



[MCollier@H-R\\_Enterprises.com](mailto:MCollier@H-R_Enterprises.com) 575-909-0326

## Site Assessment and Closure Report

Vaca Draw 20-17 1H-4H CTB  
Incident #nAPP2302469132  
Lea County, New Mexico

### Prepared For:

Cimarex Energy Co.  
600 Marienfeld St.  
Midland, TX 79701

### Prepared By:

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

**March 16, 2023**

Mrs. Jennifer Nobui  
**NMOCD**  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Subject: **Site Assessment and Closure Report**  
Vaca Draw 20-17 1H-4H CTB  
Lea County, NM

Dear Mrs. Nobui,

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

### Site Information

The Vaca Draw 20-17 Federal 1H-4H facility is located approximately 24 miles Southwest of Jal, New Mexico. The legal location for this release is Unit Letter M, Section 20, Township 25 South and Range 33 East in Lea County, New Mexico. More specifically the latitude and longitude for the release are 32.11182 North and -103.59950 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 soils and Dune land, 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.

<b>Approximate Depth to Groundwater</b>	<b>280 Feet/BGS</b>
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<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Within 300 feet of any continuously flowing watercourse or any other significant watercourse
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Within 200 feet of any lakebed, sinkhole, or a playa lake
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Within 300 feet from an occupied permanent residence, school, hospital, institution, or church
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Within 1000 feet of any freshwater well or spring
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Within 300 feet of a wetland
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Within the area overlying a subsurface mine
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Within an unstable area
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Within a 100-year floodplain

Due to groundwater data being beyond the 0.5-mile distance, an exploratory water bore was drilled on the Vaca Draw 20-17 Federal #012H well pad 0.3 miles to the southeast, to a total depth of 55-feet BGS. See Exploratory Water Bore Map in [Appendix II](#). Since no groundwater was encountered, the closure criteria for this site are as follows:

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

### **Incident Description**

On January 23, 2023, the lease operator discovered water spraying out of the water transfer pump. The transfer pump coupling separated from the pump and motor, causing chunks of material to throw off the guard off around the coupling. A tee nipple valve on top of the pump was either struck by debris or vibrated loose and snapped off. This allowed a total of 97 barrels (bbls) of produced water to be released into the containment and onto the facility pad. All fluids remained on the pad. A total of 80 bbls of water were recovered from the containment and facility pad.

### **Site Assessment Activities**

H&R mobilized personnel to begin site assessment and sampling activities of the impacted area. Grab samples were obtained by way of hand auger. Collected samples were transported to Cardinal Laboratories for analysis, the results of that analysis are presented in the following data table. Site assessment sampling locations are illustrated on Site Assessment Map #1, [Appendix I](#). Photographs of the location are attached in [Appendix IV](#). Complete laboratory reports can be found in [Appendix V](#).

Table 1: Initial Soil Samples Analysis

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			50 mg/kg	10 mg/kg	1000 mg/kg		2500 mg/kg	2500 mg/kg	10,000 mg/kg
S-1	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	5840
		1'	ND	ND	ND	ND	ND	0	3920
		2'	ND	ND	ND	ND	ND	0	2240
S-2	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	7520
		1'	ND	ND	ND	ND	ND	0	3600
		2'	ND	ND	ND	ND	ND	0	3680
S-3	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	7360
		1'	ND	ND	ND	ND	ND	0	64
		2'	ND	ND	ND	ND	ND	0	96
S-4	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	5200
		1'	ND	ND	ND	ND	ND	0	1220
		2'	ND	ND	ND	ND	ND	0	208
S-5	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	1840
		1'	ND	ND	ND	ND	ND	0	64
		2'	ND	ND	ND	ND	ND	0	80
S-6	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	4160
		1'	ND	ND	ND	ND	ND	0	80
		2'	ND	ND	ND	ND	ND	0	32
S-7	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	1340
		1'	ND	ND	ND	ND	ND	0	272
		2'	ND	ND	ND	ND	ND	0	144
S-8	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	3040
		1'	ND	ND	ND	ND	ND	0	112
		2'	ND	ND	ND	ND	ND	0	160
H-1	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	128
H-2	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	6080
	3/3/2023	1'	ND	ND	ND	ND	ND	0	368
H-3	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	352
H-4	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	1020
	3/3/2023	1'	ND	ND	ND	ND	ND	0	272
H-5	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	1260
	3/3/2023	1'	ND	ND	ND	ND	ND	0	304
H-6	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	32
H-7	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	4760
	3/3/2023	1'	ND	ND	ND	ND	ND	0	400
H-8	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	48
H-9	2/15/2023	0-0.5'	ND	ND	ND	ND	ND	0	48

ND = Analyte Not Detected H = Horizontal Sample S = Vertical Sample

Based on the results of our initial site assessment results, it was determined that the area near sample points H-2, 4, 5, and 7 were not under the chloride limits allowed for horizontal delineation. To achieve horizontal delineation, we moved out approximately 5-8 feet further and collected new samples. The results of which can be found in the following data table. Secondary sample locations can be found on Site Assessment Map #2 in [Appendix I](#). Complete laboratory reports are attached in [Appendix V](#).

Table 2: Confirmation Soil Sample Analysis

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			50 mg/kg	10 mg/kg	100 mg/kg			100 mg/kg	600 mg/kg
H-2A	3/3/2023	0-0.5'	ND	ND	ND	ND	ND	0	240
H-4A	3/3/2023	0-0.5'	ND	ND	ND	ND	ND	0	128
H-5A	3/3/2023	0-0.5'	ND	ND	ND	ND	ND	0	96
H-7A	3/3/2023	0-0.5'	ND	ND	ND	ND	ND	0	96
ND = Analyte Not Detected H = Horizontal Sample									

## Closure

Based on the site assessment 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  
Environmental Project Manager

### Attachments:

Appendix I Site Maps

Appendix II Soil Survey, Groundwater Data, Water Bore Map, Soil Bore Log, FEMA Map

Appendix III Initial and Final C-141

Appendix IV Photographic Documentation

Appendix V Laboratory Reports

# APPENDIX I

## SITE MAPS

## KARST MAP

## TOPOGRAPHIC MAP

## LOCATOR MAP

# Vaca Draw 20-17 1H-4H CTB

Cimarex Energy Co.  
Incident# nAPP2302469132  
Lea County, NM  
Site Assessment Map #1

