/17/07	11:30

Laboratory Comments:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
Labels on container(s) : all on lid
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered by Sampler/Client Rep ? Y N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt 4 °C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental, LLC
Company Address: PO Box 1816
City/State/Zip: Hobbs, NM 88241
Telephone No: (505) 441-7244
Fax No: (432) 272-0304
Sampler Signature: Cindy Crain
e-mail: cindy crain@gmail.com

Project Name: Chevron Lovington Deep State
Project #: 1007-023B
Project Loc.: Sec 5, T17S, R36E, Lea Co., NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 293282

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH 418.1 / 8015B	TPH TX 1005 / TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semi-volatiles	BTEX 8021B/5030 or BTEX 8260	RCI	NORM	RUSH TAT (pre-Schedule) 24, 48, 72 hrs	Standard TAT
011	BH-2 (15-17')	15	17	11/14/07	1058																								
012	" (20-22')	20	22	"	1102																								
013	" (25-27')	25	27	"	1259																								
014	" (30-32')	30	32	"	1304																								
015	BH-3 (0-2')	0	2	"	1216												X												
016	" (5-7')	5	7	"	1221												X												
017	" (10-12')	10	12	"	1223																								
018	" (15-17')	15	17	"	1231																								
019	" (20-22')	20	22	"	1236																								
020	" (25-27')	25	27	"	1246																								

Special Instructions:

Relinquished by	Date	Time	Received by	Date	Time
Cindy Crain	11/17/07	1127			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments.
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
Labels on container(s) id only Y N
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered Y N
by Sampler/Client Rep ? Y N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt 4.0 °C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax. 432-563-1713

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental LLC
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City/State/Zip: Hobbs, NM 88241
Telephone No.: (505) 441-7244
Fax No: (432) 272-0304
Sampler Signature: Cindy Crain
e-mail: cindy crain@gmail com

Project Name: Chevron Lovington Deep State
Project #.: 1007-023B
Project Loc: Sec 5, T17S, R36E Lea Co , NM
PO #.:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 2293282

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TCLP/TOTAL: TPH 8015M	TPH 418.1	TPH TX 1005	TPH TX 1006	Cations (Ca Mg Na, K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B or 8260	BTEX 8260	RCI	N O R M				RUSH TAT (pre-Schedule) 24, 48, 72 hrs	Standard TAT
021	BH-4 (0-2')	0	2	11/14/07	1310														X																		
022	" (5-7')	5	7	"	1321														X																		
023	" (10-12')	10	12	"	1323																																
024	" (15-17')	15	17	"	1325																																
025	" (20-22')	20	22	"	1331																																
026	BH-5 (0-2')	0	2	"	1342														X										X								
027	" (5-7')	5	7	"	1349														X																		
028	" (10-12')	10	12	"	1401																																
029	" (15-17')	15	17	"	1407																																
030	" (20-22')	20	22	"	1411																																

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
Cindy Crain	11/17/07	1127			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4.0 °C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax. 432-563-1713

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental, LLC
Company Address: PO Box 1816
City/State/Zip: Hobbs NM 88241
Telephone No: (505) 441-7244
Fax No: (432) 272-0304
Sampler Signature: Cindy Crain
e-mail: cindy.crain@gmail.com

Project Name: Chevron Lovington Deep State
Project #: 1007-023B
Project Loc.: Sec 5, T17S R36E, Lea Co , NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 293282

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH 418.1 / 8015M	TPH TX 1005 / TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se (TCLP / TOTAL)	Volatiles	Semivolatiles	BTX 8021B/5030 or BTEX 8260	RCI	N.O.R.M				RUSH TAT (Pre-Schedule) 24, 48, 72 hrs.	Standard TAT
031	BH-6 (0-2')	0	2	11/14/07	1428												X															
032	" (5-7')	5	7	"	1431												X															
033	" (10-12')	10	12	"	1440																											
034	" (15-17')	15	17	"	1444																											
035	" (20-22')	20	22	"	1450																											
036	BH-7 (0-2')	0	2	11/15/07	0925												X															
037	" (5-7')	5	7	"	0931												X															
038	" (10-12')	10	12	"	0937																											
039	" (15-17')	15	17	"	0947																											
040	" (20-22')	20	22	"	0953																											

Special Instructions:

Relinquished by	Date	Time	Received by	Date	Time
Cindy Crain	11/17/07	1127			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
Labels on container(s) Id on lid Y N
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered Y N
by Sampler/Client Rep ? Y N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt 4.0 °C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone. 432-563-1800
Fax: 432-563-1713

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental, LLC
Company Address: PO Box 1816
City/State/Zip: Hobbs, NM 88241
Telephone No: (505) 441-7244
Fax No: (432) 272-0304
Sampler Signature: Cindy Crain
e-mail: cindy crain@gmail.com

Project Name: Chevron Lovington Deep State
Project #: 1007-023B
Project Loc: Sec 5, T17S, R36E, Lea Co., NM
PO #
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #. 293282

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water GW=Groundwater WW=Non-Potable SL=Sludge S=Soil/Solid Specify Other	Analyze For: TCLP/TOTAL: 8015B (8015M)	TPH: 418.1 TX 1005	TPH: TX 1005 TX 1006	Cations (Ca Mg Na K)	Anions (Cl SO4 Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B 8260 or BTEX 8260	RCI	I N O R M.				RUSH TAT (pre-Schedule) 24 48 72 hrs	Standard TAT
041	BH-7 (25-27')	25	27	11/15/07	1002																												
042	" (30-32')	30	32	"	1010																												
043	BH-8 (0-2')	0	2	"	1020												X																
044	" (5-7')	5	7	"	1029												X																
045	" (10-12')	10	12	"	1032																												
046	" (15-17')	15	17	"	1036																												
047	" (20-22')	20	22	"	1040																												
048	" (25-27')	25	27	"	1047																												
049	BH-9 (0-2')	0	2	"	1100												X									X							
050	" (5-7')	5	7	"	1106												X									X							

Special Instructions:

Relinquished by	Date	Time	Received by	Date	Time
Cindy Crain	11/17/07	1127			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
Labels on container(s) id and id Y N
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered Y N
by Sampler/Client Rep ?
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt 4.0 °C

nvironmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax 432-563-1713

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental, LLC
Company Address: PO Box 1816
City/State/Zip: Hobbs, NM 88241
Telephone No: (505) 441-7244 Fax No: (432) 272-0304
Sampler Signature: Cindy Crain e-mail: cindy.crain@gmail.com

Project Name: Chevron Lovington Deep State
Project #: 1007-023B
Project Loc: Sec. 5, T17S, R36E, Lea Co., NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(Lab use only)
ORDER #: 293282

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: GW=Drinking Water	GW = Groundwater	NP=Non Potable	SL=Sludge	S=Soil/Solid	Specify Other	Analyze For: TPH 418.1 (8015M) 8015B	TPH TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	NORM	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
51	BH-9 (10-12')	10	12	11/15/07	1115																	X												
52	" (15-17')	15	17	"	1120																													
53	" (20-22')	20	22	"	1125																													
54	BH-10 (0-2')	0	2	"	1204																	X												
55	" (5-7')	5	7	"	1212																	X												
56	" (10-12')	10	12	"	1219																													
57	" (15-17')	15	17	"	1224																													
58	BH-11 (0-2')	0	2	"	1231																	X												
59	" (5-7')	5	7	"	1235																	X												
60	" (10-12')	10	12	"	1240																													

Special Instructions.

Relinquished by	Date	Time	Received by	Date	Time
Cindy Crain	11/17/07	1127			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments.
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
Labels on container(s) Y N
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered Y N
by Sampler/Client Rep ? Y N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: 4.0°C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone. 432-563-1800
Fax 432-563-1713

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental, LLC
Company Address: PO Box 1818
City/State/Zip: Hobbs NM 88241
Telephone No: (505) 441-7244
Fax No: (432) 272-0304
Sampler Signature: Cindy Crain
e-mail: cindy crain@gmail com

Project Name: Chevron Lovington Deep State
Project #: 1007-023B
Project Loc: Sec 5, T17S, R36E Lea Co., NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only) ORDER #: 293282

Total # of Containers: 40 jars

Preservation & # of Containers: Ice, HNO_3, HCl, H_2SO_4, NaOH, $Na_2S_2O_3$, None, Other (Specify)

Matrix: DW=Drinking Water SL=Sludge; GW = Groundwater S=Soil/Solid; NP=Non-Potable Specify Other

Analyze For: TCLP / TOTAL

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	DW	GW	NP	TPH 418.1	8015B	TPH TX 1005	TX 1005	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.				RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
061	BH-11 (15-17')	15	17	11/15/07	1246																															
062	BH-12 (0-2')	0	2	"	1256															X																
063	" (5-7')	5	7	"	1300															X																
064	" (10-12')	10	12	"	1310																															
065	" (15-17')	15	17	"	1314																															
066	BH-13 (0-2')	0	2	"	1318															X																
067	" (5-7')	5	7	"	1322															X																
068	" (10-12')	10	12	"	1328																															
069	" (15-17')	15	17	"	1335																															

Special Instructions:

Relinquished by	Date	Time	Received by	Date	Time
Cindy Crain	11/17/07	11:27			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by ELOT	Date	Time

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s) and on lid	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt 4.0°C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Ocotillo

Date/ Time: 11-17-07 @ 1127

Lab ID #: 293282

Initials: JMF

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	4.0 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding _____

Corrective Action Taken

Check all that Apply.

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

C141 DOCUMENTATION

District I
625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

X Initial Report Final Report

Name of Company Chevron Midcontinent LP	Contact Larry Ridenour
Address HCR 60 Box 423 Lovington, N.M. 88260	Telephone No. 505-396-4414 X 102
Facility Name Lovington Deep State	Facility Type Water transfer line

Surface Owner State	Mineral Owner State of NM	Lease No. B-4704

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the		Feet from the		County
M	5	17S	36E	1305	South Line	115	East Line	Lea

Latitude N 32 deg 51 min 47.53 sec Longitude W 103 deg 23 min 8.11 sec

NATURE OF RELEASE API #3002531451

Type of Release Produced water with some oil	Volume of Release 20 BW - 2BO	Volume Recovered 13 BW – 1 BO
Source of Release water transfer line	Date and Hour of Occurrence 10/2/07 ??	Date and Hour of Discovery 10/2/07 9:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Maxey Brown	
By Whom? Larry Ridenour	Date and Hour 10/2/2007 4:30 P.M.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The location and API # given are for West Lovington Unit #86 which is the nearest well. The GPS coordinates are for the actual location of the spill. The spill is located approximately 2/10 mile north of WLU 86. The leak was from a water transfer line that conducts fluid from the Lovington Deep State tank battery to the West Lovington Unit injection station.

Chlorides 35,000

Describe Area Affected and Cleanup Action Taken.*
Fluid soaked in ground. 60' x 60' area around spill and then 8' x 150' area and 8' x 50' area where fluid traveled down ruts in road. Standing fluid was picked up with a vacuum truck. Area fenced to keep cattle out. Turned site over to Ocotillo Environmental for remediation. They performed emergency one call and have removed top approximately one foot of soil. They will do a survey of the contamination and submit a plan to the OCD 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: Larry D Ridenour	OIL CONSERVATION DIVISION
Printed Name: Larry Ridenour	Approved by District Supervisor: C. Johnson ENVIRONMENTAL ENGINEER
Title: Operations Representative	Approval Date: 10.9.07 Expiration Date: 12.10.07
E-mail Address LRidenour@chevron.com	Conditions of Approval: SUBMIT PLAN OR FINAL B4 Attached ☐
Date: 10/4/07 Phone: 396-4414 X 102	

OCT 2007 Received Hobbs OCD

RP# 1612

Appendix C

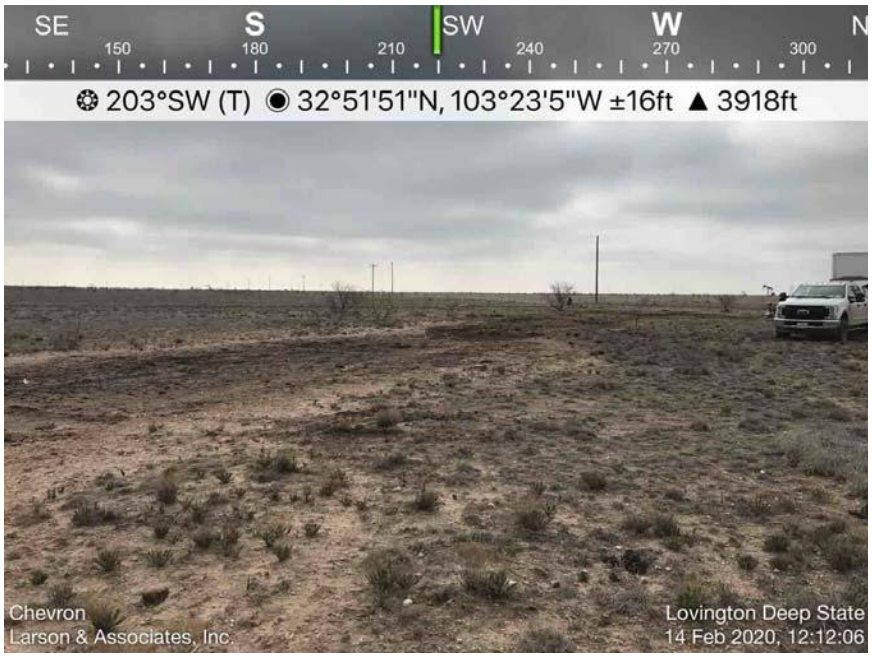
Karst Risk Potential

Appendix E

Photographs

Lovington Deep State spill area viewing to the east, February 14, 2020.

Lovington Deep State spill area viewing to the west, February 14, 2020.



Lovington Deep State spill area viewing to the southwest, February 14, 2020.

