

Incident ID	nAPP2213664988
District RP	
Facility ID	
Application ID	

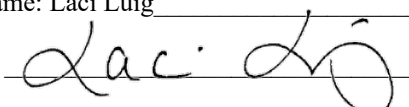
## Closure

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

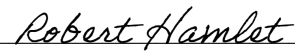
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public 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: Laci Luig \_\_\_\_\_ Title: ESH Specialist \_\_\_\_\_  
Signature:  \_\_\_\_\_ Date: 9/26/2022 \_\_\_\_\_  
email: laci.luig@coterra.com \_\_\_\_\_ Telephone: (432) 208-3035 \_\_\_\_\_

**OCD Only**

Received by: Jocelyn Harimon \_\_\_\_\_ Date: 09/26/2022 \_\_\_\_\_

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: 12/14/2022 \_\_\_\_\_  
Printed Name: Robert Hamlet \_\_\_\_\_ Title: Environmental Specialist - Advanced \_\_\_\_\_



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

## **Remediation and Closure Report**

Irwin 23-14 Federal #003H  
API# 30-015-39893  
Incident# nAPP2213664988  
Eddy County, New Mexico

### **Prepared For:**

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

### **Prepared By:**

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

**September 23, 2022**

Mrs. Crisha Morgan  
**Bureau of Land Management**  
602 E. Green St.  
Carlsbad, NM 88240

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

Subject: **Remediation and Closure Report**  
Irwin 23-14 Federal #003H  
Incident# nAPP2213664988  
Eddy County, NM

Dear to whom it may concern,

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

### Site Information

The Irwin 23-14 Federal #003H is located approximately 25.4 miles Northeast of Carlsbad, New Mexico. The legal location for this release is Unit Letter A, Section 23, Township 19 South and Range 30 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.64949 North and -103.93660 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 Potter Simona complex, 5 to 25 percent slopes. The referenced soil data is attached in [Appendix II](#). Drainage courses in this area are typically dry. The project site is 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 65-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	65 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

As this is a remediation in an area with a depth to groundwater of greater than 50-feet BGS but being located in a high Karst area, the closure criteria for this site is as follows:

Table I			
Closure Criteria for Soils Impacted by a Release			
Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/l TDS	Constituent	Method*	Limit**
≤ 50 feet	Chloride **	EPA 300.0 or SM4500 CIB	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	100 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 May 16, 2022, a flowline from the wellhead to the production equipment failed, releasing 12 barrels (bbls) of fluid onto the well pad. Fluids released consisted of 10 bbls of produced water and 2 bbls of crude oil, 0 bbls of which were recovered.

### Site Assessment and Reclamation Activities

H&R mobilized personnel to begin remediation activities of the location. Grab samples were obtained by way of test trenching the release area. Field chloride titrations were performed as well as transported to Cardinal Laboratories for analysis. Initial test trench locations are illustrated on Test Trench Map, [Appendix I](#). After remediation was completed, composite confirmation samples were collected from the sidewalls and bottoms of the excavation and sent to Cardinal Laboratory to confirm NMOCD closure criteria had been met. Before, during, and after photographs of the location are attached in [Appendix IV](#). Complete laboratory reports can be found in [Appendix VI](#).

Table 1: Initial Test Trench 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	100 mg/kg			100 mg/kg	600 mg/kg
TT-1	9/2/2022	0-1'	ND	ND	ND	ND	ND	0	6640
		2'	ND	ND	ND	ND	ND	0	3440
		3'	ND	ND	ND	ND	ND	0	2480
		4'	ND	ND	ND	ND	ND	0	1380
		6'	ND	ND	ND	ND	ND	0	176
TT-2	9/2/2022	0-1'	ND	ND	ND	ND	ND	0	2520
		2'	ND	ND	ND	ND	ND	0	3440
		3'	ND	ND	ND	ND	ND	0	592
		4'	ND	ND	ND	ND	ND	0	256
TT-3	9/2/2022	0-1'	ND	ND	ND	ND	ND	0	832
		2'	ND	ND	ND	ND	ND	0	704
		3'	ND	ND	ND	ND	ND	0	880
		4'	ND	ND	ND	ND	ND	0	224
ND = Analyte Not Detected TT = Test Trench									

Based on the results of our test trenching and upon client authorization, excavation of the release began. Confirmation composite samples were collected 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 VI](#).