## Legend

- Horizontal Sample
- Release Area
- Vertical Sample

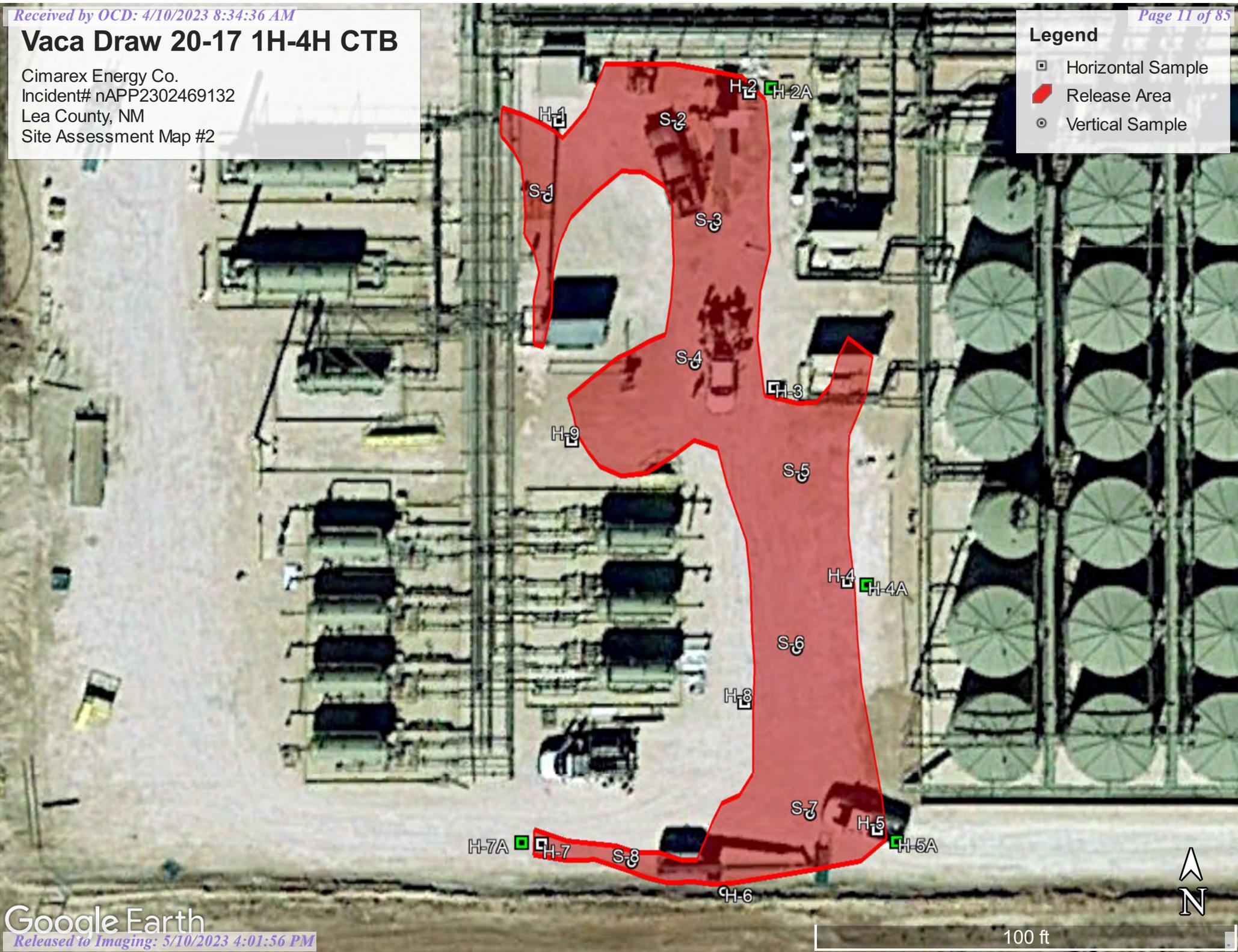


# Vaca Draw 20-17 1H-4H CTB

Cimarex Energy Co.  
Incident# nAPP2302469132  
Lea County, NM  
Site Assessment Map #2

