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## Remediation and Closure Report

Vaca Draw 20-17 Federal #012H  
Incident# nAPP2135426735  
Lea County, New Mexico

### Prepared For:

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

### Prepared By:

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

**June 2, 2023**

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

Subject: **Remediation and Closure Report**  
Vaca Draw 20-17 Federal #012H  
Lea County, NM

Dear Mrs. Nobui,

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

### Site Information

The Vaca Draw 20-17 Federal #012H is located approximately 40.9 miles West of Jal, New Mexico. The legal location for this release is Unit Letter N, Section 20, Township 25 South and Range 33 East in Lea County, New Mexico. More specifically the latitude and longitude for the release are 32.109742 North and -103.596228 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 Berino-Cacique association, 0 to 3 percent slopes. The referenced soil data is attached in [Appendix II](#). Drainage courses in this area are typically dry. The project site is not located in a high Karst potential area (Karst Map, [Appendix I](#)).

### Groundwater and Site Characterization

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

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

Approximate Depth to Groundwater	280 Feet/BGS
<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 not being within the recommended 0.5-mile distance, an exploratory groundwater bore was drilled on the same well pad as this release to a depth of 55-feet BGS. See Soil Bore Log in [Appendix II](#). No groundwater was encountered on the date of drilling nor 5-days after, so 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**
51-100 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 December 17, 2021, a frac crew was unhooking an 8-inch line from a boost pump to repair a seal on the Victaulic component, it was noticed that the upstream valve was not holding and the line could not be stabbed back onto the manifold where it had been disconnected. This caused 16 barrels (bbls) of produced water to be released into the containment, 6 bbls of which spilled onto the ground. A vacuum pod recovered all fluids inside the containment as well as the 5 bbls released onto the ground. 1 bbl of fluid was unrecoverable.

### Site Assessment and Remediation Activities

H&R mobilized personnel to begin site assessment, sampling, and remediation activities of the release area. Grab samples were obtained by way of drilling bore holes within and outside of the release area to fully delineate the release. Assessment samples collected were transported to Cardinal Laboratory for analysis and the results of that analysis are presented in Table 1 below. Initial site assessment sampling locations are illustrated on Site Assessment Map, [Appendix I](#). Photographic documentation of the remediation is 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
BH-1	9/21/2022	0-1'	ND	ND	ND	ND	ND	0	352
		2'	ND	ND	ND	ND	ND	0	352
		3'	ND	ND	ND	ND	ND	0	176
		4'	ND	ND	ND	ND	ND	0	112
BH-2	9/21/2022	0-1'	ND	ND	ND	ND	ND	0	224
		2'	ND	ND	ND	ND	ND	0	288
		3'	ND	ND	ND	ND	ND	0	128
		4'	ND	ND	ND	ND	ND	0	48
BH-3	9/21/2022	0-1'	ND	ND	ND	ND	ND	0	352
		2'	ND	ND	ND	ND	ND	0	208
		3'	ND	ND	ND	ND	ND	0	128
		4'	ND	ND	ND	ND	ND	0	32
BH-4	9/21/2022	0-1'	ND	ND	ND	ND	ND	0	2340
		2'	ND	ND	ND	ND	ND	0	3720
		3'	ND	ND	ND	ND	ND	0	4000
BH-5	9/21/2022	0-1'	ND	ND	ND	ND	ND	0	10600
		2'	ND	ND	ND	33.3	ND	33.3	4720
		3'	ND	ND	ND	21.9	ND	21.9	2800
		4'	ND	ND	ND	ND	ND	0	1540
		6'	ND	ND	ND	18.8	ND	18.8	640
		8'	ND	ND	ND	14.2	ND	14.2	176
BH-6	9/21/2022	10'	ND	ND	ND	15.7	ND	15.7	144
		0-1'	ND	ND	ND	772	295	1067	36000
		2'	ND	ND	ND	ND	ND	0	560
		3'	ND	ND	ND	ND	ND	0	208
		4'	ND	ND	ND	ND	ND	0	80
		6'	ND	ND	ND	ND	ND	0	64
		8'	ND	ND	ND	ND	ND	0	48
BH-7	5/25/2023	10'	ND	ND	ND	ND	ND	0	32
		0-1'	ND	ND	ND	ND	ND	0	32
		2'	ND	ND	ND	ND	ND	0	48
		3'	ND	ND	ND	ND	ND	0	80
		4'	ND	ND	ND	ND	ND	0	64

ND = Analyte Not Detected BH = Bore Hole Sample

Based on the results of our site assessment and upon client authorization, further excavation activities of the impacted area began. Confirmation composite samples were collected from the bottom and sidewalls of the excavation to confirm that NMOCD closure criteria had been met, the results of which can be found in the following data table. Confirmation composite sample locations and excavation dimensions can be found on Confirmation Sample Map 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	1000 mg/kg		2500 mg/kg	2500 mg/kg	10,000 mg/kg
S-1	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	768
S-2	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	752
S-3	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	704
S-4	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	816
S-5	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	896
S-6	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	784
S-7	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	800
S-8	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	912
S-9	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	864
S-10	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	832
S-11	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	1020
S-12	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	864
S-13	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	992
S-14	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	1010
SW-1	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	416
SW-2	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	432
SW-3	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	416
SW-4	5/26/2023	1.5'	ND	ND	ND	ND	ND	0	384
ND = Analyte Not Detected S = Bottom Composite SW = Sidewall Composite Sample									

## Remedial Actions

- The impacted areas in the vicinity of sample points BH-5 and BH-6 were excavated to a total depth of 1.5-feet BGS.
- Confirmation composite samples were obtained from the bottom and sidewalls of the excavated area to verify that all contaminants above closure criteria had been removed.
- All the excavated material was hauled to R360, a NMOCD approved solid waste disposal facility.
- The excavated areas on the well pad were backfilled with new caliche at depth and brought to grade, machine compacted and contoured to match the surrounding location.
- The Final C-141 formally documenting the remedial actions is attached in [Appendix III](#).

