

MCollier@H-R Enterprises.com 575-909-0326

## Site Assessment, Remediation, and Closure Report

Cascade 29 Federal #001 CTB Incident# nAPP2320923553 Lea County, New Mexico

### **Prepared For:**

Cimarex Energy Co. 6001 Deauville Blvd. Suite 300N Midland, TX 79706

### **Prepared By:**

H&R Enterprises, LLC 5120 W. Kansas St. Hobbs, New Mexico 88242

February 9, 2024

Mr. Mike Bratcher **NMOCD** 1220 S. St. Francis Dr. Santa Fe, NM 87505

Subject: Site Assessment, Remediation, and Closure Report

Cascade 29 Federal #001 CTB

Lea County, NM

Dear Mr. Bratcher,

Cimarex Energy Co. has contracted H&R Enterprises (H&R) to perform site assessment and remediation services at the above-referenced location. The results of our site assessment and remediation activities are contained herein.

#### **Site Information**

The Cascade 29 Federal #001 CTB is located approximately 33 miles West of Jal, New Mexico. The legal location for this release is Unit Letter D, Section 29, Township 25 South and Range 33 East in Lea County, New Mexico. More specifically the latitude and longitude for the release are 32.10775 North and -103.60119 West. Site plans are presented in Appendix I.

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service, the soil in this area is made up of Pyote and Maljamar fine sands, 0 to 3 percent slopes. The referenced soil data is attached in Appendix II. Drainage courses in this area are typically dry. The project site is not located in a high Karst potential area (Karst Map, Appendix I).

#### **Groundwater and Site Characterization**

The New Mexico Office of the State Engineer web site indicates that the nearest reported depth to groundwater is 280-feet below ground surface (BGS). See Appendix II for the referenced groundwater data.

If a release occurs within the following areas, the responsible party must treat the release as if it occurred less than 50 feet to the groundwater in Table I, New Mexico Oil Conservation Division (NMOCD) Rule 19.15.29, NMAC.

#### **Approximate Depth to Groundwater** 280 Feet/BGS ⊠No Yes Within 300 feet of any continuously flowing watercourse or any other significant watercourse Yes No Within 200 feet of any lakebed, sinkhole, or a playa lake ⊠No Yes Within 300 feet from an occupied permanent residence, school, hospital, institution, or church ⊠No Within 500 feet of a spring or a private, domestic fresh water well Yes used by less than five households for domestic or stock watering purposes ⊠No Yes Within 1000 feet of any freshwater well or spring Yes ⊠No Within incorporated municipal boundaries or within a defined municipal freshwater well field covered under a municipal ordinance adopted pursuant to Section 3-2703 NMSA 1978 Yes No Within 300 feet of a wetland No Yes Within the area overlying a subsurface mine Yes No Within an unstable area Yes $\boxtimes$ No Within a 100-year floodplain

Due to groundwater data not being within the recommended 0.5-mile radius, an exploratory that was drilled on September 21, 2022, to a total depth of 55-feet BGS that yielded no groundwater present (see Exploratory Water Bore Map and Soil Bore Log in Appendix II) sets the closure criteria for this site as follows:

	Tal	ole I	
	Closure Criteria for Soil	s Impacted by a Release	
Minimum depth	Constituent	Method*	Limit**
below any point			
within the horizontal			
boundary of the			
release to ground			
water less than			
10,000 mg/I TDS			
51-100 feet	Chloride **	EPA 300.0 or	10,000 mg/kg
		SM4500 CIB	
	TPH	EPA SW-846	2,500 mg/kg
	(GRO+DRO+MRO)	Method 8015M	
	GRO+DRO	EPA SW-846	1,000 mg/kg
		Method 8015m	
	BTEX	EPA SW-846	50 mg/kg
		Method 8021B or	
		8260B	
	Benzene	EPA SW-846	10 mg/kg
		Method 8021B or	
		8260B	

#### **Incident Description**

On July 26, 2023, it was discovered that a hole developed in the flowline into the inlet separator. This caused a release of 10.5 barrels (bbls) of produced water and 0.25 bbls of crude oil into the lined containment and approximately 0.5 bbls sprayed out onto the well pad and pasture area behind the containment. Approximately 0.25 bbls of oil and 10 bbls of produced water were recovered.

#### **Site Assessment and Reclamation Activities**

H&R mobilized personnel to begin site assessment, sampling, and remediation activities of the release area. Grab samples were obtained from the release as well as outside the release area by way of hand auger. Samples collected were transported to Cardinal Laboratory for analysis and the results of that analysis are presented in the following data table. Initial site assessment sampling locations are illustrated on Site Assessment Map, Appendix I.

Table 1: Initial Soil Samples Analysis Results

Sample ID	Sample Date	Depth (BGS)	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	Cl mg/kg
NMOCD Tabl	le 1 Closure Crit NMAC		50 mg/kg	10 mg/kg		mg/kg	2500 mg/kg	2500 mg/kg	10,000 mg/kg
		0-1'	ND	ND	ND	ND	ND	0	64
S-1	8/10/2023	2'	ND	ND	ND	ND	ND	0	16
3-1	6/10/2023	3'	ND	ND	ND	ND	ND	0	32
		4'	ND	ND	ND	ND	ND	0	48
		0-1'	ND	ND	ND	1380	329	1709	1100
S-2	8/10/2023	2'	ND	ND	ND	ND	ND	0	32
3-2	6/10/2023	3'	ND	ND	ND	ND	ND	0	48
		4'	ND	ND	ND	ND	ND	0	64
		0-1'	ND	ND	ND	81.7	16.6	98.3	208
S-3	0/10/2022	2'	ND	ND	ND	ND	ND	0	32
3-3	8/10/2023	3'	ND	ND	ND	ND	ND	0	32
		4'	ND	ND	ND	ND	ND	0	48
		0-1'	ND	ND	ND	ND	ND	0	64
S-4	0/10/2022	2'	ND	ND	ND	ND	ND	0	16
3-4	8/10/2023	3'	ND	ND		ND	ND	0	48
		4'	ND	ND	ND	ND	ND	0	32
H-1	8/10/2023	0-1'	ND	ND	ND	ND	ND	0	48
H-2	8/10/2023	0-1'	ND	ND	ND	ND	ND	0	48
H-3	8/10/2023	0-1'	ND	ND	ND	ND	ND	0	32
H-4	8/10/2023	0-1'	ND	ND	ND	ND	ND	0	48
		ND = /	Analyte Not De	tected S = Ver	tical Sample H	= Horizontal Sa	ample		

Initial sample results revealed contamination present at sample point S-2. Micro-Blaze, a bio-remedial fluid was applied to the area around S-2 and resampled 2-months after. Micro-Blaze was also applied to the rest of the release area as well as the pasture as a precaution. Results of the resampling of S-2 can be found in the table below. Before, during, and after photographs of the sample locations and release area are attached in Appendix IV. Complete laboratory reports can be found in Appendix V.