Appendix D

Laboratory Reports

Certificate of Analysis Summary 652560

Larson and Associates, Inc., Midland, TX

Project Name: Chevron Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 02.17.2020 09:30
Report Date: 02.25.2020 10:58
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	652560-001		652560-002		652560-003		652560-004		652560-005		652560-006	
	Field Id:	BH-3 0.5'		BH-2 0.5'		BH-2 2'		BH-2 5'		BH-2 7'		BH-1 0.5'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	02.11.2020 10:00		02.11.2020 10:26		02.11.2020 10:27		02.11.2020 10:32		02.11.2020 10:33		02.11.2020 10:30	
BTEX by EPA 8021B	***Extracted:***	02.19.2020 14:00		02.19.2020 14:00		02.19.2020 14:30		02.19.2020 14:30		02.19.2020 14:30		02.19.2020 14:30	
	Analyzed:	02.20.2020 00:48		02.20.2020 01:09		02.20.2020 20:00		02.20.2020 20:20		02.20.2020 20:40		02.20.2020 21:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	0.00245	0.00202
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202
m,p-Xylenes		<0.00401	0.00401	<0.00400	0.00400	<0.00402	0.00402	<0.00397	0.00397	<0.00398	0.00398	<0.00403	0.00403
o-Xylene		0.00730 XF	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202
Total Xylenes		0.00730	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202
Total BTEX		0.00730	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	0.00245	0.00202
Chloride by EPA 300	***Extracted:***	02.17.2020 13:05		02.17.2020 13:05		02.17.2020 13:05		02.17.2020 13:05		02.17.2020 13:05		02.17.2020 13:05	
	Analyzed:	02.17.2020 15:23		02.17.2020 15:38		02.17.2020 15:44		02.17.2020 15:49		02.17.2020 15:54		02.17.2020 15:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3560	24.9	2760	24.8	3150	24.9	2730	25.0	2640	25.0	1030	5.00
TPH by SW8015 Mod	***Extracted:***	02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00	
	Analyzed:	02.17.2020 13:15		02.17.2020 14:18		02.17.2020 14:38		02.17.2020 14:59		02.17.2020 15:20		02.17.2020 15:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8
Diesel Range Organics (DRO)		418	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9	55.4	49.8
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8
Total TPH		418	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9	55.4	49.8

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

John Builes
Project Manager

Certificate of Analysis Summary 652560

Larson and Associates, Inc., Midland, TX

Project Name: Chevron Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 02.17.2020 09:30
Report Date: 02.25.2020 10:58
Project Manager: Holly Taylor

Analysis Requested	*Lab Id:*	652560-007		652560-008		652560-009		652560-010		652560-011		652560-012	
	Field Id:	BH-1 2'		BH-8 0.5'		BH-8 2'		BH-8 5'		BH-8 10'		BH-6 0.5'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	02.11.2020 11:31		02.12.2020 11:42		02.12.2020 11:43		02.12.2020 12:05		02.12.2020 12:06		02.12.2020 12:14	
BTEX by EPA 8021B	*Extracted:*	02.19.2020 14:30		02.19.2020 14:30		02.19.2020 14:30		02.19.2020 14:30		02.19.2020 14:30		02.19.2020 14:30	
	Analyzed:	02.20.2020 21:21		02.20.2020 21:41		02.20.2020 22:01		02.20.2020 22:21		02.20.2020 22:41		02.20.2020 23:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402	<0.00398	0.00398	<0.00399	0.00399	<0.00402	0.00402	<0.00397	0.00397
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
Chloride by EPA 300	*Extracted:*	02.17.2020 13:05		02.17.2020 13:05		02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30	
	Analyzed:	02.17.2020 16:05		02.17.2020 16:10		02.17.2020 16:42		02.17.2020 16:57		02.17.2020 17:03		02.17.2020 17:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		421	5.04	521	4.97	316	5.04	760	24.8	3090	25.0	8460	50.2
TPH by SW8015 Mod	*Extracted:*	02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00	
	Analyzed:	02.17.2020 16:03		02.17.2020 16:24		02.17.2020 16:45		02.17.2020 17:06		02.17.2020 17:48		02.17.2020 18:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.8	49.8
Diesel Range Organics (DRO)		<50.0	50.0	94.4	49.9	<49.8	49.8	73.5	50.0	<50.0	50.0	<49.8	49.8
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.8	49.8
Total TPH		<50.0	50.0	94.4	49.9	<49.8	49.8	73.5	50.0	<50.0	50.0	<49.8	49.8

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John Builes
Project Manager

Certificate of Analysis Summary 652560

Larson and Associates, Inc., Midland, TX

Project Name: Chevron Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 02.17.2020 09:30
Report Date: 02.25.2020 10:58
Project Manager: Holly Taylor

Analysis Requested													
	Lab Id:	652560-013		652560-014		652560-015		652560-016		652560-017		652560-018	
	Field Id:	BH-6 2'		BH-6 5'		BH-6 10'		BH-7 0.5'		BH-7 2'		BH-9 0.5'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	02.12.2020 12:15		02.12.2020 12:17		02.12.2020 12:20		02.12.2020 12:43		02.12.2020 12:44		02.12.2020 13:18	
BTEX by EPA 8021B	***Extracted:***	02.19.2020 14:30		02.19.2020 14:30		02.19.2020 14:30		02.19.2020 14:30		02.19.2020 14:30		02.19.2020 14:30	
	Analyzed:	02.21.2020 00:20		02.21.2020 13:01		02.21.2020 11:31		02.21.2020 11:51		02.21.2020 12:11		02.21.2020 12:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00198	0.00198
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00198	0.00198
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00198	0.00198
m,p-Xylenes		<0.00397	0.00397	<0.00399	0.00399	<0.00404	0.00404	<0.00403	0.00403	<0.00398	0.00398	<0.00397	0.00397
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00198	0.00198
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00198	0.00198
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00198	0.00198
Chloride by EPA 300	***Extracted:***	02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30	
	Analyzed:	02.17.2020 17:13		02.17.2020 17:29		02.17.2020 17:34		02.17.2020 17:40		02.17.2020 17:45		02.17.2020 17:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2730	24.8	330	4.95	41.9	4.95	222	5.00	8530	99.8	101	5.02
TPH by SW8015 Mod	***Extracted:***	02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00	
	Analyzed:	02.17.2020 18:30		02.17.2020 18:51		02.17.2020 19:12		02.17.2020 19:34		02.17.2020 19:55		02.17.2020 20:16	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	1150	49.9	96.2	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	210	49.9	<50.0	50.0
Total TPH		<50.0	50.0	<50.0	50.0	<50.0	50.0	<50.0	50.0	1360	49.9	96.2	50.0

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John Builes
Project Manager

Certificate of Analysis Summary 652560

Larson and Associates, Inc., Midland, TX

Project Name: Chevron Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 02.17.2020 09:30
Report Date: 02.25.2020 10:58
Project Manager: Holly Taylor

Analysis Requested															
	Lab Id:	652560-019		652560-020		652560-021		652560-022		652560-023		652560-024			
	Field Id:	BH-9 2'		BH-9 5'		BH-9 7'		BH-5 0.5'		BH-5 2'		BH-5 5'			
	Depth:														
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL			
	Sampled:	02.12.2020 13:19		02.12.2020 13:25		02.12.2020 13:26		02.13.2020 10:21		02.13.2020 10:22		02.13.2020 10:23			
BTEX by EPA 8021B	***Extracted:***	02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15			
	Analyzed:	02.20.2020 23:20		02.20.2020 23:40		02.21.2020 00:01		02.21.2020 00:21		02.21.2020 00:42		02.21.2020 01:03			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199		
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199		
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199		
m,p-Xylenes		<0.00400	0.00400	<0.00401	0.00401	<0.00403	0.00403	<0.00403	0.00403	<0.00400	0.00400	<0.00398	0.00398		
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199		
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199		
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199		
Chloride by EPA 300	***Extracted:***	02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30			
	Analyzed:	02.17.2020 17:55		02.17.2020 18:11		02.17.2020 18:17		02.17.2020 18:32		02.17.2020 18:38		02.17.2020 18:43			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		55.3	5.05	93.2	4.99	11.2	4.97	557	5.02	1600	24.8	749	4.95		
TPH by SW8015 Mod	***Extracted:***	02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00			
	Analyzed:	02.17.2020 20:37		02.17.2020 20:58		02.17.2020 13:15		02.17.2020 14:18		02.17.2020 14:38		02.17.2020 14:59			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9		
Diesel Range Organics (DRO)		<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9		
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9		
Total TPH		<49.9	49.9	<49.9	49.9	<50.0	50.0	<50.0	50.0	<50.0	50.0	<49.9	49.9		

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John Builes
Project Manager

Certificate of Analysis Summary 652560

Larson and Associates, Inc., Midland, TX

Project Name: Chevron Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 02.17.2020 09:30
Report Date: 02.25.2020 10:58
Project Manager: Holly Taylor

Analysis Requested															
	Lab Id:	652560-025		652560-026		652560-027		652560-028		652560-029		652560-030	
	Field Id:	BH-4 0.5'		BH-4 2'		BH-4 5'		BH-12 0.5'		BH-12 2'		BH-12 5'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	02.13.2020 10:44		02.13.2020 10:45		02.13.2020 10:46		02.13.2020 11:57		02.13.2020 11:59		02.13.2020 12:14	
BTEX by EPA 8021B	***Extracted:***	02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15	
	Analyzed:	02.21.2020 01:23		02.21.2020 01:44		02.21.2020 02:05		02.20.2020 22:59		02.21.2020 03:46		02.21.2020 04:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
m,p-Xylenes		<0.00400	0.00400	<0.00401	0.00401	<0.00398	0.00398	<0.00399	0.00399	<0.00397	0.00397	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30		02.17.2020 13:30		02.17.2020 16:50		02.17.2020 16:50	
	Analyzed:	02.17.2020 18:48		02.17.2020 18:53		02.17.2020 18:59		02.17.2020 19:04		02.17.2020 19:48		02.17.2020 20:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		11.9	4.95	136	5.00	54.2	4.99	16.4	4.97	132	5.00	25.8	4.98
TPH by SW8015 Mod	***Extracted:***	02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00	
	Analyzed:	02.17.2020 15:20		02.17.2020 15:42		02.17.2020 16:03		02.17.2020 16:24		02.17.2020 16:45		02.17.2020 17:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.0	50.0
Total TPH		<50.0	50.0	<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.0	50.0

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John Builes
Project Manager

Certificate of Analysis Summary 652560

Larson and Associates, Inc., Midland, TX

Project Name: Chevron Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 02.17.2020 09:30
Report Date: 02.25.2020 10:58
Project Manager: Holly Taylor

Analysis Requested															
	Lab Id:	652560-031		652560-032		652560-033		652560-034		652560-035		652560-036			
	Field Id:	BH-11 0.5'		BH-11 2'		BH-11 5'		BH-10 0.5'		BH-10 2'		BH-10 5'			
	Depth:														
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL			
	Sampled:	02.13.2020 12:14		02.13.2020 12:15		02.14.2020 10:16		02.14.2020 10:15		02.14.2020 10:16		02.14.2020 10:17			
BTEX by EPA 8021B	***Extracted:***	02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15		02.20.2020 10:15			
	Analyzed:	02.21.2020 04:28		02.21.2020 04:48		02.21.2020 05:09		02.21.2020 05:29		02.21.2020 05:50		02.21.2020 06:11			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200		
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200		
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200		
m,p-Xylenes		<0.00399	0.00399	<0.00403	0.00403	<0.00398	0.00398	<0.00399	0.00399	<0.00399	0.00399	<0.00401	0.00401		
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200		
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200		
Total BTEX		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200		
Chloride by EPA 300	***Extracted:***	02.17.2020 16:50		02.17.2020 16:50		02.17.2020 16:50		02.17.2020 16:50		02.17.2020 16:50		02.18.2020 17:30			
	Analyzed:	02.17.2020 20:25		02.17.2020 20:34		02.17.2020 20:43		02.17.2020 21:11		02.17.2020 21:20		02.18.2020 21:05			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		29.5	5.04	135	5.00	130	5.03	7.59	5.01	27.1	4.96	57.5	4.99		
TPH by SW8015 Mod	***Extracted:***	02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00			
	Analyzed:	02.17.2020 17:48		02.17.2020 18:09		02.17.2020 18:30		02.17.2020 18:51		02.17.2020 19:12		02.17.2020 19:34			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0		
Diesel Range Organics (DRO)		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0		
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0		
Total TPH		<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0		

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

John Builes
Project Manager

Certificate of Analysis Summary 652560

Larson and Associates, Inc., Midland, TX

Project Name: Chevron Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Mon 02.17.2020 09:30
Report Date: 02.25.2020 10:58
Project Manager: Holly Taylor

Analysis Requested	*Lab Id:*	652560-037		652560-038		652560-039				
	Field Id:	BH-13 0.5'		BH-13 2'		BH-13 5'				
	Depth:									
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	02.14.2020 11:09		02.11.2020 11:10		02.11.2020 11:11				
BTEX by EPA 8021B	*Extracted:*	02.21.2020 17:00		02.21.2020 17:00		02.19.2020 09:00				
	Analyzed:	02.21.2020 17:45		02.21.2020 18:23		02.19.2020 20:41				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200			
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200			
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200			
m,p-Xylenes		<0.00400	0.00400	<0.00400	0.00400	<0.00401	0.00401			
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200			
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200			
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200			
Chloride by EPA 300	*Extracted:*	02.18.2020 15:15		02.18.2020 17:30		02.17.2020 16:50				
	Analyzed:	02.18.2020 17:13		02.18.2020 20:19		02.17.2020 21:57				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Chloride		11.5	5.05	110	4.98	106	4.98			
TPH by SW8015 Mod	*Extracted:*	02.17.2020 11:00		02.17.2020 11:00		02.17.2020 11:00				
	Analyzed:	02.17.2020 19:55		02.17.2020 20:16		02.17.2020 20:37				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9			
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9			
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9			
Total TPH		<50.0	50.0	<50.0	50.0	<49.9	49.9			

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

John Builes
Project Manager

Analytical Report 652560

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Chevron Deep State

20-0107-01

02.25.2020

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

02.25.2020

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

Reference: XENCO Report No(s): **652560**
Chevron Deep State
Project Address:

Mark Larson :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 652560. 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. 652560 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,

John Builes
Project Manager

A Small Business and Minority Company

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Sample Cross Reference 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-3 0.5'	S	02.11.2020 10:00		652560-001
BH-2 0.5'	S	02.11.2020 10:26		652560-002
BH-2 2'	S	02.11.2020 10:27		652560-003
BH-2 5'	S	02.11.2020 10:32		652560-004
BH-2 7'	S	02.11.2020 10:33		652560-005
BH-1 0.5'	S	02.11.2020 10:30		652560-006
BH-1 2'	S	02.11.2020 11:31		652560-007
BH-8 0.5'	S	02.12.2020 11:42		652560-008
BH-8 2'	S	02.12.2020 11:43		652560-009
BH-8 5'	S	02.12.2020 12:05		652560-010
BH-8 10'	S	02.12.2020 12:06		652560-011
BH-6 0.5'	S	02.12.2020 12:14		652560-012
BH-6 2'	S	02.12.2020 12:15		652560-013
BH-6 5'	S	02.12.2020 12:17		652560-014
BH-6 10'	S	02.12.2020 12:20		652560-015
BH-7 0.5'	S	02.12.2020 12:43		652560-016
BH-7 2'	S	02.12.2020 12:44		652560-017
BH-9 0.5'	S	02.12.2020 13:18		652560-018
BH-9 2'	S	02.12.2020 13:19		652560-019
BH-9 5'	S	02.12.2020 13:25		652560-020
BH-9 7'	S	02.12.2020 13:26		652560-021
BH-5 0.5'	S	02.13.2020 10:21		652560-022
BH-5 2'	S	02.13.2020 10:22		652560-023
BH-5 5'	S	02.13.2020 10:23		652560-024
BH-4 0.5'	S	02.13.2020 10:44		652560-025
BH-4 2'	S	02.13.2020 10:45		652560-026
BH-4 5'	S	02.13.2020 10:46		652560-027
BH-12 0.5'	S	02.13.2020 11:57		652560-028
BH-12 2'	S	02.13.2020 11:59		652560-029
BH-12 5'	S	02.13.2020 12:14		652560-030
BH-11 0.5'	S	02.13.2020 12:14		652560-031
BH-11 2'	S	02.13.2020 12:15		652560-032
BH-11 5'	S	02.14.2020 10:16		652560-033
BH-10 0.5'	S	02.14.2020 10:15		652560-034
BH-10 2'	S	02.14.2020 10:16		652560-035
BH-10 5'	S	02.14.2020 10:17		652560-036
BH-13 0.5'	S	02.14.2020 11:09		652560-037
BH-13 2'	S	02.11.2020 11:10		652560-038
BH-13 5'	S	02.11.2020 11:11		652560-039

CASE NARRATIVE

Client Name: Larson and Associates, Inc.