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	100 mg/kg			100 mg/kg	600 mg/kg
S-1	9/8/2022	2'	ND	ND	ND	ND	ND	0	304
S-2	9/8/2022	2'	ND	ND	ND	ND	ND	0	208
S-3	9/8/2022	2'	ND	ND	ND	ND	ND	0	304
S-4	9/8/2022	2'	ND	ND	ND	ND	ND	0	304
S-5	9/8/2022	2'	ND	ND	ND	ND	ND	0	256
S-6	9/8/2022	2'	ND	ND	ND	ND	ND	0	256
S-7	9/8/2022	2'	ND	ND	ND	ND	ND	0	272
S-8	9/8/2022	4'	ND	ND	ND	ND	ND	0	400
S-9	9/8/2022	4'	ND	ND	ND	ND	ND	0	384
S-10	9/8/2022	4'	ND	ND	ND	ND	ND	0	256
S-11	9/8/2022	4'	ND	ND	ND	20.1	ND	20.1	640
	9/9/2022	5'	ND	ND	ND	ND	ND	0	112
S-12	9/8/2022	4'	ND	ND	ND	17	ND	17	800
	9/9/2022	5'	ND	ND	ND	ND	ND	0	128
S-13	9/8/2022	4'	ND	ND	ND	ND	ND	0	240
S-14	9/8/2022	5'	ND	ND	ND	12.4	ND	12.4	752
	9/9/2022	6'	ND	ND	ND	ND	ND	0	256
S-15	9/8/2022	6'	ND	ND	ND	ND	ND	0	256
SW-1	9/8/2022	2'	ND	ND	ND	ND	ND	0	224
SW-2	9/8/2022	2'	ND	ND	ND	ND	ND	0	240
SW-3	9/8/2022	4'	ND	ND	ND	ND	ND	0	720
	9/9/2022	4'	ND	ND	ND	ND	ND	0	256
SW-4	9/8/2022	5'	ND	ND	ND	ND	ND	0	256
SW-5	9/8/2022	6'	ND	ND	ND	ND	ND	0	240
SW-6	9/8/2022	6'	ND	ND	ND	ND	ND	0	320
SW-7	9/8/2022	6'	ND	ND	ND	ND	ND	0	192
SW-8	9/8/2022	5'	ND	ND	ND	ND	ND	0	256
SW-9	9/8/2022	4'	ND	ND	ND	ND	ND	0	688
	9/9/2022	4'	ND	ND	ND	ND	ND	0	256
SW-10	9/8/2022	2'	ND	ND	ND	ND	ND	0	224
BG-1	9/8/2022	0-1'	ND	ND	ND	ND	ND	0	32
BG-2	9/8/2022	0-1'	ND	ND	ND	ND	ND	0	16
BG-3	9/8/2022	0-1'	ND	ND	ND	ND	ND	0	ND
BG-4	9/8/2022	0-1'	ND	ND	ND	ND	ND	0	ND

ND = Analyte Not Detected SW = Sidewall BG = Background

## Remedial Actions

- The impacted areas in the vicinity of sample points S-1 through S-7 were excavated to a total depth of 2-feet BGS.
- The areas near sample points S-8 through S-10 and S-13 were excavated to a total depth of 4-feet BGS.
- The areas near S-11 and S-12 were excavated to a total depth of 5-feet BGS. The areas near S-14 and S-15 were excavated to a total depth of 6-feet BGS.
- Composite confirmation samples were obtained from the sidewalls and bottoms of the excavated areas to verify that all contaminants above closure criteria had been removed. After initial confirmation sampling occurred, the sample zones of S-11, S-12, and S-14 were excavated 1-foot further vertically and resampled. The sidewall sample zones of SW-3 and SW-9 were excavated 2-feet horizontally and resampled. The results are shown on Table 2 and the corresponding lab reports may be found in [Appendix VI](#).
- All the excavated material (540yds) was hauled to Lea Land, 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 remedial actions and confirmation sampling results completed for this project, on behalf of Cimarex Energy Co. of Colorado 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
- Appendix III Initial and Final C-141
- Appendix IV Photographic Documentation
- Appendix V Laboratory Data

# **APPENDIX I**

## **SITE MAPS**

### **KARST MAP**



### **TOPOGRAPHIC MAP**

### **LOCATOR MAP**

# Irwin 23-14 Federal #003H

Cimarex Energy Co. of Colorado  
AP# 30-015-39893  
Incident# nAPP2213664988  
Eddy County, NM  
Test Trench Map

## Legend

-  Irwin 23-14 Federal #003H
-  Test Trench



100 ft



# Irwin 23-14 Federal #003H

Cimarex Energy Co. of Colorado  
AP# 30-015-39893  
Incident# nAPP2213664988  
Eddy County, NM  
Confirmation Sample Map

## Legend

- 2ft. Excavation
- 4-5ft. Excavation
- 6ft. Excavation
- Confirmation Composite Sample







70 ft




# Irwin 23-14 Federal #003H


Cimarex Energy Co. of Colorado  
AP# 30-015-39893  
Incident# nAPP2213664988  
Eddy County, NM  
Karst Map