## Closure

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

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

Respectfully submitted,

H&R Enterprises, LLC

*Michael Collier*

Michael Collier  
Environmental Project Manager

### Attachments:

Appendix I Site Maps

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

Appendix III Initial and Final C-141

Appendix IV Photographic Documentation

Appendix V Laboratory Reports

# APPENDIX I

## SITE MAPS

## KARST MAP

## TOPOGRAPHIC MAP

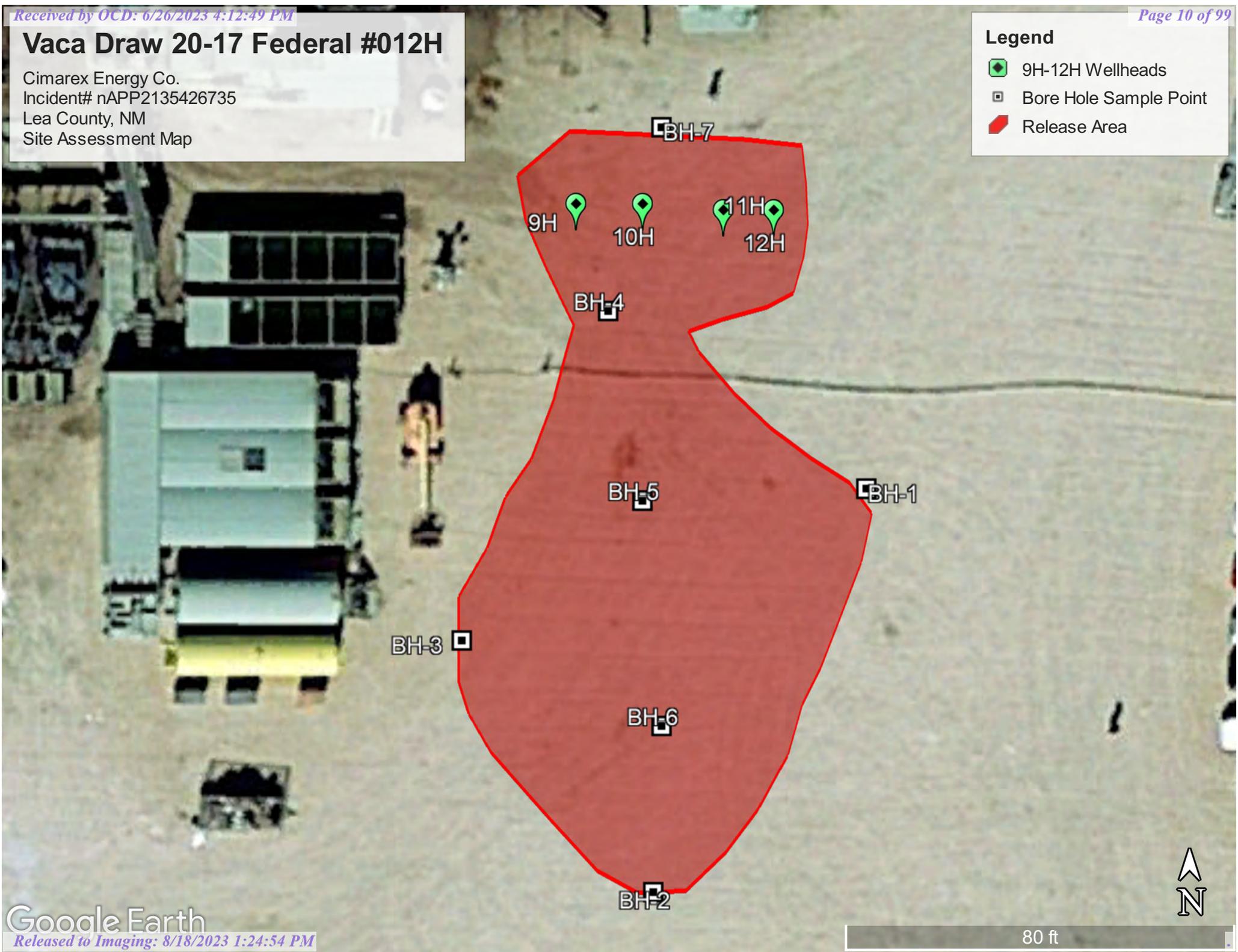
## LOCATOR MAP

# Vaca Draw 20-17 Federal #012H

Cimarex Energy Co.  
Incident# nAPP2135426735  
Lea County, NM  
Site Assessment Map

**Legend**

-  9H-12H Wellheads
-  Bore Hole Sample Point
-  Release Area



# Vaca Draw 20-17 Federal #012H

Cimarex Energy Co.  
Incident# nAPP2135426735  
Lea County, NM  
Confirmation Sample Map