**Legend**

-  Horizontal Sample
-  Release Area
-  Vertical Sample



# Vaca Draw 20-17 1H-4H CTB

Cimarex Energy Co.  
Incident# nAPP2302469132  
Lea County, NM  
Karst Map

**Legend**

-  High
-  Low
-  Medium
-  Vaca Draw 20-17 Federal 1H-4H CTB



Vaca Draw 20-17 Federal 1H-4H CTB

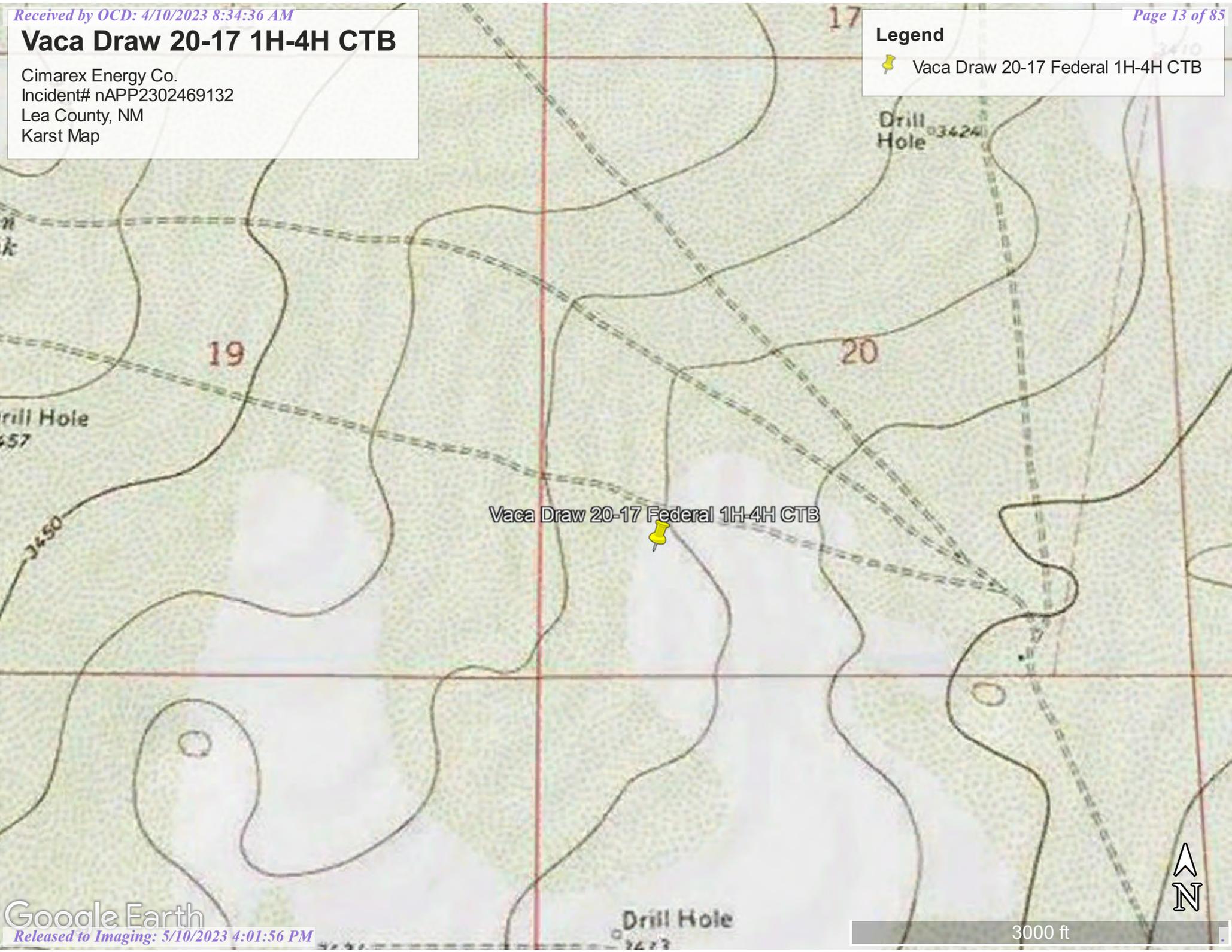


# Vaca Draw 20-17 1H-4H CTB

Cimarex Energy Co.  
Incident# nAPP2302469132  
Lea County, NM  
Karst Map

## Legend

 Vaca Draw 20-17 Federal 1H-4H CTB

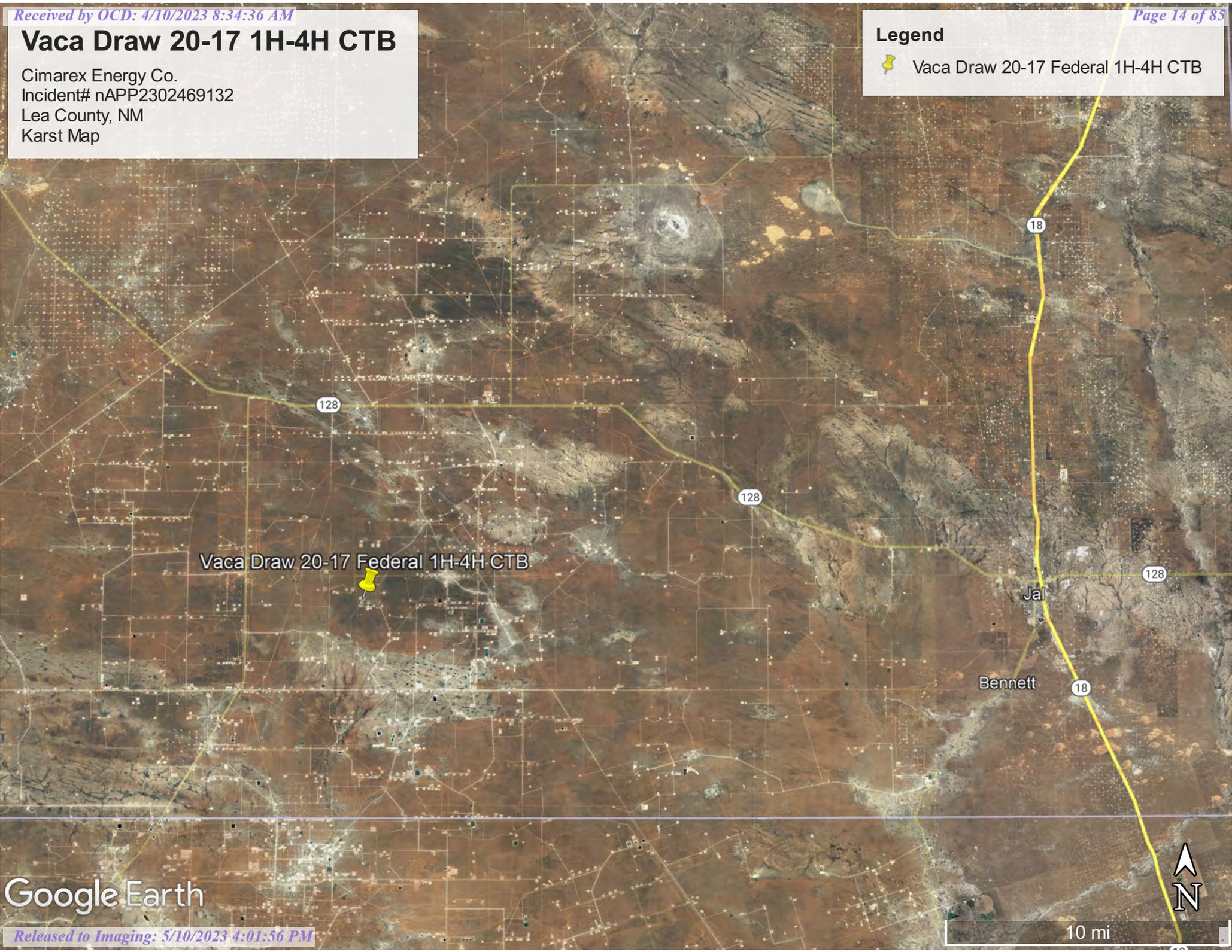


# Vaca Draw 20-17 1H-4H CTB

Cimarex Energy Co.  
Incident# nAPP2302469132  
Lea County, NM  
Karst Map

**Legend**

-  Vaca Draw 20-17 Federal 1H-4H CTB



Google Earth

10 mi



# APPENDIX II

## GROUNDWATER DATA

## SOIL SURVEY

## FEMA FLOOD ZONE

## 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 closed)

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 6	Q 4	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">C_04627</a> <b>POD1</b>		CUB	LE	3	3	4	08	25S	33E	632665	3556725		3071			
<a href="#">C_04537</a> <b>POD1</b>		C	LE	4	4	4	31	25S	33E	631847	3550243		3472	500	280	220

Average Depth to Water: **280 feet**  
 Minimum Depth: **280 feet**  
 Maximum Depth: **280 feet**

**Record Count:** 2

**Basin/County Search:**

**County:** Lea

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

**Easting (X):** 632100.2

**Northing (Y):** 3553706.19

**Radius:** 5000

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.

3/16/23 8:30 AM

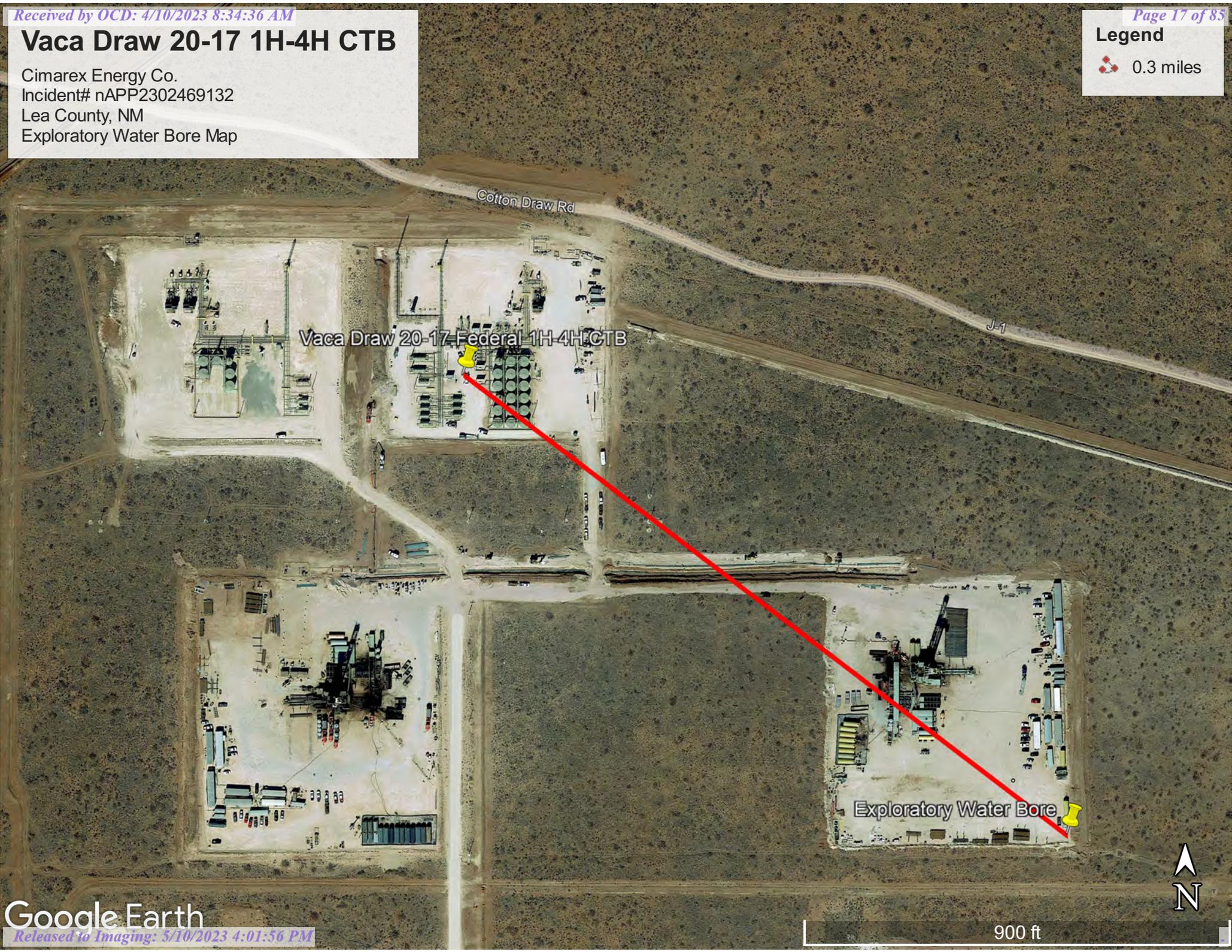
WATER COLUMN/ AVERAGE DEPTH TO WATER

# Vaca Draw 20-17 1H-4H CTB

Cimarex Energy Co.  
Incident# nAPP2302469132  
Lea County, NM  
Exploratory Water Bore Map

## Legend

 0.3 miles



Vaca Draw 20-17 Federal 1H-4H CTB

Exploratory Water Bore



## SOIL BORE LOG

<b>Project:</b>	Vaca Draw 20-17 Federal #012 H	<b>Date:</b>	September 21, 2022
<b>Type:</b>	Exploratory Water Bore	<b>Location:</b>	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
		Coordinates:	(32.10904, -103.59569)

