Ringer Fed Com 2 – Lost Volume

The volume was measured by using the production tank gauge reading prior to the release:

5’0” = 100 barrels of oil

0’3” = 5 barrels of water

Oil Gauge Report
Ringer Fed Com #2 - Tank 110668 (LPC Tank 1)

Selected Time Frame: 09/25/2020 - 10/01/2020

Oil Gauge Readings			
Date	Feet	Inches	Bbls
--- Oil Gauge: Tank 110668 (LPC Tank 1)			
10/01/2020	0	0	0.00
09/30/2020	0	0	0.00
09/29/2020	0	0	0.00
09/28/2020	5	3	100.02
09/27/2020	5	3	100.02
09/26/2020	5	3	100.02
09/25/2020	5	3	100.02
Opening			100.02

Run Tickets		Opening		Closing				
Date	Ticket #	Feet	Inches	Feet	Inches	Bbls	BS&W	Grav
--- No run ticket data is available.								

Oil Tank Dispositions		Start		End		
Date	Tank Name	Feet	Inches	Feet	Inches	Bbls
--- Dispositions for Oil Tank: Tank 110668 (LPC Tank 1)						
09/29/2020	Tank 110668 (LPC Tank 1) - Lost Oil	5	3	0	0	105.02

Oil Tank Gauge Notes

--- Oil Gauge: Tank 110668 (LPC Tank 1)

09/29/2020 LOSS OF OIL DUE TO HOLE IN TANK BOTTOM

Oil Disposition Notes

--- Oil Disposition Notes for Oil Tank: Tank 110668 (LPC Tank 1)

09/29/2020 Hole in tank lost oil

Site Assessment and Remediation Work Plan

Murchison Oil & Gas, LLC
Ringer Federal #2
Eddy County, New Mexico
Unit Letter "G", Section 4, Township 25 South, Range 26 East
Latitude 32.161919 North, Longitude 104.296837 West
NMOCD Incident # NRM2027443562

Prepared For:

Murchison Oil & Gas
5325 Sierra Vista
Carlsbad, NM 88230

Prepared By:

Hungry Horse, LLC
4024 Plains Hwy
Lovington, NM 88260
Office: (575) 393-3386

July 2024

Bradley Wells
Project Manager
bwells@hungry-horse.com

Daniel Dominguez
Environmental Manager
ddominguez@hungry-horse.com

Table Of Contents

The following *Site Assessment and Remediation Work Plan* serves as a condensed update on proposed reclamation activities at the afore referenced Site.

Background:

The site is located in Unit Letter G (SW/NE), Section 4, Township 25 South, Range 26 East, approximately 1 mile Southeast of Riverside, in Eddy County, New Mexico. The property is located on private land. Topographic Map, OSE POD Locations Map, and USGS Well Locations Map are included as Figure 1, Figure 2, and Figure 3, respectively.

The release occurred on a tank battery and well pad; Latitude 32.161919 North, Longitude 104.296837 West. The NMOCD Form C-141 indicated that on September 29, 2020 approximately 100 bbls of condensate and 5 bbls of produced water were released to unlined containment due to a hole in the bottom of the tank. No fluid was recovered. Previously submitted pages of the NMOCD Form C-141 are available on the NMOCD Permitting Portal.

NMOCD Site Classification:

A search of the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) groundwater databases was completed in an effort to determine the horizontal distance to known water sources within a half mile radius of the Release Site. Approximate depth to groundwater was determined using maintained and published water well data. Karst mapping indicates the site is located in a Gypsum Karst designated area. Depth to groundwater information is provided as Attachment II and the results are depicted on Figures 2 and 3.

No water wells were located within a half mile of the release area. In addition, as the site is located in a Gypsum Karst designated area, the site will be remediated according to the strictest NMOCD Closure Criteria. Utilizing this information, the NMOCD Closure Criteria for the Site were determined as follows:

Depth to Groundwater	Constituent	Method	Limit
<50’	Chloride	EPA 300.0 or SM4500 CLB	600 mg/kg
	TPH (GRO + DRO + MRO)	EPA SW-846 Method 8015M Ext	100 mg/kg
	BTEX	EPA SW-846 Methods 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Methods 8021B or 8260B	10 mg/kg

A United States Department of Agriculture (USDA) Web Soil Survey was completed to determine soil types in the area of remediation. Web Soil Survey indicates the area is located in the Reagan-Upton association comprised of loam soils with 0 to 3 percent slopes. As the affected area is located on a well pad, no re-seeding will be required. Karst, Wetland, and Soil Maps are provided as Attachment I.

Initial Site Assessment and Delineation:

On October 14, 2020, RT Hicks Consultants, Ltd. conducted an initial site assessment and sampling activities of the release area. Based on these sampling activities, twenty-two representative soil samples were selected for laboratory analysis. Soil samples SP1 through SP4, as well as a Background sample, were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated contaminant concentrations were below the NMOCD Closure Criteria in only one of the submitted samples, BG at 0-4'. Soil samples SP1 through SP4, and BG at 4.25' bgs, all exhibited BTEX, TPH and/or chloride concentrations in excess of NMOCD Closure Criteria.

On November 30, 2020, RT Hicks Consultants, Ltd. conducted deeper sampling activities via sampling auger, at sample locations SP1 through SP4. Based on these sampling activities, five representative soil samples, from soil boring SB3, were selected for laboratory analysis and were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated contaminant concentrations were below the NMOCD Closure Criteria in two of the submitted samples, SB3 at 34' and 49' bgs. Soil samples SB3 at 6-8', 12-14', and 24-29' bgs, all exhibited TPH and/or chloride concentrations in excess of NMOCD Closure Criteria.

On December 1, 2020, RT Hicks Consultants, Ltd. completed sampling auger activities. Based on these sampling activities, thirteen representative soil samples, from soil borings SB1, SB2, SB4, and 12'N, were selected for laboratory analysis and were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated contaminant concentrations were below the NMOCD Closure Criteria in each of the submitted samples, with the exception of soil samples SB1 at 6-8' and 9-10' bgs, SB2 at 6-8' and 12.5' bgs, SB4 at 6-8' bgs, and 12'N at 0-2', 2-4', and 4' bgs, all exhibited BTEX, TPH and/or chloride concentrations in excess of NMOCD Closure Criteria.

On June 5, 2024, Hungry Horse, LLC conducted delineation sampling of the release area. During sampling, sample test trenches were advanced throughout the release area in an effort to determine the vertical extent of contamination. These sample locations are identified by SP designation. In addition, sample test trenches were advanced along the outside edges of the release area in an effort to determine the horizontal extent of contamination. These sample locations are identified by HZ designation. During the advancement of sample test trenches, soil samples were collected and field screened for the presence of chloride concentrations utilizing a Hach Quantab® chloride test kit.

Based on field observations and field test data noted above and provided in Attachment IV, fourteen representative soil samples were selected for laboratory analysis. Delineation soil samples SP1 through SP3, HZ1 through HZ4, were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated contaminant concentrations were below the NMOCD Closure Criteria in each of the submitted samples, with the exception of SP1 and SP2, each at Surface, and SP3 at one-foot bgs which exhibited TPH and/or chloride concentrations in excess of the NMOCD Closure Criteria.

Sample SP1 at four feet bgs was lost in transport to the lab. On June 10, 2024, a replacement sample was collected and delivered to the lab. Laboratory analytical results indicated contaminant concentrations were below the NMOCD Closure Criteria in the submitted sample.

Sample Map 10/14/20; 11/30/20; 12/1/20 and Delineation Sample Map are provided as Figure 4 and Figure 5, respectively. Laboratory Analytical Data is provided as Attachment III.

Proposed Remediation Activities:

In accordance with NMOCD Regulations, and based upon laboratory analytical results, site characteristics, and field observations made during the initial site assessment, the following remediation activities are proposed in an effort to advance the site toward approved closure.

- Based upon laboratory analytical results received from RT Hicks Consultants, Ltd. sampling activities and Hungry Horse delineation sampling, the area within the containment berms will be excavated to an approximate depth of ten feet bgs. The area characterized by 12'N will be excavated to an approximate depth of four feet bgs. The release area, approximately 1,900 sq. ft., is depicted on Figure 5.
- Excavated contaminated soil, including berms, approximately 650 cy, will be temporarily stockpiled onsite, atop plastic, before transport to an NMOCD approved disposal facility.
- Stormwater protection (i.e. berms, waddles, etc.) will be installed around the contaminated soil stockpile to prevent transportation of contaminated soils due to precipitation events. If the plastic is found to be damaged during remediation activities, five-point composite samples, representing no more than 200 square feet, will be collected from beneath the plastic and analyzed for BTEX, TPH, and chloride to ensure surface soil has not been contaminated.
- Upon completion of excavation activities, five-point composite confirmation samples will be collected from the excavation floor and sidewalls; each sample representing no more than 200 square feet. Confirmation soil samples will be submitted to the laboratory for analysis of BTEX, TPH, and chloride.
- Upon receipt of laboratory analytical results from confirmation soil samples, demonstrating constituent contaminant levels are in excess of the strictest NMOCD Closure Criteria in the excavation floor and/or sidewalls, the area will be further excavated, vertically and/or horizontally, until laboratory analytical data indicates constituent contaminant levels are equal to or below the strictest NMOCD Closure Criteria in the excavation floor and sidewalls.
- Upon receiving laboratory analytical results from confirmation soil samples, demonstrating constituent contaminant levels are equal to or below NMOCD Closure Criteria, the excavation will be backfilled with locally sourced, clean, non-impacted, material. Berms will be rebuilt to contain 1.5 times the volume of the tank.
- Remediation activities are expected to be completed within 30 days of receiving NMOCD and NMBLM approval of this Site Assessment and Remediation Work Plan.

Sampling Plan:

Upon completion of excavation activities, NMOCD will be notified via C-141N (Notification of Sampling) two business days prior to collection of confirmation samples. Confirmation five-point composite soil samples will then be collected from the excavation floor and sidewalls; each sample representing no more than 200 square feet. Confirmation soil samples will be submitted to the laboratory for analysis of BTEX, TPH, and chloride.

Restoration, Reclamation, and Re-Vegetation:

Based upon laboratory analytical results from confirmation soil samples, the excavation will be backfilled with locally sourced, clean, non-impacted material. The area will be contoured to achieve erosion control and preserve surface water flow. Containment berms will be rebuilt per containment standards. Berms will contain 1.5 times the volume of the largest tank.

As the affected area is located on a well pad, no re-seeding will be required.

Limitations:

Hungry Horse, LLC, has prepared this *Site Assessment and Remediation Work Plan* to the best of its ability. No other warranty, expressed or implied, is made or intended. Hungry Horse has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Hungry Horse has not conducted an independent examination of the facts contained in referenced materials and statements. Hungry Horse has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Hungry Horse notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

Distribution:

Murchison Oil & Gas
5325 Sierra Vista
Carlsbad, NM 88230

New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 2
811 S. First St.
Artesia, NM 88210

Fred Beard
185 Means Rd.
Carlsbad, NM 88220

Figures

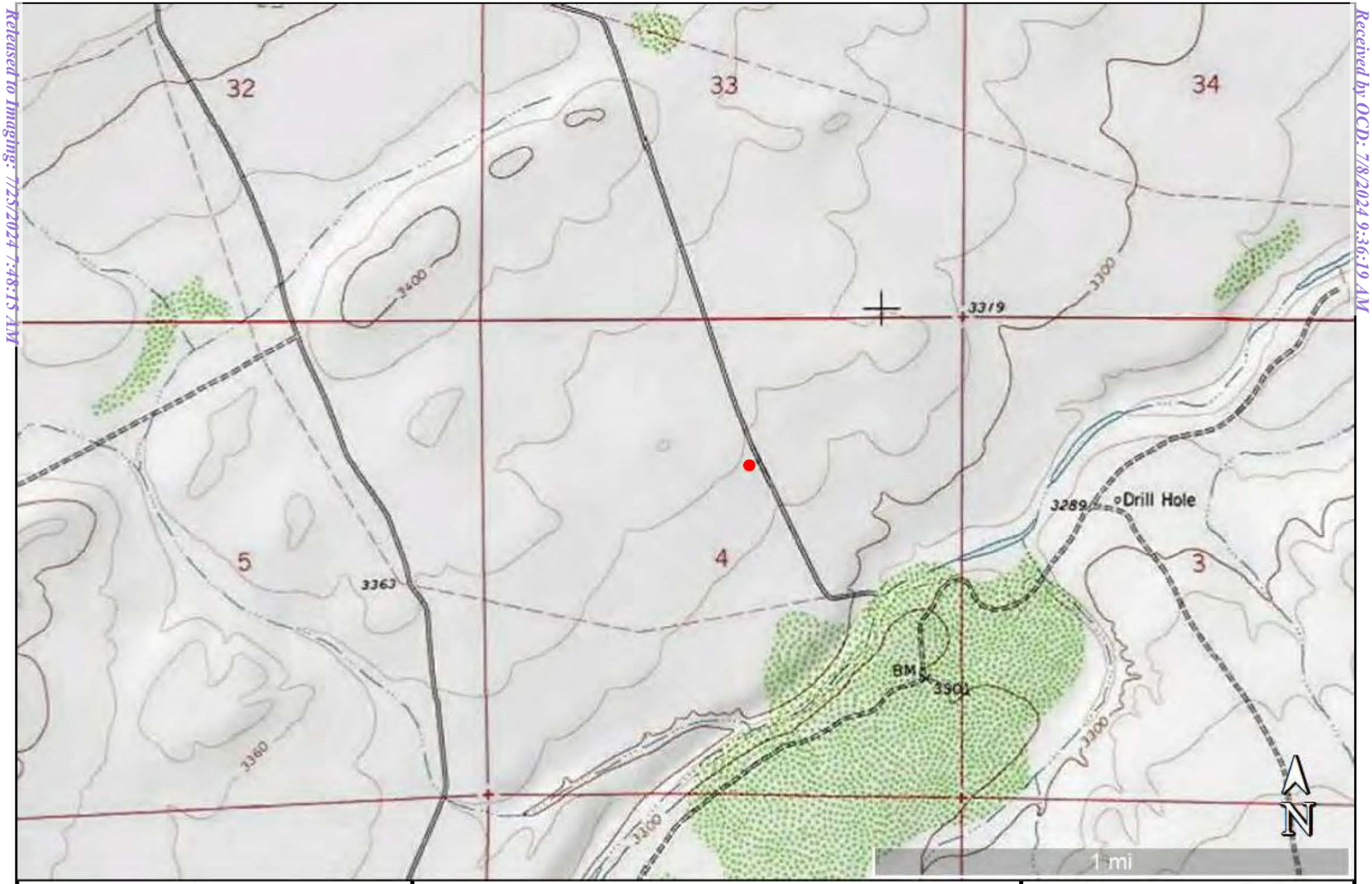


Figure 1
Topographic Map
Murchison Oil & Gas
Ringer Federal #2
GPS: 32.1619186, -104.2968369
Eddy County

Legend:

- Ringer Federal #2 Location

Drafted: dd
Checked: bw
Date: 4/15/24

HUNGRY HORSE ENVIRONMENTAL & CONSTRUCTION

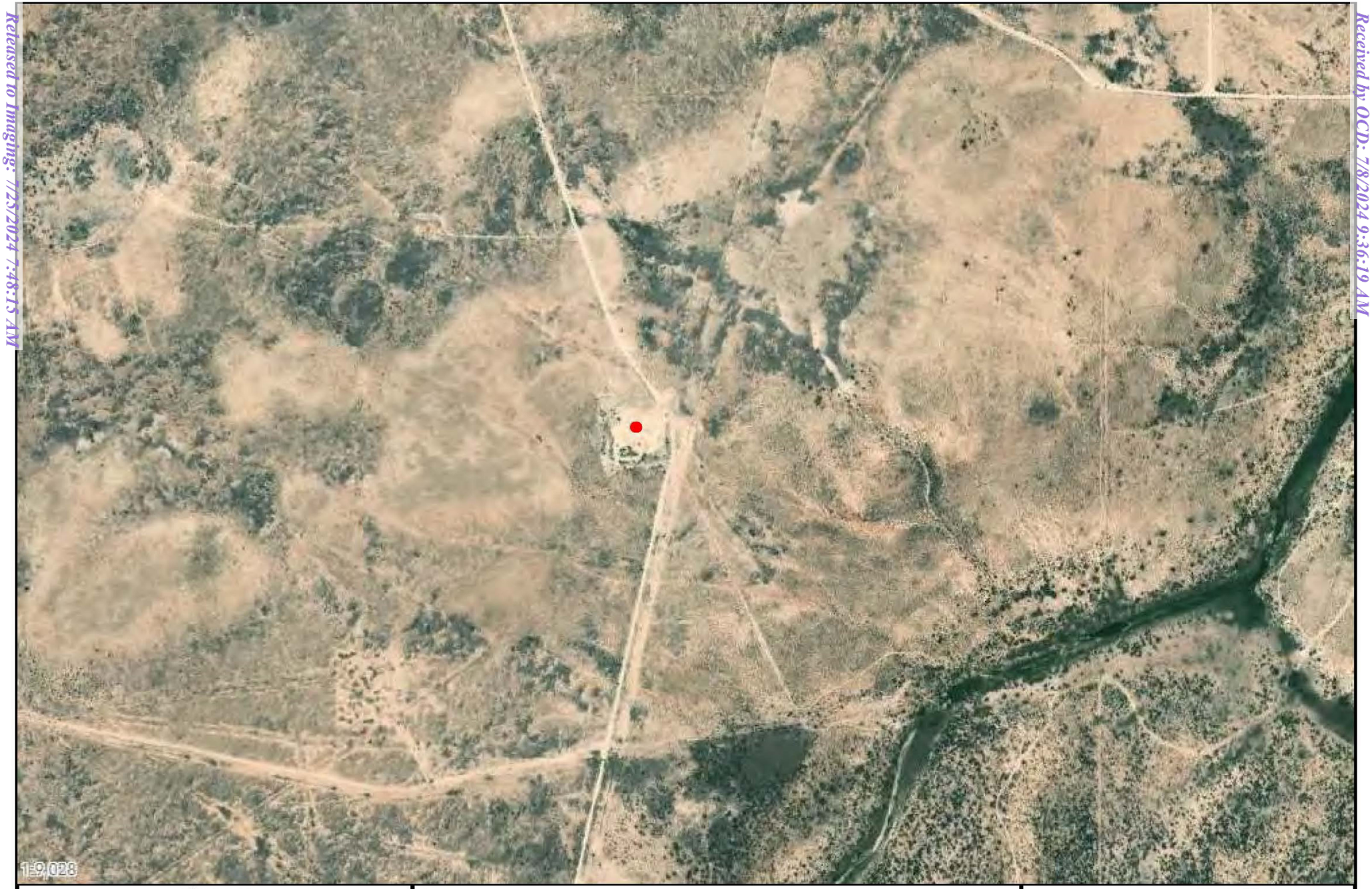


Figure 2

OSE POD Locations Map
Murchison Oil & Gas
Ringer Federal #2
GPS: 32.1619186, -104.2968369
Eddy County

Legend:

- Ringer Federal #2 Location

Drafted: dd
Checked: bw
Date: 4/15/24

HUNGRY HORSE ENVIRONMENTAL & CONSTRUCTION

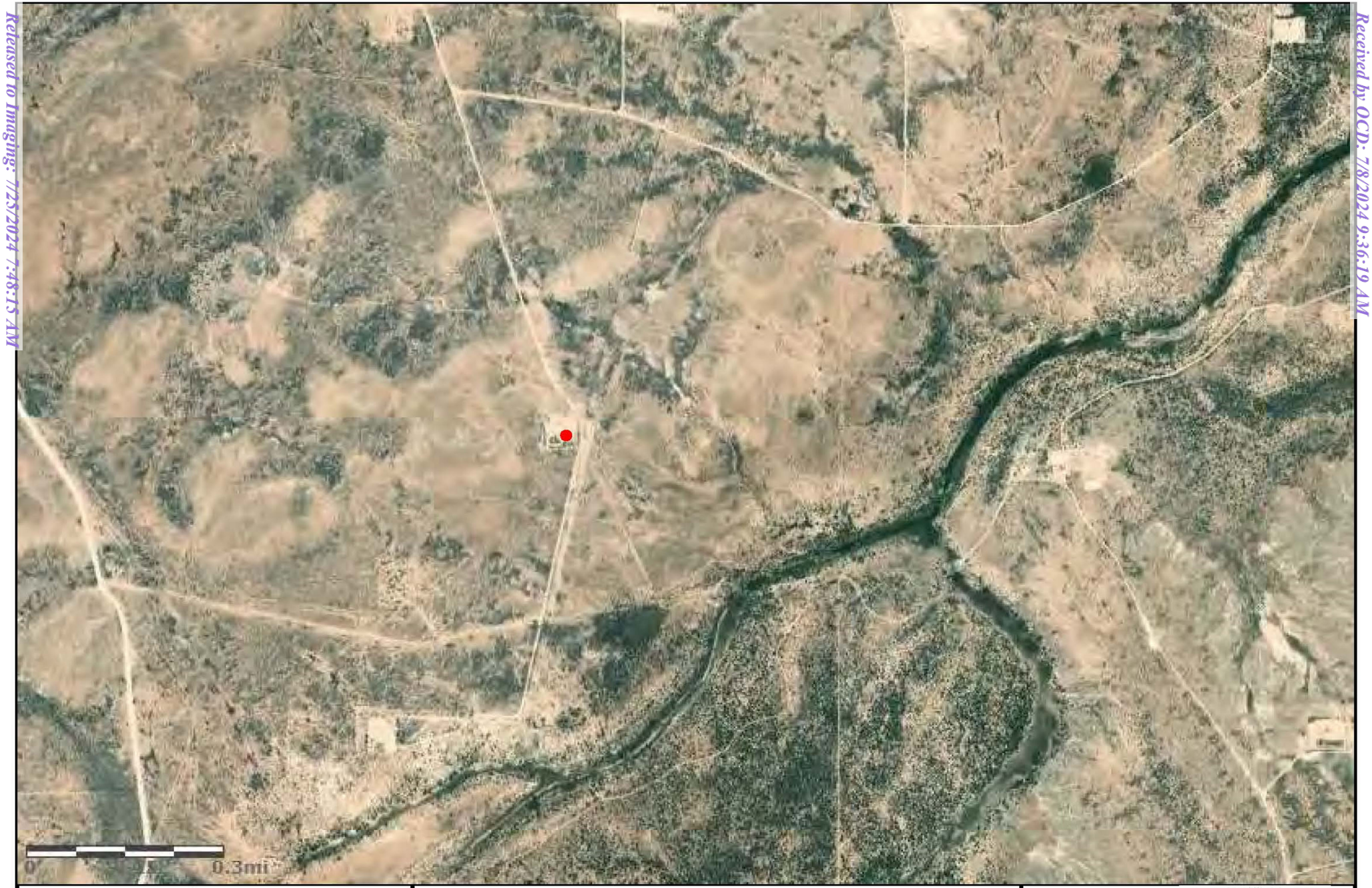


Figure 3

USGS Well Locations Map
Murchison Oil & Gas
Ringer Federal #2
GPS: 32.1619186, -104.2968369
Eddy County

Legend:

- Ringer Federal #2 Location

Drafted: dd
Checked: bw
Date: 4/15/24

HUNGRY HORSE ENVIRONMENTAL & CONSTRUCTION

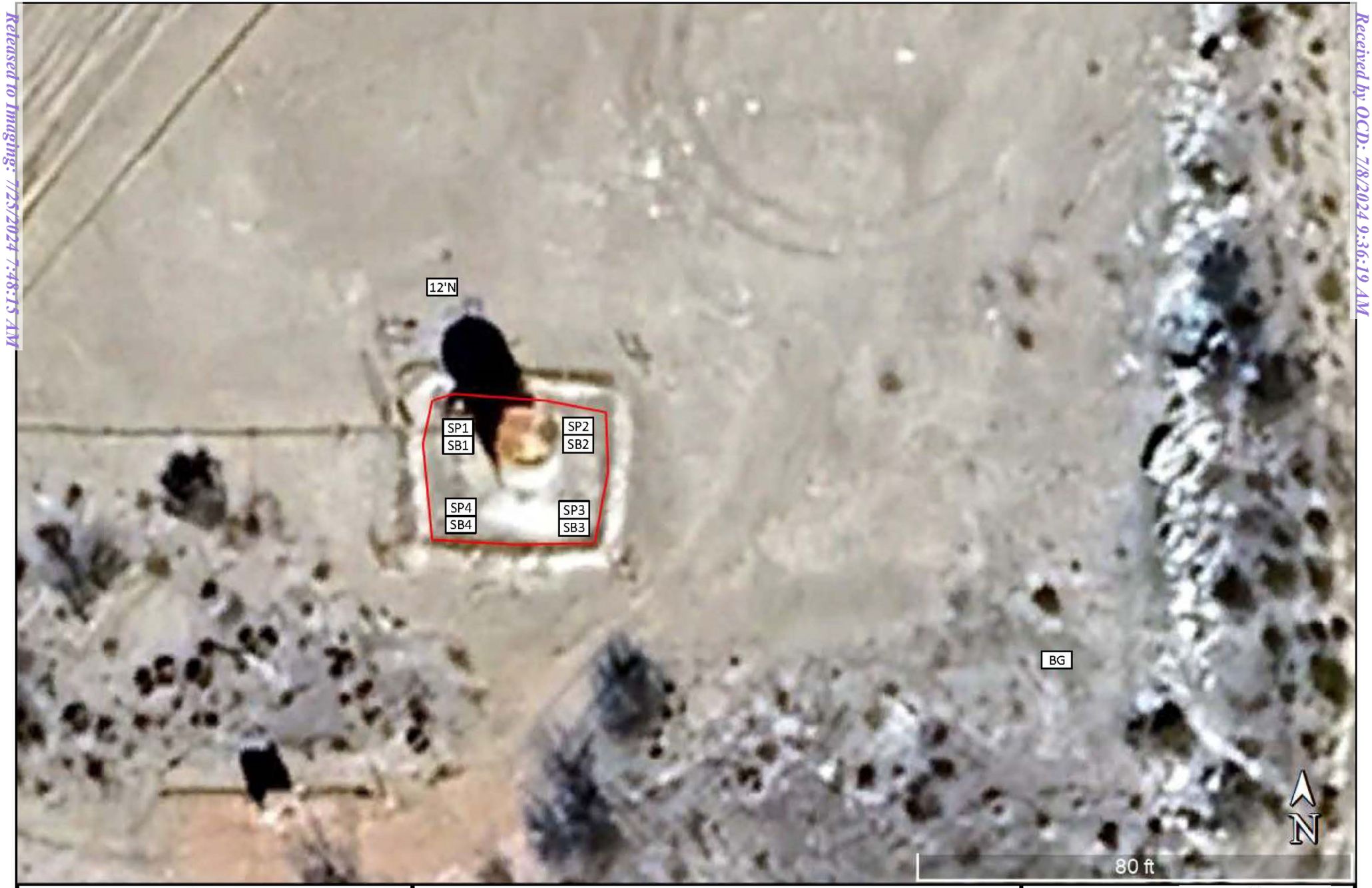


Figure 4

Sample Map 10/14/20; 11/30/20; 12/1/20

Murchison Oil & Gas

Ringer Federal #2

GPS: 32.1619186, -104.2968369

Eddy County

Legend:

- Release Area
- SP1 — Sample Locations
- SB1 — Sample Bore Locations

Drafted: dd

Checked: bw

Date: 7/19/24

HUNGRY HORSE ENVIRONMENTAL & CONSTRUCTION

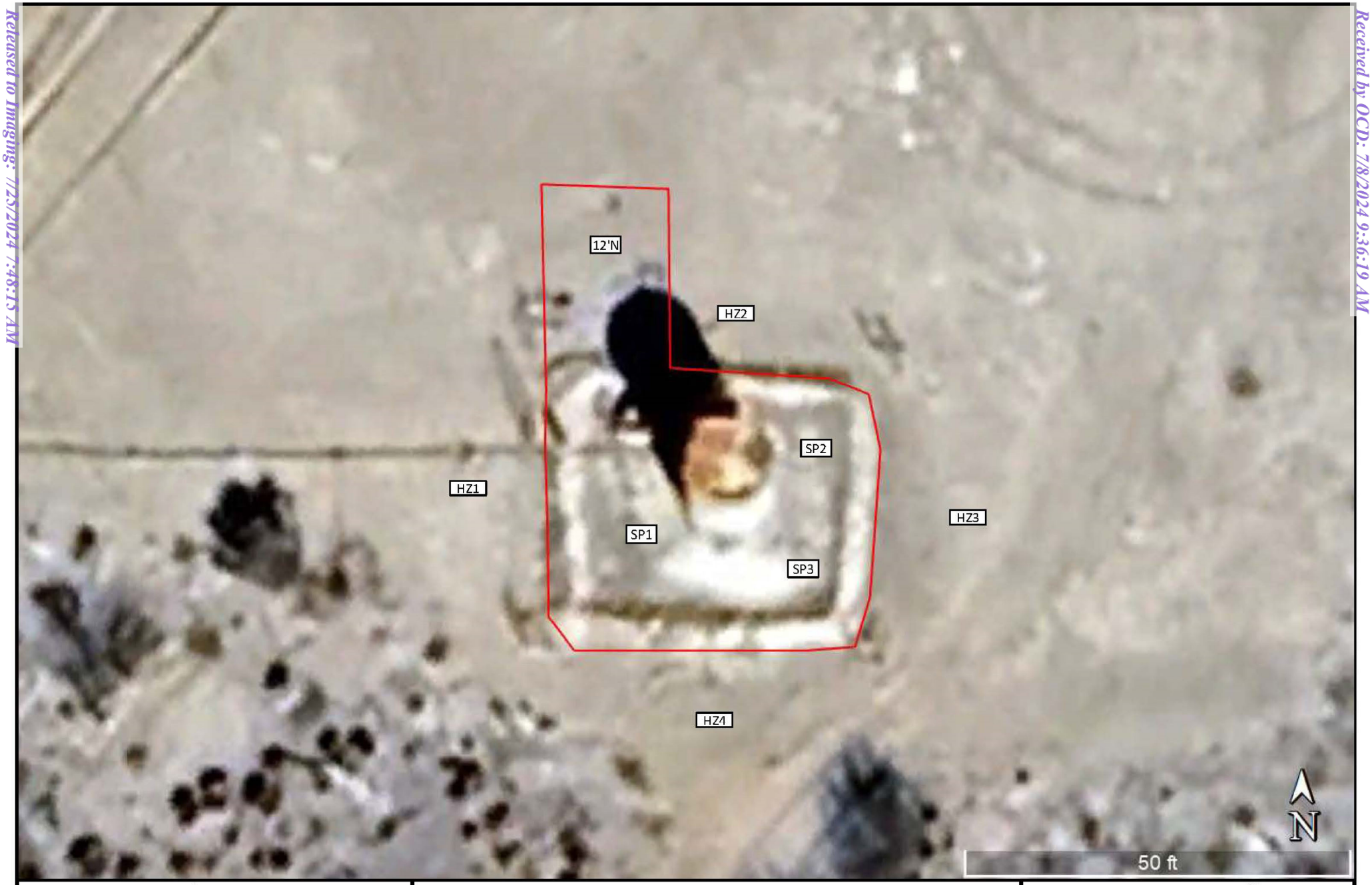


Figure 5

Delineation Sample Map
Murchison Oil & Gas
Ringer Federal #2
GPS: 32.1619186, -104.2968369
Eddy County