Table 2: S-2 Resample Analysis Results

Sample ID	Sample Date	Depth (BGS)	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	Cl mg/kg
NMOCD Table 1 Closure Criteria 19.15.29 NMAC		teria 19.15.29	50 mg/kg	10 mg/kg	1000 mg/kg		2500 mg/kg	2500 mg/kg	mg/kg
S-2	10/3/2023	0-1'	ND	ND	ND	ND	ND	0	16
			ND = Analyt	e Not Detected	S = Vertical S	ample Point			_

#### Closure

Based on the site assessment, remedial actions and sampling results completed for this project, on behalf of Cimarex Energy Co. we request that no further actions be required, and that closure of this incident be granted.

Should you have any questions or if further information is required, please do not hesitate to contact our office at 575-909-0326.

Respectfully submitted,

**H&R** Enterprises, LLC

Michael Collier

Michael Collier

**Environmental Project Manager** 

Attachments:

Appendix I Site Maps

Appendix II Soil Survey, Groundwater Data, FEMA Flood Zone, Exploratory Water Bore Map,

Soil Bore Log

Appendix III Initial and Final C-141

Appendix IV Photographic Documentation

Appendix V Laboratory Reports

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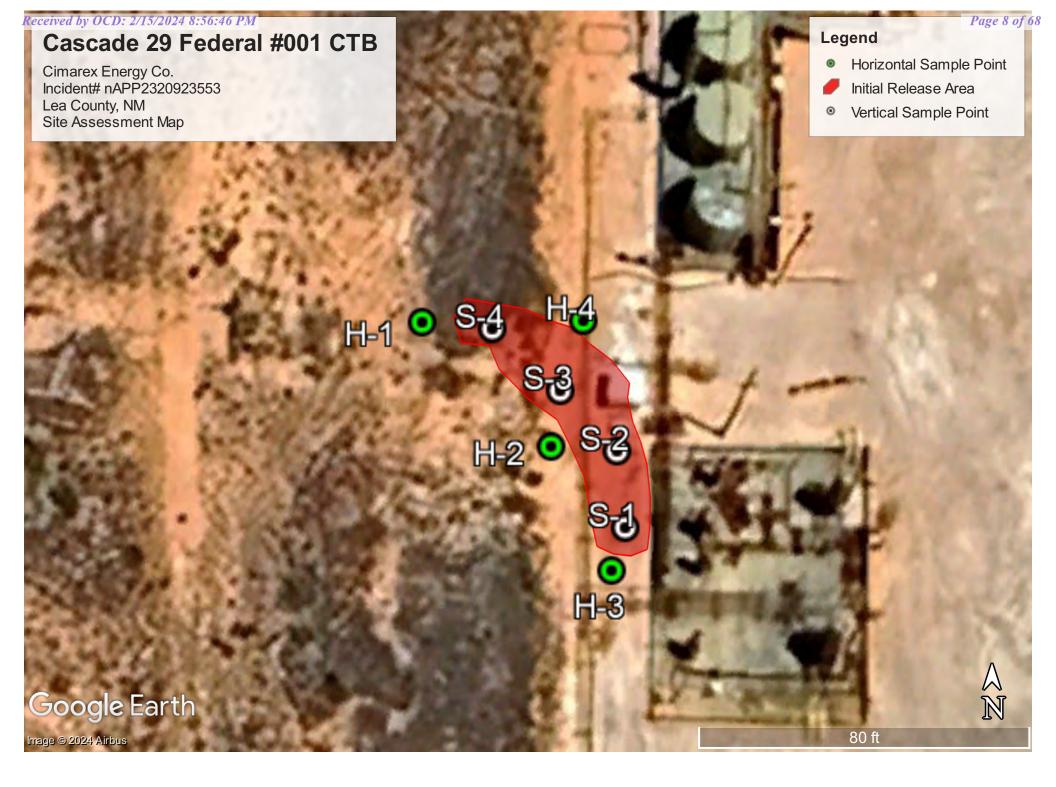
## **APPENDIX I**