## Legend

-  High
-  Irwin 23-14 Federal #003H
-  Low
-  Medium

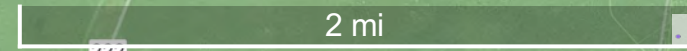
 Irwin 23-14 Federal #003H

360

 Carlsbad 100 Gas It Offroad



2 mi




Google Earth

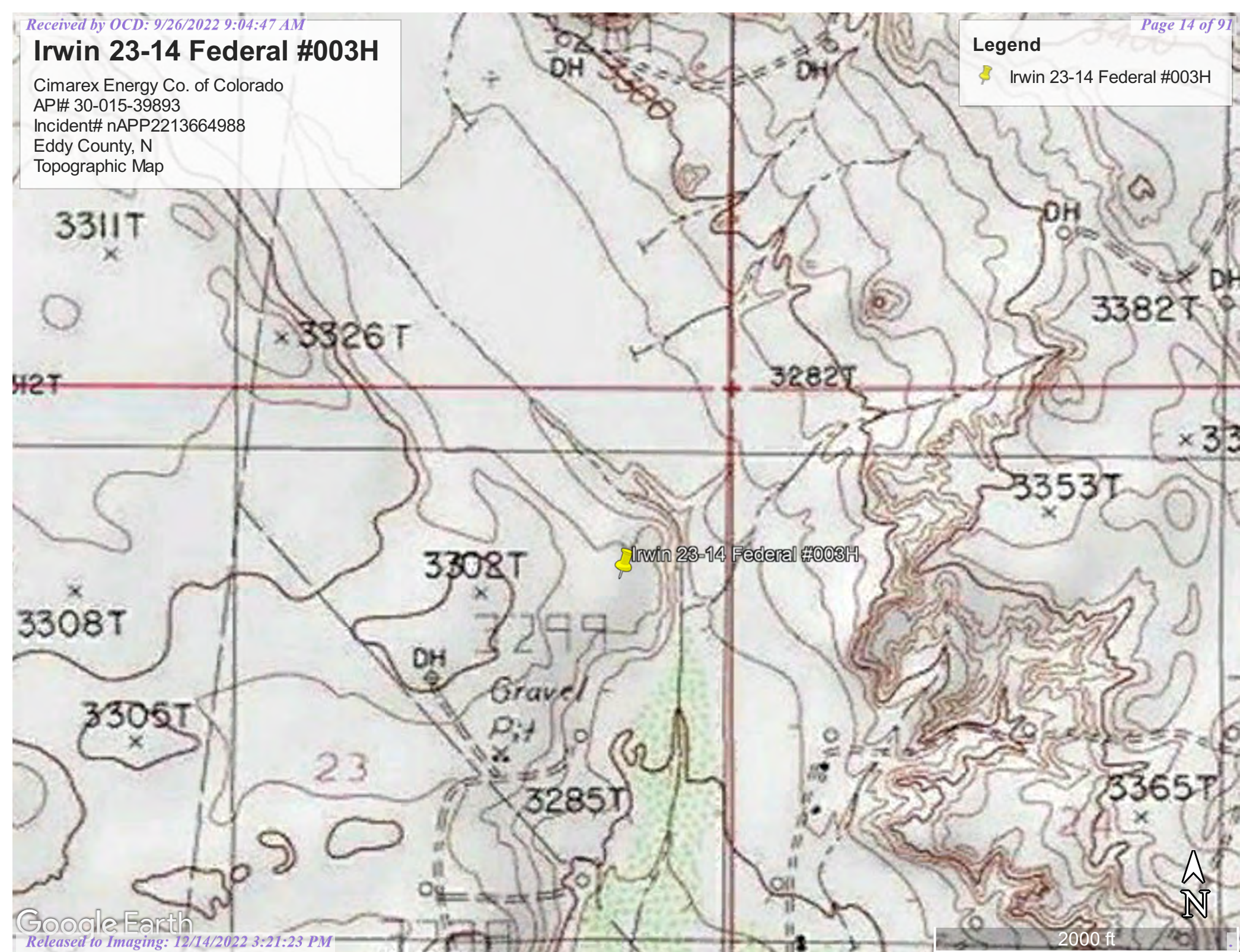


## Irwin 23-14 Federal #003H

Cimarex Energy Co. of Colorado  
AP# 30-015-39893  
Incident# nAPP2213664988  
Eddy County, N  
Topographic Map

### Legend

 Irwin 23-14 Federal #003H







# Irwin 23-14 Federal #003H

Cimarex Energy Co. of Colorado  
AP# 30-015-39893'  
Incident# nAPP2213664988  
Eddy County, NM  
Locator Map

## Legend

 Irwin 23-14 Federal #003H

 Irwin 23-14 Federal #003H


360



2 mi

Google Earth

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 Carlsbad 100 Gas It Offroad



## **APPENDIX II**

# **GROUNDWATER DATA**

# **SOIL SURVEY**

# **FEMA FLOOD ZONE**





# 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 4	Q 16	Q 64	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">CP.00357.POD2</a>		CP	ED	4	3	1	24	19S	30E	600265	3612627*	610	630		
<a href="#">CP.00357.POD1</a>		CP	ED	4	4	1	24	19S	30E	600667	3612631*	978	630		
<a href="#">CP.00722.POD2</a>		CP	ED	2	1	1	25	19S	30E	600276	3611620*	1419	350	65	285
<a href="#">CP.00647.POD1</a>	O	CP	ED	4	2	2	15	19S	30E	598235	3614621*	2259	200	92	108

Average Depth to Water: **78 feet**

Minimum Depth: **65 feet**

Maximum Depth: **92 feet**

**Record Count:** 4

### Basin/County Search:

**County:** Eddy

### UTMNAD83 Radius Search (in meters):

**Easting (X):** 599736.45

**Northing (Y):** 3612932.59

**Radius:** 3000

\*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.

9/8/22 1:14 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Map Unit Description: Potter-Simona complex, 5 to 25 percent slopes---Eddy Area, New Mexico

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## Eddy Area, New Mexico

### PS—Potter-Simona complex, 5 to 25 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1w57

*Elevation:* 2,750 to 5,000 feet

*Mean annual precipitation:* 8 to 16 inches

*Mean annual air temperature:* 57 to 70 degrees F

*Frost-free period:* 180 to 230 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Potter and similar soils:* 80 percent

*Simona and similar soils:* 15 percent

*Minor components:* 5 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Potter

##### Setting

*Landform:* Ridges, hills

*Landform position (two-dimensional):* Shoulder, backslope, footslope, toeslope

*Landform position (three-dimensional):* Side slope, crest, nose slope, head slope

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Alluvium

##### Typical profile

*H1 - 0 to 10 inches:* gravelly loam

*H2 - 10 to 60 inches:* cemented material

##### Properties and qualities

*Slope:* 5 to 25 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Very 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:* 60 percent