Legend:

- Proposed Excavation Area, Including Containment Berms
- SP1 — Delineation Sample Location
- HZ1 — Horizontal Sample Location
- 12'N — RT Hicks Sample Bore Location

Drafted: dd
Checked: bw
Date: 7/19/24

HUNGRY HORSE ENVIRONMENTAL & CONSTRUCTION

Table

TABLE 1
Summary of Soil Sample Laboratory Analytical Results
Murchison Oil & Gas
Ringer Federal #2
NMOCD Ref. #: NRM2027443562

Sample ID	Date	Depth (ft)	Soil Status	Benzene (mg/kg)	BTEX (mg/kg)	GRO C_6-C_{10} (mg/kg)	DRO C_{10}-C_{28} (mg/kg)	GRO + DRO C_6-C_{28} (mg/kg)	ORO C_{28}-C_{36} (mg/kg)	TPH C_6-C_{36} (mg/kg)	Chloride (mg/kg)
SP1	10/14/20	0-4	In-Situ	3.35	**754**	8,260	5,720	13,980	<10.0	**13,980**	464
	10/14/20	0-2	In-Situ	-	-	-	-	-	-	-	464
	10/14/20	2-4	In-Situ	-	-	-	-	-	-	-	432
	10/14/20	4.25	In-Situ	4.92	**1,050**	14,000	8,070	22,070	<10.0	**22,070**	**656**
	10/14/20	4.5	In-Situ	<0.200	29.2	1,250	3,340	4,590	<10.1	**4,590**	512
SB1	12/1/20	6-8	In-Situ	ND	8.5	210	730	940	ND	**940**	**1,600**
	12/1/20	9-10	In-Situ	ND	25	850	1,900	2,750	ND	**2,750**	**1,400**
	12/1/20	12-14	In-Situ	ND	ND	ND	11	11	ND	11	120
SP2	10/14/20	0-4	In-Situ	2.83	**910**	9,170	6,630	15,800	<10.0	**15,800**	**2,400**
	10/14/20	0-2	In-Situ	-	-	-	-	-	-	-	**2,080**
	10/14/20	2-4	In-Situ	-	-	-	-	-	-	-	**2,800**
	10/14/20	4.25	In-Situ	1.46	**475**	8,280	5,470	13,750	<10.0	**13,750**	**2,400**
	10/14/20	4.5	In-Situ	<0.200	11.4	401	1,430	1,831	<10.1	**1,831**	**2,440**
SB2	12/1/20	6-8	In-Situ	ND	**320**	3,400	6,200	9,600	ND	**9,600**	**3,600**
	12/1/20	12.5	In-Situ	ND	1.3	83	180	263	ND	**263**	240
	12/1/20	18	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
SP3	10/14/20	0-4	In-Situ	<0.050	2.56	73.9	167	241	<10.0	**241**	576
	10/14/20	0-2	In-Situ	-	-	-	-	-	-	-	336
	10/14/20	2-4	In-Situ	-	-	-	-	-	-	-	**976**
	10/14/20	4.25	In-Situ	<0.050	1.03	<10.0	14.0	<20.0	<10.0	<30.0	**880**
	10/14/20	4.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	**672**
SB3	11/30/20	6-8	In-Situ	ND	2.6	55	26	81	ND	81	**1,800**
	11/30/20	12-14	In-Situ	ND	4.1	170	380	550	ND	**550**	290
	11/30/20	24-29	In-Situ	ND	1.3	32	83	115	ND	**115**	100
	11/30/20	34	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
	11/30/20	49	In-Situ	ND	0.57	ND	ND	ND	ND	ND	ND
SP4	10/14/20	0-4	In-Situ	<2.50	**650**	7,560	6,340	13,900	12.2	**13,912.2**	**1,090**
	10/14/20	0-2	In-Situ	-	-	-	-	-	-	-	**1,200**
	10/14/20	2-4	In-Situ	-	-	-	-	-	-	-	**896**
	10/14/20	4.25	In-Situ	<2.50	**475**	9,790	6,880	16,670	<10.0	**16,670**	**864**
	10/14/20	4.5	In-Situ	<0.200	26.5	1,100	3,370	4,470	<10.1	**4,470**	**928**
SB4	12/1/20	6-8	In-Situ	ND	**200**	1,800	6,000	7,800	ND	**7,800**	**740**
	12/1/20	16-18	In-Situ	ND	0.33	16	ND	ND	ND	16	450
	12/1/20	24	In-Situ	ND	ND	ND	ND	ND	ND	ND	230
BG	10/14/20	0-4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	560
	10/14/20	4.25	In-Situ	<0.050	0.574	<10.0	<10.0	<20.0	<10.0	<30.0	**1,020**
12'N	12/1/20	0-2	In-Situ	-	-	-	-	-	-	-	**4,900**
	12/1/20	2-4	In-Situ	-	-	-	-	-	-	-	**1,700**
	12/1/20	4	In-Situ	-	-	-	-	-	-	-	**2,700**
	12/1/20	10	In-Situ	-	-	-	-	-	-	-	76
NMOCD Closure Criteria				**10**	**50**	**-**	**-**	**N/A**	**-**	**100**	**600**

NOTES:
- = Sample not analyzed for that constituent.
Bold text denotes a concentration that exceeds the NMOCD Closure Criteria

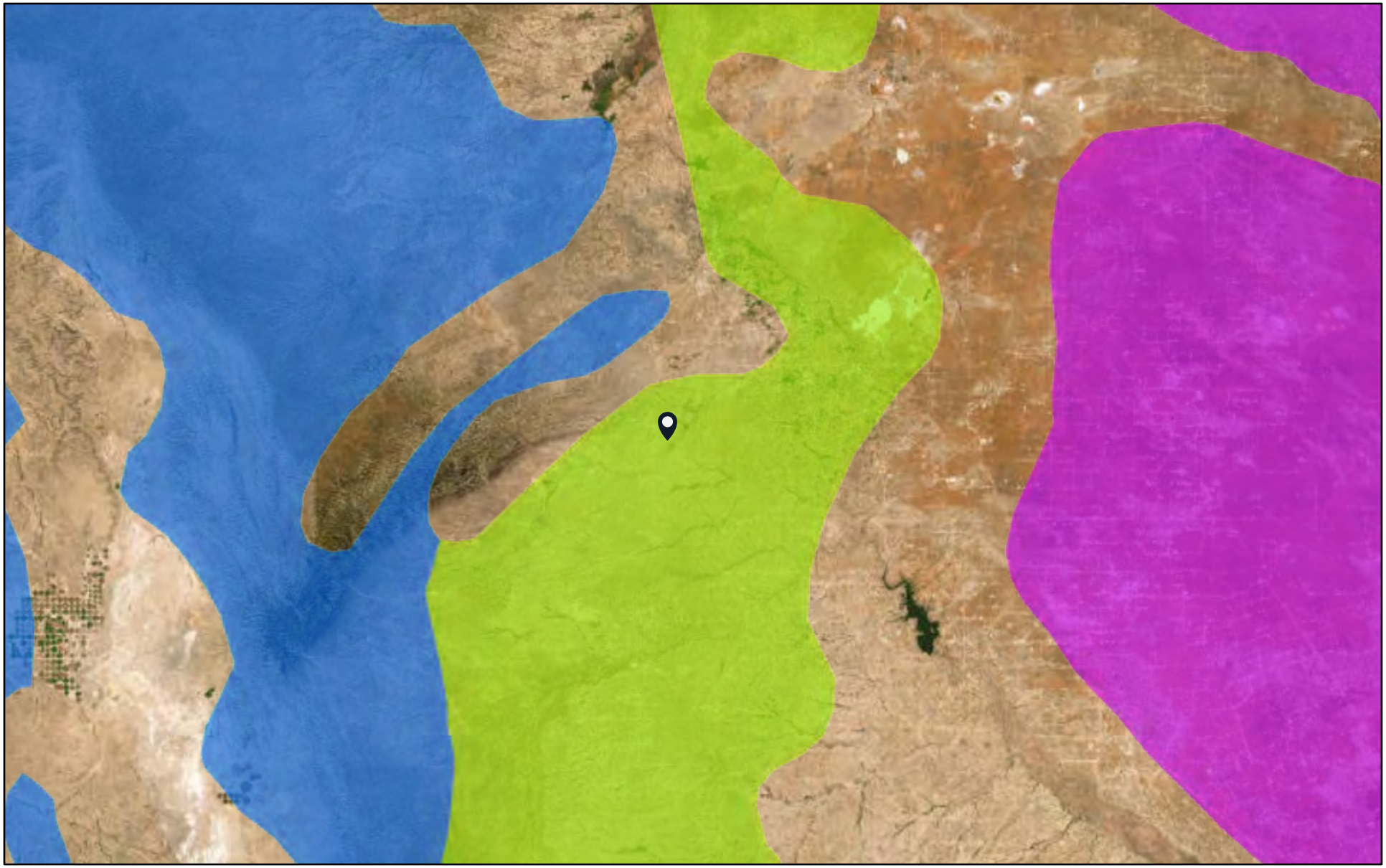
TABLE 1
Summary of Soil Sample Laboratory Analytical Results
Murchison Oil & Gas
Ringer Federal #2
NMOCD Ref. #: NRM2027443562

Sample ID	Date	Depth (ft)	Soil Status	Benzene (mg/kg)	BTEX (mg/kg)	GRO C_6-C_{10} (mg/kg)	DRO C_{10}-C_{28} (mg/kg)	GRO + DRO C_6-C_{28} (mg/kg)	ORO C_{28}-C_{36} (mg/kg)	TPH C_6-C_{36} (mg/kg)	Chloride (mg/kg)
SP1	6/5/24	Surf	In-Situ	<0.050	<0.300	<10.0	5,560	5,560	75.0	**5,635**	**3,960**
	6/10/24	4	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
SP2	6/5/24	Surf	In-Situ	<0.050	<0.300	<10.0	215	215	<10.0	**215**	**912**
	6/5/24	10	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
SP3	6/5/24	Surf	In-Situ	<0.050	<0.300	<10.0	90.7	90.7	<10.0	90.7	80.0
	6/5/24	1	In-Situ	<0.050	5.59	394	568	962	<10.0	**962**	400
HZ1	6/5/24	Surf	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
	6/5/24	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
HZ2	6/5/24	Surf	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
	6/5/24	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
HZ3	6/5/24	Surf	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
	6/5/24	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
HZ4	6/5/24	Surf	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
	6/5/24	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
NMOCD Closure Criteria				**10**	**50**	-	-	**N/A**	-	**100**	**600**

NOTES:
- = Sample not analyzed for that constituent.
Bold text denotes a concentration that exceeds the NMOCD Closure Criteria

Attachment I
Karst, Wetland, and Soil Maps

Ringer Federal #2



4/17/2024

Karst Type

- Carbonate
- Erosional
- Gypsum
- Volcanic

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

150m Resolution Metadata

1:876,317

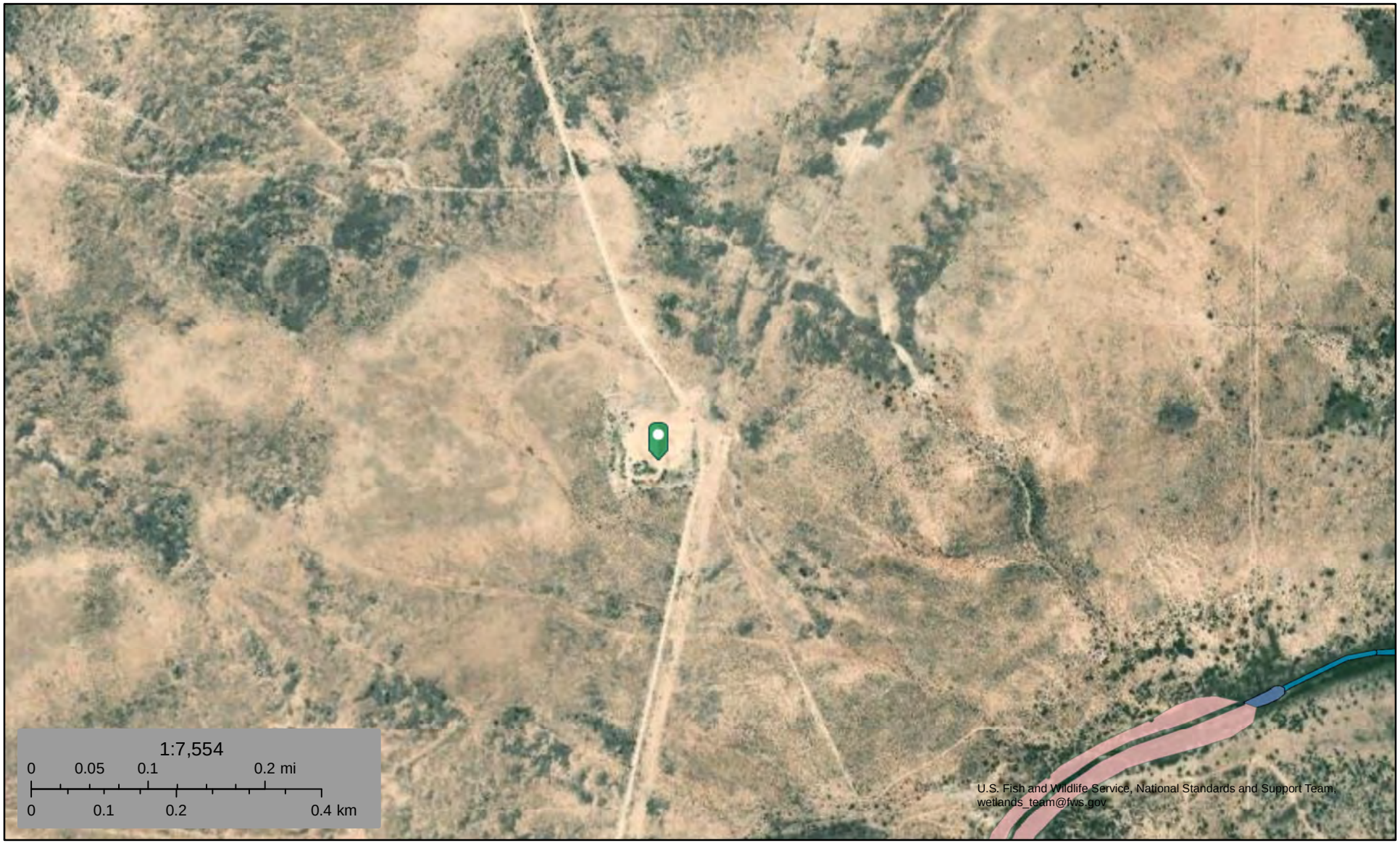
0 5 10 20 mi

0 10 20 40 km

U.S. Geological Survey Open-File Report 2004-1352, Caves and Karst in the U.S. National Park Service, AGI Karst Map of the US., Earthstar Geographics