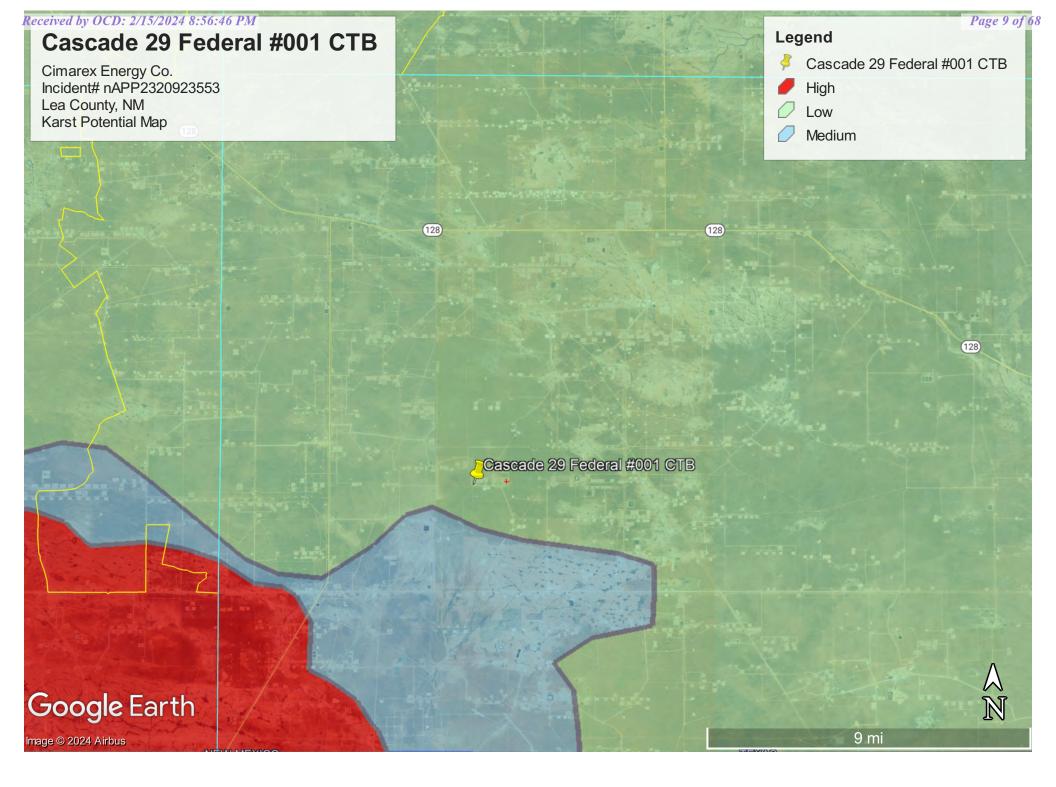
**SITE MAPS** 

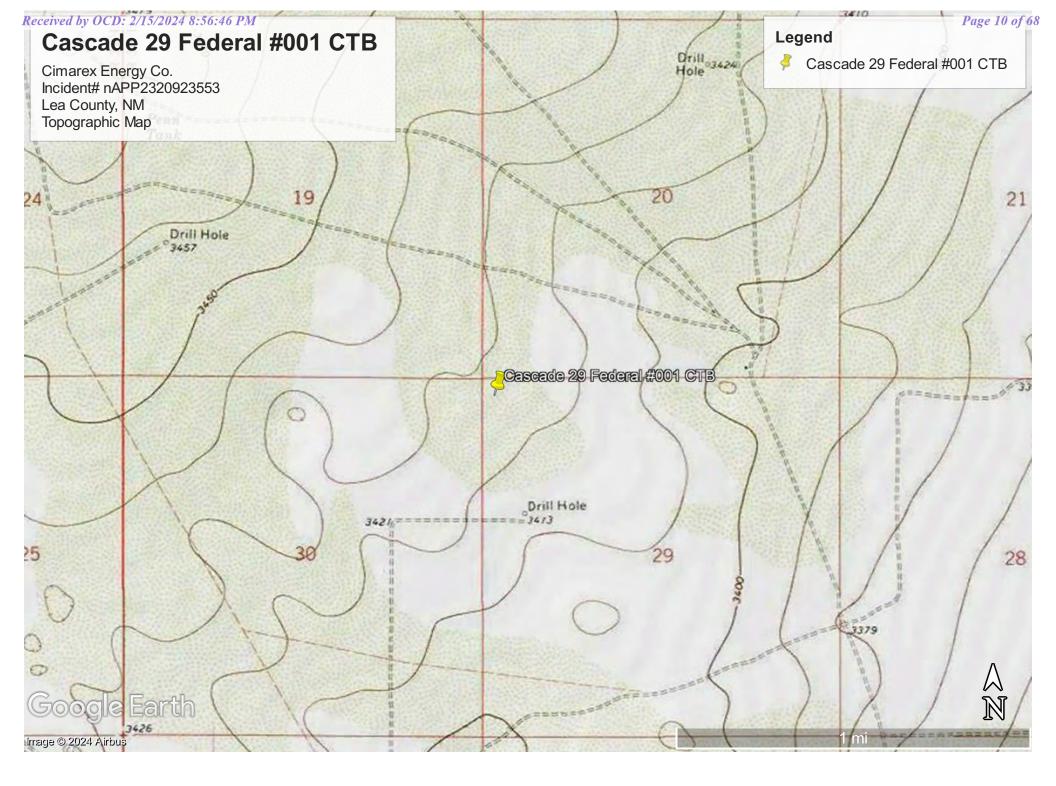
**KARST MAP** 

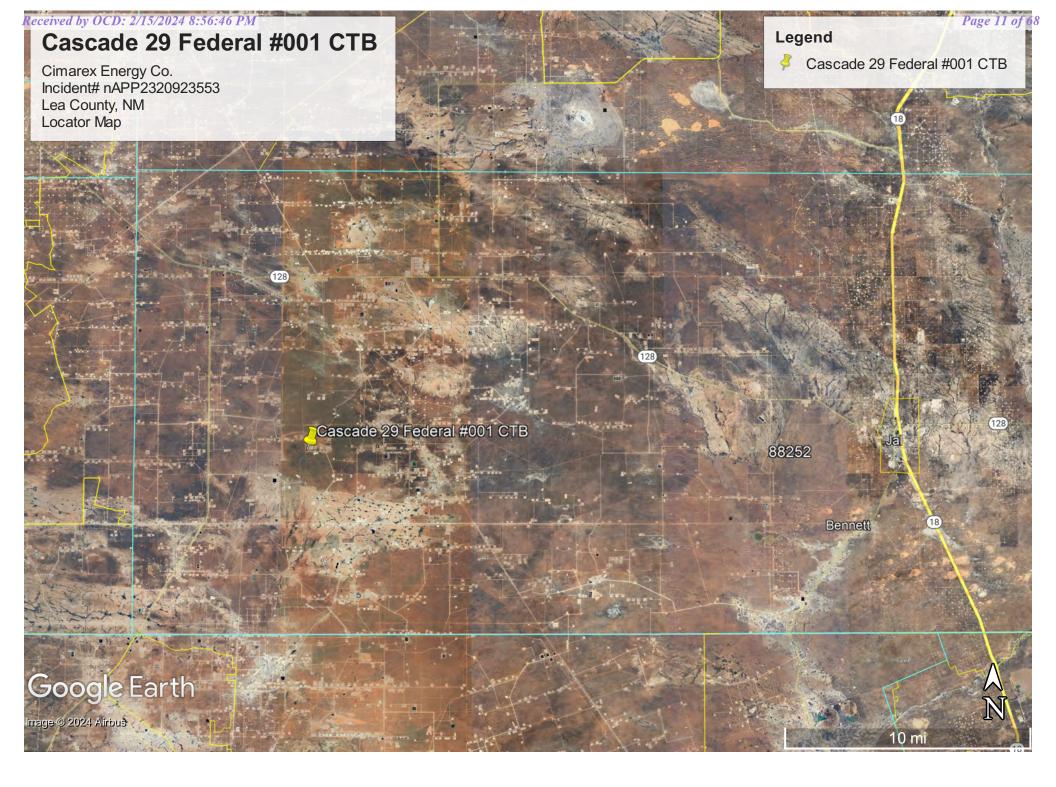
**TOPOGRAPHIC MAP** 

**LOCATOR MAP** 









# **APPENDIX II**

## **GROUNDWATER DATA**

**SOIL SURVEY** 

**FEMA FLOOD ZONE** 

# EXPLORATORY WATER BORE MAP

**SOIL BORE LOG** 



## New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is

(quarters are 1=NW 2=NE 3=SW 4=SE)

closed)

(quarters are smallest to largest)

(In feet)

		POD Sub-		Q	Q	Q								V	Vater
POD Number	Code	basin	County	64	16	4	Sec	Tws	Rng	X	Y	DistanceDep	thWellDe	pthWater C	olumn
C 04537 POD1		С	LE	4	4	4	31	25S	33E	631847	3550243	3130	500	280	220
C 04627 POD1		CUB	LE	3	3	4	08	25S	33E	632665	3556725	3462			
<u>C 02313</u>		CUB	LE	2	3	3	26	25S	33E	636971	3552098*	4452	150	110	40

Average Depth to Water:

(NAD83 UTM in meters)

195 feet

Minimum Depth:

110 feet

Maximum Depth: 280 feet

**Record Count:** 3

**Basin/County Search:** 

County: Lea

**UTMNAD83 Radius Search (in meters):** 

**Easting (X):** 632673.7 **Northing (Y):** 3553262.81 **Radius:** 5000

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

5/15/23 8:49 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

#### Lea County, New Mexico

#### BH—Berino-Cacique association, hummocky

#### **Map Unit Setting**

National map unit symbol: dmpg Elevation: 3,000 to 4,400 feet

Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 60 to 62 degrees F

Frost-free period: 190 to 205 days

Farmland classification: Not prime farmland

#### **Map Unit Composition**

Berino and similar soils: 50 percent Cacique and similar soils: 40 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of

the mapunit.