Project Name: Chevron Deep State

Project ID: *20-0107-01*
Work Order Number(s): *652560*

Report Date: *02.25.2020*
Date Received: *02.17.2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3117071 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3117325 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.
Samples in the analytical batch are: 652560-001, -002

Lab Sample ID 652560-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 652560-001, -002.
The Laboratory Control Sample for m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3117357 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 652560-006,652560-015,652560-013.

Batch: LBA-3117358 BTEX by EPA 8021B
Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Blank Spike Duplicate indicating bias low results. Samples in the analytical batch are: 652560-019, -020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036.

Ethylbenzene, m,p-Xylenes, o-Xylene RPD was outside laboratory control limits.
Samples in the analytical batch are: 652560-019, -020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

A misinjection resulted in a low BSD, however MS/MSD shows recovery for the batch.

CASE NARRATIVE

Client Name: Larson and Associates, Inc.
Project Name: Chevron Deep State

Project ID: *20-0107-01*
Work Order Number(s): *652560*

Report Date: *02.25.2020*
Date Received: *02.17.2020*

Batch: LBA-3117416 BTEX by EPA 8021B
Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.
Samples in the analytical batch are: 652560-037, -038

Lab Sample ID 652560-037 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 652560-037, -038.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-3 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-001 Date Collected: 02.11.2020 10:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:05 Basis: Wet Weight
Seq Number: 3116782

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3560**	24.9	mg/kg	02.17.2020 15:23		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 13:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	**418**	50.0	mg/kg	02.17.2020 13:15		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 13:15	U	1
Total TPH	PHC635	**418**	50.0	mg/kg	02.17.2020 13:15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	02.17.2020 13:15	
o-Terphenyl	84-15-1	89	%	70-135	02.17.2020 13:15	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-3 0.5'**
Lab Sample Id: 652560-001

Matrix: Soil
Date Collected: 02.11.2020 10:00

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117325

Date Prep: 02.19.2020 14:00

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.2020 00:48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.2020 00:48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.2020 00:48	UX	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.20.2020 00:48	UX	1
o-Xylene	95-47-6	**0.00730**	0.00200	mg/kg	02.20.2020 00:48	XF	1
Total Xylenes	1330-20-7	**0.00730**	0.00200	mg/kg	02.20.2020 00:48		1
Total BTEX		**0.00730**	0.00200	mg/kg	02.20.2020 00:48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	02.20.2020 00:48	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.20.2020 00:48	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-2 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-002 Date Collected: 02.11.2020 10:26

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:05 Basis: Wet Weight
Seq Number: 3116782

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2760**	24.8	mg/kg	02.17.2020 15:38		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 14:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 14:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 14:18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 14:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	02.17.2020 14:18	
o-Terphenyl	84-15-1	106	%	70-135	02.17.2020 14:18	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-2 0.5'**
Lab Sample Id: 652560-002

Matrix: Soil
Date Collected: 02.11.2020 10:26

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117325

Date Prep: 02.19.2020 14:00

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.2020 01:09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.2020 01:09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.2020 01:09	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.20.2020 01:09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.20.2020 01:09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.20.2020 01:09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.20.2020 01:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	02.20.2020 01:09	
1,4-Difluorobenzene	540-36-3	117	%	70-130	02.20.2020 01:09	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-2 2'**
Lab Sample Id: 652560-003

Matrix: Soil
Date Collected: 02.11.2020 10:27

Date Received:02.17.2020 09:30

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3116782

Date Prep: 02.17.2020 13:05

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3150**	24.9	mg/kg	02.17.2020 15:44		5

Analytical Method: TPH by SW8015 Mod
Tech: DVM
Analyst: ARM
Seq Number: 3116819

Date Prep: 02.17.2020 11:00

Prep Method: SW8015P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 14:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 14:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 14:38	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 14:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	02.17.2020 14:38	
o-Terphenyl	84-15-1	104	%	70-135	02.17.2020 14:38	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-2 2'**
Lab Sample Id: 652560-003

Matrix: Soil
Date Collected: 02.11.2020 10:27

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.20.2020 20:00	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.20.2020 20:00	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.20.2020 20:00	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.20.2020 20:00	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.20.2020 20:00	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.20.2020 20:00	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.20.2020 20:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	02.20.2020 20:00	
4-Bromofluorobenzene	460-00-4	87	%	70-130	02.20.2020 20:00	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-2 5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-004 Date Collected: 02.11.2020 10:32

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:05 Basis: Wet Weight
Seq Number: 3116782

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2730**	25.0	mg/kg	02.17.2020 15:49		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 14:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 14:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 14:59	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 14:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.17.2020 14:59	
o-Terphenyl	84-15-1	103	%	70-135	02.17.2020 14:59	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-2 5'**
Lab Sample Id: 652560-004

Matrix: Soil
Date Collected: 02.11.2020 10:32

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.20.2020 20:20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.20.2020 20:20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.20.2020 20:20	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.20.2020 20:20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.20.2020 20:20	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.20.2020 20:20	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.20.2020 20:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	81	%	70-130	02.20.2020 20:20	
1,4-Difluorobenzene	540-36-3	114	%	70-130	02.20.2020 20:20	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-2 7'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-005 Date Collected: 02.11.2020 10:33

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:05 Basis: Wet Weight
Seq Number: 3116782

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2640**	25.0	mg/kg	02.17.2020 15:54		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.17.2020 15:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.17.2020 15:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.17.2020 15:20	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.17.2020 15:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.17.2020 15:20	
o-Terphenyl	84-15-1	103	%	70-135	02.17.2020 15:20	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-2 7'**
Lab Sample Id: 652560-005

Matrix: Soil
Date Collected: 02.11.2020 10:33

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.20.2020 20:40	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.20.2020 20:40	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.20.2020 20:40	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.20.2020 20:40	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.20.2020 20:40	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.20.2020 20:40	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.20.2020 20:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	78	%	70-130	02.20.2020 20:40	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.20.2020 20:40	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-1 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-006 Date Collected: 02.11.2020 10:30

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:05 Basis: Wet Weight
Seq Number: 3116782

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1030**	5.00	mg/kg	02.17.2020 15:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.17.2020 15:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	**55.4**	49.8	mg/kg	02.17.2020 15:42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.17.2020 15:42	U	1
Total TPH	PHC635	**55.4**	49.8	mg/kg	02.17.2020 15:42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	02.17.2020 15:42	
o-Terphenyl	84-15-1	100	%	70-135	02.17.2020 15:42	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-1 0.5'**
Lab Sample Id: 652560-006

Matrix: Soil
Date Collected: 02.11.2020 10:30

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00245**	0.00202	mg/kg	02.20.2020 21:00		1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.20.2020 21:00	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.20.2020 21:00	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.20.2020 21:00	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.20.2020 21:00	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.20.2020 21:00	U	1
Total BTEX		**0.00245**	0.00202	mg/kg	02.20.2020 21:00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	70-130	02.20.2020 21:00	
4-Bromofluorobenzene	460-00-4	69	%	70-130	02.20.2020 21:00	**

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-1 2'**
Lab Sample Id: 652560-007

Matrix: Soil
Date Collected: 02.11.2020 11:31

Date Received:02.17.2020 09:30

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3116782

Date Prep: 02.17.2020 13:05

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**421**	5.04	mg/kg	02.17.2020 16:05		1

Analytical Method: TPH by SW8015 Mod
Tech: DVM
Analyst: ARM
Seq Number: 3116819

Date Prep: 02.17.2020 11:00

Prep Method: SW8015P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 16:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 16:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 16:03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 16:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	02.17.2020 16:03	
o-Terphenyl	84-15-1	101	%	70-135	02.17.2020 16:03	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-1 2'**
Lab Sample Id: 652560-007

Matrix: Soil
Date Collected: 02.11.2020 11:31

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.2020 21:21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.2020 21:21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.2020 21:21	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.20.2020 21:21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.20.2020 21:21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.20.2020 21:21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.20.2020 21:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	70-130	02.20.2020 21:21	
4-Bromofluorobenzene	460-00-4	83	%	70-130	02.20.2020 21:21	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-8 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-008 Date Collected: 02.12.2020 11:42

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:05 Basis: Wet Weight
Seq Number: 3116782

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**521**	4.97	mg/kg	02.17.2020 16:10		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.17.2020 16:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	**94.4**	49.9	mg/kg	02.17.2020 16:24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.17.2020 16:24	U	1
Total TPH	PHC635	**94.4**	49.9	mg/kg	02.17.2020 16:24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.17.2020 16:24	
o-Terphenyl	84-15-1	104	%	70-135	02.17.2020 16:24	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-8 0.5'**
Lab Sample Id: 652560-008

Matrix: Soil
Date Collected: 02.12.2020 11:42

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.20.2020 21:41	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.20.2020 21:41	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.20.2020 21:41	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.20.2020 21:41	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.20.2020 21:41	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.20.2020 21:41	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.20.2020 21:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	77	%	70-130	02.20.2020 21:41	
1,4-Difluorobenzene	540-36-3	114	%	70-130	02.20.2020 21:41	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-8 2'**
Lab Sample Id: 652560-009

Matrix: Soil
Date Collected: 02.12.2020 11:43

Date Received:02.17.2020 09:30

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3116783

Date Prep: 02.17.2020 13:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**316**	5.04	mg/kg	02.17.2020 16:42		1

Analytical Method: TPH by SW8015 Mod
Tech: DVM
Analyst: ARM
Seq Number: 3116819

Date Prep: 02.17.2020 11:00

Prep Method: SW8015P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.17.2020 16:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.17.2020 16:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.17.2020 16:45	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.17.2020 16:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.17.2020 16:45	
o-Terphenyl	84-15-1	100	%	70-135	02.17.2020 16:45	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-8 2'**
Lab Sample Id: 652560-009

Matrix: Soil
Date Collected: 02.12.2020 11:43

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.20.2020 22:01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.20.2020 22:01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.20.2020 22:01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.20.2020 22:01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.20.2020 22:01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.20.2020 22:01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.20.2020 22:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.20.2020 22:01	
4-Bromofluorobenzene	460-00-4	74	%	70-130	02.20.2020 22:01	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-8 5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-010 Date Collected: 02.12.2020 12:05

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**760**	24.8	mg/kg	02.17.2020 16:57		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 17:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	**73.5**	50.0	mg/kg	02.17.2020 17:06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 17:06	U	1
Total TPH	PHC635	**73.5**	50.0	mg/kg	02.17.2020 17:06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	02.17.2020 17:06	
o-Terphenyl	84-15-1	98	%	70-135	02.17.2020 17:06	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-8 5'**
Lab Sample Id: 652560-010

Matrix: Soil
Date Collected: 02.12.2020 12:05

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.2020 22:21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.2020 22:21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.2020 22:21	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.20.2020 22:21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.20.2020 22:21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.20.2020 22:21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.20.2020 22:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	77	%	70-130	02.20.2020 22:21	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.20.2020 22:21	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-8 10'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-011 Date Collected: 02.12.2020 12:06

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3090**	25.0	mg/kg	02.17.2020 17:03		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 17:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 17:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 17:48	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 17:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	02.17.2020 17:48	
o-Terphenyl	84-15-1	101	%	70-135	02.17.2020 17:48	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-8 10'**
Lab Sample Id: 652560-011

Matrix: Soil
Date Collected: 02.12.2020 12:06

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.20.2020 22:41	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.20.2020 22:41	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.20.2020 22:41	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.20.2020 22:41	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.20.2020 22:41	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.20.2020 22:41	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.20.2020 22:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	80	%	70-130	02.20.2020 22:41	
1,4-Difluorobenzene	540-36-3	114	%	70-130	02.20.2020 22:41	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-6 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-012 Date Collected: 02.12.2020 12:14

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8460**	50.2	mg/kg	02.17.2020 17:08		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.17.2020 18:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.17.2020 18:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.17.2020 18:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.17.2020 18:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	02.17.2020 18:09	
o-Terphenyl	84-15-1	100	%	70-135	02.17.2020 18:09	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-6 0.5'**
Lab Sample Id: 652560-012

Matrix: Soil
Date Collected: 02.12.2020 12:14

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.20.2020 23:01	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.20.2020 23:01	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.20.2020 23:01	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.20.2020 23:01	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.20.2020 23:01	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.20.2020 23:01	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.20.2020 23:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.20.2020 23:01	
4-Bromofluorobenzene	460-00-4	85	%	70-130	02.20.2020 23:01	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-6 2'**
Lab Sample Id: 652560-013

Matrix: Soil
Date Collected: 02.12.2020 12:15

Date Received:02.17.2020 09:30

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3116783

Date Prep: 02.17.2020 13:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2730**	24.8	mg/kg	02.17.2020 17:13		5

Analytical Method: TPH by SW8015 Mod
Tech: DVM
Analyst: ARM
Seq Number: 3116819

Date Prep: 02.17.2020 11:00

Prep Method: SW8015P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 18:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 18:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 18:30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 18:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	02.17.2020 18:30	
o-Terphenyl	84-15-1	97	%	70-135	02.17.2020 18:30	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-6 2'**
Lab Sample Id: 652560-013

Matrix: Soil
Date Collected: 02.12.2020 12:15

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.21.2020 00:20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.21.2020 00:20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.21.2020 00:20	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.21.2020 00:20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.21.2020 00:20	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.21.2020 00:20	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.21.2020 00:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	68	%	70-130	02.21.2020 00:20	**
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.21.2020 00:20	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-6 5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-014 Date Collected: 02.12.2020 12:17