## Legend

-  1.5ft. Excavation
-  Confirmation Composite Sample

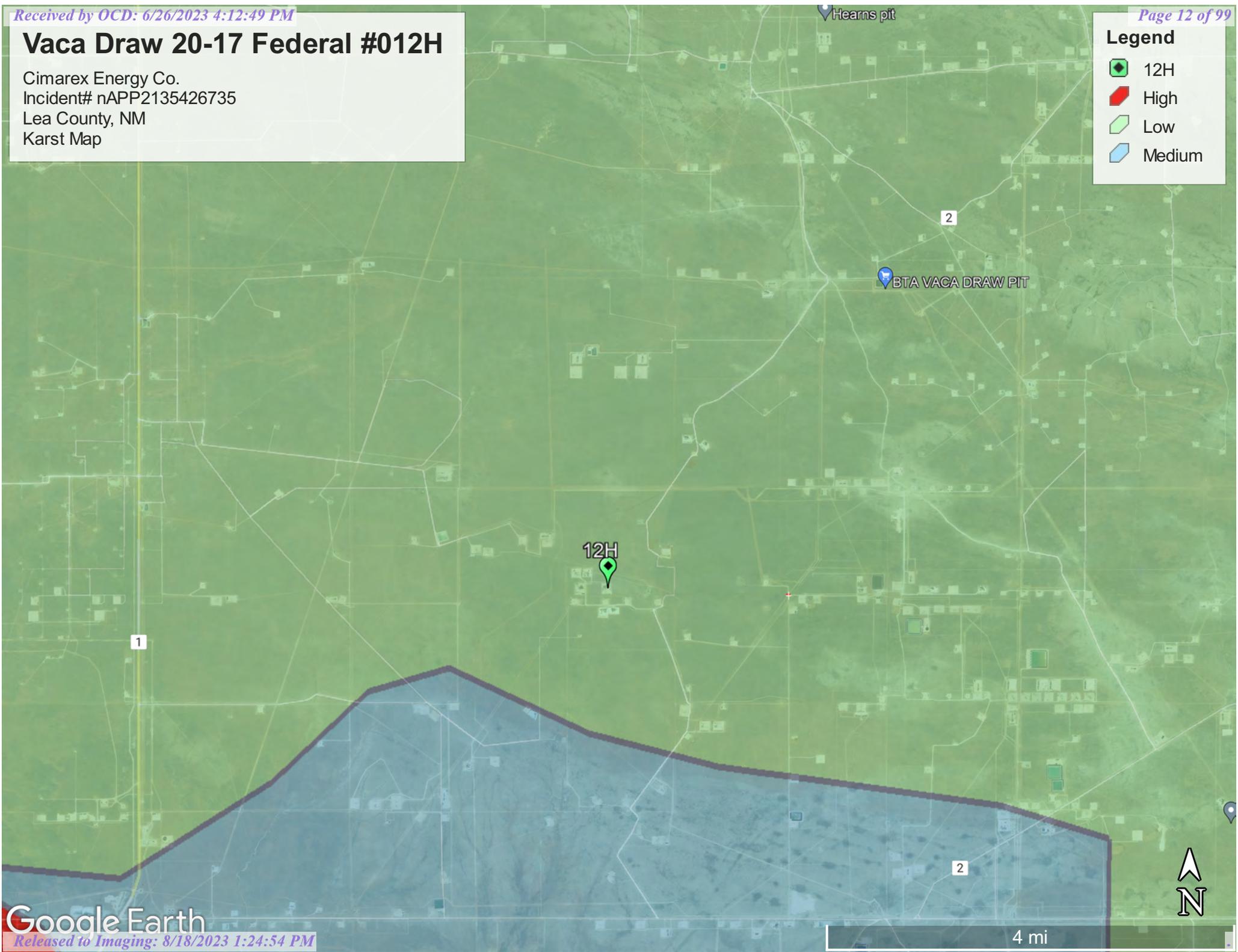


# Vaca Draw 20-17 Federal #012H

Cimarex Energy Co.  
Incident# nAPP2135426735  
Lea County, NM  
Karst Map

**Legend**

-  12H
-  High
-  Low
-  Medium



Hearns pit

BTA VACA DRAW PIT

12H

1

2

2

4 mi

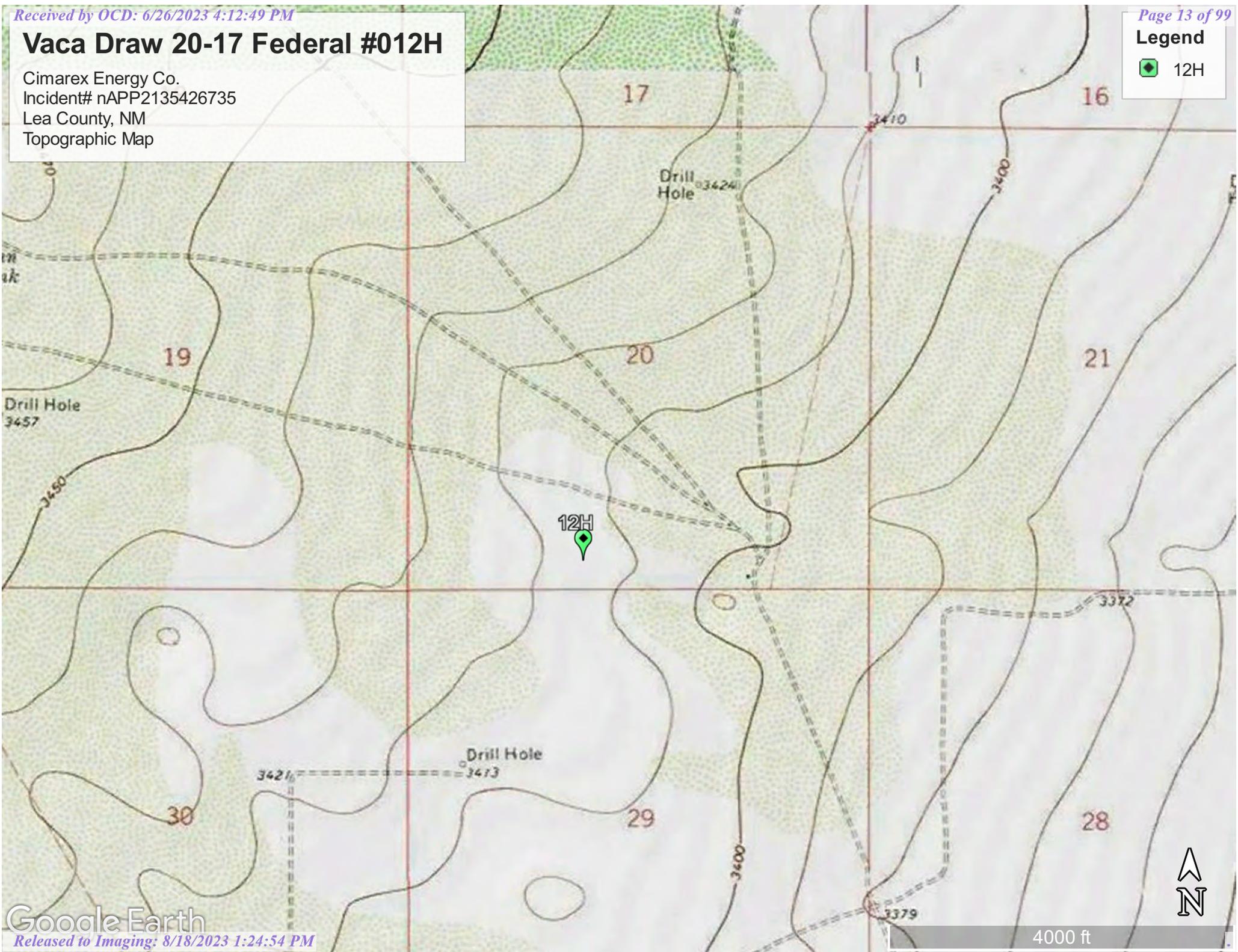


# Vaca Draw 20-17 Federal #012H

Cimarex Energy Co.  
Incident# nAPP2135426735  
Lea County, NM  
Topographic Map

## Legend

 12H



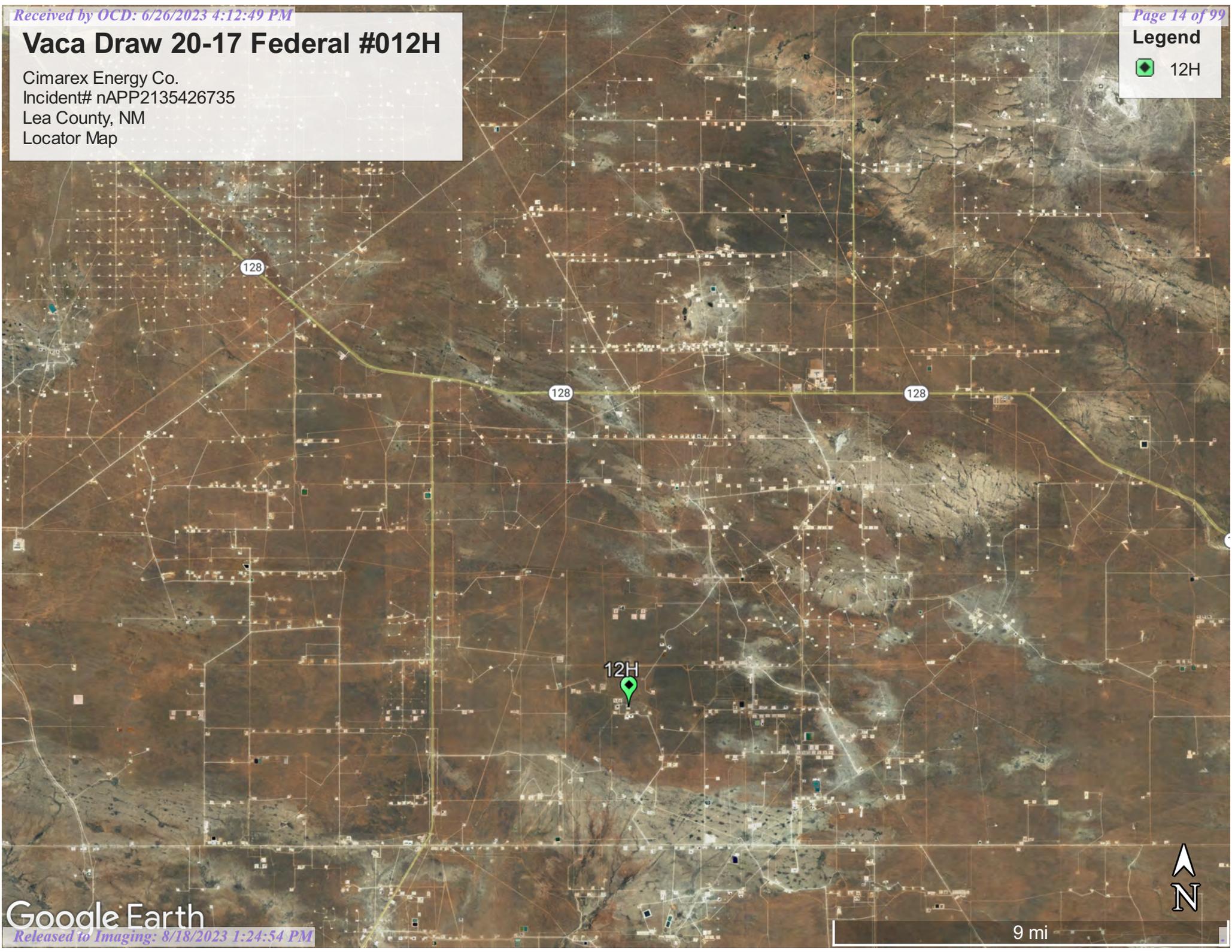
4000 ft

# Vaca Draw 20-17 Federal #012H

Cimarex Energy Co.  
Incident# nAPP2135426735  
Lea County, NM  
Locator Map

## Legend

 12H



# 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 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">C_04627_POD1</a>		CUB	LE	3	3	4	08	25S	33E	632665	3556725	<input type="checkbox"/>	3268		
<a href="#">C_04537_POD1</a>		C	LE	4	4	4	31	25S	33E	631847	3550243	<input type="checkbox"/>	3273	500	280 220
<a href="#">C_02313</a>		CUB	LE	2	3	3	26	25S	33E	636971	3552098*	<input type="checkbox"/>	4746	150	110 40

Average Depth to Water: **195 feet**

Minimum Depth: **110 feet**

Maximum Depth: **280 feet**

**Record Count:** 3

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

**Easting (X):** 632425.45

**Northing (Y):** 3553465.38

**Radius:** 5000

\*UTM location was derived from PLSS - see Help

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

6/2/23 2:34 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Map Unit Description: Berino-Cacique association, hummocky---Lea County, New Mexico

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## Lea County, New Mexico

### BH—Berino-Cacique association, hummocky

#### Map Unit Setting

*National map unit symbol:* dmpg  
*Elevation:* 3,000 to 4,400 feet  
*Mean annual precipitation:* 10 to 13 inches  
*Mean annual air temperature:* 60 to 62 degrees F  
*Frost-free period:* 190 to 205 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Berino and similar soils:* 50 percent  