#### **Description of Berino**

#### Setting

Landform: Plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Sandy eolian deposits derived from sedimentary rock over calcareous sandy alluvium derived from sedimentary

rock

#### Typical profile

A - 0 to 10 inches: fine sand

Btk - 10 to 60 inches: sandy clay loam

#### **Properties and qualities**

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

Gypsum, maximum content: 1 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0

mmhos/cm)

Sodium adsorption ratio, maximum: 2.0

Available water supply, 0 to 60 inches: Moderate (about 8.5

inches)

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7c

Hydrologic Soil Group: B

Ecological site: R070BD003NM - Loamy Sand

Hydric soil rating: No

#### **Description of Cacique**

#### Setting

Landform: Plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Calcareous eolian deposits derived from

sedimentary rock

#### Typical profile

A - 0 to 7 inches: fine sand

Bt - 7 to 28 inches: sandy clay loam
Bkm - 28 to 38 inches: cemented material

#### **Properties and qualities**

Slope: 0 to 3 percent

Depth to restrictive feature: 20 to 40 inches to petrocalcic

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low

to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0

mmhos/cm)

Sodium adsorption ratio, maximum: 2.0

Available water supply, 0 to 60 inches: Low (about 3.6 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7c

Hydrologic Soil Group: C

Ecological site: R070BD004NM - Sandy

Hydric soil rating: No

#### **Minor Components**

#### Kermit

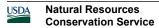
Percent of map unit: 4 percent

Ecological site: R070BD005NM - Deep Sand

Hydric soil rating: No

#### Maljamar

Percent of map unit: 3 percent



Ecological site: R077CY028TX - Limy Upland 16-21" PZ

Hydric soil rating: No

#### **Palomas**

Percent of map unit: 2 percent

Ecological site: R070BD003NM - Loamy Sand

Hydric soil rating: No

#### **Dune land**

Percent of map unit: 1 percent Hydric soil rating: No

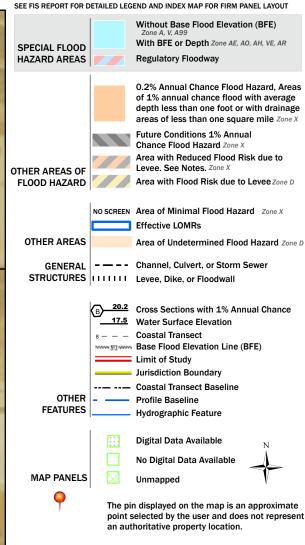
#### **Data Source Information**

Soil Survey Area: Lea County, New Mexico Survey Area Data: Version 19, Sep 8, 2022

# National Flood Hazard Layer FIRMette



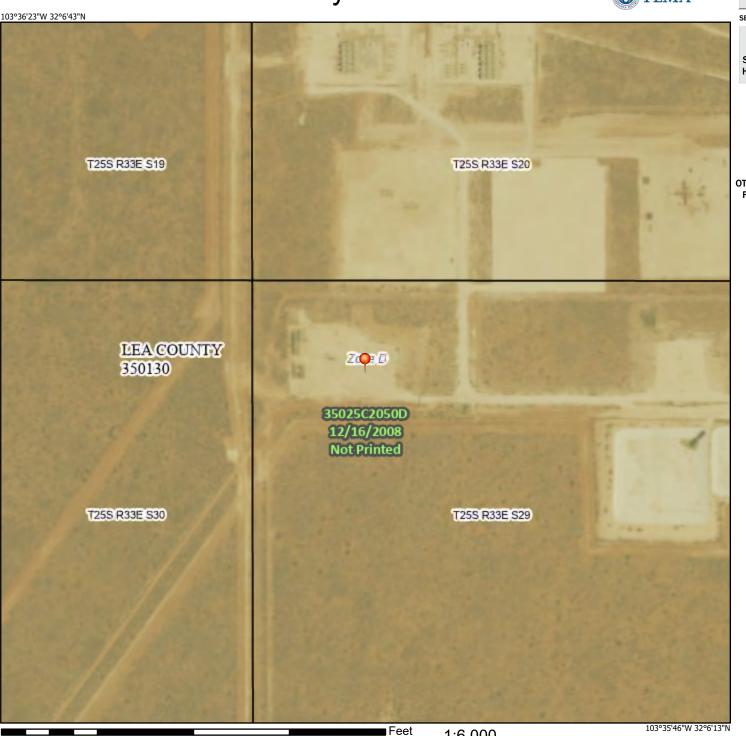




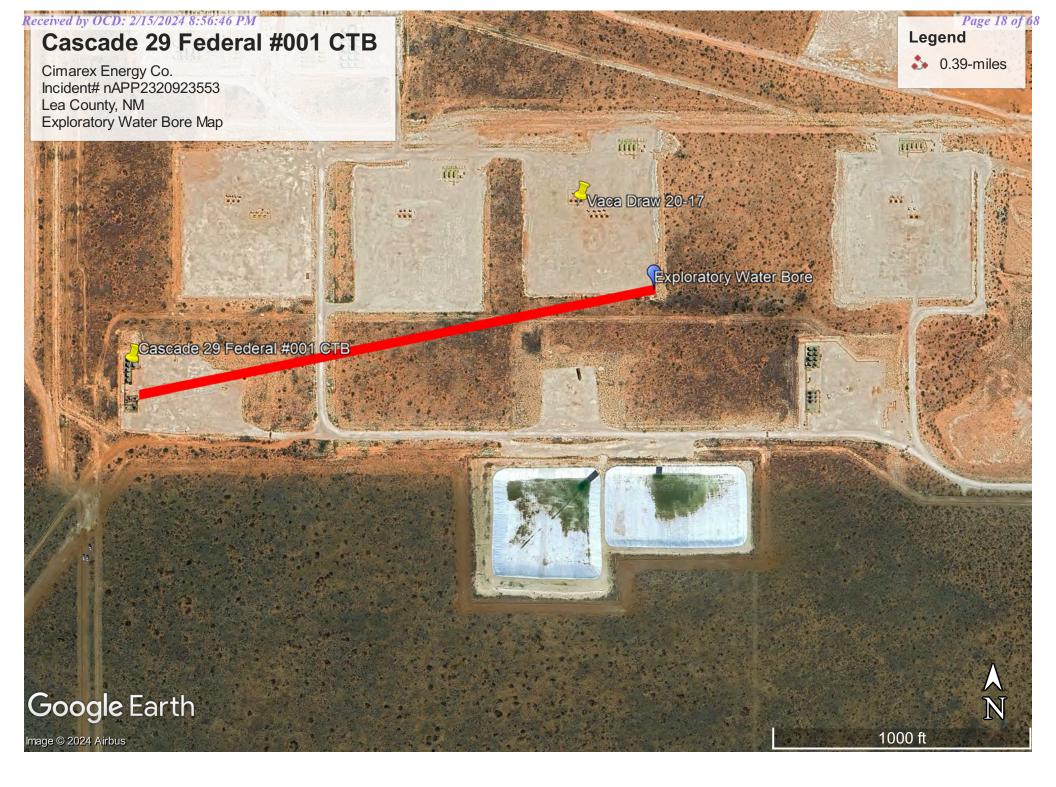
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/9/2024 at 1:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



2,000



SOIL BOR	E LOG		
Project:	Vaca Draw 20-17 Federal #012 H	Date:	September 21, 2022
Type:	Exploratory Water Bore	Location:	Vaca Draw 20-17 Fed #12H

Depth	Soil Type	Classification	Comments
0-5′	Caliche	N/A	
5-10′	Fine Red Sand	N/A	
10-15′	Fine Red Sand	N/A	
15-20′	Fine Red Sand	N/A	
20-25′	Caliche	N/A	
25-30′	Caliche	N/A	
30-35′	Caliche	N/A	
35-40′	Caliche	N/A	
40-45′	Caliche	N/A	
45-50′	Caliche	N/A	
50-55′	Caliche	N/A	
Total Depth 55'			No groundwater 9/21/2022 No groundwater 9/26/2022
			GPS: 32.10898,-103.59566