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**330**	4.95	mg/kg	02.17.2020 17:29		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 18:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 18:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 18:51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 18:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	02.17.2020 18:51	
o-Terphenyl	84-15-1	97	%	70-135	02.17.2020 18:51	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-6 5'**
Lab Sample Id: 652560-014

Matrix: Soil
Date Collected: 02.12.2020 12:17

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 13:01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 13:01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 13:01	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.21.2020 13:01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 13:01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 13:01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 13:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	80	%	70-130	02.21.2020 13:01	
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.21.2020 13:01	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-6 10'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-015 Date Collected: 02.12.2020 12:20

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**41.9**	4.95	mg/kg	02.17.2020 17:34		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 19:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 19:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 19:12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 19:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	02.17.2020 19:12	
o-Terphenyl	84-15-1	100	%	70-135	02.17.2020 19:12	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-6 10'**
Lab Sample Id: 652560-015

Matrix: Soil
Date Collected: 02.12.2020 12:20

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.21.2020 11:31	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.21.2020 11:31	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.21.2020 11:31	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.21.2020 11:31	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.21.2020 11:31	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.21.2020 11:31	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.21.2020 11:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	69	%	70-130	02.21.2020 11:31	**
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.21.2020 11:31	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-7 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-016 Date Collected: 02.12.2020 12:43

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**222**	5.00	mg/kg	02.17.2020 17:40		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 19:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 19:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 19:34	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 19:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	02.17.2020 19:34	
o-Terphenyl	84-15-1	100	%	70-135	02.17.2020 19:34	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-7 0.5'**
Lab Sample Id: 652560-016

Matrix: Soil
Date Collected: 02.12.2020 12:43

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.21.2020 11:51	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.21.2020 11:51	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.21.2020 11:51	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.21.2020 11:51	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.21.2020 11:51	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.21.2020 11:51	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.21.2020 11:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.21.2020 11:51	
4-Bromofluorobenzene	460-00-4	75	%	70-130	02.21.2020 11:51	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-7 2'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-017 Date Collected: 02.12.2020 12:44

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8530**	99.8	mg/kg	02.17.2020 17:45		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.17.2020 19:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1150**	49.9	mg/kg	02.17.2020 19:55		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**210**	49.9	mg/kg	02.17.2020 19:55		1
Total TPH	PHC635	**1360**	49.9	mg/kg	02.17.2020 19:55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	02.17.2020 19:55	
o-Terphenyl	84-15-1	99	%	70-135	02.17.2020 19:55	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-7 2'**
Lab Sample Id: 652560-017

Matrix: Soil
Date Collected: 02.12.2020 12:44

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.21.2020 12:11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.21.2020 12:11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.21.2020 12:11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.21.2020 12:11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.21.2020 12:11	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.21.2020 12:11	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.21.2020 12:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.21.2020 12:11	
4-Bromofluorobenzene	460-00-4	86	%	70-130	02.21.2020 12:11	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-9 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-018 Date Collected: 02.12.2020 13:18

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**101**	5.02	mg/kg	02.17.2020 17:50		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 20:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	**96.2**	50.0	mg/kg	02.17.2020 20:16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 20:16	U	1
Total TPH	PHC635	**96.2**	50.0	mg/kg	02.17.2020 20:16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	02.17.2020 20:16	
o-Terphenyl	84-15-1	97	%	70-135	02.17.2020 20:16	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-9 0.5'**
Lab Sample Id: 652560-018

Matrix: Soil
Date Collected: 02.12.2020 13:18

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117357

Date Prep: 02.19.2020 14:30

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.21.2020 12:31	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.21.2020 12:31	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.21.2020 12:31	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.21.2020 12:31	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.21.2020 12:31	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.21.2020 12:31	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.21.2020 12:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	70-130	02.21.2020 12:31	
1,4-Difluorobenzene	540-36-3	117	%	70-130	02.21.2020 12:31	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-9 2'**
Lab Sample Id: 652560-019

Matrix: Soil
Date Collected: 02.12.2020 13:19

Date Received:02.17.2020 09:30

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3116783

Date Prep: 02.17.2020 13:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.3**	5.05	mg/kg	02.17.2020 17:55		1

Analytical Method: TPH by SW8015 Mod
Tech: DVM
Analyst: ARM
Seq Number: 3116819

Date Prep: 02.17.2020 11:00

Prep Method: SW8015P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.17.2020 20:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.17.2020 20:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.17.2020 20:37	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.17.2020 20:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	02.17.2020 20:37	
o-Terphenyl	84-15-1	97	%	70-135	02.17.2020 20:37	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-9 2'**
Lab Sample Id: 652560-019

Matrix: Soil
Date Collected: 02.12.2020 13:19

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.2020 23:20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.2020 23:20	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.2020 23:20	ULF	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.20.2020 23:20	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.20.2020 23:20	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.20.2020 23:20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.20.2020 23:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.20.2020 23:20	
1,4-Difluorobenzene	540-36-3	99	%	70-130	02.20.2020 23:20	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-9 5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-020 Date Collected: 02.12.2020 13:25

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**93.2**	4.99	mg/kg	02.17.2020 18:11		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116819

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.17.2020 20:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.17.2020 20:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.17.2020 20:58	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.17.2020 20:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	02.17.2020 20:58	
o-Terphenyl	84-15-1	101	%	70-135	02.17.2020 20:58	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-9 5'**
Lab Sample Id: 652560-020

Matrix: Soil
Date Collected: 02.12.2020 13:25

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.2020 23:40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.2020 23:40	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.2020 23:40	ULF	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.20.2020 23:40	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.20.2020 23:40	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.20.2020 23:40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.20.2020 23:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.20.2020 23:40	
4-Bromofluorobenzene	460-00-4	94	%	70-130	02.20.2020 23:40	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-9 7'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-021 Date Collected: 02.12.2020 13:26

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.2**	4.97	mg/kg	02.17.2020 18:17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 13:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 13:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 13:15	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 13:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.17.2020 13:15	
o-Terphenyl	84-15-1	97	%	70-135	02.17.2020 13:15	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-9 7'**
Lab Sample Id: 652560-021

Matrix: Soil
Date Collected: 02.12.2020 13:26

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.21.2020 00:01	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.21.2020 00:01	UL	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.21.2020 00:01	ULF	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.21.2020 00:01	ULF	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.21.2020 00:01	ULF	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.21.2020 00:01	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.21.2020 00:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.21.2020 00:01	
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.21.2020 00:01	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-5 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-022 Date Collected: 02.13.2020 10:21

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**557**	5.02	mg/kg	02.17.2020 18:32		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 14:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 14:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 14:18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 14:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.17.2020 14:18	
o-Terphenyl	84-15-1	99	%	70-135	02.17.2020 14:18	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-5 0.5'**
Lab Sample Id: 652560-022

Matrix: Soil
Date Collected: 02.13.2020 10:21

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.21.2020 00:21	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.21.2020 00:21	UL	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.21.2020 00:21	ULF	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.21.2020 00:21	ULF	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.21.2020 00:21	ULF	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.21.2020 00:21	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.21.2020 00:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.21.2020 00:21	
4-Bromofluorobenzene	460-00-4	94	%	70-130	02.21.2020 00:21	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-5 2'**
Lab Sample Id: 652560-023
Matrix: Soil
Date Collected: 02.13.2020 10:22
Date Received: 02.17.2020 09:30

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3116783
Date Prep: 02.17.2020 13:30
Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1600**	24.8	mg/kg	02.17.2020 18:38		5

Analytical Method: TPH by SW8015 Mod
Tech: DVM
Analyst: ARM
Seq Number: 3116821
Date Prep: 02.17.2020 11:00
Prep Method: SW8015P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 14:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 14:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 14:38	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 14:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.17.2020 14:38	
o-Terphenyl	84-15-1	98	%	70-135	02.17.2020 14:38	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-5 2'**
Lab Sample Id: 652560-023

Matrix: Soil
Date Collected: 02.13.2020 10:22

Date Received: 02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 00:42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 00:42	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 00:42	ULF	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.21.2020 00:42	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 00:42	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 00:42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 00:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.21.2020 00:42	
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.21.2020 00:42	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-5 5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-024 Date Collected: 02.13.2020 10:23

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**749**	4.95	mg/kg	02.17.2020 18:43		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.17.2020 14:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.17.2020 14:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.17.2020 14:59	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.17.2020 14:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.17.2020 14:59	
o-Terphenyl	84-15-1	99	%	70-135	02.17.2020 14:59	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-5 5'**
Lab Sample Id: 652560-024

Matrix: Soil
Date Collected: 02.13.2020 10:23

Date Received: 02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.21.2020 01:03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.21.2020 01:03	UL	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.21.2020 01:03	ULF	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.21.2020 01:03	ULF	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.21.2020 01:03	ULF	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.21.2020 01:03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.21.2020 01:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.21.2020 01:03	
1,4-Difluorobenzene	540-36-3	98	%	70-130	02.21.2020 01:03	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-4 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-025 Date Collected: 02.13.2020 10:44

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.9**	4.95	mg/kg	02.17.2020 18:48		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 15:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 15:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 15:20	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 15:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	02.17.2020 15:20	
o-Terphenyl	84-15-1	94	%	70-135	02.17.2020 15:20	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-4 0.5'**
Lab Sample Id: 652560-025

Matrix: Soil
Date Collected: 02.13.2020 10:44

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 01:23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 01:23	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 01:23	ULF	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.21.2020 01:23	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 01:23	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 01:23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 01:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.21.2020 01:23	
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.21.2020 01:23	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-4 2'**
Lab Sample Id: 652560-026
Matrix: Soil
Date Collected: 02.13.2020 10:45
Date Received: 02.17.2020 09:30

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3116783
Date Prep: 02.17.2020 13:30
Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**136**	5.00	mg/kg	02.17.2020 18:53		1

Analytical Method: TPH by SW8015 Mod
Tech: DVM
Analyst: ARM
Seq Number: 3116821
Date Prep: 02.17.2020 11:00
Prep Method: SW8015P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.17.2020 15:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.17.2020 15:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.17.2020 15:42	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.17.2020 15:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.17.2020 15:42	
o-Terphenyl	84-15-1	96	%	70-135	02.17.2020 15:42	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-4 2'**
Lab Sample Id: 652560-026

Matrix: Soil
Date Collected: 02.13.2020 10:45

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 01:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 01:44	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 01:44	ULF	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.21.2020 01:44	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 01:44	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 01:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 01:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	02.21.2020 01:44	
1,4-Difluorobenzene	540-36-3	98	%	70-130	02.21.2020 01:44	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-4 5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-027 Date Collected: 02.13.2020 10:46

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**54.2**	4.99	mg/kg	02.17.2020 18:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 16:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 16:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 16:03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 16:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.17.2020 16:03	
o-Terphenyl	84-15-1	97	%	70-135	02.17.2020 16:03	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-4 5'**
Lab Sample Id: 652560-027

Matrix: Soil
Date Collected: 02.13.2020 10:46

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.21.2020 02:05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.21.2020 02:05	UL	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.21.2020 02:05	ULF	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.21.2020 02:05	ULF	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.21.2020 02:05	ULF	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.21.2020 02:05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.21.2020 02:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.21.2020 02:05	
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.21.2020 02:05	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-12 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-028 Date Collected: 02.13.2020 11:57

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 13:30 Basis: Wet Weight
Seq Number: 3116783

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.4**	4.97	mg/kg	02.17.2020 19:04		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 16:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 16:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 16:24	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 16:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.17.2020 16:24	
o-Terphenyl	84-15-1	100	%	70-135	02.17.2020 16:24	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-12 0.5'**
Lab Sample Id: 652560-028

Matrix: Soil
Date Collected: 02.13.2020 11:57

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.20.2020 22:59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.20.2020 22:59	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.20.2020 22:59	ULF	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.20.2020 22:59	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.20.2020 22:59	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.20.2020 22:59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.20.2020 22:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.20.2020 22:59	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.20.2020 22:59	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-12 2'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-029 Date Collected: 02.13.2020 11:59

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 16:50 Basis: Wet Weight
Seq Number: 3116779

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**132**	5.00	mg/kg	02.17.2020 19:48		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.17.2020 16:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.17.2020 16:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.17.2020 16:45	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.17.2020 16:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.17.2020 16:45	
o-Terphenyl	84-15-1	97	%	70-135	02.17.2020 16:45	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-12 2'**
Lab Sample Id: 652560-029

Matrix: Soil
Date Collected: 02.13.2020 11:59

Date Received: 02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.21.2020 03:46	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.21.2020 03:46	UL	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.21.2020 03:46	ULF	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.21.2020 03:46	ULF	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.21.2020 03:46	ULF	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.21.2020 03:46	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.21.2020 03:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.21.2020 03:46	
1,4-Difluorobenzene	540-36-3	94	%	70-130	02.21.2020 03:46	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-12 5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-030 Date Collected: 02.13.2020 12:14

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 16:50 Basis: Wet Weight
Seq Number: 3116779

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**25.8**	4.98	mg/kg	02.17.2020 20:15		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 17:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 17:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 17:06	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 17:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	02.17.2020 17:06	
o-Terphenyl	84-15-1	93	%	70-135	02.17.2020 17:06	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-12 5'**
Lab Sample Id: 652560-030

Matrix: Soil
Date Collected: 02.13.2020 12:14

Date Received: 02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 04:07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 04:07	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 04:07	ULF	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.21.2020 04:07	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 04:07	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 04:07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 04:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	02.21.2020 04:07	
1,4-Difluorobenzene	540-36-3	94	%	70-130	02.21.2020 04:07	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-11 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-031 Date Collected: 02.13.2020 12:14

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 16:50 Basis: Wet Weight
Seq Number: 3116779

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.5**	5.04	mg/kg	02.17.2020 20:25		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.17.2020 17:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.17.2020 17:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.17.2020 17:48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.17.2020 17:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.17.2020 17:48	
o-Terphenyl	84-15-1	98	%	70-135	02.17.2020 17:48	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-11 0.5'**
Lab Sample Id: 652560-031

Matrix: Soil
Date Collected: 02.13.2020 12:14

Date Received: 02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 04:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 04:28	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 04:28	ULF	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.21.2020 04:28	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 04:28	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 04:28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 04:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	02.21.2020 04:28	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.21.2020 04:28	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-11 2'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-032 Date Collected: 02.13.2020 12:15

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 16:50 Basis: Wet Weight
Seq Number: 3116779

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**135**	5.00	mg/kg	02.17.2020 20:34		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.17.2020 18:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.17.2020 18:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.17.2020 18:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.17.2020 18:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.17.2020 18:09	
o-Terphenyl	84-15-1	99	%	70-135	02.17.2020 18:09	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-11 2'**
Lab Sample Id: 652560-032

