



Armando Martinez
Operations Lead, Portfolio Operations Central

INFORMATION ONLY

March 8, 2021

New Mexico Oil Conservation Division – District I
1625 N. French Drive
Hobbs, New Mexico 88240

Re: 2020 Soil Assessment Report – NM AB State #2
Case No. 1RP-2470
Lea County, New Mexico

Dear Bradford Billings:

Chevron Environmental Management Company (CEMC) submits herein the *2020 Soil Assessment Report* for 1RP-2470, NM AB State #2. The Site is located approximately 2.75 miles south of Buckeye, in Unit P, Section 6, Township 18 South, Range 35 East, Lea County, New Mexico. The Report was prepared by Arcadis U.S., Inc. (Arcadis), on behalf of CEMC. Based on the 2020 soil investigation data, additional assessment activities will be evaluated, and a proposed scope will be included in a Work Plan for review and approval to further delineate chloride impact in soil.

If you have any questions regarding this submittal, please contact Scott Foord of Arcadis at (713) 953-4853 or me at (505) 690 5408.

Respectfully,

A handwritten signature in blue ink, appearing to read "Armando Martinez".

Armando Martinez

Encl. 2020 Soil Assessment Report – NM AB State #2

Armando Martinez
Operations Lead Central
Portfolio Operations - Central
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Chevron Environmental Management Company

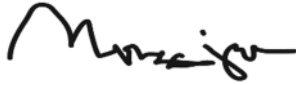
2020 SOIL ASSESSMENT REPORT

NM AB State #2

Case No. 1RP-2470

March 2021

2020 SOIL ASSESSMENT REPORT



Morgan Jordan
Task Manager I



Scott Foord, PG
Certified Project Manager

**2020 SOIL
ASSESSMENT REPORT**

NM AB State #2
Case No. 1RP-2470

Prepared for:

Prepared for:

Armando Martinez

Operations Lead Central

Chevron Environmental Management Company

P.O. Box 469

Questa, New Mexico 87556

Tel 505 690 5408

Prepared by:

Arcadis U.S., Inc.

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Our Ref:

30057223

Date:

March 2021

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2020 SOIL ASSESSMENT REPORT

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2020 SOIL ASSESSMENT REPORT

1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) prepared this Site Assessment Report (Report), on behalf of Chevron Environmental Management Company (CEMC), summarizing the soil assessment activities conducted for the NM AB State #2 (Site).

2 PROJECT SUMMARY

The Site is approximately 2.75 miles south of Buckeye, in Unit P, Section 6, Township 18 South, Range 35 East, Lea County, New Mexico. A site location map is included as **Figure 1**.

On March 30, 2010, a grass fire melted a flow line releasing 2 barrels (bbls) of oil and 40 bbls of produced water. The Initial C-141 Form stated a vacuum truck reportedly removed the pooled liquid, recovering approximately 15 bbls of produced water. According to the New Mexico Office of the State Engineers (NMOSE) database, there is a water well approximately 0.20 miles west of the Site with a depth to groundwater of 60 feet below ground surface (bgs). The Initial C-141 Form for this release was submitted to the New Mexico Oil Conservation Division (NMOCD) on April 5, 2010 and approved by NMOCD on April 6, 2010. The release was assigned remediation permit number 1RP-2470. The Initial C-141 Form for this release is included in **Appendix A**.

3 2020 SOIL ASSESSMENT

On October 12-13, 2020, Arcadis personnel collected soil samples from fifteen locations (SB-1 through SB-15) within the release area. The samples locations were determined based on information obtained by Arcadis from the Initial C-141 Form and from Chevron personnel familiar with the release location associated with remediation permit number 1RP-2470. The soil samples were collected with a hand auger at depths ranging from the surface to approximately 1 feet bgs. Shallow refusal was encountered in all locations. Each boring location was backfilled with the remaining soil. Soil sample locations are presented on **Figure 2**. The samples were jarred following collection and placed on ice for delivery to Xenco Laboratories in Midland, Texas for analysis.

The soil samples were analyzed for:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) by United States Protection Agency (USEPA) Method 8021B;
- Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-GRO) by USEPA Method 8015;
- TPH as diesel (TPH-DRO) by USEPA Method 8015;
- TPH as oil (TPH-ORO) by USEPA Method 8015; and
- Chloride by USEPA Method 300.

2020 SOIL ASSESSMENT REPORT

4 SOIL ANALYTICAL RESULTS

The soil analytical results were compared to the revised New Mexico Administration Code (NMAC) screening levels for BTEX, TPH, and chloride for depth to groundwater 51-100 feet bgs (revised Rule 19.15.29). A summary of the soil sample analytical results is presented in **Table 1**. Copies of the certified analytical reports and chain-of-custody documentation from Xenco Laboratories are presented in **Appendix B**. The soil analytical map is presented in **Figure 3**.

4.1 BTEX

- Benzene concentrations were reported below the NMAC standard of 10 milligrams per kilogram (mg/kg) at all sample locations.
- Total BTEX concentrations were reported below the NMAC standard of 50 mg/kg at all sample locations.

4.2 TPH

- TPH GRO and DRO concentrations were reported below the NMAC standard of 1,000 mg/kg at all sample locations.
- Total TPH concentrations were reported below the NMAC standard of 2,500 mg/kg at all sample locations.

4.3 Chloride

- Chloride concentrations were reported below the revised Rule 19.15.29 screening limit of 10,000 mg/kg at all sample locations. However, concentrations did exceed the revised Rule (19.15.29.13) restoration screening criteria of 600 mg/kg at two sample location (SB-3 and SB-6).
 - SB-3 (0 – 0.5') at 3,760 mg/kg
 - SB-6 (0 – 0.5') at 2,480 mg/kg

5 RECOMMENDATION

Analytical results associated with the recent assessment activities indicate that concentrations of chloride above the restoration screening criteria of 600 mg/kg within the top 4 feet bgs of the soil column are present in surface and shallow soil in the vicinity of SB-3 and SB-6. Based upon the findings presented in this report, additional soil assessment activities are recommended to further delineate the chloride impact in soil at the Site. The revised C-141 Form is presented in **Appendix D**.

TABLES



Table 1
2020 Soil Analytical Results
Chevron Environmental Management Company
NM AB State #2
Lea County, New Mexico

Sample I.D. No.	Sample Depth (feet/ftgs)	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Gasoline Range Organics (mg/kg)	Diesel Range Organics (mg/kg)	Total GRO + DRO (mg/kg)	Motor Oil Range Organics (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMAC Standards													
Restoration Requirements													
SB-1	0-0.5'	10/12/20	<0.00388	<0.00459	<0.00569	<0.003470	<0.003470	<10.0	58.1	58.1	32.8 J	90.9	116
SB-2	0-0.5'	10/12/20	<0.00395	<0.00468	<0.00580	<0.003530	<0.003530	11.0 J	190 J	201.0 J	136	337.0	76.7
SB-3	0-0.5'	10/12/20	<0.00405	<0.00479	<0.00594	<0.003620	<0.003620	<10.4	240	240	149	389.0	3,760
SB-4	0-0.5'	10/12/20	<0.00389	<0.00461	<0.00571	<0.003480	<0.003480	10.5 J	240	250.5	186	436.5	278
SB-5	0-0.5'	10/12/20	<0.00388	<0.00459	<0.00570	<0.003470	<0.003470	<10.1	67.4	67.4	42.6 J	110.0	88.0
SB-6	0-0.5'	10/12/20	<0.00399	<0.00472	<0.00585	<0.003570	<0.003570	<10.4	97.1	97.1	62.3	159.4	2,480
SB-7	0-0.5'	10/12/20	<0.00395	<0.00455	<0.00565	<0.003440	<0.003440	11.5 J	20.8 J	32.3 J	22.4 J	54.70	42.0
SB-8	0-0.5'	10/12/20	<0.00386	<0.00457	<0.00567	<0.003460	<0.003460	20.3 J	11.7 J	32.0 J	10.2 J	42.20 J	13.1
SB-9	0-0.5'	10/12/20	<0.00386	<0.00456	<0.00566	<0.003450	<0.003450	16.7 J	17.1 J	33.80 J	12.0 J	45.80 J	12.9
SB-10	0-0.5'	10/12/20	<0.00386	<0.00457	<0.00567	<0.003460	<0.003460	16.4 J	13.4 J	29.8 J	11.4 J	41.20 J	15.7
SB-11	0-5'	10/13/20	0.00223	<0.00467	<0.00579	<0.003530	<0.003530	13.7 J	11.9 J	25.6 J	10.7 J	36.30 J	11.2
DUP 1 (SB-11)	1"	10/13/20	0.000668	0.00201	0.004280	0.001870	0.006520	<14.7	<14.7	<14.7	<14.7	<14.70	44.6
SB-12	0-5'	10/13/20	0.000676	<0.00482	<0.00597	0.002273	0.002546	<10.6	11.3	11.3	<10.6	11.30	8.92
SB-12	0-5'	10/13/20	0.000906	0.00202	0.00147	0.002273	0.006669	<10.5	<10.5	<10.5	<10.5	<10.50	1.54
SB-12	0-5'	10/13/20	0.000675	0.00168	<0.00569	0.001070	0.003425	13.4	15.9	28.3	10.9	40.20	11.2
SB-13	0-5'	10/13/20	0.00120	<0.00486	0.00163	0.0009610	0.003791	<10.2	12.3	12.3	10.4	22.70	2.69
SB-14	0-0.5'	10/13/20	<0.00420	<0.00497	0.00169	0.002520	0.004210	<10.8	<10.8	<10.8	<10.8	<10.80	2.69
SB-14	0-0.5'	10/13/20	0.00107	<0.00469	<0.00562	<0.003550	0.001070	<10.3	<10.3	<10.3	<10.3	<10.30	34.6
SB-15	0-0.5'	10/13/20	0.00172	0.00224	0.000705	0.0009770	0.005642	<11.3	11.8	11.8	<11.3	11.80	6.84

Legend:
BOLD = Analytes exceeding NMAC standards
'<' Indicates the analyte was not detected at or above the Method Detection Limit (MDL)
J = The target analyte was positively identified below the quantitation limit and above the detection limit.

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.
E = The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated
F = RPD exceeded lab control limits.

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.

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.

