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## **Remediation and Closure Report**

Vaca Draw 20-17 Federal #009H  
Incident# nAPP2200321420  
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 #009H  
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 #009H 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 32.10975 North and -103.59645 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 January 02,2022, while pumping Stage 50 on the frac, a packing failed on a pump. The pump was shutdown when the leak was noticed but produced water filled the containments and spilled over onto the pad. An estimated 53.5 barrels (bbls) were effectively contained in the containment mats and an estimated 11.5 bbls were released onto the ground. A stationary vac unit was utilized to retrieve the fluid released onto the ground.



## 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
		10'	ND	ND	ND	15.7	ND	15.7	144
BH-6	9/21/2022	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
		10'	ND	ND	ND	ND	ND	0	32
BH-7	5/25/2023	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	CI 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  
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 #009H




Cimarex Energy Co.

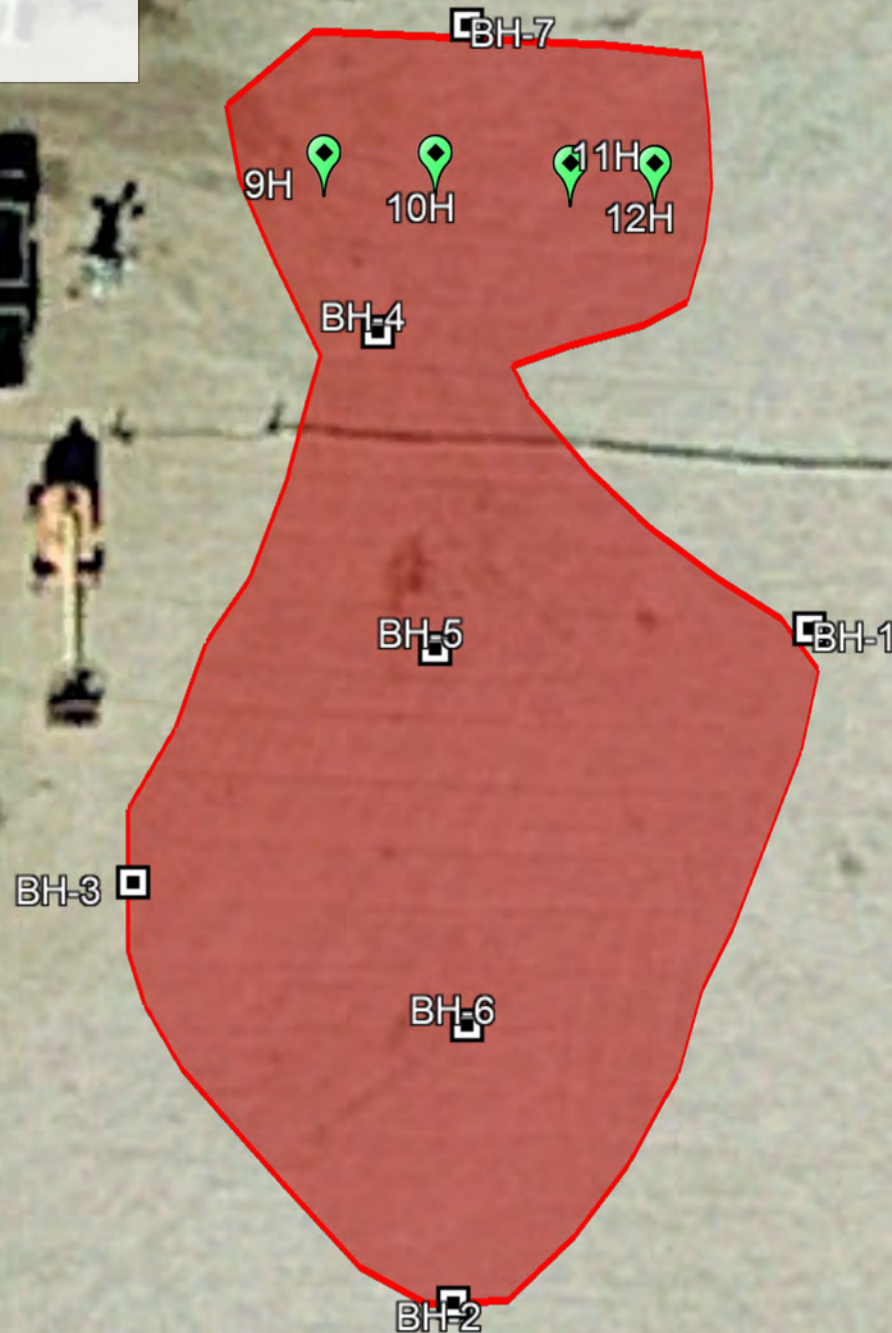
Incident# nAPP2200321420

Lea County, NM

Site Assessment Map

## Legend

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





# Vaca Draw 20-17 Federal #009H

Cimarex Energy Co.