U.S. Fish and Wildlife Service
National Wetlands Inventory

Ringer Federal #2



April 17, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

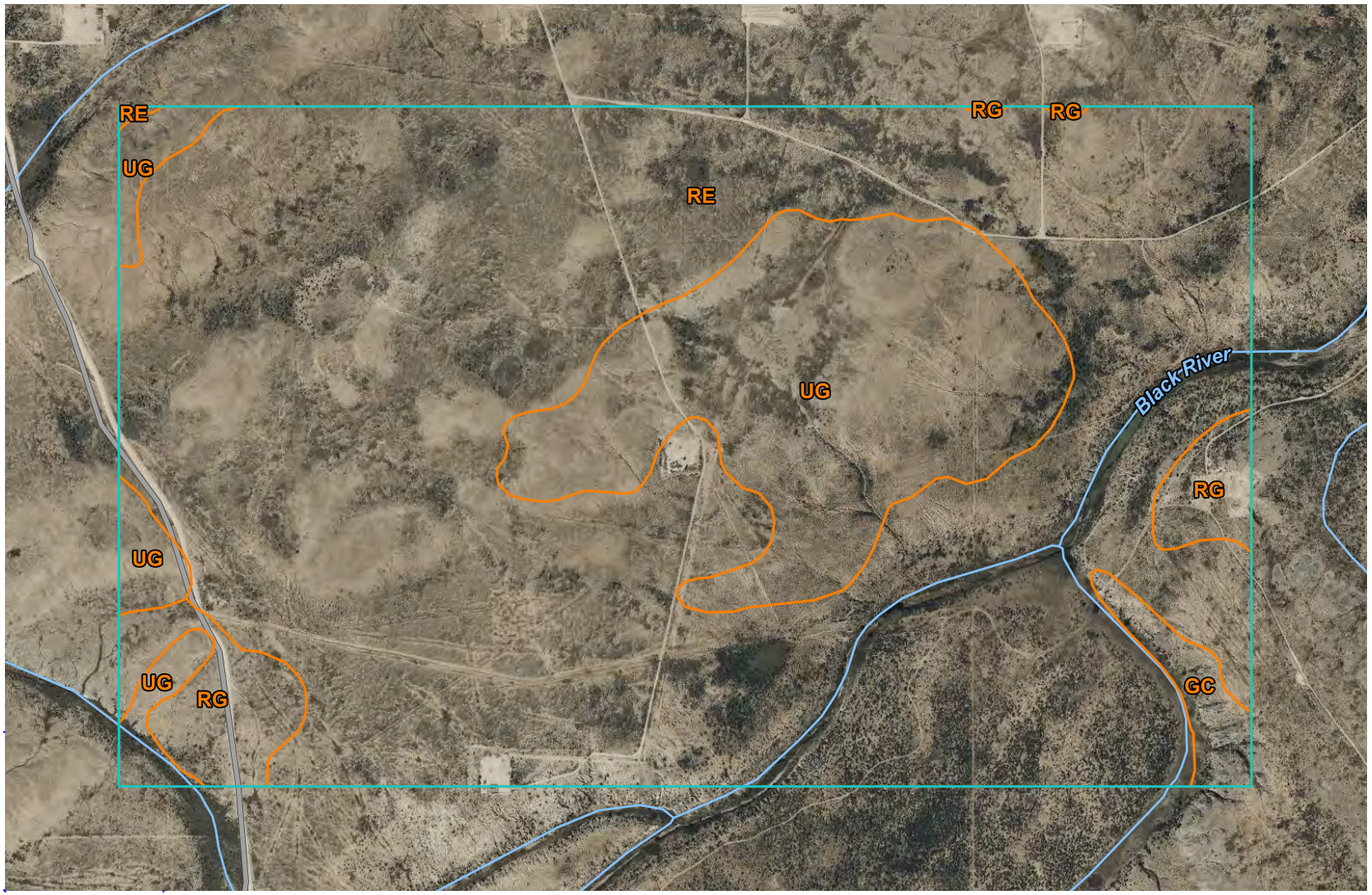
Soil Map—Eddy Area, New Mexico
(Ringer Federal #2)

104° 18' 49" W

104° 16' 46" W

32° 10' 17" N

32° 9' 8" N



Map Scale: 1:14,800 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 200 400 800 1200

Feet
0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84

Soil Map—Eddy Area, New Mexico
(Ringer Federal #2)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 19, Sep 7, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 12, 2022—Dec 2, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GC	Gypsum land-Cottonwood complex, 0 to 3 percent slopes	15.5	1.4%
RE	Reagan-Upton association, 0 to 9 percent slopes	816.7	75.7%
RG	Reeves-Gypsum land complex, 0 to 3 percent slopes	43.6	4.0%
UG	Upton gravelly loam, 0 to 9 percent slopes	202.6	18.8%
Totals for Area of Interest		**1,078.4**	**100.0%**

Eddy Area, New Mexico

RE—Reagan-Upton association, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: 1w5d
Elevation: 1,100 to 5,400 feet
Mean annual precipitation: 6 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 180 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Reagan and similar soils: 70 percent
Upton and similar soils: 25 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reagan

Setting

Landform: Fan remnants, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 60 inches: loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B
Ecological site: R042CY153NM - Loamy
Hydric soil rating: No

Description of Upton

Setting

Landform: Ridges, fans
Landform position (three-dimensional): Side slope, rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 13 inches: gravelly loam
H3 - 13 to 21 inches: cemented
H4 - 21 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 75 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 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R042CY159NM - Shallow Loamy
Hydric soil rating: No

Minor Components

Atoka

Percent of map unit: 3 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Pima

Percent of map unit: 2 percent
Ecological site: R070BC017NM - Bottomland

Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 19, Sep 7, 2023

Attachment II
Depth to Groundwater

New Mexico Office of the State Engineer

Wells with Well Log Information

No wells found.

UTMNAD83 Radius Search (in meters):

Easting (X): 566301.25 **Northing (Y):** 3558599.95 **Radius:** 805

Attachment III
Laboratory Analytical Results

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

December 11, 2020

Kristin Pope

R.T. Hicks Consultants, LTD
901 Rio Grande Blvd. NW
Suite F-142
Albuquerque, NM 87104
TEL: (505) 266-5004
FAX: (505) 266-0745

RE: Murchison Ringer Fed 2 Release OrderNo.: 2012240

Dear Kristin Pope:

Hall Environmental Analysis Laboratory received 14 sample(s) on 12/4/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-3 @ 6-8' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 11/30/2020 1:22:00 PM
Lab ID: 2012240-001 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1800	60		mg/Kg	20	12/7/2020 11:54:43 PM	56845
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	26	9.9		mg/Kg	1	12/7/2020 1:42:52 PM	56808
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2020 1:42:52 PM	56808
Surr: DNOP	102	30.4-154		%Rec	1	12/7/2020 1:42:52 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	55	25		mg/Kg	5	12/6/2020 1:38:07 AM	56805
Surr: BFB	148	75.3-105	S	%Rec	5	12/6/2020 1:38:07 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	12/6/2020 1:38:07 AM	56805
Toluene	ND	0.25		mg/Kg	5	12/6/2020 1:38:07 AM	56805
Ethylbenzene	ND	0.25		mg/Kg	5	12/6/2020 1:38:07 AM	56805
Xylenes, Total	2.6	0.49		mg/Kg	5	12/6/2020 1:38:07 AM	56805
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	5	12/6/2020 1:38:07 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-3 @ 12-14' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 11/30/2020 2:05:00 PM
Lab ID: 2012240-002 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**VP**
Chloride	290	60		mg/Kg	20	12/8/2020 7:36:52 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**mb**
Diesel Range Organics (DRO)	380	9.5		mg/Kg	1	12/7/2020 2:12:09 PM	56808
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2020 2:12:09 PM	56808
Surr: DNOP	87.0	30.4-154		%Rec	1	12/7/2020 2:12:09 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	170	25		mg/Kg	5	12/6/2020 3:12:08 AM	56805
Surr: BFB	253	75.3-105	S	%Rec	5	12/6/2020 3:12:08 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.12		mg/Kg	5	12/6/2020 3:12:08 AM	56805
Toluene	ND	0.25		mg/Kg	5	12/6/2020 3:12:08 AM	56805
Ethylbenzene	ND	0.25		mg/Kg	5	12/6/2020 3:12:08 AM	56805
Xylenes, Total	4.1	0.49		mg/Kg	5	12/6/2020 3:12:08 AM	56805
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	5	12/6/2020 3:12:08 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-3 @ 24-29' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 11/30/2020 2:56:00 PM
Lab ID: 2012240-003 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**VP**
Chloride	100	60		mg/Kg	20	12/8/2020 7:49:17 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**mb**
Diesel Range Organics (DRO)	83	9.5		mg/Kg	1	12/7/2020 2:21:54 PM	56808
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2020 2:21:54 PM	56808
Surr: DNOP	92.4	30.4-154		%Rec	1	12/7/2020 2:21:54 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	32	25		mg/Kg	5	12/6/2020 4:47:28 AM	56805
Surr: BFB	130	75.3-105	S	%Rec	5	12/6/2020 4:47:28 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.12		mg/Kg	5	12/6/2020 4:47:28 AM	56805
Toluene	ND	0.25		mg/Kg	5	12/6/2020 4:47:28 AM	56805
Ethylbenzene	ND	0.25		mg/Kg	5	12/6/2020 4:47:28 AM	56805
Xylenes, Total	1.3	0.50		mg/Kg	5	12/6/2020 4:47:28 AM	56805
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	5	12/6/2020 4:47:28 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-3 @ 34' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 11/30/2020 3:21:00 PM
Lab ID: 2012240-004 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	59		mg/Kg	20	12/8/2020 8:01:42 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/7/2020 2:31:37 PM	56808
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2020 2:31:37 PM	56808
Surr: DNOP	84.9	30.4-154		%Rec	1	12/7/2020 2:31:37 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/6/2020 5:11:17 AM	56805
Surr: BFB	98.4	75.3-105		%Rec	1	12/6/2020 5:11:17 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/6/2020 5:11:17 AM	56805
Toluene	ND	0.049		mg/Kg	1	12/6/2020 5:11:17 AM	56805
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2020 5:11:17 AM	56805
Xylenes, Total	ND	0.098		mg/Kg	1	12/6/2020 5:11:17 AM	56805
Surr: 4-Bromofluorobenzene	97.6	80-120		%Rec	1	12/6/2020 5:11:17 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-3 @ 49' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 11/30/2020 4:38:00 PM
Lab ID: 2012240-005 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	12/8/2020 8:14:06 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	12/7/2020 2:41:22 PM	56808
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/7/2020 2:41:22 PM	56808
Surr: DNOP	106	30.4-154		%Rec	1	12/7/2020 2:41:22 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/6/2020 5:35:00 AM	56805
Surr: BFB	104	75.3-105		%Rec	1	12/6/2020 5:35:00 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/6/2020 5:35:00 AM	56805
Toluene	ND	0.048		mg/Kg	1	12/6/2020 5:35:00 AM	56805
Ethylbenzene	ND	0.048		mg/Kg	1	12/6/2020 5:35:00 AM	56805
Xylenes, Total	0.57	0.095		mg/Kg	1	12/6/2020 5:35:00 AM	56805
Surr: 4-Bromofluorobenzene	99.6	80-120		%Rec	1	12/6/2020 5:35:00 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-1 @ 6-8' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 9:54:00 AM
Lab ID: 2012240-006 **Matrix:** SOIL
Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**VP**
Chloride	1600	61		mg/Kg	20	12/8/2020 8:51:20 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**mb**
Diesel Range Organics (DRO)	730	9.3		mg/Kg	1	12/7/2020 2:51:04 PM	56808
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/7/2020 2:51:04 PM	56808
Surr: DNOP	106	30.4-154		%Rec	1	12/7/2020 2:51:04 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	210	5.0		mg/Kg	1	12/6/2020 5:58:39 AM	56805
Surr: BFB	712	75.3-105	S	%Rec	1	12/6/2020 5:58:39 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 5:58:39 AM	56805
Toluene	0.20	0.050		mg/Kg	1	12/6/2020 5:58:39 AM	56805
Ethylbenzene	ND	0.050		mg/Kg	1	12/6/2020 5:58:39 AM	56805
Xylenes, Total	8.5	0.099		mg/Kg	1	12/6/2020 5:58:39 AM	56805
Surr: 4-Bromofluorobenzene	126	80-120	S	%Rec	1	12/6/2020 5:58:39 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-1 @ 9-10' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 10:12:00 AM
Lab ID: 2012240-007 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1400	59		mg/Kg	20	12/8/2020 9:03:45 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	1900	98		mg/Kg	10	12/9/2020 3:48:55 PM	56808
Motor Oil Range Organics (MRO)	ND	490	D	mg/Kg	10	12/9/2020 3:48:55 PM	56808
Surr: DNOP	0	30.4-154	S	%Rec	10	12/9/2020 3:48:55 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	850	25		mg/Kg	5	12/6/2020 6:22:16 AM	56805
Surr: BFB	682	75.3-105	S	%Rec	5	12/6/2020 6:22:16 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	12/6/2020 6:22:16 AM	56805
Toluene	0.85	0.25		mg/Kg	5	12/6/2020 6:22:16 AM	56805
Ethylbenzene	ND	0.25		mg/Kg	5	12/6/2020 6:22:16 AM	56805
Xylenes, Total	25	0.49		mg/Kg	5	12/6/2020 6:22:16 AM	56805
Surr: 4-Bromofluorobenzene	118	80-120		%Rec	5	12/6/2020 6:22:16 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-1 @ 12-14' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 10:27:00 AM
Lab ID: 2012240-008 **Matrix:** SOIL
Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	120	60		mg/Kg	20	12/8/2020 9:16:09 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	11	8.9		mg/Kg	1	12/7/2020 3:10:28 PM	56808
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/7/2020 3:10:28 PM	56808
Surr: DNOP	81.4	30.4-154		%Rec	1	12/7/2020 3:10:28 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/6/2020 6:46:08 AM	56805
Surr: BFB	117	75.3-105	S	%Rec	1	12/6/2020 6:46:08 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	12/6/2020 6:46:08 AM	56805
Toluene	ND	0.049		mg/Kg	1	12/6/2020 6:46:08 AM	56805
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2020 6:46:08 AM	56805
Xylenes, Total	ND	0.099		mg/Kg	1	12/6/2020 6:46:08 AM	56805
Surr: 4-Bromofluorobenzene	99.8	80-120		%Rec	1	12/6/2020 6:46:08 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-2 @ 6-8' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 11:14:00 AM
Lab ID: 2012240-009 **Matrix:** SOIL
Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	3600	150		mg/Kg	50	12/9/2020 5:30:23 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	6200	940		mg/Kg	100	12/8/2020 10:01:23 AM	56808
Motor Oil Range Organics (MRO)	ND	4700	D	mg/Kg	100	12/8/2020 10:01:23 AM	56808
Surr: DNOP	0	30.4-154	S	%Rec	100	12/8/2020 10:01:23 AM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JDC**	
Gasoline Range Organics (GRO)	3400	250		mg/Kg	50	12/7/2020 9:06:18 AM	56805
Surr: BFB	285	75.3-105	S	%Rec	50	12/7/2020 9:06:18 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	12/6/2020 7:10:07 AM	56805
Toluene	24	0.25		mg/Kg	5	12/6/2020 7:10:07 AM	56805
Ethylbenzene	12	0.25		mg/Kg	5	12/6/2020 7:10:07 AM	56805
Xylenes, Total	320	4.9		mg/Kg	50	12/7/2020 9:06:18 AM	56805
Surr: 4-Bromofluorobenzene	163	80-120	S	%Rec	5	12/6/2020 7:10:07 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-2 @ 12.5' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 11:38:00 AM
Lab ID: 2012240-010 **Matrix:** SOIL
Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**VP**
Chloride	240	60		mg/Kg	20	12/8/2020 9:40:58 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**mb**
Diesel Range Organics (DRO)	180	9.6		mg/Kg	1	12/7/2020 3:29:51 PM	56808
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/7/2020 3:29:51 PM	56808
Surr: DNOP	84.0	30.4-154		%Rec	1	12/7/2020 3:29:51 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	83	4.9		mg/Kg	1	12/6/2020 7:57:52 AM	56805
Surr: BFB	398	75.3-105	S	%Rec	1	12/6/2020 7:57:52 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	12/6/2020 7:57:52 AM	56805
Toluene	ND	0.049		mg/Kg	1	12/6/2020 7:57:52 AM	56805
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2020 7:57:52 AM	56805
Xylenes, Total	1.3	0.098		mg/Kg	1	12/6/2020 7:57:52 AM	56805
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	12/6/2020 7:57:52 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-2 @ 18' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 12:51:00 PM
Lab ID: 2012240-011 **Matrix:** SOIL
Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	61		mg/Kg	20	12/8/2020 9:53:23 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	12/7/2020 3:39:31 PM	56808
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/7/2020 3:39:31 PM	56808
Surr: DNOP	45.8	30.4-154		%Rec	1	12/7/2020 3:39:31 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/6/2020 9:32:24 AM	56805
Surr: BFB	101	75.3-105		%Rec	1	12/6/2020 9:32:24 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	12/6/2020 9:32:24 AM	56805
Toluene	ND	0.050		mg/Kg	1	12/6/2020 9:32:24 AM	56805
Ethylbenzene	ND	0.050		mg/Kg	1	12/6/2020 9:32:24 AM	56805
Xylenes, Total	ND	0.099		mg/Kg	1	12/6/2020 9:32:24 AM	56805
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	12/6/2020 9:32:24 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-4 @ 6-8' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 1:46:00 PM
Lab ID: 2012240-012 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	740	61		mg/Kg	20	12/8/2020 10:05:46 PM	56857
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	6000	960		mg/Kg	100	12/8/2020 10:24:58 AM	56808
Motor Oil Range Organics (MRO)	ND	4800	D	mg/Kg	100	12/8/2020 10:24:58 AM	56808
Surr: DNOP	0	30.4-154	S	%Rec	100	12/8/2020 10:24:58 AM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	1800	25		mg/Kg	5	12/6/2020 9:56:05 AM	56805
Surr: BFB	1090	75.3-105	S	%Rec	5	12/6/2020 9:56:05 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	12/6/2020 9:56:05 AM	56805
Toluene	10	0.25		mg/Kg	5	12/6/2020 9:56:05 AM	56805
Ethylbenzene	8.6	0.25		mg/Kg	5	12/6/2020 9:56:05 AM	56805
Xylenes, Total	200	5.0		mg/Kg	50	12/7/2020 9:29:47 AM	56805
Surr: 4-Bromofluorobenzene	159	80-120	S	%Rec	5	12/6/2020 9:56:05 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-4 @ 16-18' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 2:24:00 PM
Lab ID: 2012240-013 **Matrix:** SOIL
Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	450	60		mg/Kg	20	12/9/2020 11:42:56 AM	56879
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/8/2020 8:27:14 AM	56808
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/8/2020 8:27:14 AM	56808
Surr: DNOP	85.9	30.4-154		%Rec	1	12/8/2020 8:27:14 AM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	16	4.9		mg/Kg	1	12/6/2020 10:19:39 AM	56805
Surr: BFB	169	75.3-105	S	%Rec	1	12/6/2020 10:19:39 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/6/2020 10:19:39 AM	56805
Toluene	ND	0.049		mg/Kg	1	12/6/2020 10:19:39 AM	56805
Ethylbenzene	0.061	0.049		mg/Kg	1	12/6/2020 10:19:39 AM	56805
Xylenes, Total	0.33	0.098		mg/Kg	1	12/6/2020 10:19:39 AM	56805
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	12/6/2020 10:19:39 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012240**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: SB-4 @ 24' bgs
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 2:59:00 PM
Lab ID: 2012240-014 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	230	60		mg/Kg	20	12/9/2020 11:55:20 AM	56879
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/7/2020 4:08:41 PM	56808
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/7/2020 4:08:41 PM	56808
Surr: DNOP	39.1	30.4-154		%Rec	1	12/7/2020 4:08:41 PM	56808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/6/2020 10:43:17 AM	56805
Surr: BFB	103	75.3-105		%Rec	1	12/6/2020 10:43:17 AM	56805
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	12/6/2020 10:43:17 AM	56805
Toluene	ND	0.049		mg/Kg	1	12/6/2020 10:43:17 AM	56805
Ethylbenzene	ND	0.049		mg/Kg	1	12/6/2020 10:43:17 AM	56805
Xylenes, Total	ND	0.099		mg/Kg	1	12/6/2020 10:43:17 AM	56805
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	12/6/2020 10:43:17 AM	56805