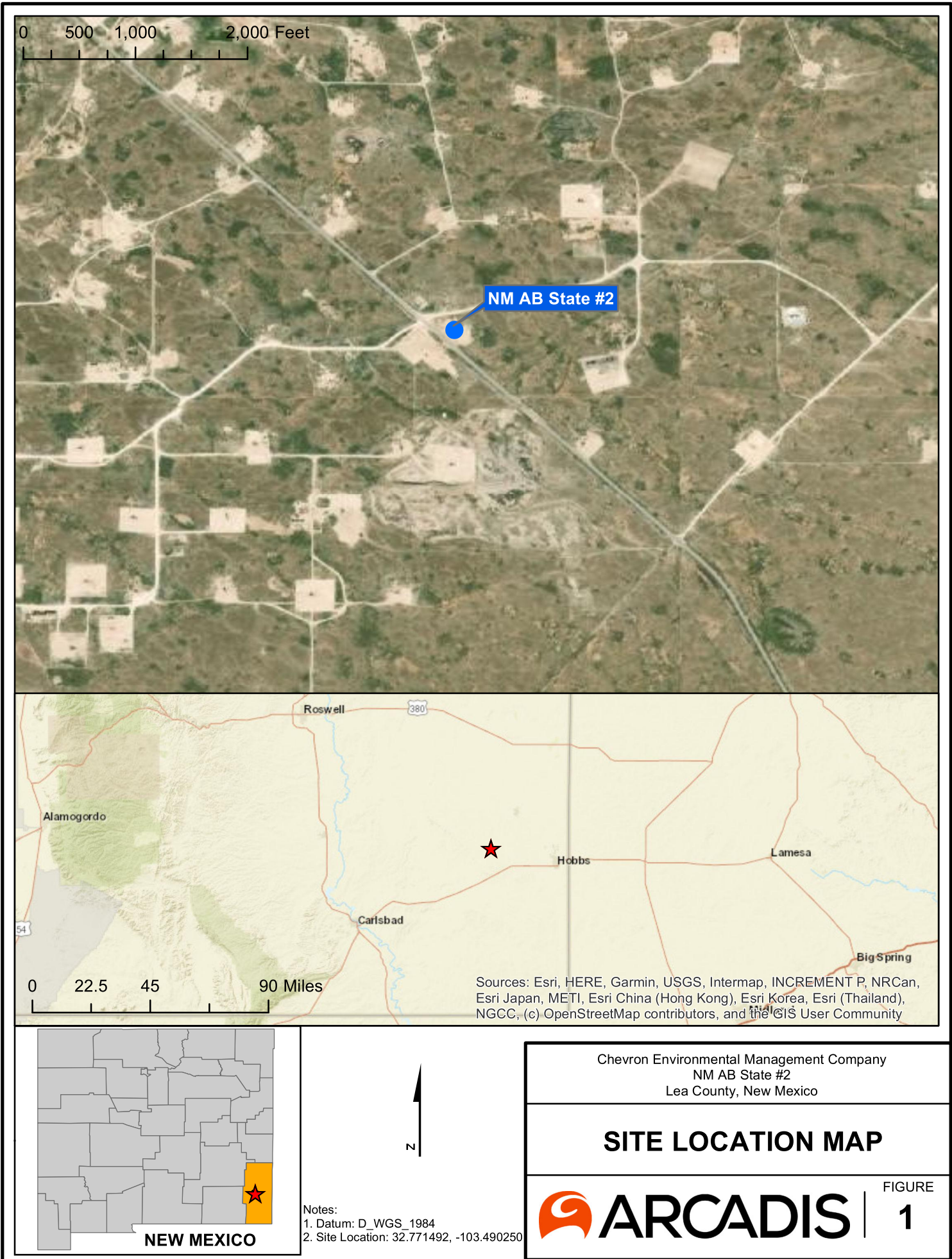
mg/kg: Milligram per Kilogram
BTEX: Benzene, Toluene, Ethylbenzene, and Total Xylenes
NMAC: New Mexico Administration Code
TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics
TPH MRO: Total Petroleum Hydrocarbons Motor Oil Range Organics
TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics
* : Indicates one foot
* : Indicates inches
* Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19, 15.29 effective August 14, 2018
DUP : Duplicate sample

Notes:
1. Chloride analyzed by United States Environmental Protection Agency Method 300.0
2. TPH analyzed by USEPA Method SW8015 Mod DRO/ORO
3. BTEX analyzed by USEPA Method 8012B
4. Closure Criteria New Mexico Administrative Code 19, 15.29, 12 E(2)

FIGURES



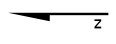
Document Path: C:\E Drive\Pradeep\Projects\Chevron\20201223\NMABState\Chevron_NMABState\Figure 1 - Site Location Map.mxd





Chevron Environmental Management Company
NM AB State #2
Lea County, New Mexico

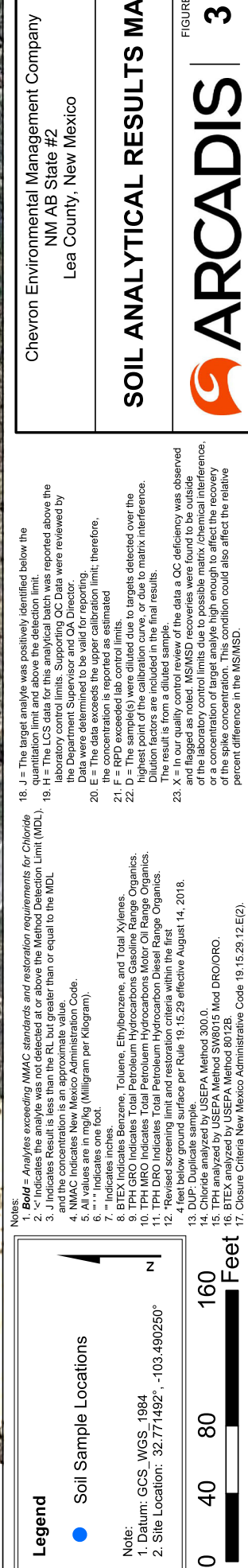
SOIL SAMPLE LOCATIONS MAP



Legend

● Soil Sample Locations

Note:
1. Datum: GCS WGS 1984
2. Site Location: 32.771492°, -103.490250°



APPENDIX A

Initial C-141 Forms 1RP-2470

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 USA	Contact Kim Klahsen
Address HCR 60 Box 423 Lovington, N.M. 88260	Telephone No. 505-396-4414 X 228
Facility Name: NM AB State # 2	Facility Type Oil Well
Surface Owner NM	Mineral Owner NM
Lease No.	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	South Line	Feet from the	East Line	County
P	6	18 S	35 E	633		580		Lea

Latitude: 32.46.459 / Longitude: -103.29.588

NATURE OF RELEASE

API # 30-025-03085

Type of Release Spill	Volume of Release 100 Bbls oil; 400 Bbls water 2012 10WTP	Volume Recovered 15 Bbls Water
Source of Release Flowline release	Date and Hour of Occurrence 3-30-10 1:30 PM	Date and Hour of Discovery 3-31-10 @ 8:00
Was Immediate Notice Given? Yes ☐ No ☐ Not Required ☐	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* The watercourse was not impacted.

Describe Cause of Problem and Remedial Action Taken.*

A grass fire melted the flow line causing the release of oil and water.

Describe Area Affected and Cleanup Action Taken.

A vacuum truck removed pooled liquids. Soil samples will be collected to determine the extent of contamination. Once the extent of contamination is determined, then we will determine the action necessary to remediate the spill.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Kim Klahsen	Approved by District Supervisor: <i>Johnson</i> ENVIRONMENTAL ENGINEER	
Title: Operations : HES	Approval Date: 4.6.10	Expiration Date: 6.7.10
E-mail Address KDKL@chevron.com	Conditions of Approval:	
Date: April 5, 2010 Phone: 396-4414 X 228	SUBMIT FINAL C.141 w/DOCS	
	Attached ☐ ITP # 10.4.2470	

* Attach Additional Sheets If Necessary

APPENDIX B

Laboratory Report

Certificate of Analysis Summary 674949
ARCADIS, Midland, TX

Project Id: Justin Nixon
Contact: Justin Nixon
Project Location: Project Name: Chevron - NM AB State 2 Site
Date Received in Lab: Mon 10.12.2020 17:14
Report Date: 10.22.2020 14:25
Project Manager: Sachin Kudchadkar

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	674949-001 SB-1-S-0-.5ft-201012 SOIL 10.12.2020 10:45	674949-002 SB-2-S-0-.5ft-201012 SOIL 10.12.2020 10:58	674949-003 SB-3-S-0-.5ft-201012 SOIL 10.12.2020 11:05	674949-004 SB-4-S-0-.5ft-201012 SOIL 10.12.2020 11:12	674949-005 SB-5-S-0-.5ft-201012 SOIL 10.12.2020 11:36	674949-006 SB-6-S-0-.5ft-201012 SOIL 10.12.2020 11:44
	Extracted: Analyzed: Units/RL:	10.13.2020 12:15 10.13.2020 13:38 mg/kg RL <0.000388 0.00202	10.13.2020 12:15 10.13.2020 13:59 mg/kg RL <0.000395 0.00205	10.13.2020 12:15 10.13.2020 14:19 mg/kg RL <0.000405 0.00210	10.13.2020 12:15 10.13.2020 14:40 mg/kg RL <0.000389 0.00202	10.13.2020 12:15 10.13.2020 15:00 mg/kg RL <0.000388 0.00202	10.13.2020 12:15 10.13.2020 15:21 mg/kg RL <0.000399 0.00207
	Benzene						
	Toluene						
Chloride by EPA 300	Ethylbenzene						
	m,p-Xylenes						
	o-Xylene						
	Total Xylenes						
Percent Moisture	Total BTEX						
	Extracted:	10.13.2020 16:05	10.13.2020 16:05	10.13.2020 16:05	10.13.2020 16:05	10.13.2020 16:05	10.13.2020 16:05
	Analyzed:	10.13.2020 16:52	10.13.2020 16:57	10.13.2020 17:02	10.13.2020 17:18	10.13.2020 17:23	10.13.2020 17:29
	Units/RL:	116 HF 25.0 mg/kg RL	78.7 HF 25.7 mg/kg RL	3760 HF 105 mg/kg RL	278 HF 25.4 mg/kg RL	88.0 HF 25.3 mg/kg RL	2480 HF 104 mg/kg RL
TPH By SW8015 Mod SUB: T104704215-20-38	Extracted:						
	Analyzed:	10.13.2020 10:58	10.13.2020 10:58	10.13.2020 10:58	10.13.2020 10:58	10.13.2020 10:58	10.13.2020 10:58
	Units/RL:	0.970 %	2.96 %	5.05 %	0.970 %	1.63 %	4.05 %
	Percent Moisture						
Gasoline Range Hydrocarbons (GRO)	Extracted:	10.20.2020 14:47	10.20.2020 14:50	10.20.2020 14:53	10.20.2020 14:56	10.20.2020 14:59	10.20.2020 15:02
	Analyzed:	10.20.2020 23:22	10.20.2020 23:42	10.21.2020 00:03	10.21.2020 00:24	10.21.2020 00:44	10.21.2020 01:04
	Units/RL:	mg/kg RL <50.1 50.1	mg/kg RL <51.4 51.4	mg/kg RL <52.2 52.2	mg/kg RL <50.0 50.0	mg/kg RL <50.7 50.7	mg/kg RL <52.1 52.1
	Diesel Range Organics (DRO)						
Motor Oil Range Hydrocarbons (MRO)	Extracted:						
	Analyzed:	10.20.2020 23:22	10.20.2020 23:42	10.21.2020 00:03	10.21.2020 00:24	10.21.2020 00:44	10.21.2020 01:04
	Units/RL:	mg/kg RL <50.1 50.1	mg/kg RL <51.4 51.4	mg/kg RL <52.2 52.2	mg/kg RL <50.0 50.0	mg/kg RL <50.7 50.7	mg/kg RL <52.1 52.1
	Total TPH						

BRL - Below Reporting Limit

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

Sachin Kudchadkar

Certificate of Analysis Summary 674949
ARCADIS, Midland, TX

Project Id: Justin Nixon
Contact: Justin Nixon
Project Location: Project Name: Chevron - NM AB State 2 Site
Date Received in Lab: Mon 10.12.2020 17:14
Report Date: 10.22.2020 14:25
Project Manager: Sachin Kudchadkar