Depth	Soil Type	Classification	Comments

# **APPENDIX III**

**INITIAL C-141** 

**FINAL C-141** 

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

State of New Mexico Energy Minerals and Natural Resources 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	nAPP2320923553
District RP	
Facility ID	fAPP2123928971
Application ID	

## **Release Notification**

### **Responsible Party**

					OGRID: 2	215099		
Contact Nam	e: Laci Luig	7			Contact Te	Selephone: (432) 571-7800		
Contact emai	l: laci.luig@	coterra.com			Incident # (assigned by OCD) nAPP2320923553			
Contact mails Midland, TX		6001 Deauville E	Blvd., Suite 300N					
			Location	of R	delease So	ource		
Latitude 32.10	0775		(NAD 83 in de	ecimal de	Longitude - grees to 5 decin	-103.60119		
Site Name: Ca	ascade 29 Fe	ederal 1 CTB			Site Type:	Battery		
Date Release	Discovered:	7/26/2023			API# (if app	plicable)		
Unit Letter	Section	Township	Range		Coun	nty		
D	29	25S	33E	Lea				
	Materia		Nature an	d Vo	lume of I	c justification for the volumes provided below)		
Crude Oil		Volume Release				Volume Recovered (bbls) 0.25		
Produced	Water	Volume Release				Volume Recovered (bbls) 10		
		Is the concentra produced water	tion of dissolved >10,000 mg/l?	chloride	e in the	⊠ Yes □ No		
Condensa	te	Volume Release				Volume Recovered (bbls)		
Natural G	as	Volume Release	ed (Mcf)			Volume Recovered (Mcf)		
Other (des	scribe)	Volume/Weight	Released (provid	le units)	)	Volume/Weight Recovered (provide units)		
barrels outsid	oped in the f e of the con	lowline into the in	overed 10.5 barrel	ls. The	containment	els of produced water inside the lined containm t will be cleaned, and a liner inspection will be the containment.	ent and .5	

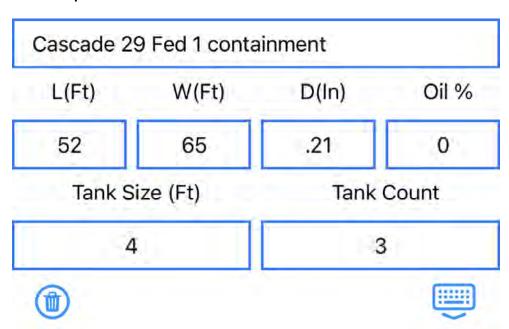
Page 23 of 68

· · · ·	4 DD2220022552
Incident ID	nAPP2320923553
District RP	
Facility ID	fAPP2123928971
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the re-	sponsible party consider this a major release?
☐ Yes ⊠ No		
If YES, was immediate no By: Gloria Garza To: OCD Enviro, BLM By: Email	otice given to the OCD? By whom? To	whom? When and by what means (phone, email, etc)?
	Initial	Response
The responsible p	party must undertake the following actions immed	liately unless they could create a safety hazard that would result in injury
The source of the rele	ease has been stopped.	
☐ The impacted area has	s been secured to protect human health	and the environment.
Released materials ha	we been contained via the use of berms	or dikes, absorbent pads, or other containment devices.
	ecoverable materials have been removed	
If all the actions described	d above have <u>not</u> been undertaken, expla	ain why:
has begun, please attach	a narrative of actions to date. If remed	ce remediation immediately after discovery of a release. If remediation lial efforts have been successfully completed or if the release occurred C), please attach all information needed for closure evaluation.
regulations all operators are public health or the environr failed to adequately investig	required to report and/or file certain release ment. The acceptance of a C-141 report by tate and remediate contamination that pose a	the best of my knowledge and understand that pursuant to OCD rules and notifications and perform corrective actions for releases which may endanger he OCD does not relieve the operator of liability should their operations have threat to groundwater, surface water, human health or the environment. In r of responsibility for compliance with any other federal, state, or local laws
Printed Name: Laci Luig_		Title: ESH Specialist
Signature:		Date: 7/27/2023
email: laci.luig@coterra.c	com	Telephone: (432) 208-3035
OCD Only		
-		Date:
Received by.		Date



Square/Rectangle Contained Spill with Vessel Displacement



H20 Spill Before Disp:	10.53
Tank Displacement Vol:	0.12
Oil Spill Total:	0.00
H20 Spill Total:	10.42
Total Bbls Spilled:	10.42
Total Gals Spilled:	437.51

Screenshot for future reference!





## Standing Liquid Calculation



H20 Spill Total: 0.59 Bbls

Oil Spill Total: 0.00 Bbls

Total Spilled: 0.59 Bbls

Total Spilled: 24.93 Gals

Screenshot for future reference!



# **APPENDIX IV**

#### **INITIAL SAMPLE PHOTOGRAPHS**



**S-1** 



S-3



S-4



H-1



H-2



H-3



H-4

# **APPENDIX V**

# LABORATORY REPORTS



August 16, 2023

MICHAEL COLLIER
H & R ENTERPRISES
1010 GAMBLIN ROAD
HOBBS, NM 88240

RE: CASCADE 29 FED 1 CTB (CAS)

Enclosed are the results of analyses for samples received by the laboratory on 08/10/23 12:56.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Sample Received By:

08/10/2023

Cool & Intact

Tamara Oldaker

Soil

#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: Reported: 08/16/2023 Sampling Type:

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition:

Project Number: NONE GIVEN

Project Location: CIMAREX

Sample ID: S - 1 0-1 (H234308-01)

BTEX 8021B	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2023	ND	2.05	102	2.00	2.79	
Toluene*	<0.050	0.050	08/14/2023	ND	1.99	99.4	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/14/2023	ND	1.99	99.6	2.00	0.407	
Total Xylenes*	<0.150	0.150	08/14/2023	ND	6.01	100	6.00	0.966	
Total BTEX	<0.300	0.300	08/14/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.7	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/14/2023	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	79.2	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	83.9	% 49.1-14	8						

A ... - L ... - - - I D. .. MC

Cardinal Laboratories \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: Sampling Type: Soil 08/16/2023

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact Tamara Oldaker Project Number: NONE GIVEN Sample Received By:

Project Location: **CIMAREX** 

#### Sample ID: S - 1 2 (H234308-02)

BTEX 8021B	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2023	ND	2.05	102	2.00	2.79	
Toluene*	<0.050	0.050	08/14/2023	ND	1.99	99.4	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/14/2023	ND	1.99	99.6	2.00	0.407	
Total Xylenes*	<0.150	0.150	08/14/2023	ND	6.01	100	6.00	0.966	
Total BTEX	<0.300	0.300	08/14/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/14/2023	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	92.1	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	95.4	% 49.1-14	8						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: Sampling Type: Soil 08/16/2023

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact Project Number: Tamara Oldaker NONE GIVEN Sample Received By:

Project Location: **CIMAREX** 

#### Sample ID: S - 1 3 (H234308-03)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2023	ND	2.05	102	2.00	2.79	
Toluene*	<0.050	0.050	08/14/2023	ND	1.99	99.4	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/14/2023	ND	1.99	99.6	2.00	0.407	
Total Xylenes*	<0.150	0.150	08/14/2023	ND	6.01	100	6.00	0.966	
Total BTEX	<0.300	0.300	08/14/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.1	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/14/2023	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	88.8	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	94.3	% 49.1-14	8						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Analyzed By: MS

Project Location: CIMAREX

mg/kg

#### Sample ID: S - 1 4 (H234308-04)

BTEX 8021B

DILX GOZID	ıııg,	ng .	Andryzo	u by. 1-15					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2023	ND	2.05	102	2.00	2.79	
Toluene*	<0.050	0.050	08/14/2023	ND	1.99	99.4	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/14/2023	ND	1.99	99.6	2.00	0.407	
Total Xylenes*	<0.150	0.150	08/14/2023	ND	6.01	100	6.00	0.966	
Total BTEX	<0.300	0.300	08/14/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 71.5-13	4						
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/14/2023	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	84.6	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	89.9	% 49.1-14	8						

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Celey D. Keine



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: **CIMAREX** 

#### Sample ID: S - 2 0-1 (H234308-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2023	ND	2.05	102	2.00	2.79	
Toluene*	<0.050	0.050	08/14/2023	ND	1.99	99.4	2.00	2.93	
Ethylbenzene*	< 0.050	0.050	08/14/2023	ND	1.99	99.6	2.00	0.407	
Total Xylenes*	<0.150	0.150	08/14/2023	ND	6.01	100	6.00	0.966	
Total BTEX	<0.300	0.300	08/14/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1100	16.0	08/14/2023	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	1380	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	329	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	85.2	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	159 9	% 49.1-14	8						

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Celey D. Keene



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Analyzed By: MS

Project Location: CIMAREX

mg/kg

#### Sample ID: S - 2 2 (H234308-06)

BTEX 8021B

	9,	9	7	7					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.9	% 71.5-13	4						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	84.3	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	89.0	% 49.1-14	8						

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Celey D. Keine



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil
Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact

Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Applyzod By: MC

Project Location: CIMAREX

ma/ka

#### Sample ID: S - 2 3 (H234308-07)

RTFY 8021R

BIEX 8021B	mg	/кд	Anaiyze	а ву: м5					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.5	% 71.5-13	4						
Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	85.4	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	88.7	% 49.1-14	8						

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Celey D. Keene



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Analyzed By: MS

Project Location: CIMAREX

mg/kg

#### Sample ID: S - 2 4 (H234308-08)

BTEX 8021B

	<u> </u>								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.5	% 71.5-13	4						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	80.6	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	84.2	% 49.1-14	8						

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Celey D. Keene



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Applyzod By: MC

Project Location: CIMAREX

ma/ka

#### Sample ID: S - 3 0-1 (H234308-09)

RTFY 8021R

B1EX 8021B	mg	/кд	Anaiyze	а ву: м5					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.7	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	81.7	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	16.6	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	82.7	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	89.5	% 49.1-14	8						

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Celey D. Keene



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

 Received:
 08/10/2023
 Sampling Date:
 08/10/2023

 Reported:
 08/16/2023
 Sampling Type:
 Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Analyzed By: MS

Project Location: CIMAREX

mg/kg

#### Sample ID: S - 3 2 (H234308-10)

BTEX 8021B

	<u> </u>								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.3	% 71.5-13	4						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	82.9	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	87.1	% 49.1-14	8						

Cardinal Laboratories \*=Accredited Analyte

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Celey & Keene



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil
Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact

Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Analyzed By: MS

Project Location: CIMAREX

mg/kg

#### Sample ID: S - 3 3 (H234308-11)

BTEX 8021B

	9/	9	7111411720						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.4	% 71.5-13	4						
Chloride, SM4500CI-B	mg/	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg/	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	81.9	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	87.4	% 49.1-14	8						

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Celey D. Keene



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: **CIMAREX** 

#### Sample ID: S - 3 4 (H234308-12)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.4	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	'kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	176	87.8	200	1.37	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	170	85.1	200	0.0464	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	85.6	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	91.0	% 49.1-14	8						

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#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: CIMAREX

#### Sample ID: S - 4 0-1 (H234308-13)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.0	% 71.5-13	4						
Chloride, SM4500CI-B	mg	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	159	79.5	200	0.686	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	173	86.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	110	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	126	% 49.1-14	8						

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#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: **CIMAREX** 

#### Sample ID: S - 4 2 (H234308-14)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	< 0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.4	% 71.5-13	4						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	159	79.5	200	0.686	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	173	86.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	100 9	6 48.2-13	4						
Surrogate: 1-Chlorooctadecane	109 9	6 49.1-14	8						

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#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact Project Number: Tamara Oldaker NONE GIVEN Sample Received By:

Project Location: **CIMAREX** 

#### Sample ID: S - 4 3 (H234308-15)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.2	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	'kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	159	79.5	200	0.686	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	173	86.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	98.0	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	106 9	% 49.1-14	8						

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#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact Tamara Oldaker Project Number: NONE GIVEN Sample Received By:

Project Location: **CIMAREX** 

#### Sample ID: S - 4 4 (H234308-16)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	159	79.5	200	0.686	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	173	86.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	97.1	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	105 9	% 49.1-14	8						

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#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Analyzed By: MS

Project Location: CIMAREX

mg/kg

#### Sample ID: H - 1 0-1 (H234308-17)

BTEX 8021B

	<u> </u>			• •					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.2	% 71.5-13	4						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	159	79.5	200	0.686	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	173	86.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	101	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	109	% 49.1-14	8						

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#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Analyzed By: MS

Project Location: CIMAREX

mg/kg

#### Sample ID: H - 2 0-1 (H234308-18)

BTEX 8021B

DIEX GOZID	1119/	rkg	Allulyzo	u by. 1-15					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.6	% 71.5-13	4						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	159	79.5	200	0.686	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	173	86.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	102	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	111 9	% 49.1-14	8						

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Celey D. Keene



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Analyzed By: MS

Project Location: CIMAREX

mg/kg

#### Sample ID: H - 3 0-1 (H234308-19)

BTEX 8021B

	9,	9	7	7: : : :					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	96.0	% 71.5-13	4						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	159	79.5	200	0.686	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	173	86.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	99.7	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	108	% 49.1-14	8						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keine



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 08/10/2023 Sampling Date: 08/10/2023

Reported: 08/16/2023 Sampling Type: Soil

Project Name: CASCADE 29 FED 1 CTB (CAS) Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Analyzed By: MS

Project Location: CIMAREX

mg/kg

#### Sample ID: H - 4 0-1 (H234308-20)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	u by. 1-15					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.15	108	2.00	2.06	
Toluene*	<0.050	0.050	08/15/2023	ND	2.07	104	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	2.00	100	2.00	1.47	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	6.07	101	6.00	2.32	
Total BTEX	<0.300	0.300	08/15/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.0	% 71.5-13	4						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/14/2023	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	159	79.5	200	0.686	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	173	86.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					
Surrogate: 1-Chlorooctane	99.3	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	109	% 49.1-14	8						

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Celey D. Keene



#### **Notes and Definitions**

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

ecovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories \*=Accredited Analyte