Incident# nAPP2200321420

Lea County, NM

Confirmation Sample Map

## Legend



1.5ft. Excavation



Confirmation Composite Sample



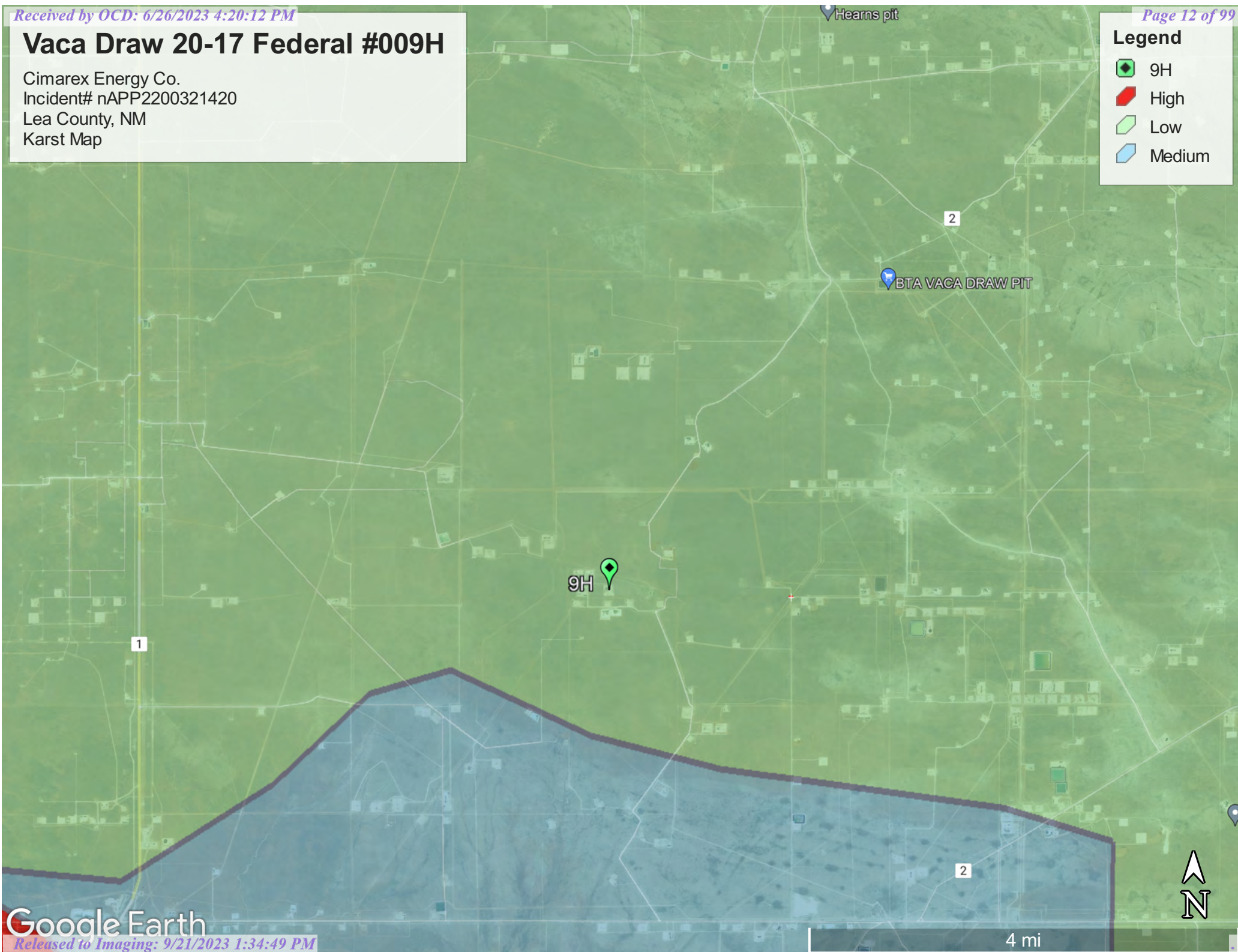


# Vaca Draw 20-17 Federal #009H

Cimarex Energy Co.  
Incident# nAPP2200321420  
Lea County, NM  
Karst Map

## Legend

- 9H
- High
- Low
- Medium