Analysis Requested	Lab Id:	674949-007	674949-008	674949-009	674949-010	674949-011
	Field Id:	SB-7-S-0-.5ft-201012	SB-8-S-0-.5ft-201012	SB-9-S-0-.5ft-201012	SB-10-S-0-.5ft-201012	SB-10-S-1-201012
	Depth:	SOIL	SOIL	SOIL	SOIL	SOIL
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
BTEX by EPA 8021B	Sampled:	10.12.2020 11:50	10.12.2020 11:58	10.12.2020 13:06	10.12.2020 13:40	10.12.2020 13:47
	Extracted:	10.13.2020 12:15	10.13.2020 12:15	10.13.2020 12:15	10.13.2020 12:15	10.13.2020 12:15
	Analyzed:	10.13.2020 15:41	10.13.2020 16:02	10.13.2020 16:22	10.13.2020 16:43	10.13.2020 18:06
	Units/RL:	mg/kg RL <0.000385 0.00200	mg/kg RL <0.000386 0.00201	mg/kg RL <0.000386 0.00200	mg/kg RL <0.000386 0.00201	mg/kg RL <0.000394 0.00205
Benzene						
		<0.000455 0.00200	<0.000457 0.00201	<0.000456 0.00200	<0.000457 0.00201	<0.000467 0.00205
	Toluene					
	Ethylbenzene	<0.000565 0.00200	<0.000567 0.00201	<0.000566 0.00200	<0.000567 0.00201	<0.000579 0.00205
	m,p-Xylenes	<0.00101 0.00400	<0.00102 0.00402	<0.00102 0.00401	<0.00102 0.00401	<0.00104 0.00410
	o-Xylene	<0.000344 0.00200	<0.000346 0.00201	<0.000345 0.00200	<0.000346 0.00201	<0.000353 0.00205
Total Xylenes		<0.000344 0.00200	<0.000346 0.00201	<0.000345 0.00200	<0.000346 0.00201	<0.000353 0.00205
	Total BTEX	<0.000344 0.00200	<0.000346 0.00201	<0.000345 0.00200	<0.000346 0.00201	<0.000353 0.00205
Chloride by EPA 300						
	Extracted:	10.13.2020 16:05	10.13.2020 16:05	10.13.2020 16:05	10.13.2020 16:05	10.13.2020 16:05
	Analyzed:	10.13.2020 16:31	10.13.2020 17:34	10.13.2020 17:39	10.13.2020 17:44	10.13.2020 18:00
Chloride	Units/RL:	mg/kg RL 42.0 HF 4.97	mg/kg RL 13.1 HF 5.03	mg/kg RL 12.9 HF 4.98	mg/kg RL 15.7 HF 5.08	mg/kg RL 11.2 HF 5.15
Percent Moisture	Extracted:					
	Analyzed:	10.13.2020 10:58	10.13.2020 10:58	10.13.2020 10:58	10.13.2020 10:58	10.13.2020 10:58
	Units/RL:	% RL 0.170	% RL 0.590	% RL 0.380	% RL 0.760	% RL 3.37
TPH By SW8015 Mod SUB: T104704215-20-38						
	Extracted:	10.20.2020 15:05	10.20.2020 15:08	10.20.2020 15:11	10.20.2020 15:14	10.20.2020 15:17
	Analyzed:	10.21.2020 01:25	10.22.2020 01:41	10.21.2020 21:54	10.21.2020 22:15	10.21.2020 22:36
Gasoline Range Hydrocarbons (GRO)	Units/RL:	mg/kg RL <50.2 50.2	mg/kg RL <50.3 50.3	mg/kg RL <50.3 50.3	mg/kg RL <50.3 50.3	mg/kg RL <51.4 51.4
Diesel Range Organics (DRO)		<50.2 50.2	<50.3 50.3	<50.3 50.3	<50.3 50.3	<51.4 51.4
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.3 50.3	<50.3 50.3	<50.3 50.3	<51.4 51.4
Total TPH		<50.2 50.2	<50.3 50.3	<50.3 50.3	<50.3 50.3	<51.4 51.4

BRL - Below Reporting Limit

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

Signature: *Sachin Kudchadkar*

Analytical Report 674949

for

ARCADIS

Project Manager: Justin Nixon

Chevron - NM AB State 2 Site

10.22.2020

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)



10.22.2020

Project Manager: **Justin Nixon**

ARCADIS

1004 N. Big Spring St.

Midland, TX 79701

Reference: Eurofins Xenco, LLC Report No(s): **674949**

Chevron - NM AB State 2 Site

Project Address:

Justin Nixon:

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) 674949. 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. 674949 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink, appearing to read "Sachin Kudchadkar", written over a horizontal line.

Sachin Kudchadkar

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 674949****ARCADIS, Midland, TX**

Chevron - NM AB State 2 Site

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1-S-0-.5ft-201012	S	10.12.2020 10:45		674949-001
SB-2-S-0-.5ft-201012	S	10.12.2020 10:58		674949-002
SB-3-S-0-.5ft-201012	S	10.12.2020 11:05		674949-003
SB-4-S-0-.5ft-201012	S	10.12.2020 11:12		674949-004
SB-5-S-0-.5ft-201012	S	10.12.2020 11:36		674949-005
SB-6-S-0-.5ft-201012	S	10.12.2020 11:44		674949-006
SB-7-S-0-.5ft-201012	S	10.12.2020 11:50		674949-007
SB-8-S-0-.5ft-201012	S	10.12.2020 11:58		674949-008
SB-9-S-0-.5ft-201012	S	10.12.2020 13:06		674949-009
SB-10-S-0-.5ft-201012	S	10.12.2020 13:40		674949-010
SB-10-S-1-201012	S	10.12.2020 13:47		674949-011

**CASE NARRATIVE****Client Name: ARCADIS****Project Name: Chevron - NM AB State 2 Site**Project ID:
Work Order Number(s): 674949Report Date: 10.22.2020
Date Received: 10.12.2020**Sample receipt non conformances and comments:****Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3139532 Percent Moisture

Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity. Samples in the analytical batch are: 674949-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011.

Batch: LBA-3139613 BTEX by EPA 8021B

Lab Sample ID 674949-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 674949-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011.

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

Batch: LBA-3139626 Chloride by EPA 300

Chloride recovered above QC limits in the Blank Spike Duplicate indicating a potential high bias. Samples in the analytical batch are: 674949-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011.

Chloride RPD was outside laboratory control limits.

Samples in the analytical batch are: 674949-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011

BSD misinjection. All ms/msd passing, qualifying the data



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-1-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-001

Date Collected: 10.12.2020 10:45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: .97

Seq Number: 3139626

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	116	25.0	mg/kg	10.13.2020 16:52	HF	5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:47

% Moisture: .97

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	10.20.2020 23:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	58.1	50.1	mg/kg	10.20.2020 23:22		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	10.20.2020 23:22	U	1
Total TPH	PHC635	58.1	50.1	mg/kg	10.20.2020 23:22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	10.20.2020 23:22	
o-Terphenyl	84-15-1	115	%	70-135	10.20.2020 23:22	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX
Chevron - NM AB State 2 Site

Sample Id: **SB-1-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-001

Date Collected: 10.12.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: .97

Seq Number: 3139613

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000388	0.00202	mg/kg	10.13.2020 13:38	UX	1
Toluene	108-88-3	<0.000459	0.00202	mg/kg	10.13.2020 13:38	UX	1
Ethylbenzene	100-41-4	<0.000569	0.00202	mg/kg	10.13.2020 13:38	UX	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	mg/kg	10.13.2020 13:38	UX	1
o-Xylene	95-47-6	<0.000347	0.00202	mg/kg	10.13.2020 13:38	UX	1
Total Xylenes	1330-20-7	<0.000347	0.00202	mg/kg	10.13.2020 13:38	U	1
Total BTEX		<0.000347	0.00202	mg/kg	10.13.2020 13:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.13.2020 13:38		
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.13.2020 13:38		



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-2-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-002

Date Collected: 10.12.2020 10:58

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: 2.96

Seq Number: 3139626

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	78.7	25.7	mg/kg	10.13.2020 16:57	HF	5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:50

% Moisture: 2.96

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<51.4	51.4	mg/kg	10.20.2020 23:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	190	51.4	mg/kg	10.20.2020 23:42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	136	51.4	mg/kg	10.20.2020 23:42		1
Total TPH	PHC635	326	51.4	mg/kg	10.20.2020 23:42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	10.20.2020 23:42	
o-Terphenyl	84-15-1	110	%	70-135	10.20.2020 23:42	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX
Chevron - NM AB State 2 Site

Sample Id: **SB-2-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-002

Date Collected: 10.12.2020 10:58

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: 2.96
Basis: Dry Weight

Seq Number: 3139613

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000395	0.00205	mg/kg	10.13.2020 13:59	U	1
Toluene	108-88-3	<0.000468	0.00205	mg/kg	10.13.2020 13:59	U	1
Ethylbenzene	100-41-4	<0.000580	0.00205	mg/kg	10.13.2020 13:59	U	1
m,p-Xylenes	179601-23-1	<0.00104	0.00411	mg/kg	10.13.2020 13:59	U	1
o-Xylene	95-47-6	<0.000353	0.00205	mg/kg	10.13.2020 13:59	U	1
Total Xylenes	1330-20-7	<0.000353	0.00205	mg/kg	10.13.2020 13:59	U	1
Total BTEX		<0.000353	0.00205	mg/kg	10.13.2020 13:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.13.2020 13:59		
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.13.2020 13:59		



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-3-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-003

Date Collected: 10.12.2020 11:05

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: 5.05

Basis: Dry Weight

Seq Number: 3139626

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3760	105	mg/kg	10.13.2020 17:02	HF	20

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:53

% Moisture: 5.05

Basis: Dry Weight

Seq Number: 3140291

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<52.2	52.2	mg/kg	10.21.2020 00:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	240	52.2	mg/kg	10.21.2020 00:03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	149	52.2	mg/kg	10.21.2020 00:03		1
Total TPH	PHC635	389	52.2	mg/kg	10.21.2020 00:03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	10.21.2020 00:03	
o-Terphenyl	84-15-1	105	%	70-135	10.21.2020 00:03	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-3-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-003

Date Collected: 10.12.2020 11:05

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: 5.05

Seq Number: 3139613

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000405	0.00210	mg/kg	10.13.2020 14:19	U	1
Toluene	108-88-3	<0.000479	0.00210	mg/kg	10.13.2020 14:19	U	1
Ethylbenzene	100-41-4	<0.000594	0.00210	mg/kg	10.13.2020 14:19	U	1
m,p-Xylenes	179601-23-1	<0.00107	0.00420	mg/kg	10.13.2020 14:19	U	1
o-Xylene	95-47-6	<0.000362	0.00210	mg/kg	10.13.2020 14:19	U	1
Total Xylenes	1330-20-7	<0.000362	0.00210	mg/kg	10.13.2020 14:19	U	1
Total BTEX		<0.000362	0.00210	mg/kg	10.13.2020 14:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.13.2020 14:19		
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.13.2020 14:19		



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-4-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-004

Date Collected: 10.12.2020 11:12

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: .97

Seq Number: 3139626

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	278	25.4	mg/kg	10.13.2020 17:18	HF	5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:56

% Moisture: .97

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.2020 00:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	240	50.0	mg/kg	10.21.2020 00:24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	186	50.0	mg/kg	10.21.2020 00:24		1
Total TPH	PHC635	426	50.0	mg/kg	10.21.2020 00:24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	10.21.2020 00:24	
o-Terphenyl	84-15-1	106	%	70-135	10.21.2020 00:24	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX
Chevron - NM AB State 2 Site