*Cacique and similar soils:* 40 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Berino

##### Setting

*Landform:* Plains  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandy eolian deposits derived from sedimentary rock over calcareous sandy alluvium derived from sedimentary rock

##### Typical profile

*A - 0 to 10 inches:* fine sand  
*Btk - 10 to 60 inches:* sandy clay loam

##### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 40 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water supply, 0 to 60 inches:* Moderate (about 8.5 inches)

Map Unit Description: Berino-Cacique association, hummocky---Lea County, New Mexico

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### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7c

*Hydrologic Soil Group:* B

*Ecological site:* R070BD003NM - Loamy Sand

*Hydric soil rating:* No

### Description of Cacique

#### Setting

*Landform:* Plains

*Landform position (three-dimensional):* Rise

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Calcareous eolian deposits derived from sedimentary rock

#### Typical profile

*A - 0 to 7 inches:* fine sand

*Bt - 7 to 28 inches:* sandy clay loam

*Bkm - 28 to 38 inches:* cemented material

#### Properties and qualities

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* 20 to 40 inches to petrocalcic

*Drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 40 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

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

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7c

*Hydrologic Soil Group:* C

*Ecological site:* R070BD004NM - Sandy

*Hydric soil rating:* No

### Minor Components

#### Kermit

*Percent of map unit:* 4 percent

*Ecological site:* R070BD005NM - Deep Sand

*Hydric soil rating:* No

#### Maljamar

*Percent of map unit:* 3 percent

Map Unit Description: Berino-Cacique association, hummocky---Lea County, New Mexico

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*Ecological site:* R077CY028TX - Limy Upland 16-21" PZ  
*Hydric soil rating:* No