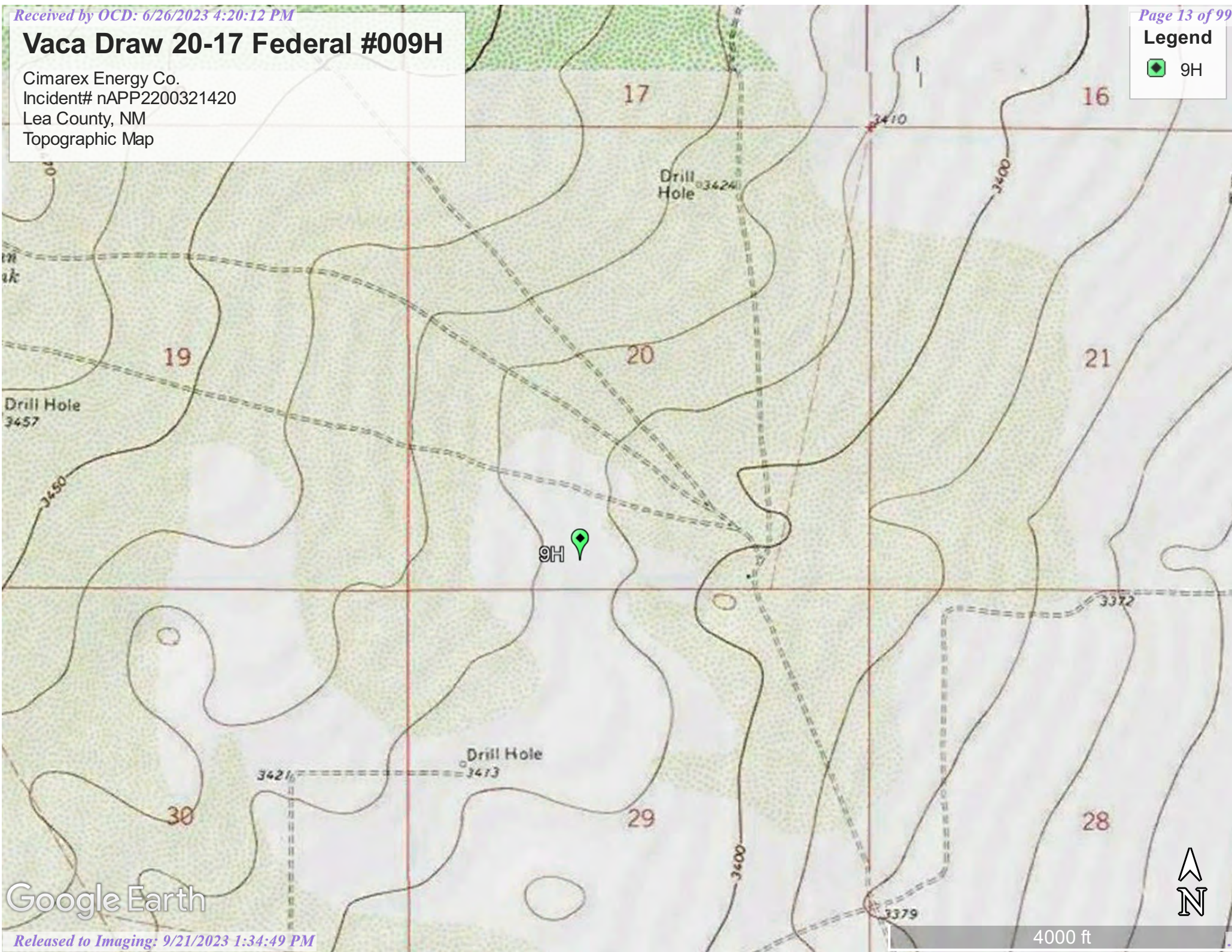


# Vaca Draw 20-17 Federal #009H

Cimarex Energy Co.  
Incident# nAPP2200321420  
Lea County, NM  
Topographic Map

## Legend

9H



Google Earth



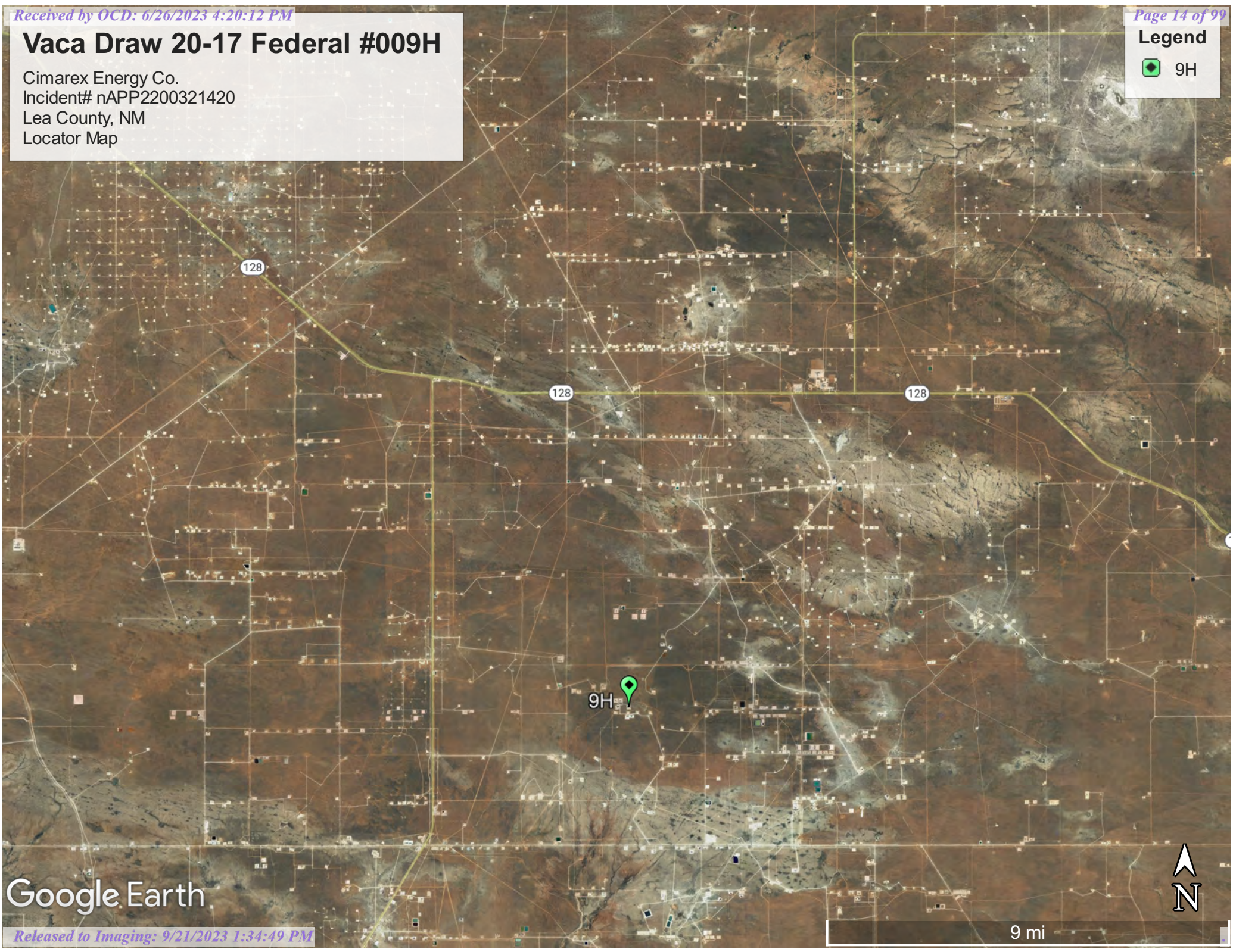


# Vaca Draw 20-17 Federal #009H

Cimarex Energy Co.  
Incident# nAPP2200321420  
Lea County, NM  
Locator Map

## Legend

9H



Google Earth



9 mi



## **APPENDIX II**

### **GROUNDWATER DATA**

### **SOIL SURVEY**

### **FEMA FLOOD ZONE**

### **WATER BORE MAP**

### **SOIL BORE LOG**





# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 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