Sample Id: **SB-4-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-004

Date Collected: 10.12.2020 11:12

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: .97

Seq Number: 3139613

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000389	0.00202	mg/kg	10.13.2020 14:40	U	1
Toluene	108-88-3	<0.000461	0.00202	mg/kg	10.13.2020 14:40	U	1
Ethylbenzene	100-41-4	<0.000571	0.00202	mg/kg	10.13.2020 14:40	U	1
m,p-Xylenes	179601-23-1	<0.00103	0.00405	mg/kg	10.13.2020 14:40	U	1
o-Xylene	95-47-6	<0.000348	0.00202	mg/kg	10.13.2020 14:40	U	1
Total Xylenes	1330-20-7	<0.000348	0.00202	mg/kg	10.13.2020 14:40	U	1
Total BTEX		<0.000348	0.00202	mg/kg	10.13.2020 14:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.13.2020 14:40	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.13.2020 14:40	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-5-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-005

Date Collected: 10.12.2020 11:36

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: 1.63

Seq Number: 3139626

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	88.0	25.3	mg/kg	10.13.2020 17:23	HF	5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:59

% Moisture: 1.63

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.7	50.7	mg/kg	10.21.2020 00:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	67.4	50.7	mg/kg	10.21.2020 00:44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.7	50.7	mg/kg	10.21.2020 00:44	U	1
Total TPH	PHC635	67.4	50.7	mg/kg	10.21.2020 00:44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	10.21.2020 00:44	
o-Terphenyl	84-15-1	116	%	70-135	10.21.2020 00:44	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX
Chevron - NM AB State 2 Site

Sample Id: **SB-5-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-005

Date Collected: 10.12.2020 11:36

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: 1.63

Seq Number: 3139613

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000388	0.00202	mg/kg	10.13.2020 15:00	U	1
Toluene	108-88-3	<0.000459	0.00202	mg/kg	10.13.2020 15:00	U	1
Ethylbenzene	100-41-4	<0.000570	0.00202	mg/kg	10.13.2020 15:00	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	mg/kg	10.13.2020 15:00	U	1
o-Xylene	95-47-6	<0.000347	0.00202	mg/kg	10.13.2020 15:00	U	1
Total Xylenes	1330-20-7	<0.000347	0.00202	mg/kg	10.13.2020 15:00	U	1
Total BTEX		<0.000347	0.00202	mg/kg	10.13.2020 15:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.13.2020 15:00	
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.13.2020 15:00	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-6-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-006

Date Collected: 10.12.2020 11:44

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: 4.05

Seq Number: 3139626

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2480	104	mg/kg	10.13.2020 17:29	HF	20

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 15:02

% Moisture: 4.05

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<52.1	52.1	mg/kg	10.21.2020 01:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	97.1	52.1	mg/kg	10.21.2020 01:04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	62.3	52.1	mg/kg	10.21.2020 01:04		1
Total TPH	PHC635	159	52.1	mg/kg	10.21.2020 01:04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	10.21.2020 01:04	
o-Terphenyl	84-15-1	109	%	70-135	10.21.2020 01:04	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-6-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-006

Date Collected: 10.12.2020 11:44

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: 4.05

Seq Number: 3139613

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000399	0.00207	mg/kg	10.13.2020 15:21	U	1
Toluene	108-88-3	<0.000472	0.00207	mg/kg	10.13.2020 15:21	U	1
Ethylbenzene	100-41-4	<0.000585	0.00207	mg/kg	10.13.2020 15:21	U	1
m,p-Xylenes	179601-23-1	<0.00105	0.00414	mg/kg	10.13.2020 15:21	U	1
o-Xylene	95-47-6	<0.000357	0.00207	mg/kg	10.13.2020 15:21	U	1
Total Xylenes	1330-20-7	<0.000357	0.00207	mg/kg	10.13.2020 15:21	U	1
Total BTEX		<0.000357	0.00207	mg/kg	10.13.2020 15:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	10.13.2020 15:21		
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.13.2020 15:21		



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-7-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-007

Date Collected: 10.12.2020 11:50

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: .17

Seq Number: 3139626

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.0	4.97	mg/kg	10.13.2020 16:31	HF	1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 15:05

% Moisture: .17

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.2020 01:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.21.2020 01:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.2020 01:25	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.21.2020 01:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	10.21.2020 01:25	
o-Terphenyl	84-15-1	100	%	70-135	10.21.2020 01:25	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-7-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-007

Date Collected: 10.12.2020 11:50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: .17
Basis: Dry Weight

Seq Number: 3139613

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	mg/kg	10.13.2020 15:41	U	1
Toluene	108-88-3	<0.000455	0.00200	mg/kg	10.13.2020 15:41	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	mg/kg	10.13.2020 15:41	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	mg/kg	10.13.2020 15:41	U	1
o-Xylene	95-47-6	<0.000344	0.00200	mg/kg	10.13.2020 15:41	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	mg/kg	10.13.2020 15:41	U	1
Total BTEX		<0.000344	0.00200	mg/kg	10.13.2020 15:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.13.2020 15:41		
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.13.2020 15:41		



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-8-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-008

Date Collected: 10.12.2020 11:58

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: .59

Seq Number: 3139626

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.1	5.03	mg/kg	10.13.2020 17:34	HF	1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 15:08

% Moisture: .59

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	10.22.2020 01:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	10.22.2020 01:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	10.22.2020 01:41	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	10.22.2020 01:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	10.22.2020 01:41	
o-Terphenyl	84-15-1	110	%	70-135	10.22.2020 01:41	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-8-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-008

Date Collected: 10.12.2020 11:58

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: .59

Seq Number: 3139613

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	mg/kg	10.13.2020 16:02	U	1
Toluene	108-88-3	<0.000457	0.00201	mg/kg	10.13.2020 16:02	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	mg/kg	10.13.2020 16:02	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	mg/kg	10.13.2020 16:02	U	1
o-Xylene	95-47-6	<0.000346	0.00201	mg/kg	10.13.2020 16:02	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	mg/kg	10.13.2020 16:02	U	1
Total BTEX		<0.000346	0.00201	mg/kg	10.13.2020 16:02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	10.13.2020 16:02		
4-Bromofluorobenzene	460-00-4	110	%	70-130	10.13.2020 16:02		



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-9-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-009

Date Collected: 10.12.2020 13:06

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: .38

Seq Number: 3139626

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.9	4.98	mg/kg	10.13.2020 17:39	HF	1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 15:11

% Moisture: .38

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	10.21.2020 21:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	10.21.2020 21:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	10.21.2020 21:54	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	10.21.2020 21:54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	10.21.2020 21:54		
o-Terphenyl	84-15-1	126	%	70-135	10.21.2020 21:54		



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-9-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-009

Date Collected: 10.12.2020 13:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: .38

Seq Number: 3139613

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00200	mg/kg	10.13.2020 16:22	U	1
Toluene	108-88-3	<0.000456	0.00200	mg/kg	10.13.2020 16:22	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	mg/kg	10.13.2020 16:22	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	mg/kg	10.13.2020 16:22	U	1
o-Xylene	95-47-6	<0.000345	0.00200	mg/kg	10.13.2020 16:22	U	1
Total Xylenes	1330-20-7	<0.000345	0.00200	mg/kg	10.13.2020 16:22	U	1
Total BTEX		<0.000345	0.00200	mg/kg	10.13.2020 16:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.13.2020 16:22		
1,4-Difluorobenzene	540-36-3	93	%	70-130	10.13.2020 16:22		



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-10-S-0-.5ft-201012**
Lab Sample Id: 674949-010

Matrix: Soil
Date Collected: 10.12.2020 13:40

Date Received: 10.12.2020 17:14

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: .76
Basis: Dry Weight

Seq Number: 3139626

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.7	5.08	mg/kg	10.13.2020 17:44	HF	1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 15:14

% Moisture: .76
Basis: Dry Weight
SUB: T104704215-20-38

Seq Number: 3140291

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	10.21.2020 22:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	10.21.2020 22:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	10.21.2020 22:15	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	10.21.2020 22:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-135	10.21.2020 22:15		
o-Terphenyl	84-15-1	122	%	70-135	10.21.2020 22:15		



Certificate of Analytical Results 674949

ARCADIS, Midland, TX
Chevron - NM AB State 2 Site

Sample Id: **SB-10-S-0-.5ft-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-010

Date Collected: 10.12.2020 13:40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: .76

Seq Number: 3139613

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	mg/kg	10.13.2020 16:43	U	1
Toluene	108-88-3	<0.000457	0.00201	mg/kg	10.13.2020 16:43	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	mg/kg	10.13.2020 16:43	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	mg/kg	10.13.2020 16:43	U	1
o-Xylene	95-47-6	<0.000346	0.00201	mg/kg	10.13.2020 16:43	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	mg/kg	10.13.2020 16:43	U	1
Total BTEX		<0.000346	0.00201	mg/kg	10.13.2020 16:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.13.2020 16:43	
1,4-Difluorobenzene	540-36-3	95	%	70-130	10.13.2020 16:43	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-10-S-1-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-011

Date Collected: 10.12.2020 13:47

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.13.2020 16:05

% Moisture: 3.37

Seq Number: 3139626

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.2	5.15	mg/kg	10.13.2020 18:00	HF	1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 15:17

% Moisture: 3.37

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<51.4	51.4	mg/kg	10.21.2020 22:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<51.4	51.4	mg/kg	10.21.2020 22:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<51.4	51.4	mg/kg	10.21.2020 22:36	U	1
Total TPH	PHC635	<51.4	51.4	mg/kg	10.21.2020 22:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	10.21.2020 22:36	
o-Terphenyl	84-15-1	135	%	70-135	10.21.2020 22:36	



Certificate of Analytical Results 674949

ARCADIS, Midland, TX Chevron - NM AB State 2 Site

Sample Id: **SB-10-S-1-201012**

Matrix: Soil

Date Received: 10.12.2020 17:14

Lab Sample Id: 674949-011

Date Collected: 10.12.2020 13:47

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.13.2020 12:15

% Moisture: 3.37

Seq Number: 3139613

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000394	0.00205	mg/kg	10.13.2020 18:06	U	1
Toluene	108-88-3	<0.000467	0.00205	mg/kg	10.13.2020 18:06	U	1
Ethylbenzene	100-41-4	<0.000579	0.00205	mg/kg	10.13.2020 18:06	U	1
m,p-Xylenes	179601-23-1	<0.00104	0.00410	mg/kg	10.13.2020 18:06	U	1
o-Xylene	95-47-6	<0.000353	0.00205	mg/kg	10.13.2020 18:06	U	1
Total Xylenes	1330-20-7	<0.000353	0.00205	mg/kg	10.13.2020 18:06	U	1
Total BTEX		<0.000353	0.00205	mg/kg	10.13.2020 18:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.13.2020 18:06		
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.13.2020 18:06		

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



ARCADIS

Chevron - NM AB State 2 Site

Analytical Method: Chloride by EPA 300

Seq Number: 3139626

MB Sample Id: 7713184-1-BLK

Matrix: Solid

LCS Sample Id: 7713184-1-BKS

Prep Method: E300P

Date Prep: 10.13.2020

LCSD Sample Id: 7713184-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	255	102	323	129	90-110	24	20	mg/kg	10.13.2020 16:20	HF

Analytical Method: Chloride by EPA 300

Seq Number: 3139626

Parent Sample Id: 674949-007

Matrix: Soil

MS Sample Id: 674949-007 S

Prep Method: E300P

Date Prep: 10.13.2020

MSD Sample Id: 674949-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	42.0	248	303	105	307	107	90-110	1	20	mg/kg	10.13.2020 16:36	