Map Unit Description: Pyote soils and Dune land---Lea County, New Mexico

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## Lea County, New Mexico

### PY—Pyote soils and Dune land

#### Map Unit Setting

*National map unit symbol:* dmqr  
*Elevation:* 3,000 to 4,400 feet  
*Mean annual precipitation:* 10 to 15 inches  
*Mean annual air temperature:* 60 to 64 degrees F  
*Frost-free period:* 190 to 220 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Pyote and similar soils:* 46 percent  
*Dune land:* 44 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Pyote

##### Setting

*Landform:* Depressions  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Sandy eolian deposits derived from sedimentary rock

##### Typical profile

*A - 0 to 30 inches:* fine sand  
*Bt - 30 to 60 inches:* fine sandy loam

##### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 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:* Low (about 5.1 inches)

Map Unit Description: Pyote soils and Dune land---Lea County, New Mexico

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### Interpretive groups

*Land capability classification (irrigated):* 6e  
*Land capability classification (nonirrigated):* 7s  
*Hydrologic Soil Group:* A  
*Ecological site:* R070BD003NM - Loamy Sand  
*Hydric soil rating:* No

### Description of Dune Land

#### Setting

*Landform:* Dunes  
*Landform position (two-dimensional):* Backslope, shoulder  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Convex  
*Parent material:* Sandy eolian deposits derived from sedimentary rock

#### Typical profile

*A - 0 to 6 inches:* fine sand  
*C - 6 to 60 inches:* fine sand

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

### Minor Components

#### Kermit

*Percent of map unit:* 5 percent  
*Ecological site:* R070BC022NM - Sandhills  
*Hydric soil rating:* No

#### Maljamar, fine sand

*Percent of map unit:* 3 percent  
*Ecological site:* R070BD003NM - Loamy Sand  
*Hydric soil rating:* No

#### Wink

*Percent of map unit:* 2 percent  
*Ecological site:* R070BD003NM - Loamy Sand  
*Hydric soil rating:* No

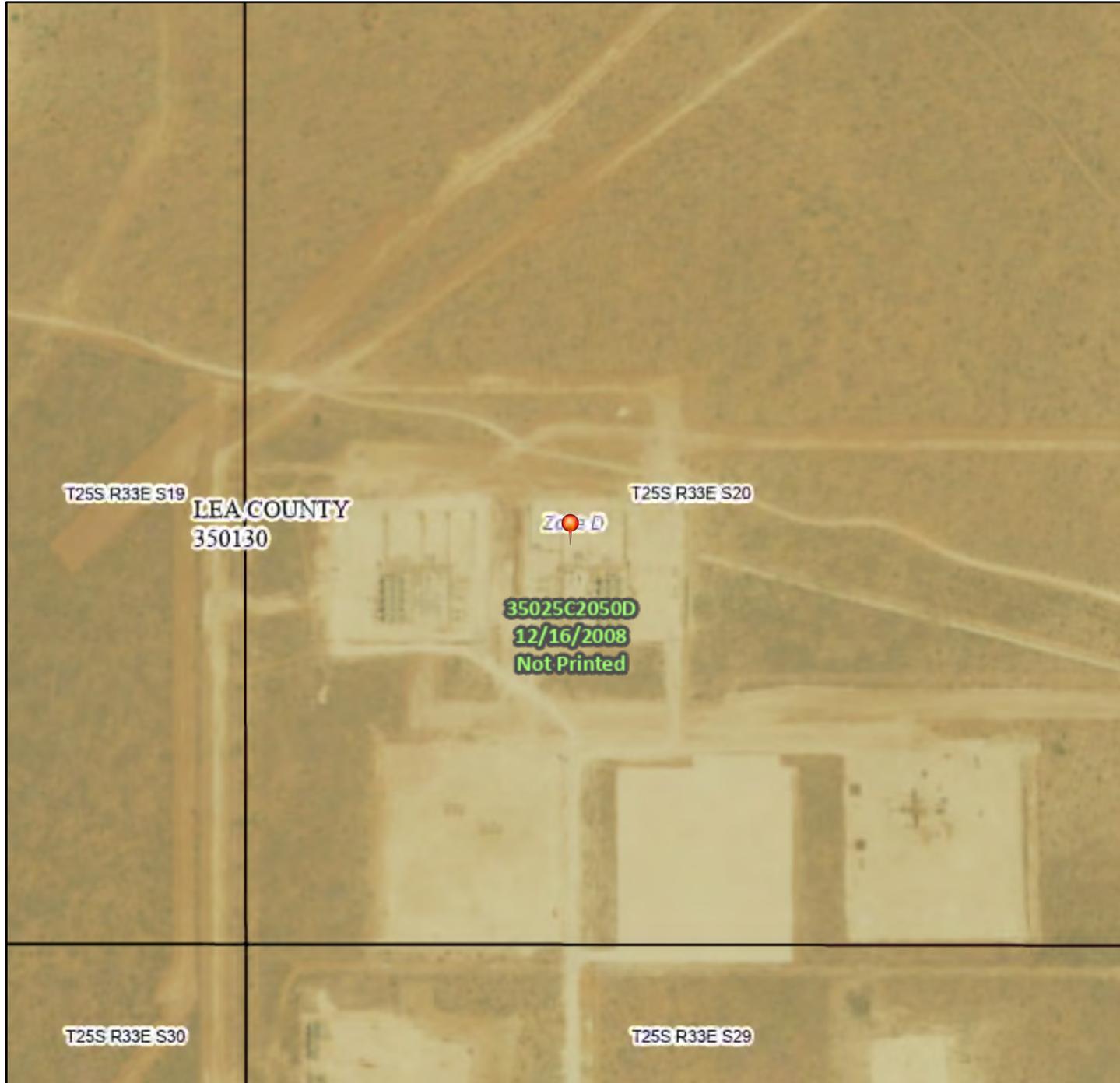
## Data Source Information

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

# National Flood Hazard Layer FIRMette



103°36'18"W 32°6'58"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
		Area of Undetermined Flood Hazard <i>Zone D</i>
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 3/16/2023 at 10:50 AM 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.

# APPENDIX III

## INITIAL C-141 AND 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	nAPP2302469132
District RP	
Facility ID	fAPP2202685728
Application ID	

## Release Notification

### Responsible Party

Responsible Party: Cimarex Energy Co.	OGRID: 215099
Contact Name: Laci Luig	Contact Telephone: (432) 571-7800
Contact email: laci.luig@coterra.com	Incident # (assigned by OCD) nAPP2302469132
Contact mailing address: 600 N Marienfeld Street, Ste. 600 Midland, TX 79701	

### Location of Release Source

Latitude 32.11182 \_\_\_\_\_ Longitude -103.59950 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Vaca Draw 20-17 Federal 1H-4H	Site Type: Battery
Date Release Discovered: 1/23/2023	API# (if applicable)

Unit Letter	Section	Township	Range	County
M	20	25S	33E	Lea

Surface Owner:  State  Federal  Tribal  Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 97	Volume Recovered (bbls) 80
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Equipment Failure

The Lease Operator arrived on location and found water spraying out of the water transfer pump. The transfer pump coupling separated from the pump and motor, causing chunks of material to throw the guard off around the coupling. A tee nipple valve on top of the pump was either struck by debris or vibrated loose and snapped off. This allowed a total of 97 barrels to be released from the pump into containment and on to the facility pad. All fluids remained on the pad. A vac truck recovered a total of 80 barrels from containment and the pad. Investigation into the coupling failure is still underway. The containment will be washed and impacted material will be scheduled for remediation in the coming weeks.