Matrix: Soil
Date Collected: 02.13.2020 12:15

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.21.2020 04:48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.21.2020 04:48	UL	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.21.2020 04:48	ULF	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.21.2020 04:48	ULF	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.21.2020 04:48	ULF	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.21.2020 04:48	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.21.2020 04:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	02.21.2020 04:48	
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.21.2020 04:48	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-11 5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-033 Date Collected: 02.14.2020 10:16

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 16:50 Basis: Wet Weight
Seq Number: 3116779

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**130**	5.03	mg/kg	02.17.2020 20:43		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 18:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 18:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 18:30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 18:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.17.2020 18:30	
o-Terphenyl	84-15-1	97	%	70-135	02.17.2020 18:30	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-11 5'**
Lab Sample Id: 652560-033

Matrix: Soil
Date Collected: 02.14.2020 10:16

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.21.2020 05:09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.21.2020 05:09	UL	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.21.2020 05:09	ULF	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.21.2020 05:09	ULF	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.21.2020 05:09	ULF	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.21.2020 05:09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.21.2020 05:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.21.2020 05:09	
1,4-Difluorobenzene	540-36-3	94	%	70-130	02.21.2020 05:09	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-10 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-034 Date Collected: 02.14.2020 10:15

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 16:50 Basis: Wet Weight
Seq Number: 3116779

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.59**	5.01	mg/kg	02.17.2020 21:11		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 18:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 18:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 18:51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 18:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.17.2020 18:51	
o-Terphenyl	84-15-1	99	%	70-135	02.17.2020 18:51	

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Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-10 0.5'**
Lab Sample Id: 652560-034

Matrix: Soil
Date Collected: 02.14.2020 10:15

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 05:29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 05:29	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 05:29	ULF	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.21.2020 05:29	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 05:29	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 05:29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 05:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.21.2020 05:29	
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.21.2020 05:29	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-10 2'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-035 Date Collected: 02.14.2020 10:16

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 16:50 Basis: Wet Weight
Seq Number: 3116779

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**27.1**	4.96	mg/kg	02.17.2020 21:20		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.17.2020 19:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.17.2020 19:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.17.2020 19:12	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.17.2020 19:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.17.2020 19:12	
o-Terphenyl	84-15-1	95	%	70-135	02.17.2020 19:12	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-10 2'**
Lab Sample Id: 652560-035

Matrix: Soil
Date Collected: 02.14.2020 10:16

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 05:50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 05:50	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 05:50	ULF	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.21.2020 05:50	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 05:50	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 05:50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 05:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.21.2020 05:50	
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.21.2020 05:50	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-10 5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-036 Date Collected: 02.14.2020 10:17

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 02.18.2020 17:30 Basis: Wet Weight
Seq Number: 3116902

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**57.5**	4.99	mg/kg	02.18.2020 21:05		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 19:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 19:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 19:34	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 19:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.17.2020 19:34	
o-Terphenyl	84-15-1	96	%	70-135	02.17.2020 19:34	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-10 5'**
Lab Sample Id: 652560-036

Matrix: Soil
Date Collected: 02.14.2020 10:17

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117358

Date Prep: 02.20.2020 10:15

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 06:11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 06:11	UL	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 06:11	ULF	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.21.2020 06:11	ULF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 06:11	ULF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 06:11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 06:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	02.21.2020 06:11	
1,4-Difluorobenzene	540-36-3	95	%	70-130	02.21.2020 06:11	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-13 0.5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-037 Date Collected: 02.14.2020 11:09

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.18.2020 15:15 Basis: Wet Weight
Seq Number: 3116901

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.5**	5.05	mg/kg	02.18.2020 17:13		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 19:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 19:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 19:55	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 19:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.17.2020 19:55	
o-Terphenyl	84-15-1	97	%	70-135	02.17.2020 19:55	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-13 0.5'**
Lab Sample Id: 652560-037

Matrix: Soil
Date Collected: 02.14.2020 11:09

Date Received: 02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: ALJ
Analyst: ALJ
Seq Number: 3117416

Date Prep: 02.21.2020 17:00

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 17:45	UXF	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 17:45	UXF	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 17:45	UXF	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.21.2020 17:45	UXF	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 17:45	UXF	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 17:45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 17:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	02.21.2020 17:45	
1,4-Difluorobenzene	540-36-3	88	%	70-130	02.21.2020 17:45	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-13 2'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-038 Date Collected: 02.11.2020 11:10

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 02.18.2020 17:30 Basis: Wet Weight
Seq Number: 3116902

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**110**	4.98	mg/kg	02.18.2020 20:19		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.17.2020 20:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.17.2020 20:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.17.2020 20:16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.17.2020 20:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.17.2020 20:16	
o-Terphenyl	84-15-1	97	%	70-135	02.17.2020 20:16	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-13 2'**
Lab Sample Id: 652560-038

Matrix: Soil
Date Collected: 02.11.2020 11:10

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: ALJ
Analyst: ALJ
Seq Number: 3117416

Date Prep: 02.21.2020 17:00

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.21.2020 18:23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.21.2020 18:23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.21.2020 18:23	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.21.2020 18:23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.21.2020 18:23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.21.2020 18:23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.21.2020 18:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	91	%	70-130	02.21.2020 18:23	
4-Bromofluorobenzene	460-00-4	119	%	70-130	02.21.2020 18:23	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-13 5'** Matrix: Soil Date Received:02.17.2020 09:30
Lab Sample Id: 652560-039 Date Collected: 02.11.2020 11:11

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 02.17.2020 16:50 Basis: Wet Weight
Seq Number: 3116779

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**106**	4.98	mg/kg	02.17.2020 21:57		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 02.17.2020 11:00 Basis: Wet Weight
Seq Number: 3116821

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.17.2020 20:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.17.2020 20:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.17.2020 20:37	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.17.2020 20:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.17.2020 20:37	
o-Terphenyl	84-15-1	90	%	70-135	02.17.2020 20:37	

Certificate of Analytical Results 652560

Larson and Associates, Inc., Midland, TX

Chevron Deep State

Sample Id: **BH-13 5'**
Lab Sample Id: 652560-039

Matrix: Soil
Date Collected: 02.11.2020 11:11

Date Received:02.17.2020 09:30

Analytical Method: BTEX by EPA 8021B
Tech: KTL
Analyst: KTL
Seq Number: 3117071

Date Prep: 02.19.2020 09:00

Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.19.2020 20:41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.19.2020 20:41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.19.2020 20:41	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.19.2020 20:41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.19.2020 20:41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.19.2020 20:41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.19.2020 20:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.19.2020 20:41	
4-Bromofluorobenzene	460-00-4	92	%	70-130	02.19.2020 20:41	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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

QC Summary 652560

Larson and Associates, Inc.

Chevron Deep State

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116782 Matrix: Solid Date Prep: 02.17.2020
MB Sample Id: 7696798-1-BLK LCS Sample Id: 7696798-1-BKS LCSD Sample Id: 7696798-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	256	102	245	98	90-110	4	20	mg/kg	02.17.2020 13:37	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116783 Matrix: Solid Date Prep: 02.17.2020
MB Sample Id: 7696799-1-BLK LCS Sample Id: 7696799-1-BKS LCSD Sample Id: 7696799-1-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	251	100	251	100	90-110	0	20	mg/kg	02.17.2020 16:31	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116779 Matrix: Solid Date Prep: 02.17.2020
MB Sample Id: 7696834-1-BLK LCS Sample Id: 7696834-1-BKS LCSD Sample Id: 7696834-1-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	267	107	264	106	90-110	1	20	mg/kg	02.17.2020 19:29	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116901 Matrix: Solid Date Prep: 02.18.2020
MB Sample Id: 7696905-1-BLK LCS Sample Id: 7696905-1-BKS LCSD Sample Id: 7696905-1-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	251	100	249	100	90-110	1	20	mg/kg	02.18.2020 17:02	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116902 Matrix: Solid Date Prep: 02.18.2020
MB Sample Id: 7696921-1-BLK LCS Sample Id: 7696921-1-BKS LCSD Sample Id: 7696921-1-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	248	99	249	100	90-110	0	20	mg/kg	02.18.2020 20:00	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116782 Matrix: Soil Date Prep: 02.17.2020
Parent Sample Id: 650826-051 MS Sample Id: 650826-051 S MSD Sample Id: 650826-051 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	721	250	934	85	932	84	90-110	0	20	mg/kg	02.17.2020 15:07	X

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

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 652560

Larson and Associates, Inc.

Chevron Deep State

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116782 Matrix: Soil Date Prep: 02.17.2020
Parent Sample Id: 652504-008 MS Sample Id: 652504-008 S MSD Sample Id: 652504-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	115	249	363	100	363	100	90-110	0	20	mg/kg	02.17.2020 13:53	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116783 Matrix: Soil Date Prep: 02.17.2020
Parent Sample Id: 652560-009 MS Sample Id: 652560-009 S MSD Sample Id: 652560-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	316	252	559	96	560	97	90-110	0	20	mg/kg	02.17.2020 16:47	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116783 Matrix: Soil Date Prep: 02.17.2020
Parent Sample Id: 652560-019 MS Sample Id: 652560-019 S MSD Sample Id: 652560-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	55.3	253	306	99	308	100	90-110	1	20	mg/kg	02.17.2020 18:01	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116779 Matrix: Soil Date Prep: 02.17.2020
Parent Sample Id: 652560-029 MS Sample Id: 652560-029 S MSD Sample Id: 652560-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	132	250	394	105	393	104	90-110	0	20	mg/kg	02.17.2020 19:57	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116779 Matrix: Soil Date Prep: 02.17.2020
Parent Sample Id: 652560-039 MS Sample Id: 652560-039 S MSD Sample Id: 652560-039 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	106	249	373	107	370	106	90-110	1	20	mg/kg	02.17.2020 22:07	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116901 Matrix: Soil Date Prep: 02.18.2020
Parent Sample Id: 652560-037 MS Sample Id: 652560-037 S MSD Sample Id: 652560-037 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.5	253	262	99	260	98	90-110	1	20	mg/kg	02.18.2020 17:18	

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

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

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Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116901 Matrix: Soil Date Prep: 02.18.2020
Parent Sample Id: 652766-006 MS Sample Id: 652766-006 S MSD Sample Id: 652766-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	18.5	252	276	102	276	102	90-110	0	20	mg/kg	02.18.2020 18:32	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116902 Matrix: Soil Date Prep: 02.18.2020
Parent Sample Id: 652560-038 MS Sample Id: 652560-038 S MSD Sample Id: 652560-038 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	110	249	380	108	379	108	90-110	0	20	mg/kg	02.18.2020 20:28	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116902 Matrix: Soil Date Prep: 02.18.2020
Parent Sample Id: 652805-003 MS Sample Id: 652805-003 S MSD Sample Id: 652805-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	274	252	508	93	509	93	90-110	0	20	mg/kg	02.18.2020 22:37	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3116819 Matrix: Solid Date Prep: 02.17.2020
MB Sample Id: 7696822-1-BLK LCS Sample Id: 7696822-1-BKS LCSD Sample Id: 7696822-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	844	84	813	81	70-135	4	20	mg/kg	02.17.2020 12:33	
Diesel Range Organics (DRO)	<15.0	1000	925	93	908	91	70-135	2	20	mg/kg	02.17.2020 12:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		102		95		70-135	%	02.17.2020 12:33
o-Terphenyl	105		104		109		70-135	%	02.17.2020 12:33

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3116821 Matrix: Solid Date Prep: 02.17.2020
MB Sample Id: 7696823-1-BLK LCS Sample Id: 7696823-1-BKS LCSD Sample Id: 7696823-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	917	92	930	93	70-135	1	20	mg/kg	02.17.2020 12:33	
Diesel Range Organics (DRO)	<15.0	1000	1040	104	1030	103	70-135	1	20	mg/kg	02.17.2020 12:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		109		110		70-135	%	02.17.2020 12:33
o-Terphenyl	106		107		107		70-135	%	02.17.2020 12:33

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

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Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3116819 Matrix: Solid Date Prep: 02.17.2020
MB Sample Id: 7696822-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.17.2020 12:12	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3116821 Matrix: Solid Date Prep: 02.17.2020
MB Sample Id: 7696823-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.17.2020 12:12	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3116819 Matrix: Soil Date Prep: 02.17.2020
Parent Sample Id: 652560-001 MS Sample Id: 652560-001 S MSD Sample Id: 652560-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	31.9	997	799	77	798	77	70-135	0	20	mg/kg	02.17.2020 13:36	
Diesel Range Organics (DRO)	418	997	1510	110	1540	113	70-135	2	20	mg/kg	02.17.2020 13:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		95		70-135	%	02.17.2020 13:36
o-Terphenyl	104		105		70-135	%	02.17.2020 13:36

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3116821 Matrix: Soil Date Prep: 02.17.2020
Parent Sample Id: 652560-021 MS Sample Id: 652560-021 S MSD Sample Id: 652560-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	890	89	972	97	70-135	9	20	mg/kg	02.17.2020 13:36	
Diesel Range Organics (DRO)	<15.0	997	1010	101	1110	111	70-135	9	20	mg/kg	02.17.2020 13:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		113		70-135	%	02.17.2020 13:36
o-Terphenyl	104		114		70-135	%	02.17.2020 13:36

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

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

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Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117071 Matrix: Solid Date Prep: 02.19.2020
MB Sample Id: 7697062-1-BLK LCS Sample Id: 7697062-1-BKS LCSD Sample Id: 7697062-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.106	106	0.102	102	70-130	4	35	mg/kg	02.19.2020 18:09	
Toluene	<0.00200	0.100	0.0951	95	0.0973	97	70-130	2	35	mg/kg	02.19.2020 18:09	
Ethylbenzene	<0.00200	0.100	0.0922	92	0.100	100	70-130	8	35	mg/kg	02.19.2020 18:09	
m,p-Xylenes	<0.00400	0.200	0.171	86	0.193	97	70-130	12	35	mg/kg	02.19.2020 18:09	
o-Xylene	<0.00200	0.100	0.0843	84	0.0961	96	70-130	13	35	mg/kg	02.19.2020 18:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		99		95		70-130	%	02.19.2020 18:09
4-Bromofluorobenzene	96		87		100		70-130	%	02.19.2020 18:09

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117325 Matrix: Solid Date Prep: 02.19.2020
MB Sample Id: 7697064-1-BLK LCS Sample Id: 7697064-1-BKS LCSD Sample Id: 7697064-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0963	96	0.117	117	70-130	19	35	mg/kg	02.19.2020 22:29	
Toluene	0.000540	0.100	0.0935	94	0.116	116	70-130	21	35	mg/kg	02.19.2020 22:29	
Ethylbenzene	<0.000565	0.100	0.0860	86	0.113	113	70-130	27	35	mg/kg	02.19.2020 22:29	
m,p-Xylenes	<0.00101	0.200	0.170	85	0.224	112	70-130	27	35	mg/kg	02.19.2020 22:29	
o-Xylene	<0.000344	0.100	0.0870	87	0.111	111	70-130	24	35	mg/kg	02.19.2020 22:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		114		114		70-130	%	02.19.2020 22:29
4-Bromofluorobenzene	70		90		89		70-130	%	02.19.2020 22:29