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012240**
11-Dec-20

Client: R.T. Hicks Consultants, LTD
Project: Murchison Ringer Fed 2 Release

Sample ID: **MB-56845** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **56845** RunNo: **73830**
Prep Date: **12/7/2020** Analysis Date: **12/7/2020** SeqNo: **2604077** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-56845** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **56845** RunNo: **73830**
Prep Date: **12/7/2020** Analysis Date: **12/7/2020** SeqNo: **2604078** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.6	90	110			

Sample ID: **MB-56857** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **56857** RunNo: **73879**
Prep Date: **12/8/2020** Analysis Date: **12/8/2020** SeqNo: **2605300** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-56857** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **56857** RunNo: **73879**
Prep Date: **12/8/2020** Analysis Date: **12/8/2020** SeqNo: **2605301** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.8	90	110			

Sample ID: **MB-56879** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **56879** RunNo: **73916**
Prep Date: **12/9/2020** Analysis Date: **12/9/2020** SeqNo: **2606650** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-56879** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **56879** RunNo: **73916**
Prep Date: **12/9/2020** Analysis Date: **12/9/2020** SeqNo: **2606651** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012240**
11-Dec-20

Client: R.T. Hicks Consultants, LTD
Project: Murchison Ringer Fed 2 Release

Sample ID: **MB-56808** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **56808** RunNo: **73838**
Prep Date: **12/5/2020** Analysis Date: **12/7/2020** SeqNo: **2603180** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		107	30.4	154			

Sample ID: **MB-56810** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **56810** RunNo: **73838**
Prep Date: **12/5/2020** Analysis Date: **12/7/2020** SeqNo: **2603181** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	30.4	154			

Sample ID: **LCS-56808** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **56808** RunNo: **73838**
Prep Date: **12/5/2020** Analysis Date: **12/7/2020** SeqNo: **2603182** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	70	130			
Surr: DNOP	5.5		5.000		111	30.4	154			

Sample ID: **LCS-56810** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **56810** RunNo: **73838**
Prep Date: **12/5/2020** Analysis Date: **12/7/2020** SeqNo: **2603183** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		106	30.4	154			

Sample ID: **2012240-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SB-3 @ 6-8' bgs** Batch ID: **56808** RunNo: **73838**
Prep Date: **12/5/2020** Analysis Date: **12/7/2020** SeqNo: **2603184** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	94	9.3	46.60	25.89	145	15	184			
Surr: DNOP	4.6		4.660		98.0	30.4	154			

Sample ID: **2012240-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SB-3 @ 6-8' bgs** Batch ID: **56808** RunNo: **73838**
Prep Date: **12/5/2020** Analysis Date: **12/7/2020** SeqNo: **2603186** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	70	9.6	48.08	25.89	92.5	15	184	28.4	23.9	R

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012240**
11-Dec-20

Client: R.T. Hicks Consultants, LTD
Project: Murchison Ringer Fed 2 Release

Sample ID: **2012240-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SB-3 @ 6-8' bgs** Batch ID: **56808** RunNo: **73838**
Prep Date: **12/5/2020** Analysis Date: **12/7/2020** SeqNo: **2603186** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		4.808		104	30.4	154	0	0	

Sample ID: **LCS-56809** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **56809** RunNo: **73877**
Prep Date: **12/5/2020** Analysis Date: **12/8/2020** SeqNo: **2605170** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		118	30.4	154			

Sample ID: **MB-56809** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **56809** RunNo: **73877**
Prep Date: **12/5/2020** Analysis Date: **12/8/2020** SeqNo: **2605176** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		116	30.4	154			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012240**
11-Dec-20

Client: R.T. Hicks Consultants, LTD
Project: Murchison Ringer Fed 2 Release

Sample ID: **mb-56805** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **56805** RunNo: **73815**
Prep Date: **12/4/2020** Analysis Date: **12/6/2020** SeqNo: **2602155** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	75.3	105			

Sample ID: **lcs-56805** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **56805** RunNo: **73815**
Prep Date: **12/4/2020** Analysis Date: **12/5/2020** SeqNo: **2602156** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.9	72.5	106			
Surr: BFB	1100		1000		112	75.3	105			S

Sample ID: **2012240-002AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SB-3 @ 12-14' bgs** Batch ID: **56805** RunNo: **73815**
Prep Date: **12/4/2020** Analysis Date: **12/6/2020** SeqNo: **2602159** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	240	25	24.75	170.6	280	61.3	114			S
Surr: BFB	15000		4950		293	75.3	105			S

Sample ID: **2012240-002AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SB-3 @ 12-14' bgs** Batch ID: **56805** RunNo: **73815**
Prep Date: **12/4/2020** Analysis Date: **12/6/2020** SeqNo: **2602160** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	190	25	24.88	170.6	72.5	61.3	114	23.9	20	R
Surr: BFB	13000		4975		255	75.3	105	0	0	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012240**
11-Dec-20

Client: R.T. Hicks Consultants, LTD
Project: Murchison Ringer Fed 2 Release

Sample ID: **mb-56805** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **56805** RunNo: **73815**
Prep Date: **12/4/2020** Analysis Date: **12/6/2020** SeqNo: **2602207** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: **LCS-56805** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **56805** RunNo: **73815**
Prep Date: **12/4/2020** Analysis Date: **12/6/2020** SeqNo: **2602208** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.7	80	120			
Toluene	0.99	0.050	1.000	0	98.8	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.5	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.1	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: **2012240-001AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SB-3 @ 6-8' bgs** Batch ID: **56805** RunNo: **73815**
Prep Date: **12/4/2020** Analysis Date: **12/6/2020** SeqNo: **2602210** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.12	0.9766	0.06755	102	76.3	120			
Toluene	1.2	0.24	0.9766	0.2051	103	78.5	120			
Ethylbenzene	1.2	0.24	0.9766	0.2061	99.7	78.1	124			
Xylenes, Total	4.2	0.49	2.930	2.580	56.5	79.3	125			S
Surr: 4-Bromofluorobenzene	4.9		4.883		101	80	120			

Sample ID: **2012240-001AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SB-3 @ 6-8' bgs** Batch ID: **56805** RunNo: **73815**
Prep Date: **12/4/2020** Analysis Date: **12/6/2020** SeqNo: **2602211** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.12	0.9804	0.06755	96.8	76.3	120	4.18	20	
Toluene	1.2	0.25	0.9804	0.2051	99.1	78.5	120	3.13	20	
Ethylbenzene	1.2	0.25	0.9804	0.2061	98.0	78.1	124	1.15	20	
Xylenes, Total	4.6	0.49	2.941	2.580	67.1	79.3	125	7.23	20	S
Surr: 4-Bromofluorobenzene	5.1		4.902		104	80	120	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **R.T. Hicks Consultants, LTD** Work Order Number: **2012240** RcptNo: 1

Received By: **Sean Livingston** **12/4/2020 8:00:00 AM** S. Livingston

Completed By: **Emily Mocho** **12/4/2020 8:58:40 AM**

Reviewed By: SGL 12/4/20

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preserved added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

NO

# of preserved bottles checked for pH: 12/4/20 (<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes			
2	0.2	Good	Yes			
3	1.5	Good	Yes			

Chain-of-Custody Record

Client: R. T. Hicks Consultants

Mailing Address: 901 Rio Grande Blvd NW, Suite F-142, Albuquerque, NM 87104

Phone #: (505) 266-5004

email or Fax#: R@rthicksconsult.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time: 5 Day
☒ Standard ☐ Rush

Project Name: Murchison-Ringer Fed #2 Release

Project #:

Project Manager: Kristin Pope

Sampler: Kristin Pope

On Ice: ☑ Yes ☐ No

Sample Temperature: See remarks

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2012240	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel + MRO)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
11-30-20	1322	soil	SB-3 @ 6-8' bgs	1 glass	ice	001	X		X					X				
	1405		SB-3 @ 12-14' bgs			002	X		X					X				
	1456		SB-3 @ 24-29' bgs			003	X		X					X				
	1521		SB-3 @ 34' bgs			004	X		X					X				
	1638		SB-3 @ 49' bgs			005	X		X					X				
12-1-20	0954		SB-1 @ 6-8' bgs			006	X		X					X				
	1012		SB-1 @ 9-10' bgs			007	X		X					X				
	1027		SB-1 @ 12-14' bgs			008	X		X					X				
	1114		SB-2 @ 6-8' bgs			009	X		X					X				
	1138		SB-2 @ 12.5' bgs			010	X		X					X				
	1251		SB-2 @ 18' bgs			011	X		X					X				
	1346		SB-4 @ 6-8' bgs			012	X		X					X				