*Maximum salinity:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 1.0

*Available water supply, 0 to 60 inches:* Very low (about 1.2 inches)

Map Unit Description: Potter-Simona complex, 5 to 25 percent slopes---Eddy Area, New Mexico

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**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* D

*Ecological site:* R042XC025NM - Shallow

*Hydric soil rating:* No

**Description of Simona****Setting**

*Landform:* Plains, alluvial fans

*Landform position (three-dimensional):* Rise

*Down-slope shape:* Convex, linear

*Across-slope shape:* Linear

*Parent material:* Mixed alluvium and/or eolian sands

**Typical profile**

*H1 - 0 to 11 inches:* gravelly fine sandy loam

*H2 - 11 to 19 inches:* gravelly fine sandy loam

*H3 - 19 to 60 inches:* cemented material

**Properties and qualities**

*Slope:* 5 to 10 percent

*Depth to restrictive feature:* 7 to 20 inches to petrocalcic

*Drainage class:* Well drained

*Runoff class:* Very 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:* 15 percent

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

*Sodium adsorption ratio, maximum:* 1.0

*Available water supply, 0 to 60 inches:* Very low (about 2.2 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* D

*Ecological site:* R042XC002NM - Shallow Sandy

*Hydric soil rating:* No

**Minor Components****Simona**

*Percent of map unit:* 3 percent

*Ecological site:* R042XC002NM - Shallow Sandy

*Hydric soil rating:* No

**Rock outcrop**

*Percent of map unit:* 2 percent

Map Unit Description: Potter-Simona complex, 5 to 25 percent slopes---Eddy Area, New Mexico

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*Hydric soil rating:* No

## Data Source Information

Soil Survey Area: Eddy Area, New Mexico

Survey Area Data: Version 17, Sep 12, 2021

## National Flood Hazard Layer FIRMette



103°56'30"W 32°39'13"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
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
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 9/23/2022 at 12:49 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

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Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

# **APPENDIX III**

**INITIAL C-141**

**FINAL C-141**

**NMOCD CORRESPONDENCE**



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	nAPP2213664988
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party: Cimarex Energy Co. of Colorado	OGRID: 162683
Contact Name: Laci Luig	Contact Telephone: (432) 571-7800
Contact email: laci.luig@coterra.com	Incident # (assigned by OCD) nAPP2213664988
Contact mailing address: 600 N Marienfeld Street, Ste. 600 Midland, TX 79701	

### Location of Release Source

Latitude 32.64949 \_\_\_\_\_ Longitude -103.93660 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Irwin 23-14 Federal 3H	Site Type: Well Pad
Date Release Discovered: 5/16/2022	API# (if applicable) 30-015-39893

Unit Letter	Section	Township	Range	County
A	23	19S	30E	Eddy

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 checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 2	Volume Recovered (bbls) 0
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 10	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Equipment Failure

A flowline from the wellhead to the production equipment failed, releasing 12 bbls of fluid. The fluid released was comprised of 10 bbls produced water and 2 bbls of crude oil. A hydrovac has been dispatched to location to remove impact. An environmental consultant will begin the delineation and remediation process soon.

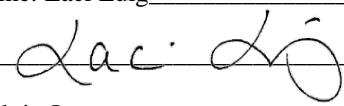
State of New Mexico  
Oil Conservation Division

Incident ID	nAPP2213664988
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?          
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? By: Tell Montoya To: 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: 5/16/2022
email: laci.luig@coterra.com	Telephone: (432) 208-3035
<b><u>OCD Only</u></b>	
Received by: Jocelyn Harimon	Date: 09/26/2022



Incident ID	nAPP2213664988
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?	<u>65</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

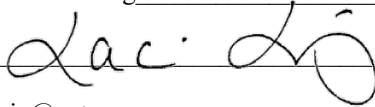
- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile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

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

State of New Mexico  
Oil Conservation Division

Incident ID	nAPP2213664988
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: Laci Luig \_\_\_\_\_ Title: ESH Specialist \_\_\_\_\_  
Signature:  \_\_\_\_\_ Date: 9/26/2022 \_\_\_\_\_  
email: laci.luig@coterra.com \_\_\_\_\_ Telephone: (432) 208-3035 \_\_\_\_\_

**OCD Only**

Received by: Jocelyn Harimon \_\_\_\_\_ Date: 09/26/2022 \_\_\_\_\_

Incident ID	nAPP2213664988
District RP	
Facility ID	
Application ID	

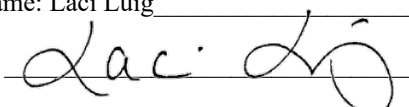
## Closure

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: Laci Luig \_\_\_\_\_ Title: ESH Specialist \_\_\_\_\_  
Signature:  \_\_\_\_\_ Date: 9/26/2022 \_\_\_\_\_  
email: laci.luig@coterra.com \_\_\_\_\_ Telephone: (432) 208-3035 \_\_\_\_\_

**OCD Only**

Received by: Jocelyn Harimon \_\_\_\_\_ Date: 09/26/2022 \_\_\_\_\_

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: \_\_\_\_\_

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

**From:** [Laci Luig](#)  
**To:** [NMOCD Spill Notifications](#); [BLM NM CFO Spill](#)  
**Cc:** [Jim Hawley](#); [Michael Collier](#)  
**Subject:** nAPP2213664988 - Irwin 23-14 Federal 3H confirmation sampling  
**Date:** Thursday, September 1, 2022 1:45:09 PM

---

This email serves as notification for confirmation sampling on the Irwin 23-14 Federal 3H. Sampling is scheduled to begin as early as September 6th, weather and soil conditions permitting. H&R Enterprises will be onsite for confirmation sampling.