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Celeg D. Freene

Received by OCD: 2/15/2024 8:56:46 PM



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Project Manager					BILL TO										ANALYSIS REQUEST			
Project Manager:	M. Collier							P	.0.	#:				T	Т			
Address:								c	omi	oan	v: (	iman	e <sub>X</sub>	7				
City:	State:	Zi	p:						ttn:			ci Lt						
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Project #:	Project Own	ner:						1	ity:									
	ascade 209 Fed 1CT	D	1	-	1				tate			7in:		1				
Project Location:	country a ried ici	0	(	·	>/				hon			Zip:		-				
Sampler Name:	-Dell													-			~	1
FOR LAB USE ONLY	30011	$\overline{}$	Т	_	N	IATE	RIX	Įr.	ax #	_	ERV	I SAN	IPLING	-			2	
Lab I.D. Hz3 4308	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	SLUDGE	OTHER	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	MA	DIEX	1PH	Chloria	
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rvice. In no event shall Cardina	mages. Cardinal's liability and client's exclusive remedy fo see for negligence and any other cause whatsoever shall it at be liable for incidental or consequental damages, includ to for related to a performance of services hereunder be Date:	ing withou Cardinal	d waiv it limita I, rega	ed unle ation, bu rdless o	ss made usiness of wheth	e in wr	iting and	d rece	fuse of	Carr	dinal w	ithin 30 days aft	ar annualukan at	f the applic tiaries, wise.		Yes		No Add'l Phone #:
Fryk	Date: 8-10-Z Time: 1256		-	181		3 to	20	6	le			Gere	All Resul	lts are e				e provide Email address:
delinquished By:	Date:	Re	cen	ved E	By:								REMARK	KS:	5	Pg	109	12
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Company Name:

Page 24 of



## CHAIN-OF-CUSTODY ANALYSIS REQUEST

ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Project Manager									F	2.0.	#:	П				T	Т		T	П		Т	Т		T			Т			П	$\top$
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Project Location										hor		4.				1	1		ı													
Sampler Name:										ax #																						
FOR LAB USE ONLY		Т	Т	T		M/	ATR	IX	-	_		SER	v.	SAM	PLING	-				CN												
Lab I.D. HZ34308	Sample I.D.	- S (G)RAB OR (C)OMP	# CONTAINERS	GROHNOMATED	WASTEWATER	Soll	110	SLUDGE	OTHER.	ACID/BASE	NOC / SOIN	OTHER		DATE 9/10/23	TIME	XXXXX	10/00	CHENDOS		N CHENDE												
14 15 16 17 H 18 H 19 Y 20 Y	3-4 0-1 2 3 4 1-1 0-1 1-2 1-3 1-4													*																		
service. In no event shall Card	Damages. Cardinal's lieblity and client's exclusive remedy for an those for negligence and any other cause whatsoever shall be contained be liable for incidental or consequental damages, including out of or related to the performance of services hereunder by C Date:    Date:	without ardinal,	waiv t limit rega	ed un ation rdies	nless r	nade ess in	n writ	ing an	d reci	eived i	or lo	rdinal ss of	orofit	hin 30 days after	r completion of t	the applicaries, rise. esult:	ema		Ple	□ Nease p	orovi	Add de En										
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BILL TO



October 05, 2023

MICHAEL COLLIER H & R ENTERPRISES 1010 GAMBLIN ROAD HOBBS, NM 88240

RE: CASCADE 29 FED 1 CTB (CAS)

Enclosed are the results of analyses for samples received by the laboratory on 10/03/23 10:06.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



#### Analytical Results For:

H & R ENTERPRISES MICHAEL COLLIER 1010 GAMBLIN ROAD HOBBS NM, 88240 Fax To: NONE

Received: 10/03/2023 Reported: 10/05/2023

Project Name: CASCADE 29 FED 1 CTB (CAS)

Project Number: NONE GIVEN

Project Location: CIMAREX - LEA COUNTY

Sampling Date: 10/03/2023

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Dionica Hinojos

#### Sample ID: S - 2 0-1' (H235368-01)

DTEV 0021D

BTEX 8021B	mg,	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/05/2023	ND	2.07	103	2.00	4.57	
Toluene*	<0.050	0.050	10/05/2023	ND	2.15	107	2.00	1.87	
Ethylbenzene*	<0.050	0.050	10/05/2023	ND	2.31	115	2.00	3.97	
Total Xylenes*	<0.150	0.150	10/05/2023	ND	6.95	116	6.00	3.85	
Total BTEX	<0.300	0.300	10/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	% 71.5-13	4						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/05/2023	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2023	ND	192	96.0	200	1.22	
DRO >C10-C28*	<10.0	10.0	10/03/2023	ND	196	97.8	200	0.247	
EXT DRO >C28-C36	<10.0	10.0	10/03/2023	ND					
Surrogate: 1-Chlorooctane	105	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	109	% 49.1-14	8						

Applyand By 14

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Celey D. Keene



#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories \*=Accredited Analyte

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Page 4 of 4



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Nam	my Name: H+R Enterprises Manager: M. Collier									В	ILL TO					AN	ALYSIS	REC	UES	T	
Project Manag	er: M. Collier								0. #.						T		T				
Address:								Co	mpa	any:	Cimar,	×	7	1							
City:	State:	Zi	p:					Att	tn:	La	Cimar. ci Lui	5						- 1			
Phone #:	Fax #:							Ad	dres	ss:	-	)	1								
Project #:	Cas cade Project Own	er:	,					Cit	ty:												
Project Name:	Cas cade Project Own Excelled 29 Fed   CTB on: Lea County : RiBell	(	Co	(5)	)				ate:		Zip:										1 1
Project Location	on: Lea County							Ph	one	#:			1		C		4 1	- 1			1 1
Sampler Name	: RiBell							Fax	x #:						10	1	1 1				
FOR LAB USE ONLY		T	Τ			ATR	Х		PRE	SERV	. SAM	PLING	/		1.9						
Lab I.D.	Sample I.D.  5-2 0-1'	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER	WASTEWATER	OIL	SLUDGE	OTHER:	ACID/BASE:	AICE/COOL OTHER:	DATE  0/3/23	TIME		10/X	X CHIS.						