Spilled: 97 barrels water (8 barrels inside containment + 89 barrels on well pad)

Recovered: 80 barrels (8 barrels inside containment + 72 barrels from well pad)

State of New Mexico  
Oil Conservation Division

Page 2

Incident ID	nAPP2302469132
District RP	
Facility ID	fAPP2202685728
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Total amount released 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)?  
 By: Laci Luig  
 To: OCD Enviro, BLM  
 By: Email

### Initial Response

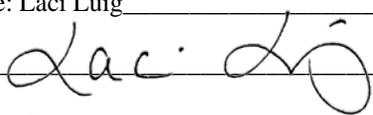
*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
--

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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: Laci Luig \_\_\_\_\_ Title: ESH Specialist \_\_\_\_\_  
 Signature:  \_\_\_\_\_ Date: 1/24/2023 \_\_\_\_\_  
 email: laci.luig@coterra.com \_\_\_\_\_ Telephone: (432) 208-3035 \_\_\_\_\_

**OCD Only**  
 Received by: Jocelyn Harimon \_\_\_\_\_ Date: 04/10/2023 \_\_\_\_\_

Incident ID	nAPP2302469132
District RP	
Facility ID	fAPP2202685728
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>55 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

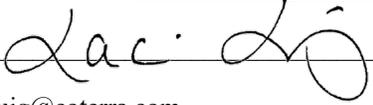
State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	nAPP2302469132
District RP	
Facility ID	fAPP2202685728
Application ID	

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

Printed Name: Laci Luig \_\_\_\_\_ Title: ESH Specialist \_\_\_\_\_

Signature:  \_\_\_\_\_ Date: 4/10/2023 \_\_\_\_\_

email: laci.luig@coterra.com \_\_\_\_\_ Telephone: (432) 208-3035 \_\_\_\_\_

**OCD Only**

Received by: Jocelyn Harimon \_\_\_\_\_ Date: 04/10/2023 \_\_\_\_\_

Incident ID	nAPP2302469132
District RP	
Facility ID	fAPP2202685728
Application ID	

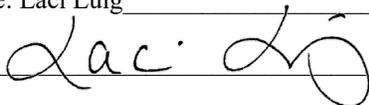
## Closure

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 (electronic submittals in .pdf format are preferred) 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.

**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

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.

Printed Name: Laci Luig Title: ESH Specialist  
 Signature:  Date: 4/10/2023  
 email: laci.luig@coterra.com Telephone: (432) 208-3035

**OCD Only**

Received by: Jocelyn Harimon Date: 04/10/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  Date: 05/10/2023  
 Printed Name: Jennifer Nobui Title: Environmental Specialist A