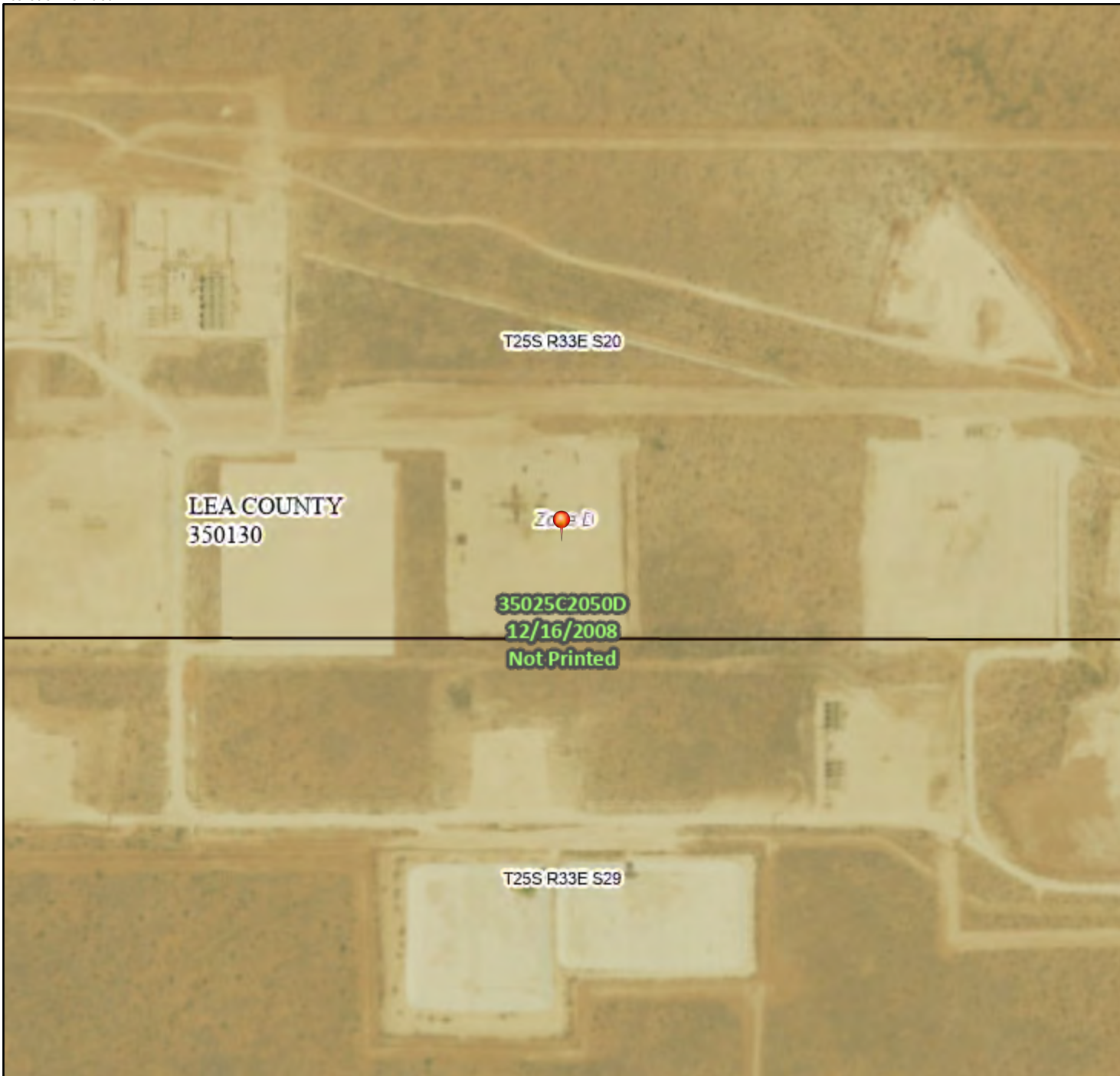
Survey Area Data: Version 19, Sep 8, 2022



# 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
OTHER FEATURES		Levee, Dike, or Floodwall
		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
		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	nAPP2200321420
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: laci.luig@coterra.com	Incident # (assigned by OCD) nAPP2200321420
Contact mailing address: 600 N Marienfeld Street, Ste. 600 Midland, TX 79701	

### Location of Release Source

Latitude 32.10975 Longitude -103.59645  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Vaca Draw 20-17 Federal 9H	Site Type: Well Pad
Date Release Discovered: 1/2/2022	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) 65	Volume Recovered (bbls) 64
	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: Mechanical Failure

While pumping Stage 50 on the frac, a packing failed on a pump. The pump was shutdown when the leak was noticed but produced water filled the containments and spilled over onto the pad. An estimated 53.5 bbls were effectively contained in the containment mats and an estimated 11.5 bbls were released onto the ground. Stationary vac unit was utilized to retrieve the spilled fluid out of the containment and recover the fluid that spilled onto the ground. The impacted soil will be removed once frac equipment is removed from location.