**Palomas**

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

**Dune land**

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

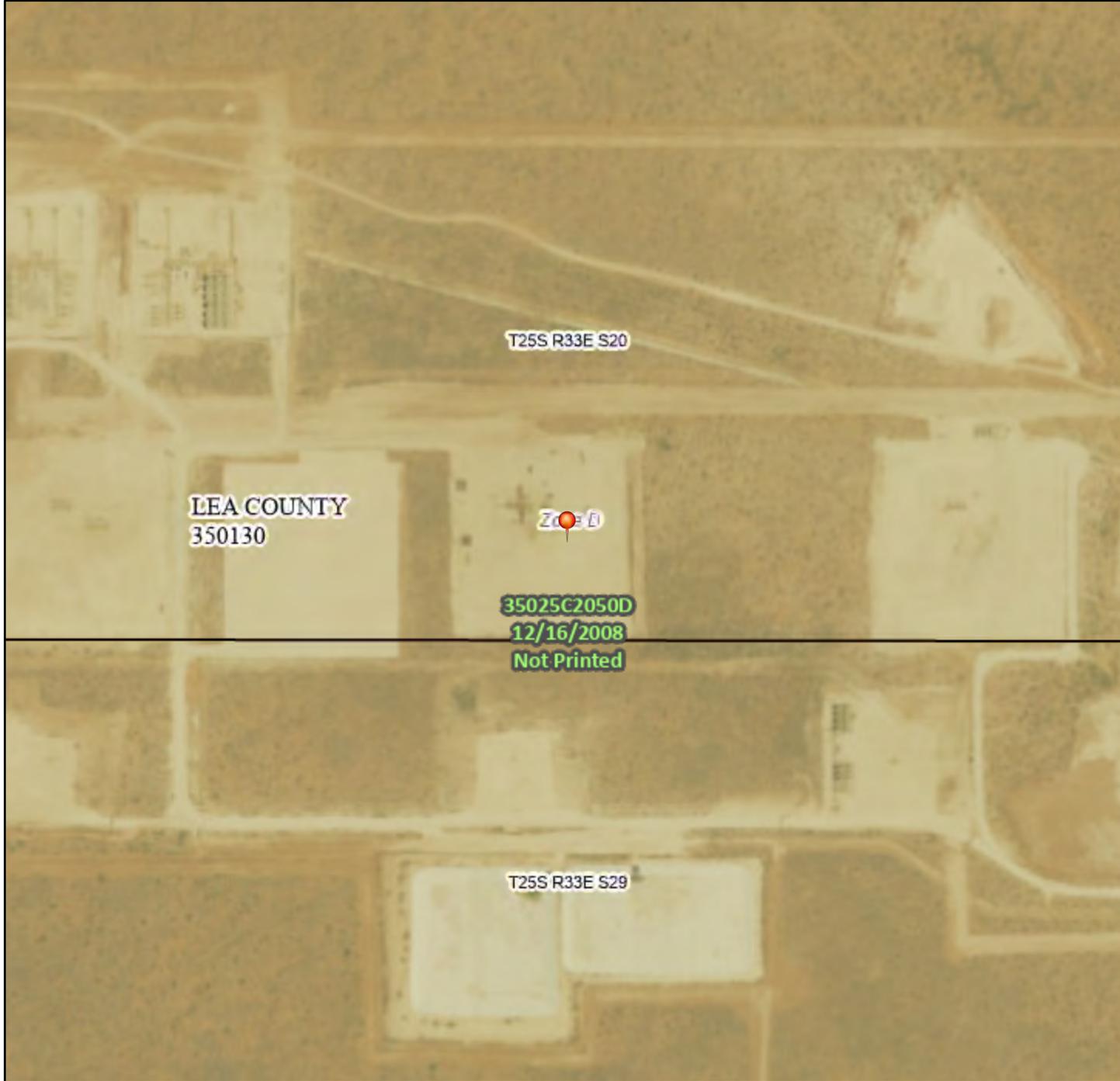
## Data Source Information

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

# National Flood Hazard Layer FIRMette



103°36'5"W 32°6'50"N



## Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		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 Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D

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

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		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 6/5/2023 at 11:19 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.

# Vaca Draw 20-17 Federal #009H

Cimarex Energy Co.  
Incident# nAPP2200321420  
Lea County, NM  
Exploratory Water Bore Map

**Legend**

-  9H
-  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
			GPS: 32.108981,-103.595653

# APPENDIX III

**INITIAL C-141**

**FINAL C-141**

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

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

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

Incident ID	nAPP2135426735
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party: Cimarex Energy Co.	OGRID: 215099
Contact Name: Laci Luig	Contact Telephone: (432) 571-7800
Contact email: lluig@cimarex.com	Incident # (assigned by OCD) nAPP2135426735
Contact mailing address: 600 N Marienfeld Street, Ste. 600 Midland, TX 79701	

### Location of Release Source

Latitude 32.109742 \_\_\_\_\_ Longitude -103.596228 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Vaca Draw 20-17 Federal 12H	Site Type: Well Pad
Date Release Discovered: 12/17/2021	API# (if applicable)

Unit Letter	Section	Township	Range	County
N	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) 16	Volume Recovered (bbls) 15
	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**

A frac crew was unhooking an 8" line from a boost pump to repair a seal on a victaulic component it was noticed that the upstream valve was not holding and the line could not be stabbed back onto the manifold where it had been disconnected. The crew immediately began getting the vacuum pods running to recover spilled fluid. A vacuum pod recovered all fluids inside containment plus 5 barrels that had released onto the ground. The frac crew will be moving in the first week of January, at which time we will move in to recover the impacted soils.

State of New Mexico  
Oil Conservation Division

Page 2

Incident ID	nAPP2135426735
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
---	--

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?  
 By: Tell Montoya  
 To: Mike Bratcher, Chad Hensley, Robert Hamlet and 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: 12/20/2021 \_\_\_\_\_  
 email: llug@cimarex.com \_\_\_\_\_ Telephone: (432) 208-3035 \_\_\_\_\_

**OCD Only**  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input 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 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 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 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 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 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 type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input 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

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: *Dac. Lio* Date: \_\_\_\_\_

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

Received by: Shelly Wells Date: 6/27/2023

Incident ID	
District RP	
Facility ID	
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: \_\_\_\_\_ Title: \_\_\_\_\_  
 Signature: *lac. Lij* Date: \_\_\_\_\_  
 email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

Received by: Shelly Wells Date: 6/27/2023

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: *J* Date: 8/18/2023  
 Printed Name: Jocelyn Harimon Title: Environmental Specialist

## Ashton Thielke

---

**From:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Sent:** Tuesday, May 23, 2023 5:25 PM  
**To:** Ashton Thielke  
**Cc:** Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD  
**Subject:** RE: [EXTERNAL] nAPP2135426735 & nAPP2200321420 - Vaca Draw 20-17 Federal 9H-12H - Confirmation Sample Notification

**WARNING:** This email originated from outside of Coterra Energy. Do not click links or open attachments unless you recognize the sender, are expecting the content and know it is safe.

Ashton,

Please be aware that notification requirements are **two business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to insure inclusion in the project file.

JH

**Jocelyn Harimon** • Environmental Specialist  
 Environmental Bureau  
 EMNRD - Oil Conservation Division  
 1220 South St. Francis Drive | Santa Fe, NM 87505  
 (505)469-2821 | [Jocelyn.Harimon@emnrd.nm.gov](mailto:Jocelyn.Harimon@emnrd.nm.gov)  
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)




---

**From:** Ashton Thielke <Ashton.Thielke@coterra.com>  
**Sent:** Tuesday, May 23, 2023 2:19 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Laci Luig <Laci.Luig@coterra.com>  
**Subject:** [EXTERNAL] nAPP2135426735 & nAPP2200321420 - Vaca Draw 20-17 Federal 9H-12H - Confirmation Sample Notification

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good afternoon,

This email serves as 48+ hour notification for confirmation sampling on the Vaca Draw 20-17 Federal 9H-12H. Sampling is scheduled to begin as early as 3:00pm (MST) Thursday, May 25<sup>th</sup>, weather and soil conditions permitting. H&R Enterprises will be on site to collect the confirmation samples.