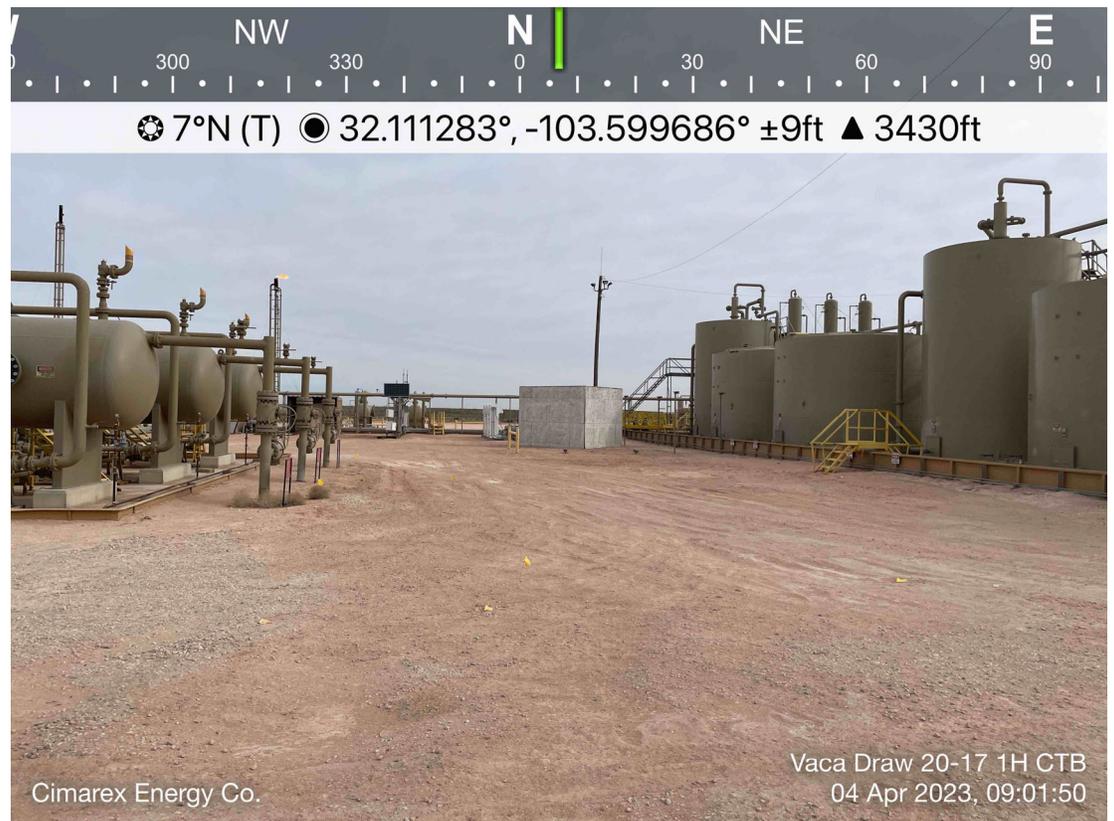
# **APPENDIX IV**

# **PHOTOGRAPHIC DOCUMENTATION**

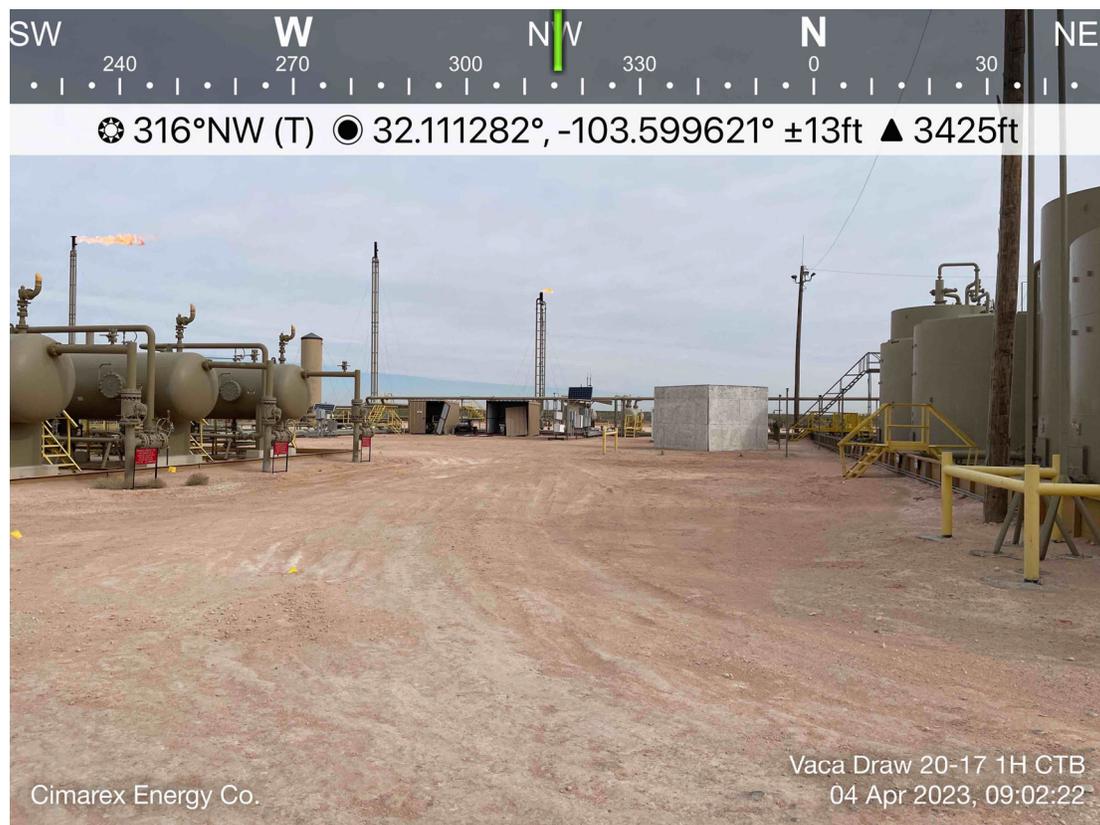
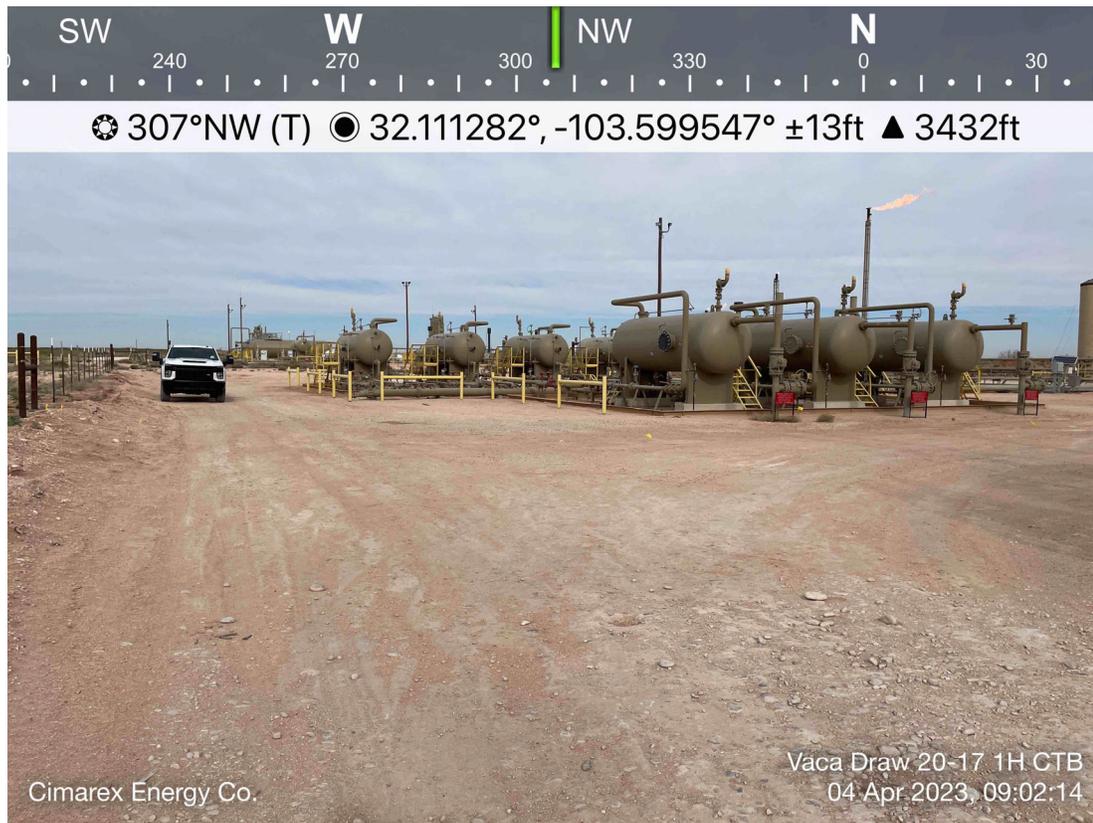
**INITIAL SPILL**



CIMAREX ENERGY  
VACA DRAW 20-17 FEDERAL 1H-4H CTB  
LEA, NM



CIMAREX ENERGY  
VACA DRAW 20-17 FEDERAL 1H-4H CTB  
LEA, NM



CIMAREX ENERGY  
VACA DRAW 20-17 FEDERAL 1H-4H CTB  
LEA, NM



CIMAREX ENERGY  
VACA DRAW 20-17 FEDERAL 1H-4H CTB  
LEA, NM



# APPENDIX V

## LABORATORY REPORTS



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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February 21, 2023

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

RE: VACA DRAW 20-17 FED 1H - 4H CTB (VD)

Enclosed are the results of analyses for samples received by the laboratory on 02/15/23 10:41.

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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.

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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" at the beginning.

Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 1 0-6" (H230703-01)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311	
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5840	16.0	02/16/2023	ND	432	108	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	02/17/2023	ND	204	102	200	0.299	
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	186	93.0	200	1.26	
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND					

Surrogate: 1-Chlorooctane 86.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.6 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 1 1' (H230703-02)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3920	16.0	02/16/2023	ND	432	108	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	02/17/2023	ND	204	102	200	0.299		
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	186	93.0	200	1.26		
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND						

Surrogate: 1-Chlorooctane 94.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 1 2' (H230703-03)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2240	16.0	02/16/2023	ND	432	108	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	02/17/2023	ND	204	102	200	0.299		
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	186	93.0	200	1.26		
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND						

Surrogate: 1-Chlorooctane 94.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 2 0-6" (H230703-04)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311	
<b>Toluene*</b>	<b>0.082</b>	0.050	02/19/2023	ND	2.14	107	2.00	1.94	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>7520</b>	16.0	02/16/2023	ND	432	108	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	02/17/2023	ND	204	102	200	0.299	
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	186	93.0	200	1.26	
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND					

Surrogate: 1-Chlorooctane 92.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.4 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 2 1' (H230703-05)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3600	16.0	02/16/2023	ND	432	108	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	02/17/2023	ND	204	102	200	0.299		
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	186	93.0	200	1.26		
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND						

Surrogate: 1-Chlorooctane 96.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 2 2' (H230703-06)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3680	16.0	02/16/2023	ND	432	108	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	02/16/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND						

Surrogate: 1-Chlorooctane 85.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.9 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 3 0-6" (H230703-07)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311	
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7360	16.0	02/16/2023	ND	432	108	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	02/16/2023	ND	191	95.3	200	0.382	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	195	97.7	200	0.991	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 87.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 3 1' (H230703-08)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

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	02/16/2023	ND	432	108	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	02/16/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND						

Surrogate: 1-Chlorooctane 85.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 3 2' (H230703-09)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	02/16/2023	ND	432	108	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	02/16/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND						

Surrogate: 1-Chlorooctane 87.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 4 0-6" (H230703-10)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5200	16.0	02/16/2023	ND	432	108	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	02/16/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND						

Surrogate: 1-Chlorooctane 84.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 4 1' (H230703-11)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311	
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1220	16.0	02/16/2023	ND	400	100	400	3.92	

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	02/16/2023	ND	191	95.3	200	0.382	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	195	97.7	200	0.991	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 85.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 4 2' (H230703-12)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	02/16/2023	ND	400	100	400	3.92		

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	02/16/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND						

Surrogate: 1-Chlorooctane 92.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 5 0-6" (H230703-13)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311	
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1840	16.0	02/16/2023	ND	400	100	400	3.92	

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	02/16/2023	ND	191	95.3	200	0.382	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	195	97.7	200	0.991	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 87.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 5 1' (H230703-14)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

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	02/16/2023	ND	400	100	400	3.92		

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	02/16/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND						

Surrogate: 1-Chlorooctane 86.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 5 2' (H230703-15)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	02/16/2023	ND	400	100	400	3.92		

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	02/17/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND						

Surrogate: 1-Chlorooctane 87.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 6 0-6" (H230703-16)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4160	16.0	02/16/2023	ND	400	100	400	3.92		

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	02/17/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND						

Surrogate: 1-Chlorooctane 79.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.1 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 6 1' (H230703-17)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311	
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	02/16/2023	ND	400	100	400	3.92	

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	02/17/2023	ND	191	95.3	200	0.382	
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991	
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND					

Surrogate: 1-Chlorooctane 82.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 6 2' (H230703-18)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311	
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-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	02/16/2023	ND	400	100	400	3.92	

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	02/17/2023	ND	191	95.3	200	0.382	
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991	
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND					