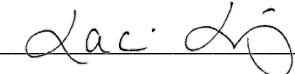
State of New Mexico  
Oil Conservation Division

Incident ID	nAPP2200321420
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Total amount released greater than 25 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? By: Gloria Garza To: OCD Enviro, BLM By: Email	

**Initial Response**

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

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: Laci Luig	Title: ESH Specialist
Signature: 	Date: 1/3/2022
email: laci.luig@coterra.com	Telephone: (432) 208-3035
<b><u>OCD Only</u></b>	
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: *Lac. Lj* 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:  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:  Date: 09/21/2023

Printed Name: Nelson Velez Title: Environmental Specialist - Adv

Remediation has met 19.15.29 NMAC requirements. Soil impacts exceeding the reclamation standards have been left in place and are required to meet 19.15.29.13D (1) NMAC once the site is no longer reasonably needed for production or drilling operations.



**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

---

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, flowing 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)**

BTX 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 BTX	<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)**

BTX 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 BTX	<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, SM4500Cl-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, SM4500Cl-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

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 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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\*=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 3' (H224439-07)**

BTX 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 BTX	<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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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, SM4500Cl-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, 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	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, 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	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)**

BTX 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 BTX	<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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\*=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 - 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, SM4500Cl-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)**

BTX 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 BTX	<0.300	0.300	09/26/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	4000	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	
DRO >C10-C28*	813	10.0	09/26/2022	ND	187	93.3	200	3.23	
EXT DRO >C28-C36	51.3	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)**

BTX 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 BTX	<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	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	
DRO >C10-C28*	423	10.0	09/26/2022	ND	187	93.3	200	3.23	
EXT DRO >C28-C36	191	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, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4720	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*	33.3	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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\*=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 - 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	
Chloride	2800	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*	21.9	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)**

BTX 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 BTX	<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)**

BTX 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 BTX	<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	640	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*	18.8	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)**

BTX 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 BTX	<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	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	195	97.7	200	0.590	
DRO >C10-C28*	14.2	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, SM4500Cl-B			mg/kg							
			Analyzed By: GM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	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*	15.7	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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\*=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 - 6 0-1' (H224439-23)**

BTX 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*	0.060	0.050	09/26/2022	ND	1.94	96.8	2.00	5.87		
Ethylbenzene*	0.055	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 BTX	<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	36000	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*	772	10.0	09/26/2022	ND	212	106	200	3.51	
EXT DRO >C28-C36	295	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)**

BTX 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 BTX	<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, SM4500Cl-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, SM4500Cl-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)**

BTX 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 BTX	<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)**

BTX 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 BTX	<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



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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.
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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

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Celey D. Keene, Lab Director/Quality Manager





# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: H&R Enterprises				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																	
Project Manager: Michael Collier				P.O. #:																					
Address:				Company: Cimarex Energy																					
City: State: Zip:				Attn: Laci Luig																					
Phone #: Fax #:				Address:																					
Project #: Project Owner: Cimarex Energy				City:																					
Project Name: Vaca Draw 20-17 Federal 9H (Vaca)				State: Zip:																					
Project Location: Lea County, NM				Phone #:																					
Sampler Name: Roy Bell				Fax #:																					
FOR LAB USE ONLY		Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP		# CONTAINERS		MATRIX		PRESERV.		SAMPLING		DATE		TIME		BTX		TPH		Chlorides	
H224439																									
1 BH-1 0-1'																									
2 BH-1 2'																									
3 BH-1 3'																									
4 BH-1 4'																									
5 BH-2 0-1'																									
6 BH-2 2'																									
7 BH-2 3'																									
8 BH-2 4'																									
9 BH-3 0-1'																									
10 BH-3 2'																									

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Relinquished By:		Date: 9-23-22		Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Time: 1535						All Results are emailed. Please provide Email address:			
Relinquished By:		Date:		Received By:		REMARK: 72 HR RUSH			
Time:									
Delivered By: (Circle One)		Observed Temp. °C 5.3		Sample Condition		Turnaround Time: Standard <input type="checkbox"/> Bacteria (only) Sample Condition			
Sampler - UPS - Bus - Other:		Corrected Temp. °C 4.7		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
				CHECKED BY: (Initials) TO		Thermometer ID #113		<input type="checkbox"/> Yes <input type="checkbox"/> No	
						Correction Factor -0.5°C		<input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C	