Incident ID: nAPP2135426735 & nAPP2200321420

Coordinates: 32.109742, -103.596228

Thank you,



**Ashton Thielke** | PBU - Environmental Consultant

T: 432.813.8988 | M: 281.753.5659 | [Ashton.Thielke@coterra.com](mailto:Ashton.Thielke@coterra.com) | [www.coterra.com](http://www.coterra.com)

Coterra Energy Inc. | 6000 Deauville Blvd., Suite 300N | Midland, TX 79706

Coterra Energy Inc. is the result of the merger of Cimarex Energy Co. and Cabot Oil & Gas Corporation on October 1, 2021.

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# APPENDIX IV

# PHOTOGRAPHIC DOCUMENTATION

PHOTOGRAPHIC DOCUMENTATION

**EXCAVATION PHOTOGRAPHS**



PHOTOGRAPHIC DOCUMENTATION

**FINAL PHOTOGRAPHS**



PHOTOGRAPHIC DOCUMENTATION

EXPLORATORY WATER BORE PHOTOGRAPHS



# APPENDIX V

## LABORATORY REPORTS



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

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September 27, 2022

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

RE: VACA DRAW 20-17 FEDERAL 9H (VACA)

Enclosed are the results of analyses for samples received by the laboratory on 09/23/22 15:35.

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.

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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 1 0-1' (H224439-01)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	09/26/2022	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	202	101	200	0.874	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	195	97.5	200	2.67	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 105 % 45.3-161

Surrogate: 1-Chlorooctadecane 113 % 46.3-178

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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 1 2' (H224439-02)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	202	101	200	0.874	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	195	97.5	200	2.67	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 103 % 45.3-161

Surrogate: 1-Chlorooctadecane 111 % 46.3-178

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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 1 3' (H224439-03)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	202	101	200	0.874	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	195	97.5	200	2.67	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 107 % 45.3-161

Surrogate: 1-Chlorooctadecane 120 % 46.3-178

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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 1 4' (H224439-04)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	202	101	200	0.874	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	195	97.5	200	2.67	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 106 % 45.3-161

Surrogate: 1-Chlorooctadecane 118 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 2 0-1' (H224439-05)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.4 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	202	101	200	0.874	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	195	97.5	200	2.67	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 99.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 109 % 46.3-178

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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 2 2' (H224439-06)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	202	101	200	0.874	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	195	97.5	200	2.67	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 89.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 98.1 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 2 3' (H224439-07)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	202	101	200	0.874	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	195	97.5	200	2.67	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 111 % 45.3-161

Surrogate: 1-Chlorooctadecane 120 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 2 4' (H224439-08)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	202	101	200	0.874	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	195	97.5	200	2.67	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 102 % 45.3-161

Surrogate: 1-Chlorooctadecane 113 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 3 0-1' (H224439-09)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	202	101	200	0.874	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	195	97.5	200	2.67	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 90.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.6 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 3 2' (H224439-10)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.2 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	209	105	200	4.11	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	187	93.3	200	3.23	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 82.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 96.5 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 3 3' (H224439-11)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.0 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	209	105	200	4.11	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	187	93.3	200	3.23	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 74.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 82.0 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 3 4' (H224439-12)**

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	09/26/2022	ND	1.99	99.5	2.00	7.14	
Toluene*	<0.050	0.050	09/26/2022	ND	1.91	95.3	2.00	6.74	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.85	92.6	2.00	6.80	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.67	94.5	6.00	6.34	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.4 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	209	105	200	4.11	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	187	93.3	200	3.23	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 60.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 67.3 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 4 0-1' (H224439-13)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2340	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	209	105	200	4.11	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	187	93.3	200	3.23	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 75.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.7 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 4 2' (H224439-14)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3720	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	209	105	200	4.11	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	187	93.3	200	3.23	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 79.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.2 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 4 3' (H224439-15)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4000</b>	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	209	105	200	4.11		
<b>DRO &gt;C10-C28*</b>	<b>813</b>	10.0	09/26/2022	ND	187	93.3	200	3.23		
<b>EXT DRO &gt;C28-C36</b>	<b>51.3</b>	10.0	09/26/2022	ND						

Surrogate: 1-Chlorooctane 69.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 283 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 5 0-1' (H224439-16)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10600	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	209	105	200	4.11	
<b>DRO &gt;C10-C28*</b>	<b>423</b>	10.0	09/26/2022	ND	187	93.3	200	3.23	
<b>EXT DRO &gt;C28-C36</b>	<b>191</b>	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 76.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.2 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 5 2' (H224439-17)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4720</b>	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	209	105	200	4.11	
<b>DRO &gt;C10-C28*</b>	<b>33.3</b>	10.0	09/26/2022	ND	187	93.3	200	3.23	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 75.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 82.9 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 5 3' (H224439-18)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>2800</b>	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
<b>DRO &gt;C10-C28*</b>	<b>21.9</b>	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 83.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.3 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 5 4' (H224439-19)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1540	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 84.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 87.9 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 5 6' (H224439-20)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62		
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87		
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40		
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59		
Total BTEX	<0.300	0.300	09/26/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>640</b>	16.0	09/26/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590		
<b>DRO &gt;C10-C28*</b>	<b>18.8</b>	10.0	09/26/2022	ND	212	106	200	3.51		
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND						

Surrogate: 1-Chlorooctane 91.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 96.1 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 5 8' (H224439-21)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>176</b>	16.0	09/26/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
<b>DRO &gt;C10-C28*</b>	<b>14.2</b>	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 88.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.1 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 5 10' (H224439-22)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>144</b>	16.0	09/26/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
<b>DRO &gt;C10-C28*</b>	<b>15.7</b>	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 88.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.1 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 6 0-1' (H224439-23)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
<b>Toluene*</b>	<b>0.060</b>	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
<b>Ethylbenzene*</b>	<b>0.055</b>	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>36000</b>	16.0	09/26/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
<b>DRO &gt;C10-C28*</b>	<b>772</b>	10.0	09/26/2022	ND	212	106	200	3.51	
<b>EXT DRO &gt;C28-C36</b>	<b>295</b>	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 75.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 85.2 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 6 2' (H224439-24)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	09/26/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 89.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.0 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 6 3' (H224439-25)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	09/26/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 84.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 91.3 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 6 4' (H224439-26)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/26/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 85.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 92.4 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 6 6' (H224439-27)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/26/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 78.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.3 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 6 8' (H224439-28)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/26/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 80.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 87.7 % 46.3-178

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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:	09/23/2022	Sampling Date:	09/21/2022
Reported:	09/27/2022	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL 9H (VACA)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 6 10' (H224439-29)**

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	09/26/2022	ND	1.96	97.8	2.00	4.62	
Toluene*	<0.050	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87	
Ethylbenzene*	<0.050	0.050	09/26/2022	ND	1.89	94.7	2.00	5.40	
Total Xylenes*	<0.150	0.150	09/26/2022	ND	5.92	98.6	6.00	5.59	
Total BTEX	<0.300	0.300	09/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/26/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/26/2022	ND	195	97.7	200	0.590	
DRO >C10-C28*	<10.0	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	09/26/2022	ND					