Thank you,



**Laci Luig** | Environmental Safety & Health Specialist  
T: 432.571.7810 | M: 432.208.3035 | [laci.luig@coterra.com](mailto:laci.luig@coterra.com) | [www.coterra.com](http://www.coterra.com)  
Coterra Energy Inc. | 600 N. Marienfeld Street, Suite 600 | Midland, TX 79701

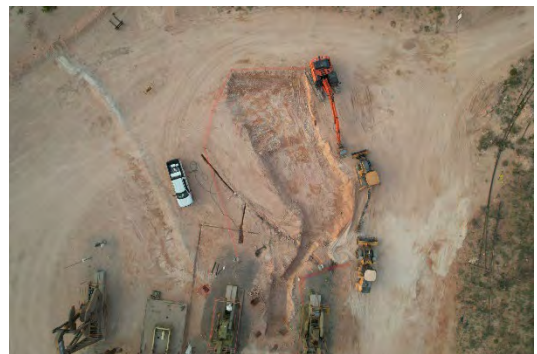
Coterra Energy Inc. is the result of the merger of Cimarex Energy Co. and Cabot Oil & Gas Corporation on October 1, 2021.

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# **APPENDIX IV**

## **PHOTOGRAPHIC DOCUMENTATION**

PHOTOGRAPHIC DOCUMENTATION



# **APPENDIX V**

## **LABORATORY REPORTS**



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

---

September 07, 2022

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

RE: IRWIN 23-14 FEDERAL #003H (IRWIN)

Enclosed are the results of analyses for samples received by the laboratory on 09/06/22 11:04.

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:	09/06/2022	Sampling Date:	09/02/2022
Reported:	09/07/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: TT - 1 0-1' (H224060-01)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85	
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21	
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08	
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59	
Total BTX	<0.300	0.300	09/06/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6640	16.0	09/07/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 77.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 81.6 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 1 2' (H224060-02)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85	
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21	
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08	
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59	
Total BTX	<0.300	0.300	09/06/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3440	16.0	09/07/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 79.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 86.4 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 1 3' (H224060-03)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85		
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21		
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08		
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59		
Total BTEx	<0.300	0.300	09/06/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2480	16.0	09/07/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 78.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 82.7 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 1 4' (H224060-04)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85		
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21		
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08		
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59		
Total BTX	<0.300	0.300	09/06/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1380	16.0	09/07/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 77.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.5 % 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:	09/06/2022	Sampling Date:	09/02/2022
Reported:	09/07/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Shalyn Rodriguez
Project Location:	EDDY COUNTY, NM		

**Sample ID: TT - 1 6' (H224060-05)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85		
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21		
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08		
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59		
Total BTX	<0.300	0.300	09/06/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	09/07/2022	ND	432	108	400	3.77	

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	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 79.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.6 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 2 0-1' (H224060-06)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85	
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21	
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08	
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59	
Total BTX	<0.300	0.300	09/06/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2520	16.0	09/07/2022	ND	432	108	400	3.77		

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	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 78.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.4 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 2 2' (H224060-07)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85		
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21		
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08		
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59		
Total BTX	<0.300	0.300	09/06/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3440	16.0	09/07/2022	ND	432	108	400	3.77		

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	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 77.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 81.5 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 2 3' (H224060-08)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85		
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21		
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08		
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59		
Total BTX	<0.300	0.300	09/06/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	09/07/2022	ND	432	108	400	3.77		

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	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 76.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.8 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 2 4' (H224060-09)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85		
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21		
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08		
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59		
Total BTEx	<0.300	0.300	09/06/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/07/2022	ND	432	108	400	3.77		

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	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 79.5 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 3 0-1' (H224060-10)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85		
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21		
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08		
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59		
Total BTEx	<0.300	0.300	09/06/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	09/07/2022	ND	432	108	400	3.77	

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	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 74.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.7 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 3 2' (H224060-11)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85		
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21		
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08		
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59		
Total BTEx	<0.300	0.300	09/06/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	09/07/2022	ND	432	108	400	3.77	

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	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 78.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.1 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 3 3' (H224060-12)**

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	09/06/2022	ND	1.83	91.7	2.00	4.85		
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21		
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08		
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59		
Total BTX	<0.300	0.300	09/06/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	880	16.0	09/07/2022	ND	432	108	400	3.77		

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	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 76.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.5 % 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: 09/06/2022  
 Reported: 09/07/2022  
 Project Name: IRWIN 23-14 FEDERAL #003H (IRWIN)  
 Project Number: CIMAREX  
 Project Location: EDDY COUNTY, NM

Sampling Date: 09/02/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: TT - 3 4' (H224060-13)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/06/2022	ND	1.83	91.7	2.00	4.85		
Toluene*	<0.050	0.050	09/06/2022	ND	1.90	95.1	2.00	5.21		
Ethylbenzene*	<0.050	0.050	09/06/2022	ND	1.92	96.1	2.00	5.08		
Total Xylenes*	<0.150	0.150	09/06/2022	ND	5.95	99.2	6.00	5.59		
Total BTEx	<0.300	0.300	09/06/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	09/07/2022	ND	432	108	400	3.77	