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Relinquished By:	Date: 10/3/23 Rec	ceived By:		Verbal Result: Yell Results are emailed	es 🗆 No d. Please provi	Add'l Phone #: de Email address:
Relinguished By:		eived By.		REMARKS:	-	72 HR
Delivered By: (Circle One)  Sampler - UPS - Bus - Other:	Observed Temp. °C 3 6	Sample Condition Cool Intact Yes Yes No No	CHECKED BY: (Initials)	Turnaround Time: Thermometer ID #140 Correction Factor 0°C	Standard Rush	Bacteria (only) Sample Condition Cool Intact Observed Temp. °C  Yes Yes No No Corrected Temp. °C

<u>District I</u> 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

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**

QUESTIONS

Action 315033

#### **QUESTIONS**

Operator:	OGRID:
CIMAREX ENERGY CO.	215099
6001 Deauville Blvd	Action Number:
Midland, TX 79706	315033
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2320923553
Incident Name	NAPP2320923553 CASCADE 29 FEDERAL 1 CTB @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Facility	[fAPP2123928971] CASCADE 29 FEDERAL 1

Location of Release Source	
Please answer all the questions in this group.	
Site Name	CASCADE 29 FEDERAL 1 CTB
Date Release Discovered	07/26/2023
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

lature and Volume of Release	
aterial(s) released, please answer all that apply below. Any calculations or specific justifications	for the volumes provided should be attached to the follow-up C-141 submission.
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Separator   Produced Water   Released: 11 BBL   Recovered: 11 BBL   Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	A hole developed in the flowline into the inlet separator. We released 10.5 barrels of produced water inside the lined containment and .5 barrels outside of the containment. We recovered 10.5 barrels. The containment will be cleaned, and a liner inspection will be scheduled. An environmental company will remediate the small area outside of the containment.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III
1000 Rio Brazos Rd., Aztec, NM 87410

Phone:(505) 334-6178 Fax:(505) 334-6170

**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr.

QUESTIONS, Page 2

Action 315033

<u>District IV</u> 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462	a Fe, NM 87505	
QUEST	IONS (continued)	
Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID:  215099  Action Number: 315033  Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	
QUESTIONS	(2 ,	
Nature and Volume of Release (continued)		
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.	
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No	
Reasons why this would be considered a submission for a notification of a major release	Unavailable.	
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.	e. gas only) are to be submitted on the C-129 form.	
Initial Response  The responsible party must undertake the following actions immediately unless they could create a second content of the con	safety hazard that would result in injury.	
The source of the release has been stopped	True	
The impacted area has been secured to protect human health and the environment	True	
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True	
All free liquids and recoverable materials have been removed and managed appropriately	True	
If all the actions described above have not been undertaken, explain why	Not answered.	
	I liation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of ted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of evaluation in the follow-up C-141 submission.	
to report and/or file certain release notifications and perform corrective actions for release the OCD does not relieve the operator of liability should their operations have failed to	knowledge and understand that pursuant to OCD rules and regulations all operators are required ases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface it does not relieve the operator of responsibility for compliance with any other federal, state, or	
Lhereby agree and sign off to the above statement	Name: Laci Luig Title: ES&H Specialist	

Email: DL\_PermianEnvironmental@coterra.com

Date: 02/15/2024

I hereby agree and sign off to the above statement

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III 1000 Rio Brazos Rd., Aztec, NM 87410

Phone:(505) 334-6178 Fax:(505) 334-6170 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** 

QUESTIONS, Page 3

Action 315033

#### **QUESTIONS** (continued)

Operator:	OGRID:
CIMAREX ENERGY CO.	215099
6001 Deauville Blvd	Action Number:
Midland, TX 79706	315033
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release ar	nd the following surface areas:
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Greater than 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan		
Please answer all the questions that apply or are indicated. This information must be pro-	ovided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes	
Attach a comprehensive report demonstrating the lateral and vertical extents of soil conta	amination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes	
Was this release entirely contained within a lined containment area	No	
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)		
Chloride (EPA 300.0 or SM4500 Cl B)	1100	
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	1709	
GRO+DRO (EPA SW-846 Method 8015M)	1380	
BTEX (EPA SW-846 Method 8021B or 8260B)	0	
Benzene (EPA SW-846 Method 8021B or 8260B)	0	
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes co which includes the anticipated timelines for beginning and completing the remediation.	completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC,	
On what estimated date will the remediation commence	08/10/2023	
On what date will (or did) the final sampling or liner inspection occur	10/03/2023	
On what date will (or was) the remediation complete(d)	10/03/2023	
What is the estimated surface area (in square feet) that will be reclaimed	0	
What is the estimated volume (in cubic yards) that will be reclaimed	0	
What is the estimated surface area (in square feet) that will be remediated	0	
What is the estimated volume (in cubic yards) that will be remediated	0	
These estimated dates and measurements are recognized to be the best guess or calculate	tion at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adju-	usted in accordance with the physical realities encountered during remediation. If the responsible party has any need to	

significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

District I

1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 **District II** 

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1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

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

QUESTIONS, Page 4

Action 315033

#### **QUESTIONS** (continued)

Operator:	OGRID:
CIMAREX ENERGY CO.	215099
6001 Deauville Blvd	Action Number:
Midland, TX 79706	315033
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Remediation Plan (continued)		
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:		
(Select all answers below that apply.)		
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)  Not answered.		
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)  Not answered.		
(In Situ) Soil Vapor Extraction Not answered.		
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.	
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Yes	
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.	
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.	
OTHER (Non-listed remedial process)	Yes	
Other Non-listed Remedial Process. Please specify	Micro-blaze was used immediately after an initial site assessment and since we have deep groundwater and no immediate threat to the environment, decided to treat the contaminated soil with an application of micro-blaze. 2 months later, an additional soil sample was collected to confirm that the micro-blaze application worked and no remediation was needed after reviewing lab results, see closure report.	

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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.

Name: Laci Luig
Title: ES&H Specialist
Email: DL\_PermianEnvironmental@coterra.com
Date: 02/15/2024

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine it another remediation plan published in security.

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## **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505**

QUESTIONS, Page 5

Action 315033

**QUESTIONS** (continued)

Operator:	OGRID:
CIMAREX ENERGY CO.	215099
6001 Deauville Blvd	Action Number:
Midland, TX 79706	315033
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

**District I** 

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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

QUESTIONS, Page 6

Action 315033

QUESTIONS	(continued)

Operator:	OGRID:
CIMAREX ENERGY CO.	215099
6001 Deauville Blvd	Action Number:
Midland, TX 79706	315033
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	315034
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	08/10/2023
What was the (estimated) number of samples that were to be gathered	8
What was the sampling surface area in square feet	1600

Remediation Closure Request				
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.				
Requesting a remediation closure approval with this submission	Yes			
Have the lateral and vertical extents of contamination been fully delineated	Yes			
Was this release entirely contained within a lined containment area	No			
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes			
What was the total surface area (in square feet) remediated	1600			
What was the total volume (cubic yards) remediated	0			
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes			
What was the total surface area (in square feet) reclaimed	0			
What was the total volume (in cubic yards) reclaimed	0			
Summarize any additional remediation activities not included by answers (above)	Micro-blaze was used immediately after an initial site assessment and since we have deep groundwater and no immediate threat to the environment, decided to treat the contaminated soil with an application of micro-blaze. 2 months later, an additional soil sample was collected to confirm that the micro-blaze application worked and no remediation was needed after reviewing lab results, see closure report.			

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement

I hereby agree and sign off to the above statement

Title: ES&H Specialist
Email: DL\_PermianEnvironmental@coterra.com
Date: 02/15/2024

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**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

QUESTIONS, Page 7

Action 315033

**QUESTIONS** (continued)

Operator:	OGRID:
CIMAREX ENERGY CO.	215099
6001 Deauville Blvd	Action Number:
Midland, TX 79706	315033
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 315033

#### **CONDITIONS**

Operator:	OGRID:
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6001 Deauville Blvd	Action Number:
Midland, TX 79706	315033
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation closure report is approved and the release resolved. It's acknowledged from recent conversation with operator that the report should have a variance to forgo 19.15.29.12D (1) NMAC. Please include variance request within future incidents related to site assessment/delineation data being used toward final closure.	4/9/2024