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117357 Matrix: Solid Date Prep: 02.19.2020
MB Sample Id: 7697068-1-BLK LCS Sample Id: 7697068-1-BKS LCSD Sample Id: 7697068-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.110	110	0.112	112	70-130	2	35	mg/kg	02.20.2020 17:41	
Toluene	<0.000456	0.100	0.102	102	0.102	102	70-130	0	35	mg/kg	02.20.2020 17:41	
Ethylbenzene	<0.000565	0.100	0.0940	94	0.0947	95	70-130	1	35	mg/kg	02.20.2020 17:41	
m,p-Xylenes	<0.00101	0.200	0.184	92	0.185	93	70-130	1	35	mg/kg	02.20.2020 17:41	
o-Xylene	<0.000344	0.100	0.0992	99	0.0962	96	70-130	3	35	mg/kg	02.20.2020 17:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		108		70-130	%	02.20.2020 17:41
4-Bromofluorobenzene	71		91		90		70-130	%	02.20.2020 17:41

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

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Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117358 Matrix: Solid Date Prep: 02.20.2020
MB Sample Id: 7697074-1-BLK LCS Sample Id: 7697074-1-BKS LCSD Sample Id: 7697074-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.106	106	0.0820	82	70-130	26	35	mg/kg	02.20.2020 18:43	
Toluene	<0.00200	0.100	0.0975	98	0.0686	69	70-130	35	35	mg/kg	02.20.2020 18:43	L
Ethylbenzene	<0.00200	0.100	0.0959	96	0.0579	58	70-130	49	35	mg/kg	02.20.2020 18:43	LF
m,p-Xylenes	<0.00400	0.200	0.179	90	0.108	54	70-130	49	35	mg/kg	02.20.2020 18:43	LF
o-Xylene	<0.00200	0.100	0.0894	89	0.0563	56	70-130	45	35	mg/kg	02.20.2020 18:43	LF

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		93		94		70-130	%	02.20.2020 18:43
4-Bromofluorobenzene	103		91		94		70-130	%	02.20.2020 18:43

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117416 Matrix: Solid Date Prep: 02.21.2020
MB Sample Id: 7697288-1-BLK LCS Sample Id: 7697288-1-BKS LCSD Sample Id: 7697288-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0949	95	0.0930	93	70-130	2	35	mg/kg	02.21.2020 14:58	
Toluene	<0.00200	0.100	0.100	100	0.0938	94	70-130	6	35	mg/kg	02.21.2020 14:58	
Ethylbenzene	<0.00200	0.100	0.109	109	0.100	100	70-130	9	35	mg/kg	02.21.2020 14:58	
m,p-Xylenes	<0.00400	0.200	0.218	109	0.199	100	70-130	9	35	mg/kg	02.21.2020 14:58	
o-Xylene	<0.00200	0.100	0.108	108	0.100	100	70-130	8	35	mg/kg	02.21.2020 14:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		86		90		70-130	%	02.21.2020 14:58
4-Bromofluorobenzene	94		109		108		70-130	%	02.21.2020 14:58

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117325 Matrix: Soil Date Prep: 02.19.2020
Parent Sample Id: 652560-001 MS Sample Id: 652560-001 S MSD Sample Id: 652560-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000388	0.101	0.0886	88	0.0930	93	70-130	5	35	mg/kg	02.19.2020 23:09	
Toluene	0.000621	0.101	0.0841	83	0.0950	95	70-130	12	35	mg/kg	02.19.2020 23:09	
Ethylbenzene	<0.000569	0.101	0.0633	63	0.0737	74	70-130	15	35	mg/kg	02.19.2020 23:09	X
m,p-Xylenes	0.00131	0.202	0.120	59	0.141	70	70-130	16	35	mg/kg	02.19.2020 23:09	X
o-Xylene	0.00730	0.101	0.0575	50	0.0856	78	70-130	39	35	mg/kg	02.19.2020 23:09	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		102		70-130	%	02.19.2020 23:09
4-Bromofluorobenzene	114		113		70-130	%	02.19.2020 23:09

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

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Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117357 Matrix: Soil Date Prep: 02.19.2020
Parent Sample Id: 652560-003 MS Sample Id: 652560-003 S MSD Sample Id: 652560-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000392	0.0994	0.0997	100	0.0984	98	70-130	1	35	mg/kg	02.20.2020 18:21	
Toluene	<0.000453	0.0994	0.0867	87	0.0916	92	70-130	5	35	mg/kg	02.20.2020 18:21	
Ethylbenzene	<0.000561	0.0994	0.0784	79	0.0851	85	70-130	8	35	mg/kg	02.20.2020 18:21	
m,p-Xylenes	<0.00101	0.199	0.152	76	0.165	83	70-130	8	35	mg/kg	02.20.2020 18:21	
o-Xylene	<0.000342	0.0994	0.0783	79	0.0846	85	70-130	8	35	mg/kg	02.20.2020 18:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		111		70-130	%	02.20.2020 18:21
4-Bromofluorobenzene	88		86		70-130	%	02.20.2020 18:21

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117358 Matrix: Soil Date Prep: 02.20.2020
Parent Sample Id: 652560-019 MS Sample Id: 652560-019 S MSD Sample Id: 652560-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0891	89	0.0871	87	70-130	2	35	mg/kg	02.20.2020 21:07	
Toluene	<0.00200	0.100	0.0783	78	0.0769	77	70-130	2	35	mg/kg	02.20.2020 21:07	
Ethylbenzene	<0.00200	0.100	0.0758	76	0.0750	75	70-130	1	35	mg/kg	02.20.2020 21:07	
m,p-Xylenes	<0.00401	0.200	0.141	71	0.140	70	70-130	1	35	mg/kg	02.20.2020 21:07	
o-Xylene	<0.00200	0.100	0.0706	71	0.0706	71	70-130	0	35	mg/kg	02.20.2020 21:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		96		70-130	%	02.20.2020 21:07
4-Bromofluorobenzene	88		91		70-130	%	02.20.2020 21:07

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3117416 Matrix: Soil Date Prep: 02.21.2020
Parent Sample Id: 652560-037 MS Sample Id: 652560-037 S MSD Sample Id: 652560-037 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0850	85	0.0510	51	70-130	50	35	mg/kg	02.21.2020 15:39	XF
Toluene	<0.00200	0.100	0.0793	79	0.0490	49	70-130	47	35	mg/kg	02.21.2020 15:39	XF
Ethylbenzene	<0.00200	0.100	0.0804	80	0.0493	49	70-130	48	35	mg/kg	02.21.2020 15:39	XF
m,p-Xylenes	<0.00400	0.200	0.155	78	0.0914	46	70-130	52	35	mg/kg	02.21.2020 15:39	XF
o-Xylene	<0.00200	0.100	0.0786	79	0.0471	47	70-130	50	35	mg/kg	02.21.2020 15:39	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		94		70-130	%	02.21.2020 15:39
4-Bromofluorobenzene	100		90		70-130	%	02.21.2020 15:39

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

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Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3117071 Matrix: Soil Date Prep: 02.19.2020

Parent Sample Id: 652560-039 MS Sample Id: 652560-039 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.105	106	70-130	mg/kg	02.19.2020 18:50	
Toluene	<0.00199	0.0994	0.0919	92	70-130	mg/kg	02.19.2020 18:50	
Ethylbenzene	<0.00199	0.0994	0.0871	88	70-130	mg/kg	02.19.2020 18:50	
m,p-Xylenes	<0.00398	0.199	0.160	80	70-130	mg/kg	02.19.2020 18:50	
o-Xylene	<0.00199	0.0994	0.0800	80	70-130	mg/kg	02.19.2020 18:50	

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		70-130	%	02.19.2020 18:50
4-Bromofluorobenzene	83		70-130	%	02.19.2020 18:50

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

№ 0993

652560

CHAIN-OF-CUSTODY

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

DATE: 2/17/2020 PAGE 1 OF 3

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: CHEVRON DEEP STATE

LAI PROJECT #: 20-0107-01 COLLECTOR: DS/EC

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	BTEX ☒ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☒	DIESEL - MOD 8015 ☒	OIL - MOD 8015 ☒	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TBLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
BH-3 0.5'		2/11/20	1000	S	1				X		X		X	X	X														X		
BH-2 0.5'			1026																												
BH-2 2'			1027																												
BH-2 5'			1032																												
BH-2 7'			1033																												
BH-1 0.5'			1130																												
BH-1 2'			1131																												
BH-8 0.5'		2/12/20	1142																												
BH-8 2'			1143																												
BH-8 5'			1205																												
BH-8 10'			1206																												
BH-6 0.5'			1214																												
BH-6 2'			1215																												
BH-6 5'			1217																												
BH-6 10'			1220																												
TOTAL					15																										

RELINQUISHED BY:(Signature) DATE/TIME 2/17/2020 930 RECEIVED BY: (Signature)

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

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

LABORATORY: XENCO

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.6 THERM#: DE
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

№ 0994

605250

CHAIN-OF-CUSTODY

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

DATE: 2/17/20 PAGE 2 OF 3

PO#: LAB WORK ORDER#:

PROJECT LOCATION OR NAME: CHEVRON DEEP STATE

LAI PROJECT #: 20-0007-01 COLLECTOR: DS/EC

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX ☒ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☒	DIESEL - MOD 8015 ☒	OIL - MOD 8015 ☒	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TBLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
BH-7 (0.5')		2/12/20	~~2/17/20~~ 1243	S	1				X		X		X	X	X													X		
BH-7 (2')			1244																											
BH-9 (0.5')			1314																											
BH-9 (2')			1319																											
BH-9 (5')			1325																											
BH-9 (7')			1326																											
BH-5 (0.5')		2/13/20	1021																											
BH-5 (2')			1022																											
BH-5 (5')			1023																											
BH-4 (0.5')			1044																											
BH-4 (2')			1045																											
BH-4 (5')			1046																											
BH-12 (0.5')			1157																											
BH-12 (2')			1159																											
BH-12 (5')			1214																											
TOTAL					15																									

RELINQUISHED BY:(Signature) DATE/TIME 2/17/20 0930 RECEIVED BY: (Signature)

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

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

LABORATORY: XENCO

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.6 THERM#: DS
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

6527560

№ 0995

CHAIN-OF-CUSTODY

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

DATE: 2/17/20 PAGE 3 OF 3
PO#: LAB WORK ORDER#:
PROJECT LOCATION OR NAME: CHEVRON DEEP STATE
LAI PROJECT #: 20-0107-01 COLLECTOR: BS/FC

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☒	DIESEL - MOD 8015 ☒	OIL - MOD 8015 ☒	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TBLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
BH-11 (0.5')		2/13/20	1214	S	1				X		X		X	X	X													X	
BH-11 (2')			1215																										
BH-11 (5')			1216																										
BH-10 (0.5')		2/14/20	1015																										
BH-10 (2')			1016																										
BH-10 (5')			1017																										
BH-13 (0.5')			1109																										
BH-13 (2')			1110																										
BH-13 (5')			1111																										
TOTAL					9																								

RELINQUISHED BY:(Signature) DATE/TIME 2/17/20 0930 RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

LABORATORY: XENCO

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.6 THERM#: PB
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 02/17/2020 09:30:00 AM

Work Order #: 652560

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 02/17/2020
Brianna Teel

Checklist reviewed by: Holly Taylor Date: 02/22/2020
Holly Taylor

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Certificate of Analysis Summary 668114

Larson and Associates, Inc., Midland, TX

Project Name: Lovington Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Fri 07.24.2020 08:13
Report Date: 07.29.2020 13:39
Project Manager: Holly Taylor

Analysis Requested	*Lab Id:*	668114-001		668114-002		668114-003		668114-004		668114-005		668114-006	
	Field Id:	BH-3 5'		BH-3 10'		BH-3 15'		BH-3 20'		BH-2 5'		BH-2 10'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	07.23.2020 10:10		07.23.2020 10:21		07.23.2020 10:25		07.23.2020 10:30		07.23.2020 10:45		07.23.2020 10:50	
BTEX by EPA 8021B	*Extracted:*	07.27.2020 09:00		07.27.2020 09:00						07.27.2020 09:00			
	Analyzed:	07.27.2020 17:52		07.27.2020 18:13						07.27.2020 18:33			
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL		
Benzene		<0.00199	0.00199	<0.00198	0.00198					<0.00198	0.00198		
Toluene		<0.00199	0.00199	<0.00198	0.00198					<0.00198	0.00198		
Ethylbenzene		<0.00199	0.00199	<0.00198	0.00198					<0.00198	0.00198		
m,p-Xylenes		<0.00398	0.00398	<0.00396	0.00396					<0.00397	0.00397		
o-Xylene		<0.00199	0.00199	<0.00198	0.00198					<0.00198	0.00198		
Total Xylenes		<0.00199	0.00199	<0.00198	0.00198					<0.00198	0.00198		
Total BTEX		<0.00199	0.00199	<0.00198	0.00198					<0.00198	0.00198		
Chloride by EPA 300	*Extracted:*	07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30	
	Analyzed:	07.24.2020 15:49		07.24.2020 15:54		07.24.2020 15:59		07.24.2020 16:15		07.24.2020 16:20		07.24.2020 16:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2500	49.7	503	5.00	200	5.04	50.6	5.04	777	4.99	3120	25.2
TPH by SW8015 Mod	*Extracted:*	07.24.2020 12:00		07.24.2020 12:00						07.24.2020 12:00			
	Analyzed:	07.24.2020 14:59		07.24.2020 15:24						07.24.2020 15:45			
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9					<50.0	50.0		
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9					<50.0	50.0		
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9					<50.0	50.0		
Total TPH		<50.0	50.0	<49.9	49.9					<50.0	50.0		

BRL - Below Reporting Limit

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

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Certificate of Analysis Summary 668114

Larson and Associates, Inc., Midland, TX

Project Name: Lovington Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Fri 07.24.2020 08:13
Report Date: 07.29.2020 13:39
Project Manager: Holly Taylor