Analytical Method: Chloride by EPA 300

Seq Number: 3139626

Parent Sample Id: 674949-010

Matrix: Soil

MS Sample Id: 674949-010 S

Prep Method: E300P

Date Prep: 10.13.2020

MSD Sample Id: 674949-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.7	254	281	104	282	105	90-110	0	20	mg/kg	10.13.2020 17:50	

Analytical Method: Percent Moisture

Seq Number: 3139532

Matrix: Solid

MB Sample Id: 3139532-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	< MDL	%	10.13.2020 10:58	

Analytical Method: Percent Moisture

Seq Number: 3139532

Matrix: Soil

Parent Sample Id: 674933-001

MD Sample Id: 674933-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	0.920	0.870	6	20	%	10.13.2020 10:58	

Analytical Method: Percent Moisture

Seq Number: 3139532

Matrix: Soil

Parent Sample Id: 674949-007

MD Sample Id: 674949-007 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	0.170	0.110	43	20	%	10.13.2020 10:58	F

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



ARCADIS

Chevron - NM AB State 2 Site

Analytical Method: TPH By SW8015 Mod

Seq Number: 3140291

MB Sample Id: 7713590-1-BLK

Matrix: Solid

LCS Sample Id: 7713590-1-BKS

Prep Method: SW8015P

Date Prep: 10.20.2020

LCSD Sample Id: 7713590-1-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	1210	121	1210	121	70-135	0	35	mg/kg	10.20.2020 18:55	
Diesel Range Organics (DRO)	<50.0	1000	1170	117	1160	116	70-135	1	35	mg/kg	10.20.2020 18:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		134		135		70-135	%	10.20.2020 18:55
o-Terphenyl	107		120		117		70-135	%	10.20.2020 18:55

Analytical Method: TPH By SW8015 Mod

Seq Number: 3140291

Matrix: Solid

MB Sample Id: 7713590-1-BLK

Prep Method: SW8015P

Date Prep: 10.20.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.20.2020 18:34	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3140291

Matrix: Soil

Parent Sample Id: 675036-001

MS Sample Id: 675036-001 S

Prep Method: SW8015P

Date Prep: 10.20.2020

MSD Sample Id: 675036-001 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)	<73.5	1470	1830	124	1810	123	70-135	1	35	mg/kg	10.20.2020 19:56	
Diesel Range Organics (DRO)	<73.5	1470	1700	116	1740	118	70-135	2	35	mg/kg	10.20.2020 19:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	135		135		70-135	%	10.20.2020 19:56
o-Terphenyl	116		118		70-135	%	10.20.2020 19:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3139613

Matrix: Solid

MB Sample Id: 7713153-1-BLK

LCS Sample Id: 7713153-1-BKS

Prep Method: SW5035A

Date Prep: 10.13.2020

LCSD Sample Id: 7713153-1-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	0.0817	82	0.0873	87	70-130	7	35	mg/kg	10.13.2020 11:17	
Toluene	<0.000456	0.100	0.0837	84	0.0976	98	70-130	15	35	mg/kg	10.13.2020 11:17	
Ethylbenzene	<0.000565	0.100	0.0913	91	0.0982	98	70-130	7	35	mg/kg	10.13.2020 11:17	
m,p-Xylenes	<0.00101	0.200	0.185	93	0.199	100	70-130	7	35	mg/kg	10.13.2020 11:17	
o-Xylene	<0.000344	0.100	0.0930	93	0.100	100	70-130	7	35	mg/kg	10.13.2020 11:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		97		98		70-130	%	10.13.2020 11:17
4-Bromofluorobenzene	111		101		100		70-130	%	10.13.2020 11:17

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



ARCADIS

Chevron - NM AB State 2 Site

Analytical Method: BTEX by EPA 8021B

Seq Number: 3139613

Parent Sample Id: 674949-001

Matrix: Soil

MS Sample Id: 674949-001 S

Prep Method: SW5035A

Date Prep: 10.13.2020

MSD Sample Id: 674949-001 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	0.0676	67	0.0680	67	70-130	1	35	mg/kg	10.13.2020 11:57	X
Toluene	<0.000459	0.101	0.0629	62	0.0534	53	70-130	16	35	mg/kg	10.13.2020 11:57	X
Ethylbenzene	<0.000569	0.101	0.0493	49	0.0435	43	70-130	13	35	mg/kg	10.13.2020 11:57	X
m,p-Xylenes	<0.00102	0.202	0.0994	49	0.0875	43	70-130	13	35	mg/kg	10.13.2020 11:57	X
o-Xylene	<0.000347	0.101	0.0490	49	0.0428	42	70-130	14	35	mg/kg	10.13.2020 11:57	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		101		70-130	%	10.13.2020 11:57
4-Bromofluorobenzene	107		103		70-130	%	10.13.2020 11:57

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

Eurofins TestAmerica, Houston

6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

6749210

eurofins

Environment Testing America

Client Information						Sampler:		Lab P.M.	
Company: ARCADIS U.S., Inc.						Kudchadkar, Sachin G		Carrier Tracking No(s):	
Address: 1004 North Big Spring Suite 121						Phone: 866-531-9821		Page: 600-79267-21382.1	
City: Midland						E-Mail: Sachin.Kudchadkar@Eurofinet.com		Page:	
State, Zip: TX, 79701									
Phone: 30057223									
Email: Justin.Nixon@arcadis.com									
Project Name: Chevron - NM AB State 2 Site									
Site: SSO#:									
Due Date Requested:						Analysis Requested			
TAT Requested (days):									
PO #:									
MO #:									
Protect #:									
SSOW#:									
Sample Identification						Field Filtered Sample (Yes or No)			
Sample Date						Perform MS/MSD (Yes or No)			
Sample Time						8015D_DRO / ORO			
Sample Type (C=Comp, G=grab)						8015D_GRO			
Matrix (W=water, S=solid, O=oyster shell, B=bitumen, A=air)						8260B-BTEX			
Preservation Code:						300-Chloride			
SB-1-S-O-5ft-201012						moisture			
SB-2-S-O-5ft-201012									
SB-3-S-O-5ft-201012									
SB-4-S-O-5ft-201012									
SB-5-S-O-5ft-201012									
SB-6-S-O-5ft-201012									
SB-7-S-O-5ft-201012									
SB-8-S-O-5ft-201012									
SB-9-S-O-5ft-201012									
SB-10-S-O-5ft-201012									
SB-10-S-1-201012									
Possible Hazard Identification						Total Number of containers			
Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological ☐						Special Instructions/Note: Chilling in passkeys			
Deliverable Requested: I, II, III, IV, Other (specify)						Reel 10.6oe			
Empty Kit Relinquished by:						Cooler Temperature(s) °C and Other Remarks: Chilling in Passkey Std. TAT			
Relinquished by: [Signature]						Date/Time: 10-12-20 17:14 Company: Arcadis			
Relinquished by: [Signature]						Received by: [Signature] Date/Time: 10-12-20 17:14 Company: Arcadis			
Relinquished by: [Signature]						Received by: [Signature] Date/Time: 10-12-20 17:14 Company: Arcadis			
Custody Seals Intact: Δ Yes Δ No						Custody Seal No.: 10.6oe Chilling in Passkey Std. TAT			

Inter-Office Shipment

OS Number : 71742

Date/Time: 10.13.2020

Created by: Jessica Kramer

Please send report to: Sachin Kudchadkar

Lab# From: Midland

Delivery Priority:

Address: 1211 W. Florida Ave

Lab# To: Houston

Air Bill No.: 771788900118

E-Mail:

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
674949-001	S	SB-1-S-0-.5fr-201012	10.12.2020 10:45	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	
674949-001	S	SB-1-S-0-.5fr-201012	10.12.2020 10:45	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-002	S	SB-2-S-0-.5fr-201012	10.12.2020 10:58	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-002	S	SB-2-S-0-.5fr-201012	10.12.2020 10:58	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	
674949-003	S	SB-3-S-0-.5fr-201012	10.12.2020 11:05	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	
674949-003	S	SB-3-S-0-.5fr-201012	10.12.2020 11:05	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-004	S	SB-4-S-0-.5fr-201012	10.12.2020 11:12	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	
674949-004	S	SB-4-S-0-.5fr-201012	10.12.2020 11:12	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-005	S	SB-5-S-0-.5fr-201012	10.12.2020 11:36	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-005	S	SB-5-S-0-.5fr-201012	10.12.2020 11:36	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	
674949-006	S	SB-6-S-0-.5fr-201012	10.12.2020 11:44	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	
674949-006	S	SB-6-S-0-.5fr-201012	10.12.2020 11:44	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-007	S	SB-7-S-0-.5fr-201012	10.12.2020 11:50	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	
674949-007	S	SB-7-S-0-.5fr-201012	10.12.2020 11:50	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-008	S	SB-8-S-0-.5fr-201012	10.12.2020 11:58	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	
674949-008	S	SB-8-S-0-.5fr-201012	10.12.2020 11:58	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-009	S	SB-9-S-0-.5fr-201012	10.12.2020 13:06	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	
674949-009	S	SB-9-S-0-.5fr-201012	10.12.2020 13:06	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-010	S	SB-10-S-0-.5fr-20101	10.12.2020 13:40	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	
674949-010	S	SB-10-S-0-.5fr-20101	10.12.2020 13:40	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-011	S	SB-10-S-1-201012	10.12.2020 13:47	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.16.2020	10.26.2020	SGK	PHCG	
674949-011	S	SB-10-S-1-201012	10.12.2020 13:47	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.16.2020	10.26.2020	SGK	PHCD	

Inter-Office Shipment

OS Number : 71742

Date/Time: 10.13.2020 Created by: Jessica Kramer
Lab# From: Midland Delivery Priority:
Lab# To: Houston Air Bill No.: 771788900118

Please send report to: Sachin Kudchadkar
Address: 1211 W. Florida Ave
E-Mail:

Inter Office Shipment or Sample Comments:

Relinquished By: Jessica Kramer
Jessica Kramer

Received By: Hypatia Keys
Hypatia Keys

Date Relinquished: 10.13.2020

Date Received: 10.14.2020

Cooler Temperature: 1.3



Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 71742

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : hou-203

Sent By: Jessica Kramer

Date Sent: 10.13.2020 09.48 AM

Received By: Hypatia Keys

Date Received: 10.14.2020 04.11 PM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Hypatia Keys

Date: 10.14.2020

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: ARCADIS

Date/ Time Received: 10.12.2020 05.14.00 PM

Work Order #: 674949

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	10.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#18 Water VOC samples have zero headspace?	N/A

Xenco Stafford - GRO, DRO-ORO

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Jessica Kramer

Date: 10.13.2020

Checklist reviewed by:



John Cady

Date: 10.13.2020

Certificate of Analysis Summary 675036
ARCADIS, Midland, TX

Project Name: Chevron - NM AB State 2 State

Project Id: 60012727
Contact: Morgan Jordan
Project Location:

Date Received in Lab: Tue 10.13.2020 16:20
Report Date: 10.23.2020 09:18
Project Manager: Sachin Kudchadkar