Date	Time	Relinquished by	Received by	Date	Time
12/3/20	1130	Kristin Pope	Cummings	12/3/20	1130
12/3/20	1900	Cummings	SGL courier	12/4/20	8:00

Remarks: Email to kristin@rthicksconsult.com, R@...,
0.3 - 0.2 = 0.1°c
0.4 - 0.2 = 0.2°c
1.7 - 0.2 = 1.5°c

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: R. T. Hicks Consultants

Mailing Address: 901 Rio Grande Blvd NW, Suite F-142, Albuquerque, NM 87104

Phone #: (505) 266-5004

email or Fax#: R@rthicksconsult.com

QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ NELAP ☐ Other ☐ EDD (Type)

Turn-Around Time: 5 Day ☒ Standard ☐ Rush

Project Name: Murchison-Ringer Fed #2 Release

Project #:

Project Manager: Kristin Pope

Sampler: Kristin Pope

On Ice: ☑ Yes ☐ No

Sample Temperature: See remarks

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2012240	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1) +MRO	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
12-1-20	1424	soil	SB-4@ 16-18' bgs	1 glass	ice	013	X		X					X				
"	1459	"	SB-4@ 24' bgs	"	"	014	X		X					X				

Date: Time: Relinquished by: Kristin Pope — Received by: Cummings — Date: 12/3/20 Time: 1130

Date: 12/3/20 Time: 1900 Relinquished by: Cummings — Received by: SGL courier — Date: 12/4/20 Time: 8:00

Remarks: Email to kristin@rthicksconsult.com, R@...,
0.3 - 0.2 = 0.1 oz
0.4 - 0.2 = 0.2 oz
1.7 - 0.2 = 1.5 oz

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

December 11, 2020

Kristin Pope

R.T. Hicks Consultants, LTD
901 Rio Grande Blvd. NW
Suite F-142
Albuquerque, NM 87104
TEL: (505) 266-5004
FAX: (505) 266-0745

RE: Murchison Ringer Fed 2 Release OrderNo.: 2012239

Dear Kristin Pope:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/4/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2012239**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: 12' N @ 0-2' BGS
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 7:30:00 AM
Lab ID: 2012239-001 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	4900	150		mg/Kg	50	12/8/2020 11:45:02 PM	56845

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012239**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: 12' N @ 2-4' BGS
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 7:41:00 AM
Lab ID: 2012239-002 **Matrix:** SOIL
Received Date: 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1700	59		mg/Kg	20	12/7/2020 10:52:42 PM	56845

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012239**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: 12' N @ 4' BGS
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 7:54:00 AM
Lab ID: 2012239-003 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	2700	150		mg/Kg	50	12/8/2020 11:57:27 PM	56845

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2012239**
Date Reported: **12/11/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: 12' N @ 10' BGS
Project: Murchison Ringer Fed 2 Release
Collection Date: 12/1/2020 8:24:00 AM
Lab ID: 2012239-004 **Matrix:** SOIL **Received Date:** 12/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	76	59		mg/Kg	20	12/7/2020 11:42:19 PM	56845

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2012239**

11-Dec-20

Client: R.T. Hicks Consultants, LTD

Project: Murchison Ringer Fed 2 Release

Sample ID: **MB-56845** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **56845** RunNo: **73830**

Prep Date: **12/7/2020** Analysis Date: **12/7/2020** SeqNo: **2604077** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-56845** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **56845** RunNo: **73830**

Prep Date: **12/7/2020** Analysis Date: **12/7/2020** SeqNo: **2604078** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **R.T. Hicks Consultants, LTD** Work Order Number: **2012239** RcptNo: **1**

Received By: **Sean Livingston** **12/4/2020 8:00:00 AM** Sean Livingston

Completed By: **Emily Mocho** **12/4/2020 8:52:48 AM**

Reviewed By: JC 12/04/20

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by: SGL 12/4/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes			
2	0.2	Good	Yes			
3	1.5	Good	Yes			

Chain-of-Custody Record

Client: R. T. Hicks Consultants

Mailing Address: 901 Rio Grande Blvd NW, Suite F-142, Albuquerque, NM 87104

Phone #: (505) 266-5004

email or Fax#: R@rthicksconsult.com

QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ NELAP ☐ Other ____

☐ EDD (Type) ____

Turn-Around Time: 5 Day

☒ Standard ☐ Rush ____

Project Name: Murchison-Ringer Fed #2 Release

Project #:

Project Manager: Kristin Pope

Sampler: Kristin Pope

On Ice: ☑ Yes ☐ No

Sample Temperature: See remarks

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2012239	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diese	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
12-1-20	0730	soil	12'N @ 0-2' BGS	1 glass	ice	001								X								
	0741		12'N @ 2-4' BGS			002								X								
	0754		12'N @ 4' BGS			003								X								
	0824		12'N @ 10' BGS			004								X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
		Kristin Pope	Acummings	12/3/20	1130
12/3/20	1900	ACummings	SGL counter	12/4/20	8:00

Remarks: Email to kristin@rthicksconsult.com, R@...,

0.3 - 0.2 = 0.1°c

0.4 - 0.2 = 0.2°c

1.7 - 0.2 = 1.5°c

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

MITCHELL ANALYTICAL LABORATORY

2638 Faudree
Odessa, Texas 79765-8538
561-5579

Company: ***WadeCo Specialties, LLC***

Well Number:	Ringer Fed Com #2 Oil Tank	Sample Temp:	57.56
Lease:	Murchison	Date Sampled:	1/26/2018
Location:	WC69270	Sampled by:	Wade Havens
Date Run:	2/2/2018	Employee #:	
Lab Ref #:	18-feb-h29470	Analyzed by:	GR

Dissolved Gases

			Mg/L	Eq. Wt.	MEq/L
Hydrogen Sulfide	(H2S)		.00	16.00	.00
Carbon Dioxide	(CO2)	**NOT ANALYZED**			
Dissolved Oxygen	(O2)	**NOT ANALYZED**			

Cations

Calcium	(Ca++)	4,936.56	20.10	245.60
Magnesium	(Mg++)	717.36	12.20	58.80
Sodium	(Na+)	18,928.99	23.00	823.00
Barium	(Ba++)	8.44	68.70	.12
Manganese	(Mn+)	.68	27.50	.02
Strontium	(Sr++)	1,272.97	47.80	26.63

Anions

Hydroxyl	(OH-)	.00	17.00	.00
Carbonate	(CO3=)	.00	30.00	.00
BiCarbonate	(HCO3-)	146.64	61.10	2.40
Sulfate	(SO4=)	.00	48.80	.00
Chloride	(Cl-)	40,944.99	35.50	1,153.38
Total Iron	(Fe)	29.79	18.60	1.60
Total Dissolved Solids		66,986.42		
Total Hardness as CaCO3		15,282.58		
Conductivity MICROMHOS/CM		97,200		

pH 6.060 Specific Gravity 60/60 F. 1.047

CaSO4 Solubility @ 80 F. 30.83MEq/L, CaSO4 scale is unlikely

CaCO3 Scale Index

70.0	-.908	100.0	-.608	130.0	.012
80.0	-.798	110.0	-.348	140.0	.012
90.0	-.608	120.0	-.348	150.0	.362

WadeCo Specialties, LLC

Atchafalaya Measurement, Inc.
416 East Main Street Artesia, NM 88210 575-746-3481

Inficon Micro GC Fusion F08904 R03RR2

	Sample Information
Sample Name	Murchison__Ringer Federal Com 2__GC1-91818-05
Station Number	N/A
Lease Name	Ringer Federal Com 2
Analysis For	Murchison Oil & Gas
Producer	Murchison Oil & Gas
Field Name	N/A
County/State	Eddy,NM
Frequency/Spot Sample	Spot
Sampling Method	Fill Empty
Sample Deg F	N/A
Atmos Deg F	76
Flow Rate	N/A
Line PSIG	550
Date/Time Sampled	9-17-18
Cylinder Number	N/A
Cylinder Clean Date	N/A
Sampled By	Michael Mirable
Analysis By	Pat Silvas
Verified/Calibration Date	9-17-18
Report Date	2018-09-18 07:35:49

Component Results

Component Name	Ret. Time	Peak Area	Norm%	PPMV	GPM (Dry) (Gal. / 1000 cu.ft.)	
Nitrogen	22.180	35036.7	6.86345	68634.500	0.000	
H2S	46.000	0.0	0.00000	0.000	0.000	
Methane	23.040	280855.4	70.74402	707440.200	0.000	
Carbon Dioxide	26.860	825.7	0.13554	1355.400	0.000	
Ethane	37.060	72391.5	10.90441	109044.100	2.927	
Propane	79.020	48420.5	5.43355	54335.500	1.503	
i-butane	28.780	68642.5	1.00139	10013.900	0.329	
n-Butane	30.360	160989.6	2.26287	22628.700	0.716	
i-pentane	35.460	59624.4	0.71099	7109.900	0.261	
n-Pentane	37.560	68032.4	0.78964	7896.400	0.287	
Hexanes Plus	120.000	101457.0	1.15414	11541.400	0.503	
Total:			100.00000	1000000.000	6.526	

Results Summary

Result	Dry	Sat. (Base)	
Total Raw Mole% (Dry)	100.47657		
Pressure Base (psia)	14.730		
Temperature Base	60.00		
Gross Heating Value (BTU / Ideal cu.ft.)	1272.8	1250.7	
Gross Heating Value (BTU / Real cu.ft.)	1277.9	1256.2	
Relative Density (G), Ideal	0.7963	0.7932	
Relative Density (G), Real	0.7991	0.7964	
Compressibility (Z) Factor	0.9960	0.9956	

Wildcat Measurement Service
P.O.Box 1836
416 East Main Street
Artesia, NM 88211-1836

3/31/2015 9:27 AM
Phone: 575-746-3481
888-421-9453
Fax: 575-748-9852
dnorman@wildcatms.com

GAS ANALYSIS REPORT

Analysis For: MURCHISON OIL & GAS
Field Name:
Well Name: RINGER FEDERAL COM #2
Station Number:
Purpose: SPOT
Sample Deg. F: 96.0
Volume/Day: 0.0 MCF/DAY
Formation:
Line PSIG: 662.1
Line PSIA: 675.3

Run No: 2150328-01
Date Run: 03/28/2015
Date Sampled: 03/27/2015
Producer: MURCHISON OIL & GAS
County: EDDY
State: NM
Sampled By: DEREK SAUDER
Atmos Deg. F: 83

Pressure Base: 14.730
Real BTU Dry: 1152.484
Real BTU Wet: 1132.477

GAS COMPONENTS		MOL%	GPM
Oxygen	O_2:	0.0000	
Carbon Dioxide	CO_2:	0.4056	
Nitrogen	N_2:	0.6969	
Hydrogen Sulfide	H_2S:	0.0000	
Methane	C1:	86.8124	
Ethane	C2:	7.9994	2.1388
Propane	C3:	2.2464	0.6187
Iso-Butane	IC4:	0.4198	0.1374
Nor-Butane	NC4:	0.5583	0.1760
Iso-Pentane	IC5:	0.2075	0.0759
Nor-Pentanes	NC5:	0.1819	0.0659
Hexanes Plus	C6+:	0.4718	0.2051
Totals		100.0000	3.4177

Calc. Ideal Gravity: 0.6555
Calc. Real Gravity: 0.6571
Field Gravity:
Standard Pressure: 14.696
Ideal BTU Dry: 1146.552
Ideal BTU Wet: 1126.602
Z Factor: 0.9971
Average Mol Weight: 18.9856
Average CuFt/Gal: 56.5509
26 lb. Product: 0.5427
Ethane+ GPM: 3.4177
Propane+ GPM: 1.2789
Butane+ GPM: 0.6602
Pentane+ GPM: 0.3469

Remarks:
H2S IN GAS STREAM ON LOCATION: NONE DETECTED

Analysis By: Don Norman

CARDINAL Laboratories

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

November 03, 2020

KRISTIN POPE

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: RINGER FED #2 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 10/21/20 11:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/21/2020	Sampling Date:	10/14/2020
Reported:	11/03/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 1 @ 0-2' (H002799-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**464**	16.0	10/29/2020	ND	416	104	400	3.77	

Sample ID: SP 1 @ 2-4' (H002799-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**432**	16.0	10/29/2020	ND	416	104	400	3.77	

Sample ID: SP 2 @ 0-2' (H002799-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2080**	16.0	10/29/2020	ND	432	108	400	3.77	QM-07

Sample ID: SP 2 @ 2-4' (H002799-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2800**	16.0	10/29/2020	ND	432	108	400	3.77	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/21/2020	Sampling Date:	10/14/2020
Reported:	11/03/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 3 @ 0-2' (H002799-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	10/29/2020	ND	432	108	400	3.77	

Sample ID: SP 3 @ 2-4' (H002799-06)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**976**	16.0	10/29/2020	ND	432	108	400	3.77	

Sample ID: SP 4 @ 0-2' (H002799-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1200**	16.0	10/29/2020	ND	432	108	400	3.77	

Sample ID: SP 4 @ 2-4' (H002799-08)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**896**	16.0	10/29/2020	ND	432	108	400	3.77	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: RT Hicks Consultants
Project Manager: Kristin Pope
Address: 901 Rio Grande Blvd NW, Suite F-142
City: Albuquerque State: NM Zip: 87104
Phone #: 505-266-5004 Fax #:
Project #: Project Owner: Murchison
Project Name: Ringer Fed #2 Release
Project Location: Eddy Co.
Sampler Name: Kristin Pope

BILL TO
P.O. #:
Company: RT Hicks
Attn: Randy Hicks
Address:
City:
State: Zip:
Phone #:
Fax #:

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Chloride	BTEX (continued)	Hold
H002799																	
1	SP 1 @ 0-2 ft	C	1			X					X		10-14-20	0918			
2	SP 1 @ 2-4 ft	C	1			X					X			0918			
3	SP 2 @ 0-2 ft	C	1			X					X			0933			
4	SP 2 @ 2-4 ft	C	1			X					X			0933			
5	SP3 @ 0-2 ft	C	1			X					X			0942			
6	SP3 @ 2-4 ft	C	1			X					X			0942			
7	SP 4 @ 0-2 ft	C	1			X					X			0952			
8	SP4 @ 2-4 ft	C	1			X					X			0952			

Relinquished By: Kristin Pope
Date: 10-21-20
Time: 1100
Received By: Tamara Oldaker

Relinquished By:
Date:
Time:
Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
R@rthicksconsult.com, kristin@...
REMARKS:
Chloride only