Analysis Requested	*Lab Id:*	668114-007		668114-008		668114-009		668114-010		668114-011		668114-012	
	Field Id:	BH-2 15'		BH-2 20'		BH-5 5'		BH-5 10'		BH-5 15'		BH-5 20'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	07.23.2020 10:55		07.23.2020 11:00		07.23.2020 11:58		07.23.2020 12:00		07.23.2020 12:05		07.23.2020 12:10	
BTEX by EPA 8021B	*Extracted:*					07.27.2020 09:00							
	Analyzed:					07.27.2020 18:54							
	Units/RL:					mg/kg	RL						
Benzene						<0.00200	0.00200						
Toluene						<0.00200	0.00200						
Ethylbenzene						<0.00200	0.00200						
m,p-Xylenes						<0.00401	0.00401						
o-Xylene						<0.00200	0.00200						
Total Xylenes						<0.00200	0.00200						
Total BTEX						<0.00200	0.00200						
Chloride by EPA 300	*Extracted:*	07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30	
	Analyzed:	07.24.2020 16:30		07.24.2020 16:36		07.24.2020 16:41		07.24.2020 16:57		07.24.2020 17:02		07.24.2020 17:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		379	25.3	1060	4.99	189	5.00	1180	4.96	68.3	4.96	68.1	4.98
TPH by SW8015 Mod	*Extracted:*					07.24.2020 12:00							
	Analyzed:					07.24.2020 16:07							
	Units/RL:					mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)						<49.8	49.8						
Diesel Range Organics (DRO)						<49.8	49.8						
Motor Oil Range Hydrocarbons (MRO)						<49.8	49.8						
Total TPH						<49.8	49.8						

BRL - Below Reporting Limit

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

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Certificate of Analysis Summary 668114

Larson and Associates, Inc., Midland, TX

Project Name: Lovington Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Fri 07.24.2020 08:13
Report Date: 07.29.2020 13:39
Project Manager: Holly Taylor

Analysis Requested	*Lab Id:*	668114-013		668114-014		668114-015		668114-016		668114-017		668114-018	
	Field Id:	BH-7 5'		BH-7 10'		BH-7 15'		BH-7 20'		BH-8 5'		BH-8 10'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	07.23.2020 13:00		07.23.2020 13:05		07.23.2020 13:08		07.23.2020 13:10		07.23.2020 13:35		07.23.2020 13:40	
BTEX by EPA 8021B	*Extracted:*	07.27.2020 09:00		07.27.2020 09:00						07.27.2020 09:00			
	Analyzed:	07.27.2020 19:14		07.27.2020 19:35						07.27.2020 19:55			
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL		
Benzene		<0.00200	0.00200	<0.00199	0.00199					<0.00198	0.00198		
Toluene		<0.00200	0.00200	<0.00199	0.00199					<0.00198	0.00198		
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199					<0.00198	0.00198		
m,p-Xylenes		<0.00399	0.00399	<0.00398	0.00398					<0.00397	0.00397		
o-Xylene		<0.00200	0.00200	<0.00199	0.00199					<0.00198	0.00198		
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199					<0.00198	0.00198		
Total BTEX		<0.00200	0.00200	<0.00199	0.00199					<0.00198	0.00198		
Chloride by EPA 300	*Extracted:*	07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30		07.24.2020 14:30	
	Analyzed:	07.24.2020 17:23		07.24.2020 17:28		07.24.2020 17:33		07.24.2020 17:38		07.24.2020 17:44		07.24.2020 17:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		32.1	5.03	13.8	4.95	13.4	4.96	15.6	4.98	1250	24.9	754	4.99
TPH by SW8015 Mod	*Extracted:*	07.24.2020 12:00		07.24.2020 12:00						07.24.2020 12:00			
	Analyzed:	07.24.2020 16:51		07.24.2020 17:34						07.24.2020 17:56			
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.8	49.8					<50.0	50.0		
Diesel Range Organics (DRO)		<49.9	49.9	<49.8	49.8					<50.0	50.0		
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.8	49.8					<50.0	50.0		
Total TPH		<49.9	49.9	<49.8	49.8					<50.0	50.0		

BRL - Below Reporting Limit

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

eurofins | Environment Testing Xenco

Certificate of Analysis Summary 668114

Larson and Associates, Inc., Midland, TX

Project Name: Lovington Deep State

Project Id: 20-0107-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Fri 07.24.2020 08:13
Report Date: 07.29.2020 13:39
Project Manager: Holly Taylor

Analysis Requested	*Lab Id:*	668114-019		668114-020		668114-021				
	Field Id:	BH-8 15'		BH-8 20'		BH-8 25'				
	Depth:									
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	07.23.2020 13:42		07.23.2020 13:43		07.23.2020 14:15				
Chloride by EPA 300	*Extracted:*	07.24.2020 14:50		07.24.2020 14:50		07.24.2020 14:50				
	Analyzed:	07.24.2020 18:20		07.24.2020 18:36		07.24.2020 18:41				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Chloride		2240 X	25.3	2690	24.8	97.7	4.99			

BRL - Below Reporting Limit

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

eurofins | Environment Testing Xenco

Analytical Report 668114

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Lovington Deep State

20-0107-01

07.29.2020

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

eurofins | Environment Testing Xenco

07.29.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **668114**
Lovington Deep State
Project Address:

Mark Larson :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 668114. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 668114 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

John Builes
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-3 5'	S	07.23.2020 10:10		668114-001
BH-3 10'	S	07.23.2020 10:21		668114-002
BH-3 15'	S	07.23.2020 10:25		668114-003
BH-3 20'	S	07.23.2020 10:30		668114-004
BH-2 5'	S	07.23.2020 10:45		668114-005
BH-2 10'	S	07.23.2020 10:50		668114-006
BH-2 15'	S	07.23.2020 10:55		668114-007
BH-2 20'	S	07.23.2020 11:00		668114-008
BH-5 5'	S	07.23.2020 11:58		668114-009
BH-5 10'	S	07.23.2020 12:00		668114-010
BH-5 15'	S	07.23.2020 12:05		668114-011
BH-5 20'	S	07.23.2020 12:10		668114-012
BH-7 5'	S	07.23.2020 13:00		668114-013
BH-7 10'	S	07.23.2020 13:05		668114-014
BH-7 15'	S	07.23.2020 13:08		668114-015
BH-7 20'	S	07.23.2020 13:10		668114-016
BH-8 5'	S	07.23.2020 13:35		668114-017
BH-8 10'	S	07.23.2020 13:40		668114-018
BH-8 15'	S	07.23.2020 13:42		668114-019
BH-8 20'	S	07.23.2020 13:43		668114-020
BH-8 25'	S	07.23.2020 14:15		668114-021

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CASE NARRATIVE

Client Name: Larson and Associates, Inc.
Project Name: Lovington Deep State

Project ID: *20-0107-01*
Work Order Number(s): *668114*

Report Date: *07.29.2020*
Date Received: *07.24.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:
Batch: LBA-3132618 Chloride by EPA 300
Lab Sample ID 668137-008 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 668114-019, -020, -021.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-3 5'** Matrix: Soil Date Received:07.24.2020 08:13
Lab Sample Id: 668114-001 Date Collected: 07.23.2020 10:10

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 07.24.2020 14:30 Basis: Wet Weight
Seq Number: 3132617

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2500**	49.7	mg/kg	07.24.2020 15:49		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 07.24.2020 12:00 Basis: Wet Weight
Seq Number: 3132651

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.24.2020 14:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.24.2020 14:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.24.2020 14:59	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.24.2020 14:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	07.24.2020 14:59	
o-Terphenyl	84-15-1	102	%	70-130	07.24.2020 14:59	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-3 5'**
Lab Sample Id: 668114-001

Matrix: Soil
Date Collected: 07.23.2020 10:10

Date Received:07.24.2020 08:13

Analytical Method: BTEX by EPA 8021B
Tech: AMF
Analyst: AMF
Seq Number: 3132772

Date Prep: 07.27.2020 09:00

Prep Method: SW5035A
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.27.2020 17:52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.27.2020 17:52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.27.2020 17:52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.27.2020 17:52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.27.2020 17:52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.27.2020 17:52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.27.2020 17:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.27.2020 17:52	
4-Bromofluorobenzene	460-00-4	101	%	70-130	07.27.2020 17:52	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-3 10'** Matrix: Soil Date Received:07.24.2020 08:13
Lab Sample Id: 668114-002 Date Collected: 07.23.2020 10:21

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 07.24.2020 14:30 Basis: Wet Weight
Seq Number: 3132617

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**503**	5.00	mg/kg	07.24.2020 15:54		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 07.24.2020 12:00 Basis: Wet Weight
Seq Number: 3132651

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.24.2020 15:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.24.2020 15:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.24.2020 15:24	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.24.2020 15:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	07.24.2020 15:24	
o-Terphenyl	84-15-1	98	%	70-130	07.24.2020 15:24	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-3 10'**
Lab Sample Id: 668114-002

Matrix: Soil
Date Collected: 07.23.2020 10:21

Date Received:07.24.2020 08:13

Analytical Method: BTEX by EPA 8021B
Tech: AMF
Analyst: AMF
Seq Number: 3132772

Date Prep: 07.27.2020 09:00

Prep Method: SW5035A
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.27.2020 18:13	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.27.2020 18:13	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.27.2020 18:13	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	07.27.2020 18:13	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.27.2020 18:13	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.27.2020 18:13	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.27.2020 18:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.27.2020 18:13	
4-Bromofluorobenzene	460-00-4	102	%	70-130	07.27.2020 18:13	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-3 15'**
Lab Sample Id: 668114-003

Matrix: Soil
Date Collected: 07.23.2020 10:25

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**200**	5.04	mg/kg	07.24.2020 15:59		1

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-3 20'**
Lab Sample Id: 668114-004

Matrix: Soil
Date Collected: 07.23.2020 10:30

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**50.6**	5.04	mg/kg	07.24.2020 16:15		1

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-2 5'**
Lab Sample Id: 668114-005

Matrix: Soil
Date Collected: 07.23.2020 10:45

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**777**	4.99	mg/kg	07.24.2020 16:20		1

Analytical Method: TPH by SW8015 Mod
Tech: DVM
Analyst: ARM
Seq Number: 3132651

Date Prep: 07.24.2020 12:00

Prep Method: SW8015P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.24.2020 15:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.24.2020 15:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.24.2020 15:45	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.24.2020 15:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	07.24.2020 15:45	
o-Terphenyl	84-15-1	104	%	70-130	07.24.2020 15:45	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-2 5'**
Lab Sample Id: 668114-005

Matrix: Soil
Date Collected: 07.23.2020 10:45

Date Received:07.24.2020 08:13

Analytical Method: BTEX by EPA 8021B
Tech: AMF
Analyst: AMF
Seq Number: 3132772

Date Prep: 07.27.2020 09:00

Prep Method: SW5035A
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.27.2020 18:33	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.27.2020 18:33	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.27.2020 18:33	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.27.2020 18:33	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.27.2020 18:33	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.27.2020 18:33	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.27.2020 18:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.27.2020 18:33	
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.27.2020 18:33	

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Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-2 10'**
Lab Sample Id: 668114-006

Matrix: Soil
Date Collected: 07.23.2020 10:50

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3120**	25.2	mg/kg	07.24.2020 16:25		5

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Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-2 15'**
Lab Sample Id: 668114-007

Matrix: Soil
Date Collected: 07.23.2020 10:55

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**379**	25.3	mg/kg	07.24.2020 16:30		5

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-2 20'**
Lab Sample Id: 668114-008

Matrix: Soil
Date Collected: 07.23.2020 11:00

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1060**	4.99	mg/kg	07.24.2020 16:36		1

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-5 5'** Matrix: Soil Date Received:07.24.2020 08:13
Lab Sample Id: 668114-009 Date Collected: 07.23.2020 11:58

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 07.24.2020 14:30 Basis: Wet Weight
Seq Number: 3132617

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**189**	5.00	mg/kg	07.24.2020 16:41		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 07.24.2020 12:00 Basis: Wet Weight
Seq Number: 3132651

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.24.2020 16:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.24.2020 16:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.24.2020 16:07	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.24.2020 16:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	07.24.2020 16:07	
o-Terphenyl	84-15-1	99	%	70-130	07.24.2020 16:07	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-5 5'**
Lab Sample Id: 668114-009

Matrix: Soil
Date Collected: 07.23.2020 11:58

Date Received:07.24.2020 08:13

Analytical Method: BTEX by EPA 8021B
Tech: AMF
Analyst: AMF
Seq Number: 3132772

Date Prep: 07.27.2020 09:00

Prep Method: SW5035A
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.27.2020 18:54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.27.2020 18:54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.27.2020 18:54	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.27.2020 18:54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.27.2020 18:54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.27.2020 18:54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.27.2020 18:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.27.2020 18:54	
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.27.2020 18:54	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-5 10'**
Lab Sample Id: 668114-010

Matrix: Soil
Date Collected: 07.23.2020 12:00

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1180**	4.96	mg/kg	07.24.2020 16:57		1

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-5 15'**
Lab Sample Id: 668114-011

Matrix: Soil
Date Collected: 07.23.2020 12:05

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**68.3**	4.96	mg/kg	07.24.2020 17:02		1

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-5 20'**
Lab Sample Id: 668114-012

Matrix: Soil
Date Collected: 07.23.2020 12:10

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**68.1**	4.98	mg/kg	07.24.2020 17:17		1

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-7 5'** Matrix: Soil Date Received:07.24.2020 08:13
Lab Sample Id: 668114-013 Date Collected: 07.23.2020 13:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 07.24.2020 14:30 Basis: Wet Weight
Seq Number: 3132617

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**32.1**	5.03	mg/kg	07.24.2020 17:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 07.24.2020 12:00 Basis: Wet Weight
Seq Number: 3132651

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.24.2020 16:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.24.2020 16:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.24.2020 16:51	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.24.2020 16:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	07.24.2020 16:51	
o-Terphenyl	84-15-1	101	%	70-130	07.24.2020 16:51	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-7 5'**
Lab Sample Id: 668114-013

Matrix: Soil
Date Collected: 07.23.2020 13:00

Date Received:07.24.2020 08:13

Analytical Method: BTEX by EPA 8021B
Tech: AMF
Analyst: AMF
Seq Number: 3132772

Date Prep: 07.27.2020 09:00

Prep Method: SW5035A
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.27.2020 19:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.27.2020 19:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.27.2020 19:14	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.27.2020 19:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.27.2020 19:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.27.2020 19:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.27.2020 19:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.27.2020 19:14	
4-Bromofluorobenzene	460-00-4	101	%	70-130	07.27.2020 19:14	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-7 10'** Matrix: Soil Date Received:07.24.2020 08:13
Lab Sample Id: 668114-014 Date Collected: 07.23.2020 13:05

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 07.24.2020 14:30 Basis: Wet Weight
Seq Number: 3132617

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.8**	4.95	mg/kg	07.24.2020 17:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 07.24.2020 12:00 Basis: Wet Weight
Seq Number: 3132651

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.24.2020 17:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.24.2020 17:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.24.2020 17:34	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.24.2020 17:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	07.24.2020 17:34	
o-Terphenyl	84-15-1	100	%	70-130	07.24.2020 17:34	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-7 10'**
Lab Sample Id: 668114-014