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	675036-001 SB-11-S-0-.5-201013 SOIL 10.13.2020 09:11	675036-002 SB-11-S-1-201013 SOIL 10.13.2020 09:18	675036-003 SB-11-SD-1-201013 SOIL 10.13.2020 09:18	675036-004 SB-12-S-0-.5-201013 SOIL 10.13.2020 09:24	675036-005 SB-13-S-0-.5-201013 SOIL 10.13.2020 09:30	675036-006 SB-13-S-1-201013 SOIL 10.13.2020 09:35
	Extracted: Analyzed: Units/RL:	10.14.2020 14:15 10.14.2020 16:54 mg/kg RL 44.6 7.36	10.14.2020 14:15 10.14.2020 17:00 mg/kg RL 8.92 5.31	10.14.2020 14:15 10.14.2020 17:06 mg/kg RL <5.27 5.27	10.14.2020 14:15 10.14.2020 17:12 mg/kg RL 11.2 5.00	10.14.2020 14:15 10.14.2020 17:18 mg/kg RL <5.10 5.10	10.14.2020 14:15 10.14.2020 17:25 mg/kg RL <5.48 5.48
	Percent Moisture	Extracted: Analyzed: Units/RL:	10.15.2020 17:00 % RL 32.2	10.15.2020 17:00 % RL 5.39	10.15.2020 17:00 % RL 0.970	10.15.2020 17:00 % RL 2.97	10.15.2020 17:00 % RL 8.18
	TPH By SW8015 Mod DRO/ORO SUB: T104704215-20-38	Extracted: Analyzed: Units/RL:	10.20.2020 14:17 10.20.2020 19:36 mg/kg RL <73.5 73.5	10.20.2020 14:29 10.21.2020 22:56 mg/kg RL <52.6 52.6	10.20.2020 14:32 10.20.2020 21:18 mg/kg RL <50.5 50.5	10.20.2020 14:35 10.20.2020 21:39 mg/kg RL <51.2 51.2	10.20.2020 14:38 10.20.2020 22:20 mg/kg RL <54.2 54.2
		Gasoline Range Hydrocarbons (GRO)	<73.5 73.5	<52.8 52.8	<50.5 50.5	<51.2 51.2	<54.2 54.2
		Diesel Range Organics (DRO)	<73.5 73.5	<52.8 52.8	<50.5 50.5	<51.2 51.2	<54.2 54.2
		Motor Oil Range Hydrocarbons (MRO)	<73.5 73.5	<52.8 52.8	<50.5 50.5	<51.2 51.2	<54.2 54.2
	Total TPH		<73.5 73.5	<52.8 52.8	<50.5 50.5	<51.2 51.2	<54.2 54.2

BRL - Below Reporting Limit

Sachin Kudchadkar

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

Certificate of Analysis Summary 675036
ARCADIS, Midland, TX

Project Name: Chevron - NM AB State 2 State

Date Received in Lab: Tue 10.13.2020 16:20
Report Date: 10.23.2020 09:18
Project Manager: Sachin Kudchadkar

Project Id: 60012727
Contact: Morgan Jordan
Project Location:

<i>Analysis Requested</i>	<i>Lab Id:</i>	675036-001	<i>Field Id:</i>	SB-11-S-0-.5-201013	<i>Depth:</i>	SOIL	<i>Matrix:</i>	SOIL	<i>Sampled:</i>	10.13.2020 09:11	<i>Sampled:</i>	10.13.2020 09:18	<i>Sampled:</i>	10.13.2020 09:24	<i>Sampled:</i>	10.13.2020 09:30	<i>Sampled:</i>	10.13.2020 09:35
	<i>Extracted:</i>	10.14.2020 17:00	<i>Analyzed:</i>	10.15.2020 04:10	<i>Units/RL:</i>	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg
	Benzene	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200
	Toluene	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200
	Ethylbenzene	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200
m,p-Xylenes	<0.00398	0.00398	<0.00398	0.00398	<0.00401	0.00401	<0.00403	0.00403	<0.00403	0.00403	<0.00399	0.00399	<0.00399	0.00399	<0.00397	0.00397	<0.00401	0.00401
o-Xylene	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Total Xylenes	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200
Total BTEX	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00200	0.00200

BRL - Below Reporting Limit

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

Sachin Kudchadkar

Certificate of Analysis Summary 675036
ARCADIS, Midland, TX

Project Name: Chevron - NM AB State 2 State

Project Id: 60012727
Contact: Morgan Jordan
Project Location:

Date Received in Lab: Tue 10.13.2020 16:20
Report Date: 10.23.2020 09:18
Project Manager: Sachin Kudchadkar

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	675036-007 SB-14-S-0-.5-201013 SOIL 10.13.2020 09:42	675036-008 SB-15-S-0-.5-201013 SOIL 10.13.2020 09:50		
	Extracted:	10.14.2020 17:00	10.14.2020 17:00		
	Analyzed:	10.14.2020 20:15	10.14.2020 20:21		
	Units/RL:	mg/kg RL 34.6 5.21	mg/kg RL 6.84 5.67		
	Chloride				
Percent Moisture	Extracted:				
	Analyzed:	10.15.2020 17:00	10.15.2020 17:00		
	Units/RL:	% RL 3.48	% RL 12.4		
TPH By SW8015 Mod DRO/ORO SUB: T104704215-20-38	Extracted:	10.20.2020 14:41	10.20.2020 14:44		
	Analyzed:	10.20.2020 22:40	10.20.2020 23:01		
	Units/RL:	mg/kg RL <51.5 51.5	mg/kg RL <56.5 56.5		
	Gasoline Range Hydrocarbons (GRO)				
Motor Oil Range Hydrocarbons (MRO)	Diesel Range Organics (DRO)				
		<51.5 51.5	<56.5 56.5		
		<51.5 51.5	<56.5 56.5		
Total TPH		<51.5 51.5	<56.5 56.5		

BRL - Below Reporting Limit

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

Sachin Kudchadkar

Certificate of Analysis Summary 675036

ARCADIS, Midland, TX

Project Name: Chevron - NM AB State 2 State

Date Received in Lab: Tue 10.13.2020 16:20

Report Date: 10.23.2020 09:18

Project Manager: Sachin Kudchadkar

Project Id: 60012727

Contact: Morgan Jordan

Project Location:

Analysis Requested		Lab Id: Field Id: Depth: Matrix: Sampled:	675036-007 SB-14-S-0-.5-201013 SOIL 10.13.2020 09:42	675036-008 SB-15-S-0-.5-201013 SOIL 10.13.2020 09:50			
BTEx by EPA 8021B		Extracted:	10.14.2020 17:00	10.14.2020 17:00			
		Analyzed:	10.15.2020 06:13	10.15.2020 06:34			
		Units/RL:	mg/kg RL	mg/kg RL			
Benzene			<0.00199 0.00199	<0.00199 0.00199			
Toluene			<0.00199 0.00199	<0.00199 0.00199			
Ethylbenzene			<0.00199 0.00199	<0.00199 0.00199			
m,p-Xylenes			<0.00398 0.00398	<0.00398 0.00398			
o-Xylene			<0.00199 0.00199	<0.00199 0.00199			
Total Xylenes			<0.00199 0.00199	<0.00199 0.00199			
Total BTEx			<0.00199 0.00199	<0.00199 0.00199			

BRL - Below Reporting Limit

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

Sachin Kudchadkar

Analytical Report 675036

for

ARCADIS

Project Manager: Morgan Jordan

Chevron - NM AB State 2 State

60012727

10.23.2020

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)



10.23.2020

Project Manager: **Morgan Jordan**

ARCADIS

1004 N. Big Spring St.

Midland, TX 79701

Reference: Eurofins Xenco, LLC Report No(s): **675036**

Chevron - NM AB State 2 State

Project Address:

Morgan Jordan:

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) 675036. 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. 675036 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink, appearing to read "Sachin Kudchadkar", written over a horizontal line.

Sachin Kudchadkar

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 675036****ARCADIS, Midland, TX**

Chevron - NM AB State 2 State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-11-S-0-.5-201013	S	10.13.2020 09:11		675036-001
SB-11-S-1-201013	S	10.13.2020 09:18		675036-002
SB-11-SD-1-201013	S	10.13.2020 09:18		675036-003
SB-12-S-0-.5-201013	S	10.13.2020 09:24		675036-004
SB-13-S-0-.5-201013	S	10.13.2020 09:30		675036-005
SB-13-S-1-201013	S	10.13.2020 09:35		675036-006
SB-14-S-0-.5-201013	S	10.13.2020 09:42		675036-007
SB-15-S-0-.5-201013	S	10.13.2020 09:50		675036-008



CASE NARRATIVE

Client Name: *ARCADIS*

Project Name: *Chevron - NM AB State 2 State*

Project ID: 60012727
Work Order Number(s): 675036

Report Date: 10.23.2020
Date Received: 10.13.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3140291 TPH By SW8015 Mod DRO/ORO

Surrogate o-Terphenyl recovered above QC limits. No target analytes were present in the sample at or above the respective limits of detection. No additional action is required.

Samples affected are: 675036-003.



Certificate of Analytical Results 675036

ARCADIS, Midland, TX Chevron - NM AB State 2 State

Sample Id: **SB-11-S-0-.5-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-001

Date Collected: 10.13.2020 09:11

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.14.2020 14:15

% Moisture: 32.2

Seq Number: 3139737

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.6	7.36	mg/kg	10.14.2020 16:54		1

Analytical Method: TPH By SW8015 Mod DRO/ORO

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:17

% Moisture: 32.2

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<73.5	73.5	mg/kg	10.20.2020 19:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<73.5	73.5	mg/kg	10.20.2020 19:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<73.5	73.5	mg/kg	10.20.2020 19:36	U	1
Total TPH	PHC635	<73.5	73.5	mg/kg	10.20.2020 19:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	10.20.2020 19:36	
o-Terphenyl	84-15-1	115	%	70-135	10.20.2020 19:36	



Certificate of Analytical Results 675036

ARCADIS, Midland, TX
Chevron - NM AB State 2 State

Sample Id: **SB-11-S-0-.5-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-001

Date Collected: 10.13.2020 09:11

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.14.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3139732

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.15.2020 04:10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.15.2020 04:10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.15.2020 04:10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.15.2020 04:10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.15.2020 04:10	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.15.2020 04:10	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.15.2020 04:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.15.2020 04:10		
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.15.2020 04:10		



Certificate of Analytical Results 675036

ARCADIS, Midland, TX Chevron - NM AB State 2 State

Sample Id: **SB-11-S-1-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-002

Date Collected: 10.13.2020 09:18

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.14.2020 14:15

% Moisture: 5.19

Basis: Dry Weight

Seq Number: 3139737

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.92	5.31	mg/kg	10.14.2020 17:00		1

Analytical Method: TPH By SW8015 Mod DRO/ORO

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:26

% Moisture: 5.19

Basis: Dry Weight

Seq Number: 3140291

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<52.8	52.8	mg/kg	10.20.2020 20:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<52.8	52.8	mg/kg	10.20.2020 20:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<52.8	52.8	mg/kg	10.20.2020 20:37	U	1
Total TPH	PHC635	<52.8	52.8	mg/kg	10.20.2020 20:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	10.20.2020 20:37	
o-Terphenyl	84-15-1	117	%	70-135	10.20.2020 20:37	



Certificate of Analytical Results 675036

ARCADIS, Midland, TX
Chevron - NM AB State 2 State

Sample Id: **SB-11-S-1-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-002

Date Collected: 10.13.2020 09:18

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.14.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3139732

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.2020 04:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.2020 04:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.2020 04:30	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.15.2020 04:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.2020 04:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.2020 04:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.2020 04:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	10.15.2020 04:30		
4-Bromofluorobenzene	460-00-4	97	%	70-130	10.15.2020 04:30		



Certificate of Analytical Results 675036

ARCADIS, Midland, TX Chevron - NM AB State 2 State

Sample Id: **SB-11-SD-1-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-003