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:
Observed Temp. °C 5.9
Corrected Temp. °C
Sample Condition: Cool ☐ Yes ☐ No Intact ~~☐ Yes~~ ☐ No
CHECKED BY: (Initials) TO

Turnaround Time: Standard ☒ Rush ☐
Thermometer ID ~~#97~~ TO #113
Correction Factor ~~+0.4 °C~~ 10/24/20
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C

FORM-006 R 3.0

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

CARDINAL Laboratories

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

October 21, 2020

KRISTIN POPE

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: RINGER FED #2 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 10/16/20 12:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/16/2020	Sampling Date:	10/14/2020
Reported:	10/21/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 1 @ 0-4' (H002759-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**3.35**	2.50	10/19/2020	ND	1.80	89.9	2.00	14.3	
Toluene*	**76.2**	5.00	10/19/2020	ND	1.84	92.2	2.00	14.1	
Ethylbenzene*	**35.3**	5.00	10/19/2020	ND	1.78	88.9	2.00	15.1	
Total Xylenes*	**639**	15.0	10/19/2020	ND	5.14	85.7	6.00	15.6	
Total BTEX	**754**	27.5	10/19/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *127 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**464**	16.0	10/19/2020	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**8260**	10.0	10/16/2020	ND	214	107	200	1.02	
DRO >C10-C28*	**5720**	10.0	10/16/2020	ND	206	103	200	0.404	
EXT DRO >C28-C36	<10.0	10.0	10/16/2020	ND					

Surrogate: 1-Chlorooctane *411 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *100 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/16/2020	Sampling Date:	10/14/2020
Reported:	10/21/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 1 @ 4.25' (H002759-02)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**4.92**	2.50	10/19/2020	ND	1.80	89.9	2.00	14.3	
Toluene*	**124**	5.00	10/19/2020	ND	1.84	92.2	2.00	14.1	
Ethylbenzene*	**47.6**	5.00	10/19/2020	ND	1.78	88.9	2.00	15.1	
Total Xylenes*	**879**	15.0	10/19/2020	ND	5.14	85.7	6.00	15.6	
Total BTEX	**1050**	27.5	10/19/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *129 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**656**	16.0	10/19/2020	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**14000**	100	10/19/2020	ND	214	107	200	1.02	
DRO >C10-C28*	**8070**	100	10/19/2020	ND	206	103	200	0.404	
EXT DRO >C28-C36	<100	100	10/19/2020	ND					

Surrogate: 1-Chlorooctane *365 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *116 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/16/2020	Sampling Date:	10/14/2020
Reported:	10/21/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 2 @ 0-4' (H002759-03)

BTEX 8021B mg/kg Analyzed By: ms S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**2.83**	2.50	10/19/2020	ND	1.80	89.9	2.00	14.3	
Toluene*	**83.2**	5.00	10/19/2020	ND	1.84	92.2	2.00	14.1	
Ethylbenzene*	**40.3**	5.00	10/19/2020	ND	1.78	88.9	2.00	15.1	
Total Xylenes*	**784**	15.0	10/19/2020	ND	5.14	85.7	6.00	15.6	
Total BTEX	**910**	27.5	10/19/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *134 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2400**	16.0	10/19/2020	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**9170**	10.0	10/16/2020	ND	214	107	200	1.02	
DRO >C10-C28*	**6630**	10.0	10/16/2020	ND	206	103	200	0.404	
EXT DRO >C28-C36	<10.0	10.0	10/16/2020	ND					

Surrogate: 1-Chlorooctane *439 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *98.9 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/16/2020	Sampling Date:	10/14/2020
Reported:	10/21/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 2 @ 4.25' (H002759-04)

BTEX 8021B mg/kg Analyzed By: ms S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**1.46**	1.00	10/19/2020	ND	1.80	89.9	2.00	14.3	
Toluene*	**52.7**	1.00	10/19/2020	ND	1.84	92.2	2.00	14.1	
Ethylbenzene*	**21.8**	1.00	10/19/2020	ND	1.78	88.9	2.00	15.1	
Total Xylenes*	**399**	3.00	10/19/2020	ND	5.14	85.7	6.00	15.6	
Total BTEX	**475**	6.00	10/19/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *161 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2400**	16.0	10/19/2020	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**8280**	10.0	10/16/2020	ND	214	107	200	1.02	
DRO >C10-C28*	**5470**	10.0	10/16/2020	ND	206	103	200	0.404	
EXT DRO >C28-C36	<10.0	10.0	10/16/2020	ND					

Surrogate: 1-Chlorooctane *392 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *95.2 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/16/2020	Sampling Date:	10/14/2020
Reported:	10/21/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 3 @ 0-4' (H002759-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/19/2020	ND	2.06	103	2.00	3.71	
Toluene*	**0.075**	0.050	10/19/2020	ND	2.10	105	2.00	3.84	
Ethylbenzene*	<0.050	0.050	10/19/2020	ND	2.12	106	2.00	4.18	
Total Xylenes*	**2.48**	0.150	10/19/2020	ND	6.13	102	6.00	4.09	
Total BTEX	**2.56**	0.300	10/19/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *128 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**576**	16.0	10/19/2020	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**73.9**	10.0	10/16/2020	ND	214	107	200	1.02	
DRO >C10-C28*	**167**	10.0	10/16/2020	ND	206	103	200	0.404	
EXT DRO >C28-C36	<10.0	10.0	10/16/2020	ND					

Surrogate: 1-Chlorooctane *96.3 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *82.5 %* *42.2-156*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/16/2020	Sampling Date:	10/14/2020
Reported:	10/21/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 3 @ 4.25' (H002759-06)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/19/2020	ND	2.06	103	2.00	3.71	
Toluene*	**0.103**	0.050	10/19/2020	ND	2.10	105	2.00	3.84	
Ethylbenzene*	**0.063**	0.050	10/19/2020	ND	2.12	106	2.00	4.18	
Total Xylenes*	**0.867**	0.150	10/19/2020	ND	6.13	102	6.00	4.09	
Total BTEX	**1.03**	0.300	10/19/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**880**	16.0	10/19/2020	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/16/2020	ND	214	107	200	1.02	
DRO >C10-C28*	**14.0**	10.0	10/16/2020	ND	206	103	200	0.404	
EXT DRO >C28-C36	<10.0	10.0	10/16/2020	ND					

Surrogate: 1-Chlorooctane *83.5 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *79.1 %* *42.2-156*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/16/2020	Sampling Date:	10/14/2020
Reported:	10/21/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 4 @ 0-4' (H002759-07)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<2.50	2.50	10/19/2020	ND	2.06	103	2.00	3.71	
Toluene*	**58.7**	5.00	10/19/2020	ND	2.10	105	2.00	3.84	
Ethylbenzene*	**31.3**	5.00	10/19/2020	ND	2.12	106	2.00	4.18	
Total Xylenes*	**560**	15.0	10/19/2020	ND	6.13	102	6.00	4.09	
Total BTEX	**650**	27.5	10/19/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1090**	16.0	10/19/2020	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**7560**	10.0	10/16/2020	ND	214	107	200	1.02	
DRO >C10-C28*	**6340**	10.0	10/16/2020	ND	206	103	200	0.404	
EXT DRO >C28-C36	**12.2**	10.0	10/16/2020	ND					

Surrogate: 1-Chlorooctane *402 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *103 %* *42.2-156*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/16/2020	Sampling Date:	10/14/2020
Reported:	10/21/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 4 @ 4.25' (H002759-08)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<2.50	2.50	10/19/2020	ND	2.06	103	2.00	3.71	
Toluene*	**103**	5.00	10/19/2020	ND	2.10	105	2.00	3.84	
Ethylbenzene*	**46.7**	5.00	10/19/2020	ND	2.12	106	2.00	4.18	
Total Xylenes*	**818**	15.0	10/19/2020	ND	6.13	102	6.00	4.09	
Total BTEX	**968**	27.5	10/19/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *118 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**864**	16.0	10/19/2020	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**9790**	10.0	10/16/2020	ND	214	107	200	1.02	
DRO >C10-C28*	**6880**	10.0	10/16/2020	ND	206	103	200	0.404	
EXT DRO >C28-C36	<10.0	10.0	10/16/2020	ND					

Surrogate: 1-Chlorooctane *456 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *99.9 %* *42.2-156*

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CARDINAL Laboratories

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/16/2020	Sampling Date:	10/14/2020
Reported:	10/21/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: BG @ 0-4' (H002759-09)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/19/2020	ND	2.06	103	2.00	3.71	
Toluene*	<0.050	0.050	10/19/2020	ND	2.10	105	2.00	3.84	
Ethylbenzene*	<0.050	0.050	10/19/2020	ND	2.12	106	2.00	4.18	
Total Xylenes*	<0.150	0.150	10/19/2020	ND	6.13	102	6.00	4.09	
Total BTEX	<0.300	0.300	10/19/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**560**	16.0	10/19/2020	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2020	ND	222	111	200	2.73	
DRO >C10-C28*	<10.0	10.0	10/19/2020	ND	212	106	200	2.43	
EXT DRO >C28-C36	<10.0	10.0	10/19/2020	ND					

Surrogate: 1-Chlorooctane *81.4 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *76.9 %* *42.2-156*

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/16/2020	Sampling Date:	10/14/2020
Reported:	10/21/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: BG @ 4.25' (H002759-10)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/19/2020	ND	2.06	103	2.00	3.71	
Toluene*	**0.139**	0.050	10/19/2020	ND	2.10	105	2.00	3.84	
Ethylbenzene*	<0.050	0.050	10/19/2020	ND	2.12	106	2.00	4.18	
Total Xylenes*	**0.435**	0.150	10/19/2020	ND	6.13	102	6.00	4.09	
Total BTEX	**0.574**	0.300	10/19/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1020**	16.0	10/19/2020	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2020	ND	222	111	200	2.73	
DRO >C10-C28*	<10.0	10.0	10/19/2020	ND	212	106	200	2.43	
EXT DRO >C28-C36	<10.0	10.0	10/19/2020	ND					

Surrogate: 1-Chlorooctane *85.1 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *80.9 %* *42.2-156*

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: RT Hicks Consultants
Project Manager: Kristin Pope
Address: 901 Rio Grande Blvd NW, Suite F-142
City: Albuquerque State: NM Zip: 87104
Phone #: 505-266-5004 Fax #:
Project #: Project Owner: Murchison
Project Name: Ringer Fed #2 Release
Project Location: Eddy Co.
Sampler Name: Kristin Pope

BILL TO
P.O. #:
Company: RT Hicks
Attn: Randy Hicks
Address:
City:
State: Zip:
Phone #:
Fax #:

ANALYSIS REQUEST: Chloride; 8015M TPH (GRO/DRO/MRO); BTEX

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME
H002759														
1	SP1 @ 0-4 ft	C	1			X					X		10-14-20	0918
2	SP1 @ 4.25 ft	G	1			X					X			0926
3	SP2 @ 0-4 ft	C	1			X					X			0933
4	SP2 @ 4.25 ft	G	1			X					X			0934
5	SP3 @ 0-4 ft	C	1			X					X			0942
6	SP3 @ 4.25 ft	G	1			X					X			0947
7	SP4 @ 0-4 ft	C	1			X					X			0952
8	SP4 @ 4.25 ft	G	1			X					X			0953
9	BG @ 0-4 ft	C	1			X					X			1020
10	BG @ 4.25 ft	G	1			X					X			1021

Relinquished By: Kristin Pope Date: 10-14-20 Time: 1225 Received By: Tamara Oldaker
Relinquished By: Date: Time: Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
R@rthicksconsult.com, kristin@...
REMARKS:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 3.5
Corrected Temp. °C
Sample Condition: Cool ☑ Yes ☐ No; Intact ~~☑ Yes~~ ☐ No
CHECKED BY: (Initials) TO
Turnaround Time: Standard ☒ Rush ☐
Thermometer ID ~~#97~~ #113 TO 10/14/20
Correction Factor ~~+0.4 °C~~
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C

FORM-006 R 3.0

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

CARDINAL Laboratories

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

October 26, 2020

KRISTIN POPE

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: RINGER FED #2 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 10/21/20 11:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/21/2020	Sampling Date:	10/14/2020
Reported:	10/26/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 1 @ 4.5' (H002798-01)

BTEX 8021B mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/24/2020	ND	2.15	107	2.00	0.260	
Toluene*	**2.92**	0.200	10/24/2020	ND	2.07	104	2.00	0.197	GC-NC1
Ethylbenzene*	<0.200	0.200	10/24/2020	ND	2.02	101	2.00	0.601	
Total Xylenes*	**26.3**	0.600	10/24/2020	ND	5.78	96.3	6.00	0.316	GC-NC1
Total BTEX	**29.2**	1.20	10/24/2020	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *200 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**512**	16.0	10/23/2020	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**1250**	10.0	10/23/2020	ND	217	108	200	1.10	
DRO >C10-C28*	**3340**	10.0	10/23/2020	ND	210	105	200	0.261	
EXT DRO >C28-C36	<10.0	10.0	10/23/2020	ND					

Surrogate: 1-Chlorooctane *145 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *80.4 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/21/2020	Sampling Date:	10/14/2020
Reported:	10/26/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 2 @ 4.5' (H002798-02)

BTEX 8021B mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/24/2020	ND	2.15	107	2.00	0.260	
Toluene*	**0.590**	0.200	10/24/2020	ND	2.07	104	2.00	0.197	GC-NC1
Ethylbenzene*	<0.200	0.200	10/24/2020	ND	2.02	101	2.00	0.601	
Total Xylenes*	**10.8**	0.600	10/24/2020	ND	5.78	96.3	6.00	0.316	GC-NC1
Total BTEX	**11.4**	1.20	10/24/2020	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *146 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2440**	16.0	10/23/2020	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*	**401**	10.0	10/23/2020	ND	217	108	200	1.10	
DRO >C10-C28*	**1430**	10.0	10/23/2020	ND	210	105	200	0.261	
EXT DRO >C28-C36	<10.0	10.0	10/23/2020	ND					

Surrogate: 1-Chlorooctane *110 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *82.6 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/21/2020	Sampling Date:	10/14/2020
Reported:	10/26/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 3 @ 4.5' (H002798-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2020	ND	2.15	107	2.00	0.260	
Toluene*	<0.050	0.050	10/24/2020	ND	2.07	104	2.00	0.197	
Ethylbenzene*	<0.050	0.050	10/24/2020	ND	2.02	101	2.00	0.601	
Total Xylenes*	<0.150	0.150	10/24/2020	ND	5.78	96.3	6.00	0.316	
Total BTEX	<0.300	0.300	10/24/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.9 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**672**	16.0	10/23/2020	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	10/23/2020	ND	217	108	200	1.10	
DRO >C10-C28*	<10.0	10.0	10/23/2020	ND	210	105	200	0.261	
EXT DRO >C28-C36	<10.0	10.0	10/23/2020	ND					

Surrogate: 1-Chlorooctane *76.6 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *73.7 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	10/21/2020	Sampling Date:	10/14/2020
Reported:	10/26/2020	Sampling Type:	Soil
Project Name:	RINGER FED #2 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON- EDDY CO.		