Surrogate: 1-Chlorooctane 68.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 73.4 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
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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\*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: H&R Enterprises  
 Project Manager: Michael Collier  
 Address:  
 City: State: Zip:  
 Phone #: Fax #:  
 Project #: Project Owner: Cimarex Energy  
 Project Location: Lea County, NM  
 Project Name: Lea Draw 20-17 Federal 9H (Vaca)  
 Sampler Name: Roy Bell  
 P.O. #: Company: Cimarex Energy  
 Attn: Lacl Luij  
 Address: City: State: Zip:  
 Phone #: Fax #:  
 PRESERV. SAMPLING

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTX	TPH	Chlorides
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER : ACID/BASE:	ICE / COOL					
H22439	BH-1 0-1'	G	1			X					X	9-21-22			
	BH-1 2'														
	BH-1 3'														
	BH-1 4'														
	BH-2 0-1'														
	BH-2 2'														
	BH-2 3'														
	BH-2 4'														
	BH-3 0-1'														
	BH-3 2'														

PLEASE NOTE: Labels and Design: Check a certified chain-of-custody manual for any other safety instructions. Do not use labels for the same for the analysis. All claims involving toxic or hazardous 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 any and all 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 warranties or otherwise.

Relinquished By: [Signature]  
 Date: 6-23-22  
 Time: 15:35  
 Received By: [Signature]  
 Date: [Signature]  
 Time: [Signature]

Observed Temp. °C: 5.3  
 Corrected Temp. °C: 4.7

Sample Condition:  
 Cool  Intact  
 No  No

CHECKED BY: [Signature] (Initials)

REMARK: 72 HR RUSH

Thermometer ID #113  
 Correction Factor -0.5°C

Standard  Backs (only) Sample Condition  
 Cool  Observed Temp. °C

Verbal Result:  Yes  No  
 All Results are emailed. Please provide Email address:  
 Add'l Phone #:

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other:

FORM-009 R 3.2 10/07/21

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: H&R Enterprises

**BILL TO**

ANALYSIS REQUEST

Project Manager: Michael Collier

P.O. #:

Address:

Company: Cimarex Energy

City: State: Zip:

Addr: Lacl Lulg

Phone #: Fax #:

Address:

Project #:

City:

Project Name: Vaca Draw 20-17 Federal 9H (Vaca)

State: Zip:

Project Location: Lea County, NM

Phone #:

Sampler Name: Roy Bell

Fax #:

Lab I.D.

Sample I.D.

Lab I.D.	Sample I.D.	(G)RAB OR (C)COMP.	# CONTAINERS	MATRIX										DATE	TIME	BTEX	TPH	Chlorides
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	PRESERV.					
H224439		(G)	1			X								9-21-22		X	X	X
11	BH-3 3'																	
12	BH-3 4'																	
13	BH-4 0-1'																	
14	BH-4 2'																	
15	BH-4 3'																	
16	BH-5 0-1'																	
17	BH-5 2'																	
18	BH-5 3'																	
19	BH-5 4'																	
20	BH-5 6'																	

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Relinquished By: \_\_\_\_\_ Date: 9-23-22 Received By: \_\_\_\_\_ Date: 9-23-22

Relinquished By: \_\_\_\_\_ Date: 9-23-22 Received By: \_\_\_\_\_ Date: 9-23-22

Delivered By: (Circle One) \_\_\_\_\_ Observed Temp. °C: 5.3 Corrected Temp. °C: 4.7

Sampler - Bus - Other: \_\_\_\_\_

Sample Condition: Cool  Impact  No  Yes

CHECKED BY: (Initials) \_\_\_\_\_

REMARKS: 72 HR RWSH

Thermometer ID #113 Correction Factor -0.5°C

Standard  Backlog (only Sample Condition)

Corrected Temp. °C: \_\_\_\_\_

FORM-006 R.3.2 1/07/21 Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinallabsnm.com



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

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

**BILL TO**

**ANALYSIS REQUEST**

Company Name: H&R Enterprises  
 Project Manager: Michael Collier  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 Project #: \_\_\_\_\_ Project Owner: Cimarex Energy  
 Project Name: Vaca Draw 20-17 Federal 9H (Vaca)  
 Project Location: Lea County, NM  
 Sample Name: Roy Bell  
 Lab I.D. \_\_\_\_\_  
 P.O. #: \_\_\_\_\_ Company: Cimarex Energy  
 Attn: Lael Lulg  
 Address: \_\_\_\_\_ City: \_\_\_\_\_  
 State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTX	TPH	Chlorides
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER : ACID/BASE:	ICE / COOL					
H22439		G	1			X					9-21-22				
21	BH-5 8'											X	X	X	
22	BH-5 10'											X	X	X	
23	BH-6 0-1'											X	X	X	
24	BH-6 2'											X	X	X	
25	BH-6 3'											X	X	X	
26	BH-6 4'											X	X	X	
27	BH-6 6'											X	X	X	
28	BH-6 8'											X	X	X	
29	BH-6 10'											X	X	X	

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Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_  
 Date: 9-23-22  
 Time: 1535  
 Observed Temp. °C: 5.3  
 Corrected Temp. °C: 4.7  
 Sample Condition:  Cool  Intact  
 Checked By: (Initials) \_\_\_\_\_  
 Remark: 72 HR RUSH  
 Turnaround Time:  Standard  Expedited  
 Thermometer ID #113  
 Correction Factor -0.5°C  
 Additional Phone #: \_\_\_\_\_  
 Yes  No   
 Yes  No

FORM-006 R.3.2 10/07/21

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

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June 01, 2023

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

RE: VACA DRAW 20-17 FEDERAL #012H (VACA)

Enclosed are the results of analyses for samples received by the laboratory on 05/26/23 10:50.