Date Collected: 10.13.2020 09:18

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.14.2020 14:15

% Moisture: 5.39

Basis: Dry Weight

Seq Number: 3139737

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.27	5.27	mg/kg	10.14.2020 17:06	U	1

Analytical Method: TPH By SW8015 Mod DRO/ORO

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:29

% Moisture: 5.39

Basis: Dry Weight

Seq Number: 3140291

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<52.6	52.6	mg/kg	10.21.2020 22:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<52.6	52.6	mg/kg	10.21.2020 22:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<52.6	52.6	mg/kg	10.21.2020 22:56	U	1
Total TPH	PHC635	<52.6	52.6	mg/kg	10.21.2020 22:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	10.21.2020 22:56	
o-Terphenyl	84-15-1	136	%	70-135	10.21.2020 22:56	**



Certificate of Analytical Results 675036

ARCADIS, Midland, TX
Chevron - NM AB State 2 State

Sample Id: **SB-11-SD-1-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-003

Date Collected: 10.13.2020 09:18

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.14.2020 17:00

% Moisture:

Basis: Wet Weight

Seq Number: 3139732

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.15.2020 04:51	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.15.2020 04:51	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.15.2020 04:51	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.15.2020 04:51	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.15.2020 04:51	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.15.2020 04:51	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.15.2020 04:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	10.15.2020 04:51	
1,4-Difluorobenzene	540-36-3	96	%	70-130	10.15.2020 04:51	



Certificate of Analytical Results 675036

ARCADIS, Midland, TX Chevron - NM AB State 2 State

Sample Id: **SB-12-S-0-.5-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-004

Date Collected: 10.13.2020 09:24

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.14.2020 14:15

% Moisture: .97

Seq Number: 3139737

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.2	5.00	mg/kg	10.14.2020 17:12		1

Analytical Method: TPH By SW8015 Mod DRO/ORO

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:32

% Moisture: .97

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.5	50.5	mg/kg	10.20.2020 21:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.5	50.5	mg/kg	10.20.2020 21:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.5	50.5	mg/kg	10.20.2020 21:18	U	1
Total TPH	PHC635	<50.5	50.5	mg/kg	10.20.2020 21:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	10.20.2020 21:18	
o-Terphenyl	84-15-1	102	%	70-135	10.20.2020 21:18	



Certificate of Analytical Results 675036

ARCADIS, Midland, TX
Chevron - NM AB State 2 State

Sample Id: **SB-12-S-0-.5-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-004

Date Collected: 10.13.2020 09:24

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.14.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3139732

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.2020 05:11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.2020 05:11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.2020 05:11	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.15.2020 05:11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.2020 05:11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.2020 05:11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.2020 05:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	10.15.2020 05:11	
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.15.2020 05:11	



Certificate of Analytical Results 675036

ARCADIS, Midland, TX Chevron - NM AB State 2 State

Sample Id: **SB-13-S-0-.5-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-005

Date Collected: 10.13.2020 09:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.14.2020 14:15

% Moisture: 2.97

Basis: Dry Weight

Seq Number: 3139737

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.10	5.10	mg/kg	10.14.2020 17:18	U	1

Analytical Method: TPH By SW8015 Mod DRO/ORO

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:35

% Moisture: 2.97

Basis: Dry Weight

Seq Number: 3140291

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<51.2	51.2	mg/kg	10.20.2020 21:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<51.2	51.2	mg/kg	10.20.2020 21:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<51.2	51.2	mg/kg	10.20.2020 21:39	U	1
Total TPH	PHC635	<51.2	51.2	mg/kg	10.20.2020 21:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	10.20.2020 21:39	
o-Terphenyl	84-15-1	110	%	70-135	10.20.2020 21:39	



Certificate of Analytical Results 675036

ARCADIS, Midland, TX
Chevron - NM AB State 2 State

Sample Id: **SB-13-S-0-.5-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-005

Date Collected: 10.13.2020 09:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.14.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3139732

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.15.2020 05:32	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.15.2020 05:32	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.15.2020 05:32	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.15.2020 05:32	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.15.2020 05:32	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.15.2020 05:32	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.15.2020 05:32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.15.2020 05:32		
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.15.2020 05:32		



Certificate of Analytical Results 675036

ARCADIS, Midland, TX Chevron - NM AB State 2 State

Sample Id: **SB-13-S-1-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-006

Date Collected: 10.13.2020 09:35

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.14.2020 14:15

% Moisture: 8.18

Basis: Dry Weight

Seq Number: 3139737

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.48	5.48	mg/kg	10.14.2020 17:25	U	1

Analytical Method: TPH By SW8015 Mod DRO/ORO

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:38

% Moisture: 8.18

Basis: Dry Weight

Seq Number: 3140291

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<54.2	54.2	mg/kg	10.20.2020 22:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<54.2	54.2	mg/kg	10.20.2020 22:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<54.2	54.2	mg/kg	10.20.2020 22:20	U	1
Total TPH	PHC635	<54.2	54.2	mg/kg	10.20.2020 22:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	10.20.2020 22:20	
o-Terphenyl	84-15-1	107	%	70-135	10.20.2020 22:20	



Certificate of Analytical Results 675036

ARCADIS, Midland, TX
Chevron - NM AB State 2 State

Sample Id: **SB-13-S-1-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-006

Date Collected: 10.13.2020 09:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.14.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3139732

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.2020 05:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.2020 05:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.2020 05:53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.15.2020 05:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.2020 05:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.2020 05:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.2020 05:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.15.2020 05:53		
4-Bromofluorobenzene	460-00-4	109	%	70-130	10.15.2020 05:53		



Certificate of Analytical Results 675036

ARCADIS, Midland, TX Chevron - NM AB State 2 State

Sample Id: **SB-14-S-0-5-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-007

Date Collected: 10.13.2020 09:42

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.14.2020 17:00

% Moisture: 3.48

Seq Number: 3139746

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.6	5.21	mg/kg	10.14.2020 20:15		1

Analytical Method: TPH By SW8015 Mod DRO/ORO

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:41

% Moisture: 3.48

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<51.5	51.5	mg/kg	10.20.2020 22:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<51.5	51.5	mg/kg	10.20.2020 22:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<51.5	51.5	mg/kg	10.20.2020 22:40	U	1
Total TPH	PHC635	<51.5	51.5	mg/kg	10.20.2020 22:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	10.20.2020 22:40	
o-Terphenyl	84-15-1	113	%	70-135	10.20.2020 22:40	



Certificate of Analytical Results 675036

ARCADIS, Midland, TX
Chevron - NM AB State 2 State

Sample Id: **SB-14-S-0-.5-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-007

Date Collected: 10.13.2020 09:42

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.14.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3139732

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.15.2020 06:13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.15.2020 06:13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.15.2020 06:13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.15.2020 06:13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.15.2020 06:13	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.15.2020 06:13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.15.2020 06:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.15.2020 06:13	
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.15.2020 06:13	



Certificate of Analytical Results 675036

ARCADIS, Midland, TX Chevron - NM AB State 2 State

Sample Id: **SB-15-S-0-.5-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-008

Date Collected: 10.13.2020 09:50

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.14.2020 17:00

% Moisture: 12.37

Seq Number: 3139746

Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.84	5.67	mg/kg	10.14.2020 20:21		1

Analytical Method: TPH By SW8015 Mod DRO/ORO

Prep Method: SW8015P

Tech: ISU

Analyst: ISU

Date Prep: 10.20.2020 14:44

% Moisture: 12.37

Seq Number: 3140291

Basis: Dry Weight

SUB: T104704215-20-38

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<56.5	56.5	mg/kg	10.20.2020 23:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<56.5	56.5	mg/kg	10.20.2020 23:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<56.5	56.5	mg/kg	10.20.2020 23:01	U	1
Total TPH	PHC635	<56.5	56.5	mg/kg	10.20.2020 23:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	10.20.2020 23:01	
o-Terphenyl	84-15-1	115	%	70-135	10.20.2020 23:01	



Certificate of Analytical Results 675036

ARCADIS, Midland, TX
Chevron - NM AB State 2 State

Sample Id: **SB-15-S-0-.5-201013**

Matrix: Soil

Date Received: 10.13.2020 16:20

Lab Sample Id: 675036-008

Date Collected: 10.13.2020 09:50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 10.14.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3139732

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.15.2020 06:34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.15.2020 06:34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.15.2020 06:34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.15.2020 06:34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.15.2020 06:34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.15.2020 06:34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.15.2020 06:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	10.15.2020 06:34	
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.15.2020 06:34	

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



ARCADIS

Chevron - NM AB State 2 State

Analytical Method: Chloride by EPA 300

Seq Number: 3139737

MB Sample Id: 7713262-1-BLK

Matrix: Solid

LCS Sample Id: 7713262-1-BKS

Prep Method: E300P

Date Prep: 10.14.2020

LCSD Sample Id: 7713262-1-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	265	106	265	106	90-110	0	20	mg/kg	10.14.2020 14:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3139746

MB Sample Id: 7713285-1-BLK

Matrix: Solid

LCS Sample Id: 7713285-1-BKS

Prep Method: E300P

Date Prep: 10.14.2020

LCSD Sample Id: 7713285-1-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	257	103	256	102	90-110	0	20	mg/kg	10.14.2020 17:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3139737

Parent Sample Id: 675055-004

Matrix: Soil

MS Sample Id: 675055-004 S

Prep Method: E300P

Date Prep: 10.14.2020

MSD Sample Id: 675055-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3440	1240	4660	98	4700	102	90-110	1	20	mg/kg	10.14.2020 14:46	

Analytical Method: Chloride by EPA 300

Seq Number: 3139737

Parent Sample Id: 675055-014

Matrix: Soil

MS Sample Id: 675055-014 S

Prep Method: E300P

Date Prep: 10.14.2020

MSD Sample Id: 675055-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3910	1240	5150	100	5150	100	90-110	0	20	mg/kg	10.14.2020 16:11	

Analytical Method: Chloride by EPA 300

Seq Number: 3139746

Parent Sample Id: 674970-038

Matrix: Soil

MS Sample Id: 674970-038 S

Prep Method: E300P

Date Prep: 10.14.2020

MSD Sample Id: 674970-038 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	65.9	253	335	106	335	106	90-110	0	20	mg/kg	10.14.2020 18:07	

Analytical Method: Chloride by EPA 300

Seq Number: 3139746

Parent Sample Id: 675005-004

Matrix: Soil

MS Sample Id: 675005-004 S

Prep Method: E300P

Date Prep: 10.14.2020

MSD Sample Id: 675005-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2080	1250	3430	108	3430	108	90-110	0	20	mg/kg	10.14.2020 19:33	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



ARCADIS

Chevron - NM AB State 2 State

Analytical Method: Percent Moisture

Seq Number: 3139806

Matrix: Solid

MB Sample Id: 3139806-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	< MDL	%	10.15.2020 17:00	

Analytical Method: Percent Moisture

Seq Number: 3139806

Matrix: Soil

Parent Sample Id: 675036-001

MD Sample Id: 675036-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	32.2	31.6	2	20	%	10.15.2020 17:00	

Analytical Method: Percent Moisture

Seq Number: 3139806

Matrix: Soil

Parent Sample Id: 675138-002

MD Sample Id: 675138-002 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	1.85	1.78	4	20	%	10.15.2020 17:00	