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	09/06/2022	ND	197	98.4	200	3.48	
DRO >C10-C28*	<10.0	10.0	09/06/2022	ND	193	96.7	200	4.81	
EXT DRO >C28-C36	<10.0	10.0	09/06/2022	ND					

Surrogate: 1-Chlorooctane 79.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.3 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

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

---

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

terprises

[illegible]

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





### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]





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

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September 09, 2022

MICHAEL COLLIER

H & R ENTERPRISES

1010 GAMBLIN ROAD

HOBBS, NM 88240

RE: IRWIN 23-14 FEDERAL #003H (IRWIN)

Enclosed are the results of analyses for samples received by the laboratory on 09/08/22 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 1 2' (H224127-01)**

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	09/09/2022	ND	2.12	106	2.00	9.77	QR-03
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	QR-03
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	QR-03
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTX	<0.300	0.300	09/09/2022	ND					

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

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	09/09/2022	ND	416	104	400	3.77	

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	09/08/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/08/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/08/2022	ND					

Surrogate: 1-Chlorooctane 86.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 102 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 2 2' (H224127-02)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTEx	<0.300	0.300	09/09/2022	ND					

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

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

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	09/08/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/08/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/08/2022	ND					

Surrogate: 1-Chlorooctane 94.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 111 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 3 2' (H224127-03)**

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	09/09/2022	ND	2.12	106	2.00	9.77		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3		
Total BTX	<0.300	0.300	09/09/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	09/09/2022	ND	416	104	400	3.77	

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	09/08/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/08/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/08/2022	ND					

Surrogate: 1-Chlorooctane 88.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 4 2' (H224127-04)**

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	09/09/2022	ND	2.12	106	2.00	9.77		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3		
Total BTEX	<0.300	0.300	09/09/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	09/09/2022	ND	416	104	400	3.77		

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	09/08/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/08/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/08/2022	ND					

Surrogate: 1-Chlorooctane 90.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 5 2' (H224127-05)**

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	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTEx	<0.300	0.300	09/09/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/09/2022	ND	416	104	400	3.77		

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	09/08/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/08/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/08/2022	ND					

Surrogate: 1-Chlorooctane 93.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 110 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 6 2' (H224127-06)**

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	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTEx	<0.300	0.300	09/09/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/09/2022	ND	416	104	400	3.77		

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	09/08/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/08/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/08/2022	ND					

Surrogate: 1-Chlorooctane 85.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 7 2' (H224127-07)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTEx	<0.300	0.300	09/09/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	09/09/2022	ND	416	104	400	3.77	

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	09/08/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/08/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/08/2022	ND					

Surrogate: 1-Chlorooctane 87.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 102 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 8 4' (H224127-08)**

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	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTEx	<0.300	0.300	09/09/2022	ND					

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

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

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	09/08/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/08/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/08/2022	ND					

Surrogate: 1-Chlorooctane 95.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 112 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 9 4' (H224127-09)**

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	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTEx	<0.300	0.300	09/09/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	09/09/2022	ND	416	104	400	3.77	

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	09/09/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 98.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 116 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 10 4' (H224127-10)**

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	09/09/2022	ND	2.12	106	2.00	9.77		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3		
Total BTEx	<0.300	0.300	09/09/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/09/2022	ND	416	104	400	3.77		

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	09/09/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 87.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 11 4' (H224127-11)**

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	09/09/2022	ND	2.12	106	2.00	9.77		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3		
Total BTEx	<0.300	0.300	09/09/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	640	16.0	09/09/2022	ND	416	104	400	3.77		

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	09/09/2022	ND	200	100	200	0.455	
DRO >C10-C28*	20.1	10.0	09/09/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 119 % 45.3-161

Surrogate: 1-Chlorooctadecane 142 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 12 4' (H224127-12)**

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	09/09/2022	ND	2.12	106	2.00	9.77		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3		
Total BTEx	<0.300	0.300	09/09/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	800	16.0	09/09/2022	ND	416	104	400	3.77		

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	09/09/2022	ND	200	100	200	0.455	
DRO >C10-C28*	17.0	10.0	09/09/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 91.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 109 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 13 4' (H224127-13)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/09/2022	ND	2.12	106	2.00	9.77		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3		
Total BTEx	<0.300	0.300	09/09/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	09/09/2022	ND	416	104	400	3.77		

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	09/09/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 86.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 14 5' (H224127-14)**

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	09/09/2022	ND	2.12	106	2.00	9.77		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3		
Total BTEx	<0.300	0.300	09/09/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	752	16.0	09/09/2022	ND	416	104	400	3.77		

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	09/09/2022	ND	200	100	200	0.455	
DRO >C10-C28*	12.4	10.0	09/09/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 82.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 97.6 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 15 6' (H224127-15)**

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	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTX	<0.300	0.300	09/09/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/09/2022	ND	416	104	400	3.77	

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	09/09/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 91.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 108 % 46.3-178

Cardinal Laboratories

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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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 1 2' (H224127-16)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTEx	<0.300	0.300	09/09/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	09/09/2022	ND	400	100	400	7.69	

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	09/09/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 89.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 2 2' (H224127-17)**

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	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTEx	<0.300	0.300	09/09/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/09/2022	ND	400	100	400	7.69	

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	09/09/2022	ND	200	100	200	0.455	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	224	112	200	5.01	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 94.3 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 3 4' (H224127-18)**

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	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTEx	<0.300	0.300	09/09/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	09/09/2022	ND	400	100	400	7.69	