Matrix: Soil
Date Collected: 07.23.2020 13:05

Date Received:07.24.2020 08:13

Analytical Method: BTEX by EPA 8021B
Tech: AMF
Analyst: AMF
Seq Number: 3132772

Date Prep: 07.27.2020 09:00

Prep Method: SW5035A
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.27.2020 19:35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.27.2020 19:35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.27.2020 19:35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.27.2020 19:35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.27.2020 19:35	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.27.2020 19:35	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.27.2020 19:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.27.2020 19:35	
4-Bromofluorobenzene	460-00-4	100	%	70-130	07.27.2020 19:35	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-7 15'**
Lab Sample Id: 668114-015

Matrix: Soil
Date Collected: 07.23.2020 13:08

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.4**	4.96	mg/kg	07.24.2020 17:33		1

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-7 20'**
Lab Sample Id: 668114-016

Matrix: Soil
Date Collected: 07.23.2020 13:10

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.6**	4.98	mg/kg	07.24.2020 17:38		1

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-8 5'** Matrix: Soil Date Received:07.24.2020 08:13
Lab Sample Id: 668114-017 Date Collected: 07.23.2020 13:35

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 07.24.2020 14:30 Basis: Wet Weight
Seq Number: 3132617

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1250**	24.9	mg/kg	07.24.2020 17:44		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DVM % Moisture:
Analyst: ARM Date Prep: 07.24.2020 12:00 Basis: Wet Weight
Seq Number: 3132651

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.24.2020 17:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.24.2020 17:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.24.2020 17:56	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.24.2020 17:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-130	07.24.2020 17:56	
o-Terphenyl	84-15-1	108	%	70-130	07.24.2020 17:56	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-8 5'**
Lab Sample Id: 668114-017

Matrix: Soil
Date Collected: 07.23.2020 13:35

Date Received:07.24.2020 08:13

Analytical Method: BTEX by EPA 8021B
Tech: AMF
Analyst: AMF
Seq Number: 3132772

Date Prep: 07.27.2020 09:00

Prep Method: SW5035A
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.27.2020 19:55	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.27.2020 19:55	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.27.2020 19:55	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.27.2020 19:55	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.27.2020 19:55	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.27.2020 19:55	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.27.2020 19:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.27.2020 19:55	
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.27.2020 19:55	

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-8 10'**
Lab Sample Id: 668114-018

Matrix: Soil
Date Collected: 07.23.2020 13:40

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132617

Date Prep: 07.24.2020 14:30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**754**	4.99	mg/kg	07.24.2020 17:49		1

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-8 15'**
Lab Sample Id: 668114-019

Matrix: Soil
Date Collected: 07.23.2020 13:42

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132618

Date Prep: 07.24.2020 14:50

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2240**	25.3	mg/kg	07.24.2020 18:20	X	5

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-8 20'**
Lab Sample Id: 668114-020

Matrix: Soil
Date Collected: 07.23.2020 13:43

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132618

Date Prep: 07.24.2020 14:50

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2690**	24.8	mg/kg	07.24.2020 18:36		5

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Certificate of Analytical Results 668114

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-8 25'**
Lab Sample Id: 668114-021

Matrix: Soil
Date Collected: 07.23.2020 14:15

Date Received:07.24.2020 08:13

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3132618

Date Prep: 07.24.2020 14:50

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**97.7**	4.99	mg/kg	07.24.2020 18:41		1

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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

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QC Summary 668114

Larson and Associates, Inc.

Lovington Deep State

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132617 Matrix: Solid Date Prep: 07.24.2020
MB Sample Id: 7708035-1-BLK LCS Sample Id: 7708035-1-BKS LCSD Sample Id: 7708035-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	266	106	275	110	90-110	3	20	mg/kg	07.24.2020 15:17	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132618 Matrix: Solid Date Prep: 07.24.2020
MB Sample Id: 7708036-1-BLK LCS Sample Id: 7708036-1-BKS LCSD Sample Id: 7708036-1-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	272	109	261	104	90-110	4	20	mg/kg	07.24.2020 18:10	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132617 Matrix: Soil Date Prep: 07.24.2020
Parent Sample Id: 668113-001 MS Sample Id: 668113-001 S MSD Sample Id: 668113-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	25.0	251	294	107	295	108	90-110	0	20	mg/kg	07.24.2020 15:33	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132617 Matrix: Soil Date Prep: 07.24.2020
Parent Sample Id: 668114-009 MS Sample Id: 668114-009 S MSD Sample Id: 668114-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	189	250	439	100	433	98	90-110	1	20	mg/kg	07.24.2020 16:46	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132618 Matrix: Soil Date Prep: 07.24.2020
Parent Sample Id: 668114-019 MS Sample Id: 668114-019 S MSD Sample Id: 668114-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2240	1260	3700	116	3760	121	90-110	2	20	mg/kg	07.24.2020 18:26	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3132618 Matrix: Soil Date Prep: 07.24.2020
Parent Sample Id: 668137-008 MS Sample Id: 668137-008 S MSD Sample Id: 668137-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	155	250	410	102	422	107	90-110	3	20	mg/kg	07.24.2020 19:39	

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

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QC Summary 668114

Larson and Associates, Inc.

Lovington Deep State

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3132651 Matrix: Solid Date Prep: 07.24.2020
MB Sample Id: 7708088-1-BLK LCS Sample Id: 7708088-1-BKS LCSD Sample Id: 7708088-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	861	86	822	82	70-130	5	20	mg/kg	07.24.2020 12:07	
Diesel Range Organics (DRO)	<50.0	1000	891	89	880	88	70-130	1	20	mg/kg	07.24.2020 12:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		89		92		70-130	%	07.24.2020 12:07
o-Terphenyl	104		101		98		70-130	%	07.24.2020 12:07

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3132651 Matrix: Solid Date Prep: 07.24.2020
MB Sample Id: 7708088-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	07.24.2020 11:45	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3132651 Matrix: Soil Date Prep: 07.24.2020
Parent Sample Id: 667963-001 MS Sample Id: 667963-001 S MSD Sample Id: 667963-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	809	81	822	82	70-130	2	20	mg/kg	07.24.2020 13:11	
Diesel Range Organics (DRO)	<49.9	998	838	84	853	86	70-130	2	20	mg/kg	07.24.2020 13:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		91		70-130	%	07.24.2020 13:11
o-Terphenyl	96		97		70-130	%	07.24.2020 13:11

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3132772 Matrix: Solid Date Prep: 07.27.2020
MB Sample Id: 7708187-1-BLK LCS Sample Id: 7708187-1-BKS LCSD Sample Id: 7708187-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0957	96	0.0995	100	70-130	4	35	mg/kg	07.27.2020 10:15	
Toluene	<0.00200	0.100	0.0850	85	0.0881	88	70-130	4	35	mg/kg	07.27.2020 10:15	
Ethylbenzene	<0.00200	0.100	0.0955	96	0.0987	99	70-130	3	35	mg/kg	07.27.2020 10:15	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.202	101	70-130	4	35	mg/kg	07.27.2020 10:15	
o-Xylene	<0.00200	0.100	0.0952	95	0.0989	99	70-130	4	35	mg/kg	07.27.2020 10:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		96		99		70-130	%	07.27.2020 10:15
4-Bromofluorobenzene	100		97		100		70-130	%	07.27.2020 10:15

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

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QC Summary 668114

Larson and Associates, Inc.

Lovington Deep State

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3132772 Matrix: Soil Date Prep: 07.27.2020

Parent Sample Id: 667963-001 MS Sample Id: 667963-001 S MSD Sample Id: 667963-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0818	82	0.0901	90	70-130	10	35	mg/kg	07.27.2020 10:56	
Toluene	<0.00199	0.0996	0.0815	82	0.0886	89	70-130	8	35	mg/kg	07.27.2020 10:56	
Ethylbenzene	<0.00199	0.0996	0.0809	81	0.0899	90	70-130	11	35	mg/kg	07.27.2020 10:56	
m,p-Xylenes	<0.00398	0.199	0.166	83	0.183	92	70-130	10	35	mg/kg	07.27.2020 10:56	
o-Xylene	<0.00199	0.0996	0.0808	81	0.0895	90	70-130	10	35	mg/kg	07.27.2020 10:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		98		70-130	%	07.27.2020 10:56
4-Bromofluorobenzene	101		101		70-130	%	07.27.2020 10:56

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

№1209

L0408114

CHAIN-OF-CUSTODY

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

DATE: 7/23/20 PAGE 1 OF 2
PO#: LAB WORK ORDER#:
PROJECT LOCATION OR NAME: Lovington Deep State
LAI PROJECT #: 20-0107-01 COLLECTOR: TJ + DS

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

PRESERVATION: HCl, HNO_3, H_2SO_4 ☐ NaOH ☐, ICE, UNPRESERVED

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	OIL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TBLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
BH-3 5'		7/23/20	1016	S	1				X		X		X	X	X														X	
BH-3 10'			1021								X		X	X	X															
BH-3 15'			1025																											
BH-3 20'			1030																											
BH-2 5'			1045								X		X	X	X															
BH-2 10'			1050																											
BH-2 15'			1055																											
BH-2 20'			1100																											
BH-5 5			1158								X		X	X	X															
BH-5 10			1200																											
BH-5 15			1205																											
BH-5 20			1210																											
BH-7 5'			1300								X		X	X	X															
BH-7 10'			1305								X		X	X	X															
BH-7 15'			1309																											
TOTAL 15																														

RELINQUISHED BY:(Signature) Trent Jacobs DATE/TIME 7/24/20 813 RECEIVED BY: (Signature) Fagel

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

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

LABORATORY: Xenco

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

LABORATORY USE ONLY:
RECEIVING TEMP: 0.8/0.4 THERM#: JAE
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

№ 1210

V68114

CHAIN-OF-CUSTODY

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

DATE: 7/23/20 PAGE 2 OF 2
PO#: LAB WORK ORDER#:
PROJECT LOCATION OR NAME: Lovington Deep State
LAI PROJECT #: 20-0107-01 COLLECTOR: TJ & DS

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX ☒ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☒	DIESEL - MOD 8015 ☒	OIL - MOD 8015 ☒	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TBLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
BH-7 20'		7/23/20	1310	S	1				X																			X	1	
BH-8 5'			1335								X		X	X	X															
BH-8 10'			1340																											
BH-8 15'			1342																											
BH-8 20'			1343																											
BH-8 25'			1415																											
~~BH08 25~~			~~1415~~																											

TOTAL 6

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
Trent Jacks	7/24/20 0813	[signature]
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)

LABORATORY: Xenco

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

LABORATORY USE ONLY:
RECEIVING TEMP: 0.8/0.4 THERM#: TR-8
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 07.24.2020 08.13.00 AM

Work Order #: 668114

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

Temperature Measuring device used : IR-8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 07.24.2020
Brianna Teel

Checklist reviewed by: Holly Taylor Date: 07.27.2020
Holly Taylor

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Certificate of Analysis Summary 679455

Larson and Associates, Inc., Midland, TX

Project Name: Lovington Deep State

Project Id: 20-0207-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed 12.02.2020 08:59
Report Date: 12.08.2020 09:46
Project Manager: Holly Taylor

Analysis Requested	*Lab Id:*	679455-001					
	Field Id:	BH-2 (25')					
	Depth:						
	Matrix:	SOIL					
	Sampled:	12.01.2020 12:56					
Chloride by EPA 300	*Extracted:*	12.02.2020 17:25					
	Analyzed:	12.03.2020 11:29					
	Units/RL:	mg/kg RL					
Chloride		20.7 4.96					

BRL - Below Reporting Limit

Holly Taylor

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

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Analytical Report 679455

for

Larson and Associates, Inc.

Project Manager: Mark Larson

Lovington Deep State

20-0207-01

12.08.2020

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.08.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **679455**
Lovington Deep State
Project Address:

Mark Larson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 679455. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 679455 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Holly Taylor

Holly Taylor
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 679455

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-2 (25')	S	12.01.2020 12:56		679455-001

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CASE NARRATIVE

Client Name: Larson and Associates, Inc.
Project Name: Lovington Deep State

Project ID: *20-0207-01*
Work Order Number(s): *679455*

Report Date: *12.08.2020*
Date Received: *12.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 679455

Larson and Associates, Inc., Midland, TX

Lovington Deep State

Sample Id: **BH-2 (25')**
Lab Sample Id: 679455-001

Matrix: Soil
Date Collected: 12.01.2020 12:56

Date Received: 12.02.2020 08:59

Analytical Method: Chloride by EPA 300
Tech: CHE
Analyst: CHE
Seq Number: 3143843

Date Prep: 12.02.2020 17:25

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.7**	4.96	mg/kg	12.03.2020 11:29		1

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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

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QC Summary 679455

Larson and Associates, Inc.

Lovington Deep State

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3143843 Matrix: Solid Date Prep: 12.02.2020
MB Sample Id: 7716310-1-BLK LCS Sample Id: 7716310-1-BKS LCSD Sample Id: 7716310-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	263	105	264	106	90-110	0	20	mg/kg	12.03.2020 09:28	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3143843 Matrix: Soil Date Prep: 12.02.2020
Parent Sample Id: 679354-003 MS Sample Id: 679354-003 S MSD Sample Id: 679354-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	299	285	598	105	594	104	90-110	1	20	mg/kg	12.03.2020 10:58	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3143843 Matrix: Soil Date Prep: 12.02.2020
Parent Sample Id: 679536-001 MS Sample Id: 679536-001 S MSD Sample Id: 679536-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	706	252	947	96	946	95	90-110	0	20	mg/kg	12.03.2020 09:44	

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

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

№1397

679455

CHAIN-OF-CUSTODY

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

Data Reported to:

DATE: 12/2/2020 PAGE 1 OF 1
PO#: LAB WORK ORDER#:
PROJECT LOCATION OR NAME: LOVINGTON DEEP STATE
LAI PROJECT #: 20-0107-01 COLLECTOR: DSG

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST/NM

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	OIL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TBLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDES ☒ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
BH-2 (25')		12/1/20	1256	S	1				X																		X		
TOTAL																													

RELINQUISHED BY:(Signature) Dasso DATE/TIME 12/2/20 / 0859 RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

LABORATORY: XENCO

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

LABORATORY USE ONLY:
RECEIVING TEMP: 2.9 THERM#: R8
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.

Date/ Time Received: 12.02.2020 08.59.00 AM

Work Order #: 679455

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

Temperature Measuring device used : IR8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.9	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**N/A**	
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 12.02.2020
Brianna Teel

Checklist reviewed by: Holly Taylor Date: 12.02.2020
Holly Taylor

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 31365

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 31365
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Remediation Plan Approved with Conditions. The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.	4/18/2022