FORM-006 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

[illegible]





# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: H&R Enterprises				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																									
Project Manager: Michael Collier				P.O. #:																													
Address:				Company: Cimarex Energy																													
City: State: Zip:				Attn: Laci Luig																													
Phone #: Fax #:				Address:																													
Project #: Project Owner: Cimarex Energy				City:																													
Project Name: Vaca Draw 20-17 Federal 9H (Vaca)				State: Zip:																													
Project Location: Lea County, NM				Phone #:																													
Sampler Name: Roy Bell				Fax #:																													
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING																									
Lab I.D.		Sample I.D.		(O)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER: ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME		BTX		TPH		Chlorides	
H224439				G		1				X								X						9-21-22				X		X		X	
21 BH-5 8'																																	
22 BH-5 10'																																	
23 BH-6 0-1'																																	
24 BH-6 2'																																	
25 BH-6 3'																																	
26 BH-6 4'																																	
27 BH-6 6'																																	
28 BH-6 8'																																	
29 BH-6 10'																																	

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Relinquished By:		Date: 9-23-22		Received By:		Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Phone #:	
Time: 1535		Time: 1535		Time: 1535		All Results are emailed. Please provide Email address:			
Relinquished By:		Date:		Received By:		REMARK: 72 HR RUSH			
Time:		Time:		Time:					
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C 5.3 Corrected Temp. °C 4.7		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Other: <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials) TO		Turnaround Time: Standard <input type="checkbox"/> Bacteria (only) Sample Condition <input type="checkbox"/> Rush <input checked="" type="checkbox"/> Cool Intact <input type="checkbox"/> Observed Temp. °C	
						Thermometer ID #113 Correction Factor -0.5°C		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C	

FORM-006 R 3.2 10/07/21

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





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

---

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 (VA	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)**

BTX 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 BTX	<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

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:	05/25/2023
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, SM4500Cl-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

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:	05/25/2023
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, SM4500Cl-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

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:	05/25/2023
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

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

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### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)





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

---

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 fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

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)**

BTX 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 BTX	<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	768	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

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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 - 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	
Chloride	704	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 (V)	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, SM4500CI-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 (VA	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, SM4500CI-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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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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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 - 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

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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, SM4500CI-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

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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

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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 - 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

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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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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 - 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, SM4500Cl-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, SM4500Cl-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

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 (VA	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, SM4500CI-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, SM4500Cl-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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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, SM4500CI-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, SM4500Cl-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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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

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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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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)





# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: H&R Enterprises				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
Project Manager: Michael Collier				P.O. #:															
Address:				Company: Cimarex Energy															
City:				Attn: Laci Luig															
State: Zip:				Address:															
Phone #: Fax #:				City:															
Project #:				State: Zip:															
Project Name: Vaca Draw 20-17 Federal #012H (Vaca)				Phone #:															
Project Location: Lea County, NM				Fax #:															
Sampler Name: R. Bell																			
FOR LAB USE ONLY																			
Lab I.D.																			
H232691																			
11 S-11 1.5'				C 1															
12 S-12 1.5'																			
13 S-13 1.5'																			
14 S-14 1.5'																			
15 SW-1 1.5'																			
16 SW-2 1.5'																			
17 SW-3 1.5'																			
18 SW-4 1.5'																			

PLEASE NOTE: Liability and Damages. Cardinal's facility and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>R. Bell</i>		Date: 5-26-23 Time: 1050		Received By: <i>Munera</i>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Relinquished By:		Date:		Received By:		All Results are emailed. Please provide Email address:			
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C Corrected Temp. °C		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials) <i>yo</i>		REMARKS: PG 2 of 2 72HR RUSH	
		5.6 5.0						Thermometer ID #113 Correction Factor -0.5°C	
								<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C	

FORM-008 R 3.2 10/07/21

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**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 233038

CONDITIONS

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 233038
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation has met 19.15.29 NMAC requirements. Soil impacts exceeding the reclamation standards have been left in place and are required to meet 19.15.29.13D (1) NMAC once the site is no longer reasonably needed for production or drilling operations.	9/21/2023