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	09/08/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/08/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/08/2022	ND					

Surrogate: 1-Chlorooctane 95.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 4 5' (H224127-19)**

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	09/09/2022	ND	2.12	106	2.00	9.77	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3	
Total BTX	<0.300	0.300	09/09/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/09/2022	ND	400	100	400	7.69	

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 90.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 98.5 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 5 6' (H224127-20)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/09/2022	ND	2.12	106	2.00	9.77		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	9.00		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	2.04	102	2.00	10.2		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.31	105	6.00	11.3		
Total BTEx	<0.300	0.300	09/09/2022	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/09/2022	ND	400	100	400	7.69	

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 91.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 100 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 6 6' (H224127-21)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/09/2022	ND	2.05	103	2.00	9.30		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	10.0		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.99	99.6	2.00	9.02		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.19	103	6.00	8.91		
Total BTEx	<0.300	0.300	09/09/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	09/09/2022	ND	400	100	400	7.69		

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 88.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 96.8 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 7 6' (H224127-22)**

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	09/09/2022	ND	2.05	103	2.00	9.30		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	10.0		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.99	99.6	2.00	9.02		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.19	103	6.00	8.91		
Total BTEx	<0.300	0.300	09/09/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	09/09/2022	ND	400	100	400	7.69		

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 94.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 8 5' (H224127-23)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/09/2022	ND	2.05	103	2.00	9.30		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	10.0		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.99	99.6	2.00	9.02		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.19	103	6.00	8.91		
Total BTEx	<0.300	0.300	09/09/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/09/2022	ND	400	100	400	7.69		

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 94.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 9 4' (H224127-24)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/09/2022	ND	2.05	103	2.00	9.30		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	10.0		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.99	99.6	2.00	9.02		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.19	103	6.00	8.91		
Total BTEx	<0.300	0.300	09/09/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	688	16.0	09/09/2022	ND	400	100	400	7.69		

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 87.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.6 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 10 2' (H224127-25)**

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	09/09/2022	ND	2.05	103	2.00	9.30	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	10.0	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.99	99.6	2.00	9.02	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.19	103	6.00	8.91	
Total BTEx	<0.300	0.300	09/09/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	09/09/2022	ND	400	100	400	7.69	

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 88.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.7 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: BG - 1 0-1' (H224127-26)**

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	09/09/2022	ND	2.05	103	2.00	9.30	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	10.0	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.99	99.6	2.00	9.02	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.19	103	6.00	8.91	
Total BTEx	<0.300	0.300	09/09/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/09/2022	ND	400	100	400	7.69	

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 90.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 97.7 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: BG - 2 0-1' (H224127-27)**

BTEx 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/09/2022	ND	2.05	103	2.00	9.30	
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	10.0	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.99	99.6	2.00	9.02	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.19	103	6.00	8.91	
Total BTEx	<0.300	0.300	09/09/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/09/2022	ND	400	100	400	7.69		

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 92.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 101 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: BG - 3 0-1' (H224127-28)**

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	09/09/2022	ND	2.05	103	2.00	9.30		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	10.0		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.99	99.6	2.00	9.02		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.19	103	6.00	8.91		
Total BTEx	<0.300	0.300	09/09/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/09/2022	ND	400	100	400	7.69		

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 94.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 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:	09/08/2022	Sampling Date:	09/08/2022
Reported:	09/09/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: BG - 4 0-1' (H224127-29)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/09/2022	ND	2.05	103	2.00	9.30		
Toluene*	<0.050	0.050	09/09/2022	ND	2.06	103	2.00	10.0		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.99	99.6	2.00	9.02		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.19	103	6.00	8.91		
Total BTEx	<0.300	0.300	09/09/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/09/2022	ND	400	100	400	7.69		

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	09/09/2022	ND	195	97.6	200	7.77	
DRO >C10-C28*	<10.0	10.0	09/09/2022	ND	192	95.8	200	8.26	
EXT DRO >C28-C36	<10.0	10.0	09/09/2022	ND					

Surrogate: 1-Chlorooctane 96.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: H&R Enterprises Project Manager: Michael Collier Address: City: State: Zip: Phone #: Fax #: Project #: Project Owner: Cimarex Energy Project Name: Irvln 23-14 Federal #003H (Irvln) Project Location: Eddy County, NM Sampler Name: Roy Bell				<b>BILL TO</b> P.O. #: Company: Cimarex Energy Attn: Laci Luig Address: City: State: Zip: Phone #: Fax #:				<b>ANALYSIS REQUEST</b>			
Lab I.D. Sample I.D. H224127		(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :		MATRIX PRESERV.		SAMPLING					
		DATE		TIME		BTX		TPH		Chlorides	
S-1 2'		C		I		X		X		X	
S-2 2'											
S-3 2'											
S-4 2'											
S-5 2'											
S-6 2'											
S-7 2'											
S-8 4'											
S-9 4'											
S-10 4'											

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Relinquished By: Date: 12-8-22 Time: 1340		Received By: Date: 12-8-22 Time: 1340		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No All Results are emailed. Please provide Email address:		Add'l Phone #:	
Relinquished By: Date: 12-8-22 Time: 1340		Received By: Date: 12-8-22 Time: 1340		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No All Results are emailed. Please provide Email address:		Add'l Phone #:	
Relinquished By: Date: 12-8-22 Time: 1340		Received By: Date: 12-8-22 Time: 1340		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No All Results are emailed. Please provide Email address:		Add'l Phone #:	