Surrogate: 1-Chlorooctane 89.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 7 0-6" (H230703-19)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.311		
Toluene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	1.94		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.11	105	2.00	2.29		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.37	106	6.00	2.33		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1340	16.0	02/16/2023	ND	400	100	400	3.92		

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	02/17/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND						

Surrogate: 1-Chlorooctane 88.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 7 1' (H230703-20)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80		
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	02/16/2023	ND	400	100	400	3.92		

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	02/17/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND						

Surrogate: 1-Chlorooctane 91.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 7 2' (H230703-21)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80		
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	02/16/2023	ND	400	100	400	3.92		

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	02/17/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND						

Surrogate: 1-Chlorooctane 88.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 8 0-6" (H230703-22)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3040	16.0	02/16/2023	ND	400	100	400	3.92	

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	02/17/2023	ND	191	95.3	200	0.382	
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991	
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND					

Surrogate: 1-Chlorooctane 92.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 8 1' (H230703-23)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/16/2023	ND	400	100	400	3.92	

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	02/17/2023	ND	191	95.3	200	0.382	
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991	
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND					

Surrogate: 1-Chlorooctane 89.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 8 2' (H230703-24)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80		
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04		
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23		
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46		
Total BTEX	<0.300	0.300	02/19/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	02/16/2023	ND	400	100	400	3.92		

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	02/17/2023	ND	191	95.3	200	0.382		
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991		
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND						

Surrogate: 1-Chlorooctane 88.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 1 0-6" (H230703-25)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	02/16/2023	ND	400	100	400	3.92	

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	02/17/2023	ND	191	95.3	200	0.382	
DRO >C10-C28*	<10.0	10.0	02/17/2023	ND	195	97.7	200	0.991	
EXT DRO >C28-C36	<10.0	10.0	02/17/2023	ND					

Surrogate: 1-Chlorooctane 85.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 2 0-6" (H230703-26)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6080	16.0	02/16/2023	ND	400	100	400	3.92	

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	02/16/2023	ND	202	101	200	19.2	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	193	96.4	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 91.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 3 0-6" (H230703-27)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	02/16/2023	ND	400	100	400	3.92	

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	02/16/2023	ND	202	101	200	19.2	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	193	96.4	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 90.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 4 0-6" (H230703-28)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	02/16/2023	ND	400	100	400	3.92	

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	02/16/2023	ND	202	101	200	19.2	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	193	96.4	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 5 0-6" (H230703-29)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1260	16.0	02/16/2023	ND	400	100	400	3.92	

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	02/16/2023	ND	202	101	200	19.2	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	193	96.4	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 88.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 6 0-6" (H230703-30)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-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	02/16/2023	ND	400	100	400	3.92	

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	02/16/2023	ND	202	101	200	19.2	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	193	96.4	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 90.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 7 0-6" (H230703-31)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4720	16.0	02/16/2023	ND	432	108	400	0.00	QM-07

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	02/16/2023	ND	202	101	200	19.2	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	193	96.4	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 88.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.3 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 8 0-6" (H230703-32)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

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	02/16/2023	ND	432	108	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	02/16/2023	ND	202	101	200	19.2	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	193	96.4	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 97.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	02/15/2023	Sampling Date:	02/15/2023
Reported:	02/21/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FED 1H - 4H CTB (VI	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 9 0-6" (H230703-33)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.17	108	2.00	5.80	
Toluene*	<0.050	0.050	02/19/2023	ND	2.16	108	2.00	5.04	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.14	107	2.00	3.23	
Total Xylenes*	<0.150	0.150	02/19/2023	ND	6.46	108	6.00	3.46	
Total BTEX	<0.300	0.300	02/19/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

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	02/16/2023	ND	432	108	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	02/16/2023	ND	202	101	200	19.2	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	193	96.4	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					

Surrogate: 1-Chlorooctane 91.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-04 The RPD for the BS/BSD was outside of historical limits.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: <u>HTR Enterprises</u> Project Manager: <u>M. Collier</u> Address: City: State: Zip: Phone #: Fax #: Project #: Project Owner: <u>Cimarex</u> Project Name: <u>Vaca Draw 20-17 Fed H-4H CTB (VD)</u> Project Location: <u>Lea County</u> Sampler Name: <u>R. Bell</u>		<b>BILL TO</b> P.O. #: Company: <u>Cimarex Energy</u> Attn: <u>Laci Luig</u> Address: City: State: Zip: Phone #: Fax #:		<b>ANALYSIS REQUEST</b>	
Lab I.D. <u>#230703</u> Sample I.D.		(G)RAB OR (C)OMP. # CONTAINERS MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE: ICE / COOL OTHER:		PRESERV SAMPLING DATE TIME	
1 5-1 0-6" 2 5-1 1' 3 5-1 2' 4 5-2 0-6" 5 5-2 1' 6 5-2 2' 7 5-3 0-6" 8 5-3 1' 9 5-3 2' 10 5-4 2'		5 1 X X X X X X X X X		2/5/23 X X X X X X X X X X	
Relinquished By: <u>[Signature]</u> Date: <u>2-15-23</u> Time: <u>10:41</u>		Received By: <u>[Signature]</u> Date: <u>2-15-23</u> Time:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: All Results are emailed. Please provide Email address: REMARKS: <u>Pg 1 of 4</u>	
Delivered By: (Circle One) UPS - Bus - Other:		Observed Temp. °C <u>2.9</u> Corrected Temp. °C <u>2.3</u>		Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No CHECKED BY: <u>[Signature]</u> Turnaround Time: Thermometer ID #113 Correction Factor -0.6°C Standard <input checked="" type="checkbox"/> <u>Rush</u> Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C	

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com





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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: _____ Project Manager: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: (VD) Project Location: _____ Sampler Name: _____ FOR LAB USE ONLY		<b>BILL TO</b> P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____		<b>ANALYSIS REQUEST</b>	
Lab I.D. <b>H330703</b> 20 5-7 1' 5 21 5-7 2' 1 22 5-8 0-6" 1 23 5-8 1' 1 24 5-8 2' 1 25 H-1 0-6" 1 26 H-2 1 27 H-3 1 28 H-4 1 29 H-5 1	Sample I.D. _____ (G)RAB OR (C)OMP. _____ # CONTAINERS _____ MATRIX: GROUNDWATER _____ WASTEWATER _____ SOIL <input checked="" type="checkbox"/> _____ OIL _____ SLUDGE _____ OTHER: _____ ACID/BASE: _____ ICE / COOL <input checked="" type="checkbox"/> _____ OTHER: _____	PRESERV _____ DATE _____ TIME _____ X BTEX X TPH X Chlorides	CHECKED BY: _____ Turnaround Time: _____ Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Bacteria (only) <input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Corrected Temp. °C _____	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: _____ All Results are emailed. Please provide Email address: _____ REMARKS: pg 3 of 4	Relinquished By: _____ Date: 2-15-23 Time: 1041 Received By: _____ Date: _____ Time: _____
Delivered By: (Circle One) <input checked="" type="checkbox"/> UPS <input type="checkbox"/> Bus <input type="checkbox"/> Other: _____ Observed Temp. °C 29 Corrected Temp. °C 2.3 Sample Condition: Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No		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 the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.			

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: _____ Project Manager: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: (VD) Project Location: _____ Sampler Name: _____ FOR LAB USE ONLY		P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____	
<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS
H236703 30 H-6 0-6" 31 H-7 32 H-6 33 H-9		GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	
		MATRIX PRESERV ACID/BASE: ICE / COOL OTHER:	
		DATE TIME	
		X BTEX X TPH X Chlorides	
Relinquished By: _____ Date: 2-15-23 Time: 1041		Received By: _____ Date: _____ Time: _____	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C: 2.9 Corrected Temp. °C: 2.3 Sample Condition Cool Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Checked By: (Initials) YD	
Turnaround Time: _____ Thermometer ID #113 Correction Factor -0.6°C		Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Bacteria (only) Sample Condition Cool Intact: Yes <input type="checkbox"/> No <input type="checkbox"/> Observed Temp. °C: _____ Corrected Temp. °C: _____	
Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: _____ All Results are emailed. Please provide Email address: _____		REMARKS: Pg 4 of 4	

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March 08, 2023

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

RE: VACA DRAW 20-17 1H - 4H CTB (VACA)

Enclosed are the results of analyses for samples received by the laboratory on 03/03/23 11:43.