Analytical Method: TPH By SW8015 Mod DRO/ORO

Seq Number: 3140291

Matrix: Solid

MB Sample Id: 7713590-1-BLK

LCS Sample Id: 7713590-1-BKS

Prep Method: SW8015P

Date Prep: 10.20.2020

LCSD Sample Id: 7713590-1-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	1210	121	1210	121	70-135	0	35	mg/kg	10.20.2020 18:55	
Diesel Range Organics (DRO)	<50.0	1000	1170	117	1160	116	70-135	1	35	mg/kg	10.20.2020 18:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		134		135		70-135	%	10.20.2020 18:55
o-Terphenyl	107		120		117		70-135	%	10.20.2020 18:55

Analytical Method: TPH By SW8015 Mod DRO/ORO

Seq Number: 3140291

Matrix: Solid

MB Sample Id: 7713590-1-BLK

Prep Method: SW8015P

Date Prep: 10.20.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.20.2020 18:34	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

ARCADIS

Chevron - NM AB State 2 State

Analytical Method: TPH By SW8015 Mod DRO/ORO

Seq Number: 3140291

Matrix: Soil

Prep Method: SW8015P

Date Prep: 10.20.2020

Parent Sample Id: 675036-001

MS Sample Id: 675036-001 S

MSD Sample Id: 675036-001 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)	<73.5	1470	1830	124	1810	123	70-135	1	35	mg/kg	10.20.2020 19:56	
Diesel Range Organics (DRO)	<73.5	1470	1700	116	1740	118	70-135	2	35	mg/kg	10.20.2020 19:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	135		135		70-135	%	10.20.2020 19:56
o-Terphenyl	116		118		70-135	%	10.20.2020 19:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3139732

Matrix: Solid

Prep Method: SW5035A

Date Prep: 10.14.2020

MB Sample Id: 7713289-1-BLK

LCS Sample Id: 7713289-1-BKS

LCSD Sample Id: 7713289-1-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	0.0742	74	0.0776	78	70-130	4	35	mg/kg	10.15.2020 01:39	
Toluene	<0.00200	0.100	0.0824	82	0.0813	81	70-130	1	35	mg/kg	10.15.2020 01:39	
Ethylbenzene	<0.00200	0.100	0.0801	80	0.0815	82	70-130	2	35	mg/kg	10.15.2020 01:39	
m,p-Xylenes	<0.00400	0.200	0.167	84	0.169	85	70-130	1	35	mg/kg	10.15.2020 01:39	
o-Xylene	<0.00200	0.100	0.0870	87	0.0842	84	70-130	3	35	mg/kg	10.15.2020 01:39	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		101		100		70-130	%	10.15.2020 01:39
4-Bromofluorobenzene	94		110		109		70-130	%	10.15.2020 01:39

Analytical Method: BTEX by EPA 8021B

Seq Number: 3139732

Matrix: Soil

Prep Method: SW5035A

Date Prep: 10.14.2020

Parent Sample Id: 675036-001

MS Sample Id: 675036-001 S

MSD Sample Id: 675036-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0995	100	0.105	105	70-130	5	35	mg/kg	10.15.2020 02:20	
Toluene	<0.00200	0.0998	0.0899	90	0.0942	94	70-130	5	35	mg/kg	10.15.2020 02:20	
Ethylbenzene	<0.00200	0.0998	0.0771	77	0.0820	82	70-130	6	35	mg/kg	10.15.2020 02:20	
m,p-Xylenes	<0.00399	0.200	0.159	80	0.170	85	70-130	7	35	mg/kg	10.15.2020 02:20	
o-Xylene	<0.00200	0.0998	0.0773	77	0.0815	82	70-130	5	35	mg/kg	10.15.2020 02:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		98		70-130	%	10.15.2020 02:20
4-Bromofluorobenzene	104		107		70-130	%	10.15.2020 02:20

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

eurofins

Environment Testing America

Ver: 01/16/2019

Inter-Office Shipment

OS Number : 71769

Date/Time: 10.13.2020

Lab# From: Midland

Lab# To: Houston

Created by: Jessica Kramer

Delivery Priority:

Air Bill No.: 771788900118

Please send report to: Sachin Kudchadkar

Address: 1211 W. Florida Ave

E-Mail:

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
675036-001	S	SBI1-S-0-.5ft-201013	10.13.2020 09:11	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.19.2020	10.27.2020	SGK	PHCG	
675036-001	S	SBI1-S-0-.5ft-201013	10.13.2020 09:11	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.19.2020	10.27.2020	SGK	PHCD	
675036-002	S	SBI1-S-1-201013	10.13.2020 09:18	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.19.2020	10.27.2020	SGK	PHCD	
675036-002	S	SBI1-S-1-201013	10.13.2020 09:18	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.19.2020	10.27.2020	SGK	PHCG	
675036-003	S	SBI1-SD-1-201013	10.13.2020 09:18	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.19.2020	10.27.2020	SGK	PHCD	
675036-003	S	SBI1-SD-1-201013	10.13.2020 09:18	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.19.2020	10.27.2020	SGK	PHCG	
675036-004	S	SBI2-S-0-.5ft-201013	10.13.2020 09:24	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.19.2020	10.27.2020	SGK	PHCD	
675036-004	S	SBI2-S-0-.5ft-201013	10.13.2020 09:24	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.19.2020	10.27.2020	SGK	PHCG	
675036-005	S	SBI3-S-0-.5ft-201013	10.13.2020 09:30	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.19.2020	10.27.2020	SGK	PHCG	
675036-005	S	SBI3-S-0-.5ft-201013	10.13.2020 09:30	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.19.2020	10.27.2020	SGK	PHCD	
675036-006	S	SBI3-S-1-201013	10.13.2020 09:35	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.19.2020	10.27.2020	SGK	PHCG	
675036-006	S	SBI3-S-1-201013	10.13.2020 09:35	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.19.2020	10.27.2020	SGK	PHCD	
675036-007	S	SBI4-S-0-.5ft-201013	10.13.2020 09:42	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.19.2020	10.27.2020	SGK	PHCD	
675036-007	S	SBI4-S-0-.5ft-201013	10.13.2020 09:42	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.19.2020	10.27.2020	SGK	PHCG	
675036-008	S	SBI5-S-0-.5ft-201013	10.13.2020 09:50	SW8015GRO	TPH GRO by EPA 8015 Mod.	10.19.2020	10.27.2020	SGK	PHCG	
675036-008	S	SBI5-S-0-.5ft-201013	10.13.2020 09:50	SW8015DRO-ORO	TPH DRO-ORO by SW-846 8015	10.19.2020	10.27.2020	SGK	PHCD	

Inter Office Shipment or Sample Comments:

Relinquished By:

Jessica Kramer

Jessica Kramer

Date Relinquished: 10.13.2020

Received By:

Hypatia Keys

Hypatia Keys

Date Received: 10.14.2020

Cooler Temperature: 1.3



Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 71769

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : hou-203

Sent By: Jessica Kramer

Date Sent: 10.13.2020 04.34 PM

Received By: Hypatia Keys

Date Received: 10.14.2020 04.11 PM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Hypatia Keys

Date: 10.14.2020

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: ARCADIS

Date/ Time Received: 10.13.2020 04.20.00 PM

Work Order #: 675036

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-8

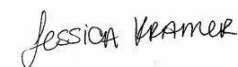
Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain 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
#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 Xenco Stafford
#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:



Jessica Kramer

Date: 10.13.2020

Checklist reviewed by:



John Cady

Date: 10.19.2020

APPENDIX C

Photographic Log

ARCADIS		PHOTOGRAPHIC LOG
Property Name: NM AB State #2		Location: Lea County, NM
Case No. 1RP-2470		
Photo No. 1	Date: 10/12/2020	
Direction Photo Taken: Facing West		
Description: Near SB-4		

ARCADIS		PHOTOGRAPHIC LOG
Property Name: NM AB State #2		Location: Lea County, NM
Case No. 1RP-2470		
Photo No. 2	Date: 10/12/2020	
Direction Photo Taken: Facing East		
Description: Near SB-1		



PHOTOGRAPHIC LOG

Property Name: NM AB State #2		Location: Lea County, NM	Case No. 1RP-2470
Photo No. 3	Date: 10/12/2020		
Direction Photo Taken: Facing East			
Description: Near SB-3, flowlines and power line			



PHOTOGRAPHIC LOG

Property Name: NM AB State #2		Location: Lea County, NM	Case No. 1RP-2470
Photo No. 4	Date: 10/12/2020		
Direction Photo Taken: Facing South			
Description: Near SB-10, flowlines			



PHOTOGRAPHIC LOG

Property Name: NM AB State #2		Location: Lea County, NM	Case No. 1RP-2470
Photo No. 5	Date: 10/12/2020		
Direction Photo Taken: Facing West			
Description: Near SB-15			



PHOTOGRAPHIC LOG

Property Name: NM AB State #2		Location: Lea County, NM	Case No. 1RP-2470
Photo No. 6	Date: 10/12/2020		
Direction Photo Taken: Facing North			
Description: One call flags and marking visible			

		PHOTOGRAPHIC LOG	
Property Name: NM AB State #2		Location: Lea County, NM	Case No. 1RP-2470
Photo No. 7	Date: 10/12/2020		
Direction Photo Taken: Facing Down			
Description: SB-8, hard rock layer restraining hand auger			

APPENDIX D

Revised C-141 Form 1RP-2470

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NLWJ1009639651
District RP	1RP-2470
Facility ID	NA
Application ID	NA

Release Notification

Responsible Party

Responsible Party: Chevron USA	OGRID: 4323
Contact Name: Armando Martinez	Contact Telephone: 505-690-5408
Contact email: amarti@chevron.com	Incident # (assigned by OCD) NLWJ1009639651
Contact mailing address:	

Location of Release Source

Latitude 32.77149 _____ Longitude -103.49025 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: NM AB State #2	Site Type: Produced water release
Date Release Discovered: 03/10/2010	API# (if applicable): 30-025-03085

Unit Letter	Section	Township	Range	County
P	6	18S	35E	Lea

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls): 2	Volume Recovered (bbls):
☒ Produced Water	Volume Released (bbls): 40	Volume Recovered (bbls): 15
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A grass fire melted a flow line.

State of New Mexico
Oil Conservation Division

Incident ID	NLWJ1009639651
District RP	1RP-2470
Facility ID	NA
Application ID	NA

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release was greater than 25 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Initial C-141 Form was submitted on April 5, 2010.	

Incident ID	NLWJ1009639651
District RP	1RP-2470
Facility ID	NA
Application ID	NA

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?	<u>60</u> (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. **Attached.**
Field data: **Attached.**
Data table of soil contaminant concentration data: **Attached.**
Depth to water determination: **51-100 feet bgs**
Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release: **None identified.**
Boring or excavation logs: **Shallow refusal was encountered.**
Photographs including date and GIS information: **Photographic log attached.**
Topographic/Aerial maps; **Topographic map attached.**
Laboratory data including chain of custody: **Attached.**

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

State of New Mexico
Oil Conservation Division

Incident ID	NLWJ1009639651
District RP	1RP-2470
Facility ID	NA
Application ID	NA

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: Armando Martinez Title: Environmental Project Manager

Signature:  Date: 3/8/21

email: amarti@chevron.com Telephone: 505-690-

5408

OCD Only

Received by: _____ Date: _____



Arcadis U.S., Inc.

10205 Westheimer Road

Suite 800

Houston, Texas 77042

Tel 713 953 4800

Fax 713 977 4620

www.arcadis.com

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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 42446

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 42446
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Report accepted as information only. Proceed with additional delineation and work plan development. Submit work plan via the OCD permitting portal by 6/30/2023.	3/21/2023