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:	05/26/2023	Sampling Date:	05/25/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 7 0-1' (H232692-01)**

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	05/26/2023	ND	1.98	98.8	2.00	1.43	
Toluene*	<0.050	0.050	05/26/2023	ND	2.06	103	2.00	1.84	
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.96	98.0	2.00	2.49	
Total Xylenes*	<0.150	0.150	05/26/2023	ND	6.07	101	6.00	3.43	
Total BTEX	<0.300	0.300	05/26/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/26/2023	ND	400	100	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	05/26/2023	ND	198	98.9	200	1.93	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 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:	05/26/2023	Sampling Date:	05/25/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 7 2' (H232692-02)**

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	05/26/2023	ND	1.98	98.8	2.00	1.43		
Toluene*	<0.050	0.050	05/26/2023	ND	2.06	103	2.00	1.84		
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.96	98.0	2.00	2.49		
Total Xylenes*	<0.150	0.150	05/26/2023	ND	6.07	101	6.00	3.43		
Total BTEX	<0.300	0.300	05/26/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/26/2023	ND	400	100	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	05/26/2023	ND	198	98.9	200	1.93		
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37		
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND						

Surrogate: 1-Chlorooctane 96.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 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:	05/26/2023	Sampling Date:	05/25/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 7 3' (H232692-03)**

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	05/26/2023	ND	1.98	98.8	2.00	1.43		
Toluene*	<0.050	0.050	05/26/2023	ND	2.06	103	2.00	1.84		
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.96	98.0	2.00	2.49		
Total Xylenes*	<0.150	0.150	05/26/2023	ND	6.07	101	6.00	3.43		
Total BTEX	<0.300	0.300	05/26/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	05/26/2023	ND	400	100	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	05/26/2023	ND	198	98.9	200	1.93		
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37		
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND						

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 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:	05/26/2023	Sampling Date:	05/25/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: BH - 7 4' (H232692-04)**

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	05/26/2023	ND	1.98	98.8	2.00	1.43	
Toluene*	<0.050	0.050	05/26/2023	ND	2.06	103	2.00	1.84	
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.96	98.0	2.00	2.49	
Total Xylenes*	<0.150	0.150	05/26/2023	ND	6.07	101	6.00	3.43	
Total BTEX	<0.300	0.300	05/26/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	05/26/2023	ND	400	100	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	05/26/2023	ND	198	98.9	200	1.93	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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\*=Accredited Analyte

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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

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

101 East Marland, Hobbs, NM 88240  
 (575) 393-2328 FAX (575) 393-2476

**BILL TO**

**ANALYSIS REQUEST**

Company Name: H&R Enterprises  
 Project Manager: Michael Collier  
 Address:  
 City: State: Zip:  
 Phone #: Fax #:  
 Project #: Project Owner: Cimarex Energy  
 Project Name: Vaca Draw 20-17 Federal #012H (Vaca)  
 Project Location: Lea County, NM  
 Sampler Name: R. Bell  
 P.O. #: Company: Cimarex Energy  
 Attn: Lael Luig  
 Address: City: State: Zip:  
 Phone #: Fax #:

Lab I.D.	FOR LAB USE ONLY	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	DATE	TIME	BTEX	TPH	Chlorides
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE						
H232182			1											
			2											
			3											
			4											

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Relinquished By: [Signature] Date: 5-26-23 Received By: [Signature] Date: 5/26/23  
 Delivered By: (Circle One) Sampler - UPS - Bus - Other: Observed Temp. - C: 5.6 Corrected Temp. - C: 5.0  
 Sample Condition: Cool  / Warm  Ice  / No Ice   
 CHECKED BY: [Signature]  
 REMARKS: Pg 1 of 1 \*customer requested sample TPO change specifically standards  
 Verbal Result:  Yes  No All Results are emailed. Please provide Email address:  
 Add'l Phone #:  Yes  No  
 Thermometer ID #113 Correction Factor -0.9°C  
 Thermometer Type: Standard  / Backup (only) Sample Condition:  Yes  No  
 Observed Temp. - C:  Yes  No Corrected Temp. - C:

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

FORM-006 R 3.2 (10/07)21



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

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June 01, 2023

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

RE: VACA DRAW 20-17 FEDERAL #012H (VACA)

Enclosed are the results of analyses for samples received by the laboratory on 05/26/23 10:50.

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.

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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (VA	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 1 1.5' (H232691-01)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>768</b>	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	213	106	200	0.634		
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	226	113	200	1.83		
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND						

Surrogate: 1-Chlorooctane 135 % 48.2-134

Surrogate: 1-Chlorooctadecane 152 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 2 1.5' (H232691-02)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	213	106	200	0.634	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	226	113	200	1.83	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 128 % 48.2-134

Surrogate: 1-Chlorooctadecane 147 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 3 1.5' (H232691-03)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>704</b>	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	213	106	200	0.634		
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	226	113	200	1.83		
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND						

Surrogate: 1-Chlorooctane 132 % 48.2-134

Surrogate: 1-Chlorooctadecane 149 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (VA	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 4 1.5' (H232691-04)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	816	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 145 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 5 1.5' (H232691-05)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	896	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 140 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 6 1.5' (H232691-06)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 143 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 7 1.5' (H232691-07)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 140 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 8 1.5' (H232691-08)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	912	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 147 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 9 1.5' (H232691-09)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	864	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93		
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37		
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND						

Surrogate: 1-Chlorooctane 126 % 48.2-134

Surrogate: 1-Chlorooctadecane 151 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 10 1.5' (H232691-10)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93		
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37		
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND						

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 150 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 11 1.5' (H232691-11)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 147 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (VA	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 12 1.5' (H232691-12)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22		
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48		
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76		
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31		
Total BTEX	<0.300	0.300	05/27/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	864	16.0	05/26/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93			
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37			
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND							

Surrogate: 1-Chlorooctane 126 % 48.2-134

Surrogate: 1-Chlorooctadecane 152 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (VA	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 13 1.5' (H232691-13)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93		
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37		
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND						

Surrogate: 1-Chlorooctane 137 % 48.2-134

Surrogate: 1-Chlorooctadecane 166 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: S - 14 1.5' (H232691-14)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22		
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48		
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76		
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31		
Total BTEX	<0.300	0.300	05/27/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1010	16.0	05/26/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93			
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37			
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND							

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 150 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: SW - 1 1.5' (H232691-15)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22		
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48		
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76		
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31		
Total BTEX	<0.300	0.300	05/27/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	05/26/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93		
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37		
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND						

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 145 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: SW - 2 1.5' (H232691-16)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 138 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: SW - 3 1.5' (H232691-17)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22	
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	05/26/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93		
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37		
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND						

Surrogate: 1-Chlorooctane 131 % 48.2-134

Surrogate: 1-Chlorooctadecane 160 % 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:	05/26/2023	Sampling Date:	05/26/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	VACA DRAW 20-17 FEDERAL #012H (V/	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - LEA CO NM		

**Sample ID: SW - 4 1.5' (H232691-18)**

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	05/27/2023	ND	1.98	98.9	2.00	1.22		
Toluene*	<0.050	0.050	05/27/2023	ND	1.96	98.2	2.00	2.48		
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	1.76		
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.14	102	6.00	1.31		
Total BTEX	<0.300	0.300	05/27/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	05/26/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	198	98.9	200	1.93			
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	215	108	200	2.37			
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND							

Surrogate: 1-Chlorooctane 125 % 48.2-134

Surrogate: 1-Chlorooctadecane 151 % 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.
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





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

CONDITIONS

Action 233019

**CONDITIONS**

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 233019
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
jharimon	Final remediation and reclamation shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the site is no longer being used for oil and gas operations.	8/18/2023