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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.

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,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	03/03/2023	Sampling Date:	03/03/2023
Reported:	03/08/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 1H - 4H CTB (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 2 1' (H230982-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/03/2023	ND	2.03	102	2.00	4.19	
Toluene*	<0.050	0.050	03/03/2023	ND	2.00	99.8	2.00	4.93	
Ethylbenzene*	<0.050	0.050	03/03/2023	ND	1.96	98.0	2.00	4.58	
Total Xylenes*	<0.150	0.150	03/03/2023	ND	5.99	99.8	6.00	4.61	
Total BTEX	<0.300	0.300	03/03/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	03/06/2023	ND	448	112	400	3.51	

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	03/06/2023	ND	184	91.9	200	3.78	
DRO >C10-C28*	<10.0	10.0	03/06/2023	ND	186	92.9	200	9.77	
EXT DRO >C28-C36	<10.0	10.0	03/06/2023	ND					

Surrogate: 1-Chlorooctane 88.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	03/03/2023	Sampling Date:	03/03/2023
Reported:	03/08/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 1H - 4H CTB (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 4 1' (H230982-02)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/03/2023	ND	2.03	102	2.00	4.19	
Toluene*	<0.050	0.050	03/03/2023	ND	2.00	99.8	2.00	4.93	
Ethylbenzene*	<0.050	0.050	03/03/2023	ND	1.96	98.0	2.00	4.58	
Total Xylenes*	<0.150	0.150	03/03/2023	ND	5.99	99.8	6.00	4.61	
Total BTEX	<0.300	0.300	03/03/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	03/06/2023	ND	448	112	400	3.51	

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	03/06/2023	ND	184	91.9	200	3.78	
DRO >C10-C28*	<10.0	10.0	03/06/2023	ND	186	92.9	200	9.77	
EXT DRO >C28-C36	<10.0	10.0	03/06/2023	ND					

Surrogate: 1-Chlorooctane 90.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.9 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	03/03/2023	Sampling Date:	03/03/2023
Reported:	03/08/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 1H - 4H CTB (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 5 1' (H230982-03)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/03/2023	ND	2.03	102	2.00	4.19	
Toluene*	<0.050	0.050	03/03/2023	ND	2.00	99.8	2.00	4.93	
Ethylbenzene*	<0.050	0.050	03/03/2023	ND	1.96	98.0	2.00	4.58	
Total Xylenes*	<0.150	0.150	03/03/2023	ND	5.99	99.8	6.00	4.61	
Total BTEX	<0.300	0.300	03/03/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	03/06/2023	ND	448	112	400	3.51	

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	03/06/2023	ND	184	91.9	200	3.78	
DRO >C10-C28*	<10.0	10.0	03/06/2023	ND	186	92.9	200	9.77	
EXT DRO >C28-C36	<10.0	10.0	03/06/2023	ND					

Surrogate: 1-Chlorooctane 88.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.0 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	03/03/2023	Sampling Date:	03/03/2023
Reported:	03/08/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 1H - 4H CTB (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 7 1' (H230982-04)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/03/2023	ND	2.03	102	2.00	4.19		
Toluene*	<0.050	0.050	03/03/2023	ND	2.00	99.8	2.00	4.93		
Ethylbenzene*	<0.050	0.050	03/03/2023	ND	1.96	98.0	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/03/2023	ND	5.99	99.8	6.00	4.61		
Total BTEX	<0.300	0.300	03/03/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	03/06/2023	ND	448	112	400	3.51		

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	03/06/2023	ND	179	89.3	200	0.0263		
DRO >C10-C28*	<10.0	10.0	03/06/2023	ND	204	102	200	1.33		
EXT DRO >C28-C36	<10.0	10.0	03/06/2023	ND						

Surrogate: 1-Chlorooctane 88.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	03/03/2023	Sampling Date:	03/03/2023
Reported:	03/08/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 1H - 4H CTB (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 2A 0-0.5' (H230982-05)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/03/2023	ND	2.03	102	2.00	4.19	
Toluene*	<0.050	0.050	03/03/2023	ND	2.00	99.8	2.00	4.93	
Ethylbenzene*	<0.050	0.050	03/03/2023	ND	1.96	98.0	2.00	4.58	
Total Xylenes*	<0.150	0.150	03/03/2023	ND	5.99	99.8	6.00	4.61	
Total BTEX	<0.300	0.300	03/03/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	03/06/2023	ND	448	112	400	3.51	

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	03/06/2023	ND	179	89.3	200	0.0263	
DRO >C10-C28*	<10.0	10.0	03/06/2023	ND	204	102	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	03/06/2023	ND					

Surrogate: 1-Chlorooctane 85.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.0 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	03/03/2023	Sampling Date:	03/03/2023
Reported:	03/08/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 1H - 4H CTB (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 4A 0-0.5' (H230982-06)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/03/2023	ND	2.03	102	2.00	4.19		
Toluene*	<0.050	0.050	03/03/2023	ND	2.00	99.8	2.00	4.93		
Ethylbenzene*	<0.050	0.050	03/03/2023	ND	1.96	98.0	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/03/2023	ND	5.99	99.8	6.00	4.61		
Total BTEX	<0.300	0.300	03/03/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	03/06/2023	ND	448	112	400	3.51		

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	03/06/2023	ND	179	89.3	200	0.0263		
DRO >C10-C28*	<10.0	10.0	03/06/2023	ND	204	102	200	1.33		
EXT DRO >C28-C36	<10.0	10.0	03/06/2023	ND						

Surrogate: 1-Chlorooctane 88.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	03/03/2023	Sampling Date:	03/03/2023
Reported:	03/08/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 1H - 4H CTB (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 5A 0-0.5' (H230982-07)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/03/2023	ND	2.03	102	2.00	4.19		
Toluene*	<0.050	0.050	03/03/2023	ND	2.00	99.8	2.00	4.93		
Ethylbenzene*	<0.050	0.050	03/03/2023	ND	1.96	98.0	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/03/2023	ND	5.99	99.8	6.00	4.61		
Total BTEX	<0.300	0.300	03/03/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	03/06/2023	ND	448	112	400	3.51		

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	03/06/2023	ND	179	89.3	200	0.0263		
DRO >C10-C28*	<10.0	10.0	03/06/2023	ND	204	102	200	1.33		
EXT DRO >C28-C36	<10.0	10.0	03/06/2023	ND						

Surrogate: 1-Chlorooctane 89.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

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

Received:	03/03/2023	Sampling Date:	03/03/2023
Reported:	03/08/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 1H - 4H CTB (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: H - 7A 0-0.5' (H230982-08)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/03/2023	ND	2.03	102	2.00	4.19		
Toluene*	<0.050	0.050	03/03/2023	ND	2.00	99.8	2.00	4.93		
Ethylbenzene*	<0.050	0.050	03/03/2023	ND	1.96	98.0	2.00	4.58		
Total Xylenes*	<0.150	0.150	03/03/2023	ND	5.99	99.8	6.00	4.61		
Total BTEX	<0.300	0.300	03/03/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	03/06/2023	ND	448	112	400	3.51		

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	03/06/2023	ND	179	89.3	200	0.0263		
DRO >C10-C28*	<10.0	10.0	03/06/2023	ND	204	102	200	1.33		
EXT DRO >C28-C36	<10.0	10.0	03/06/2023	ND						

Surrogate: 1-Chlorooctane 84.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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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

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



**District I**  
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**District II**  
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**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 205389

**CONDITIONS**

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 205389
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
jnobui	Closure Report Approved. Please implement 19.15.29.13 NMAC when completing P&A.	5/10/2023