Delivered By: (Circle One) Sampler - Ups - Bus - Other:		Observed Temp. °C Corrected Temp. °C 5.6		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: (Initials)		Turnaround Time: Standard <input type="checkbox"/> Backup (only) Sample Condition		Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Observed Temp. °C Turnaround Time: 24 HR RUSH		Thermostat ID #113 Correction Factor -0.5°C No <input type="checkbox"/> No <input type="checkbox"/> No		Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No		Turnaround Time: 24 HR RUSH		Thermostat ID #113 Correction Factor -0.5°C No <input type="checkbox"/> No <input type="checkbox"/> No		Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No		Turnaround Time: 24 HR RUSH	
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### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]





CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

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September 13, 2022

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

RE: IRWIN 23-14 FEDERAL #003H (IRWIN)

Enclosed are the results of analyses for samples received by the laboratory on 09/09/22 13:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

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:	09/09/2022	Sampling Date:	09/09/2022
Reported:	09/13/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 11 5' (H224155-01)**

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	09/09/2022	ND	2.07	104	2.00	3.84		
Toluene*	<0.050	0.050	09/09/2022	ND	2.01	101	2.00	2.93		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.98	99.0	2.00	3.73		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.08	101	6.00	3.86		
Total BTX	<0.300	0.300	09/09/2022	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	09/12/2022	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	09/10/2022	ND	211	105	200	2.08	
DRO >C10-C28*	<10.0	10.0	09/10/2022	ND	212	106	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	09/10/2022	ND					

Surrogate: 1-Chlorooctane 98.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 102 % 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:	09/09/2022	Sampling Date:	09/09/2022
Reported:	09/13/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 12 5' (H224155-02)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/09/2022	ND	2.07	104	2.00	3.84	
Toluene*	<0.050	0.050	09/09/2022	ND	2.01	101	2.00	2.93	
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.98	99.0	2.00	3.73	
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.08	101	6.00	3.86	
Total BTEx	<0.300	0.300	09/09/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/12/2022	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	09/10/2022	ND	211	105	200	2.08	
DRO >C10-C28*	<10.0	10.0	09/10/2022	ND	212	106	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	09/10/2022	ND					

Surrogate: 1-Chlorooctane 95.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 98.3 % 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:	09/09/2022	Sampling Date:	09/09/2022
Reported:	09/13/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: S - 14 6' (H224155-03)**

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	09/09/2022	ND	2.07	104	2.00	3.84		
Toluene*	<0.050	0.050	09/09/2022	ND	2.01	101	2.00	2.93		
Ethylbenzene*	<0.050	0.050	09/09/2022	ND	1.98	99.0	2.00	3.73		
Total Xylenes*	<0.150	0.150	09/09/2022	ND	6.08	101	6.00	3.86		
Total BTEX	<0.300	0.300	09/09/2022	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/12/2022	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	09/10/2022	ND	211	105	200	2.08	
DRO >C10-C28*	<10.0	10.0	09/10/2022	ND	212	106	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	09/10/2022	ND					

Surrogate: 1-Chlorooctane 90.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.9 % 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:	09/09/2022	Sampling Date:	09/09/2022
Reported:	09/13/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 3 4' (H224155-04)**

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	09/10/2022	ND	2.07	104	2.00	3.84		
Toluene*	<0.050	0.050	09/10/2022	ND	2.01	101	2.00	2.93		
Ethylbenzene*	<0.050	0.050	09/10/2022	ND	1.98	99.0	2.00	3.73		
Total Xylenes*	<0.150	0.150	09/10/2022	ND	6.08	101	6.00	3.86		
Total BTEx	<0.300	0.300	09/10/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/12/2022	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	09/10/2022	ND	211	105	200	2.08	
DRO >C10-C28*	<10.0	10.0	09/10/2022	ND	212	106	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	09/10/2022	ND					

Surrogate: 1-Chlorooctane 95.6 % 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:	09/09/2022	Sampling Date:	09/09/2022
Reported:	09/13/2022	Sampling Type:	Soil
Project Name:	IRWIN 23-14 FEDERAL #003H (IRWIN)	Sampling Condition:	Cool & Intact
Project Number:	CIMAREX	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW - 9 4' (H224155-05)**

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	09/10/2022	ND	2.07	104	2.00	3.84		
Toluene*	<0.050	0.050	09/10/2022	ND	2.01	101	2.00	2.93		
Ethylbenzene*	<0.050	0.050	09/10/2022	ND	1.98	99.0	2.00	3.73		
Total Xylenes*	<0.150	0.150	09/10/2022	ND	6.08	101	6.00	3.86		
Total BTEx	<0.300	0.300	09/10/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/12/2022	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	09/10/2022	ND	211	105	200	2.08	
DRO >C10-C28*	<10.0	10.0	09/10/2022	ND	212	106	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	09/10/2022	ND					

Surrogate: 1-Chlorooctane 105 % 45.3-161

Surrogate: 1-Chlorooctadecane 110 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

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

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

---

Celey D. Keene, Lab Director/Quality Manager

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 8 of 8



**District I**

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

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

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

**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 146072

**CONDITIONS**

Operator: CIMAREX ENERGY CO. OF COLORADO 600 N. Marienfeld Street Midland, TX 79701	OGRID: 162683
	Action Number: 146072
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2213664988 IRWIN 23-14 FEDERAL 3H, thank you. This closure is approved.	12/14/2022