Sample ID: SP 4 @ 4.5' (H002798-04)

BTEX 8021B mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/24/2020	ND	2.15	107	2.00	0.260	
Toluene*	**2.70**	0.200	10/24/2020	ND	2.07	104	2.00	0.197	GC-NC1
Ethylbenzene*	<0.200	0.200	10/24/2020	ND	2.02	101	2.00	0.601	
Total Xylenes*	**23.8**	0.600	10/24/2020	ND	5.78	96.3	6.00	0.316	GC-NC1
Total BTEX	**26.5**	1.20	10/24/2020	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *200 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**928**	16.0	10/23/2020	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*	**1100**	10.0	10/23/2020	ND	217	108	200	1.10	
DRO >C10-C28*	**3370**	10.0	10/23/2020	ND	210	105	200	0.261	
EXT DRO >C28-C36	<10.0	10.0	10/23/2020	ND					

Surrogate: 1-Chlorooctane *134 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *84.7 %* *42.2-156*

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Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-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.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC1	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Added 10/22/20 T.O.

Company Name:	RT Hicks Consultants
Project Manager:	Kristin Pope
Address:	901 Rio Grande Blvd NW, Suite F-142
City:	Albuquerque State: NM Zip: 87104
Phone #:	505-266-5004 Fax #:
Project #:	Project Owner: Murchison
Project Name:	Ringer Fed #2 Release
Project Location:	Eddy Co.
Sampler Name:	Kristin Pope

BILL TO

P.O. #:	
Company:	RT Hicks
Attn:	Randy Hicks
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	TIME	Chloride	8015M TPH (GRO/DRO/MRO)	BTEX	HOLD - Removed 10/22/20 T.O.								
H002798																									
1	SP 1 @ 4.5 ft	G	1			X					X		10-14-20	0928	X	✓	✓								
2	SP 2 @ 4.5 ft	G	1			X					X			0935	X	✓	✓								
3	SP 3 @ 4.5 ft	G	1			X					X			0948	X	✓	✓								
4	SP 4 @ 4.5 ft	G	1			X					X			0954	X	✓	✓								

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

Relinquished By: Kristin Pope	Date: 10-21-20 Time: 1100	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address: R@rthicksconsult.com, kristin@...
Relinquished By:	Date: Time:	Received By:	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 5.9 Corrected Temp. °C	Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials) TCO

Turnaround Time: Standard ☒ Rush ☐
Thermometer ID ~~#97~~ T.P. #113
Correction Factor ~~+0.4°C~~ 10/21/20
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.0

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

CARDINAL Laboratories

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

June 13, 2024

DANIEL DOMINGUEZ

Hungry Horse Environmental

P.O. Box 1058

Hobbs, NM 88240

RE: RINGER FEDERAL #2

Enclosed are the results of analyses for samples received by the laboratory on 06/07/24 13:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: HZ 1 - SURF (H243274-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/11/2024	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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *66.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *66.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: HZ 1 - 1' (H243274-02)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/11/2024	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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *63.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *63.0 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: HZ 2 - SURF (H243274-03)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/11/2024	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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *67.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *66.4 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: HZ 2 - 1' (H243274-04)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/11/2024	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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *78.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *77.0 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: HZ 3 - SURF (H243274-05)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/11/2024	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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *78.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.9 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: HZ 3 - 1' (H243274-06)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/11/2024	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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *85.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *84.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: HZ 4 - SURF (H243274-07)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	06/11/2024	ND	432	108	400	3.64	

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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *78.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *77.2 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: HZ 4 - 1' (H243274-08)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	06/11/2024	ND	432	108	400	3.64	

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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *75.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: SP 1 - SURF (H243274-09)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.4 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3960**	16.0	06/11/2024	ND	432	108	400	3.64	

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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	**5560**	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	**75.0**	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *91.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *113 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: SP 2 - SURF (H243274-11)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**912**	16.0	06/11/2024	ND	432	108	400	3.64	

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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	**215**	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *80.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.6 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: SP 2 - 10' (H243274-12)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	06/11/2024	ND	432	108	400	3.64	

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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	<10.0	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *78.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *71.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: SP 3 - SURF (H243274-13)

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	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	
Total Xylenes*	<0.150	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	
Total BTEX	<0.300	0.300	06/11/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	06/11/2024	ND	432	108	400	3.64	

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	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	**90.7**	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *88.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.0 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/07/2024	Sampling Date:	06/05/2024
Reported:	06/13/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Tamara Oldaker
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: SP 3 - 1' (H243274-14)

BTEX 8021B mg/kg Analyzed By: JH S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/11/2024	ND	1.97	98.5	2.00	1.06	
Toluene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	1.02	GC-NC
Ethylbenzene*	<0.050	0.050	06/11/2024	ND	1.96	97.8	2.00	0.450	GC-NC
Total Xylenes*	**5.59**	0.150	06/11/2024	ND	5.76	96.1	6.00	0.774	GC-NC1
Total BTEX	**5.59**	0.300	06/11/2024	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *635 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**400**	16.0	06/11/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**394**	10.0	06/11/2024	ND	195	97.7	200	2.41	
DRO >C10-C28*	**568**	10.0	06/11/2024	ND	217	109	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	06/11/2024	ND					

Surrogate: 1-Chlorooctane *126 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *81.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
GC-NC1	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Hungry Horse LLC				
Project Manager:	Daniel Dominguez				
Address:	4024 Plains Hwy				
City:	Lovington	State: NM	Zip: 88260		
Phone #:	575 393-3386	Fax #:			
Project #:		Project Owner:	Murchison Oil & Gas		
Project Name:	Ringer Federal #2				
Project Location:	UL/ G Sec 4 T25S - R26E				
Sampler Name:	Jerry Heidelberg				

BILL TO

P.O. #:	
Company	Murchison Oil & Gas
Attn:	Greg Boans
Address:	5325 Sierra Vista
City:	Carlsbad
State: NM	Zip: 88230
Phone #:	575 706-0667
Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Chloride	TPH	BTEX 8021
H243214																	
1	HZ1 -Surf	G	1			X					X		6/5/24		X	X	X
2	HZ1-1'	G	1			X					X		6/5/24		X	X	X
3	HZ2-Surf	G	1			X					X		6/5/24		X	X	X
4	HZ2-1'	G	1			X					X		6/5/24		X	X	X
5	HZ3-Surf	G	1			X					X		6/5/24		X	X	X
6	HZ3-1'	G	1			X					X		6/5/24		X	X	X
7	HZ4-Surf	G	1			X					X		6/5/24		X	X	X
8	HZ4-1'	G	1			X					X		6/5/24		X	X	X

Relinquished By: Jerry Heidelberg	Date: 6-7-24 Time: 1325	Received By: Mirara Aldaba	
Relinquished By:	Date: Time:	Received By:	

Delivered By: (Circle One) Sampler - UPS - Bus - Other: #140 0.9°c

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

Email results to: pm@hungry-horse.com
gboans@jdmii.com

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Hungry Horse LLC				
Project Manager:	Daniel Dominguez				
Address:	4024 Plains Hwy				
City:	Lovington	State: NM	Zip: 88260		
Phone #:	575 393-3386	Fax #:			
Project #:		Project Owner:	Murchison Oil & Gas		
Project Name:	Ringer Federal #2				
Project Location:	UL/ G Sec 4 T25S - R26E				
Sampler Name:	Jerry Heidelberg				

BILL TO

P.O. #:	
Company	Murchison Oil & Gas
Attn:	Greg Boans
Address:	5325 Sierra Vista
City:	Carlsbad
State: NM	Zip: 88230
Phone #:	575 706-0667
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Chloride	TPH	BTEX 8021	
H243274																		
9	SP1 -Surf	G	1			X					X		6/5/24		X	X	X	
10	~~SP1-4'~~	G	1			X					X		6/5/24		X	X	X	NO Sample per 6/10/24
11	SP2-Surf	G	1			X					X		6/5/24		X	X	X	
12	SP2-10'	G	1			X					X		6/5/24		X	X	X	
13	SP3-Surf	G	1			X					X		6/5/24		X	X	X	
14	SP3-1'	G	1			X					X		6/5/24		X	X	X	

Relinquished By: Jerry Heidelberg	Date: 6-7-24	Received By: Tamara Oldaker	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Time: 1325	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
	Date:		REMARKS:
	Time:		Email results to: pm@hungry-horse.com gboans@jdmii.com

Delivered By: (Circle One) #140

Sampler - UPS - Bus - Other: 0.9°c

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials) YO

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

CARDINAL Laboratories

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

June 14, 2024

DANIEL DOMINGUEZ

Hungry Horse Environmental

P.O. Box 1058

Hobbs, NM 88240

RE: RINGER FEDERAL #2

Enclosed are the results of analyses for samples received by the laboratory on 06/10/24 16:37.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Hungry Horse Environmental
DANIEL DOMINGUEZ
P.O. Box 1058
Hobbs NM, 88240
Fax To: (505) 391-4585

Received:	06/10/2024	Sampling Date:	06/10/2024
Reported:	06/14/2024	Sampling Type:	Soil
Project Name:	RINGER FEDERAL #2	Sampling Condition:	Cool & Intact
Project Number:	MURCHISON	Sample Received By:	Alyssa Parras
Project Location:	UL/G SEC 4 T25S - R26E		

Sample ID: SP 1 - 4' (H243316-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/13/2024	ND	2.20	110	2.00	4.72	
Toluene*	<0.050	0.050	06/13/2024	ND	2.09	104	2.00	4.13	
Ethylbenzene*	<0.050	0.050	06/13/2024	ND	2.05	103	2.00	2.92	
Total Xylenes*	<0.150	0.150	06/13/2024	ND	6.01	100	6.00	2.72	
Total BTEX	<0.300	0.300	06/13/2024	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	06/14/2024	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	06/12/2024	ND	199	99.3	200	6.74	
DRO >C10-C28*	<10.0	10.0	06/12/2024	ND	201	101	200	2.78	
EXT DRO >C28-C36	<10.0	10.0	06/12/2024	ND					

Surrogate: 1-Chlorooctane *86.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *80.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Hungry Horse LLC				
Project Manager:	Daniel Dominguez				
Address:	4024 Plains Hwy				
City:	Lovington	State: NM	Zip: 88260		
Phone #:	575 393-3386	Fax #:			
Project #:		Project Owner:	Murchison Oil & Gas		
Project Name:	Ringer Federal #2				
Project Location:	UL/ G Sec 4 T25S - R26E				
Sampler Name:	Jerry Heidelberg				

BILL TO

P.O. #:	
Company	Murchison Oil & Gas
Attn:	Greg Boans
Address:	5325 Sierra Vista
City:	Carlsbad
State: NM	Zip: 88230
Phone #:	575 706-0667
Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chloride	TPH	BTEX 8021
H243316																	
1	SP1-4'	G	1			X					X		6/10/24		X	X	X

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

Relinquished By:	Date: 6.10.24	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1637		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		Email results to: pm@hungry-horse.com
Delivered By: (Circle One)			gboans@jdmii.com
Sampler - UPS - Bus - Other:	2.6°C 140	Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials) AP

Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Attachment IV
Field Data

Sample Log

Hungry Horse, LLC

Project: Ringer Federal #2 Date: 6/5/2024

Karst **Yes** Water **<50'** GPS: 32.1619186, -104.2968369

Standard TPH 100mg/kg, Chloride 600mg/kg Sampler: Jerry Heidelberg

Sample ID	Depth	PID/Odor	Chloride	GPS
HZ 1	Surf	ND	1.8 @ 43x4 = 172	
	1'	ND	1.6 @ 36x4 = 144	
HZ 2	Surf	ND	2.0 @ 49x4 = 196	
	1'	ND	1.8 @ 43x4 = 172	
HZ 3	Surf	ND	1.6 @ 36x4 = 144	
	1'	ND	1.4 @ 30x4 = 120	
HZ 4	Surf	ND	2.0 @ 49x4 = 196	
	1'	ND	1.8 @ 43x4 = 172	
SP1	Surf	Yes	5.4 @ 210 4x4 = 1,056	
	1'	ND	2.4 @ 165x4 = 2100	
	2'	Little	2.0 @ 49x4 = 196	
	3'	Little	4.8 @ 210x4 = 840	
	4'	ND	1.4 @ 30x4 = 120	
SP2	Surf	Yes	4.8 @ 897x4 = 3,588	
	1'		6.4 @ 377 x4 = 1,508	
	2'		5.6 @ 284x4 = 1,136	
	3'		7.0 @ 465x4 = 1,860	
	4'		7.0 @ 465x4 = 1,860	
	6'		7.8 @ 620x4 = 2,480	
	8'		7.8 @ 620x4 = 2,480	
	10'		1.2 > 100	
SP3	Surf	ND	1.8 @ 43X4 = 172	
	1'	ND	2.8 @ 83X4 = 332	
	2'			
	3'			
	4'			
	6'			
	8'			
	10'			
	12'			

Sample Point = SP1 @ ## etc | Horizontal = HZ1 etc | Test Trench = TT1 @ ##

Floor = FL1 etc | Refusal = SP1 @ 4'-R | Resamples= SP1b @ 5' or SW #1b

Sidewall = SW1 etc | GPS Sample Points, Center of Comp Areas | Stockpile = Stockpile #1

Ringer Federal Com 2 (30-015-22308)

Production Tank 10/14/2020

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Santa Fe, NM 87505

QUESTIONS

Action 361485

QUESTIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 361485
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nRM2027443562**
Incident Name	**NRM2027443562 RINGER FEDERAL #2 @ 30-015-22308**
Incident Type	**Release Other**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-015-22308] RINGER FEDERAL COM #002**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	RINGER FEDERAL #2
Date Release Discovered	09/29/2020
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Corrosion | Production Tank | Produced Water | Released: 5 BBL | Recovered: 0 BBL | Lost: 5 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Cause: Corrosion | Production Tank | Condensate | Released: 100 BBL | Recovered: 0 BBL | Lost: 100 BBL.
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 361485
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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.

I hereby agree and sign off to the above statement	Name: Cindy Cottrell Title: Regulatory Coordinator Email: ccottrell@jdmii.com Date: 07/08/2024

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QUESTIONS (continued)

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 361485
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	High
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	3960
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	22070
GRO+DRO (EPA SW-846 Method 8015M)	22070
BTEX (EPA SW-846 Method 8021B or 8260B)	1050
Benzene (EPA SW-846 Method 8021B or 8260B)	4.9
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	07/22/2024
On what date will (or did) the final sampling or liner inspection occur	08/12/2024
On what date will (or was) the remediation complete(d)	08/19/2024
What is the estimated surface area (in square feet) that will be reclaimed	1500
What is the estimated volume (in cubic yards) that will be reclaimed	500
What is the estimated surface area (in square feet) that will be remediated	1500
What is the estimated volume (in cubic yards) that will be remediated	500
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 361485
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Cindy Cottrell Title: Regulatory Coordinator Email: ccottrell@jdmii.com Date: 07/08/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 361485
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

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QUESTIONS (continued)

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 361485
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	***{Unavailable.}***

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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COMMENTS

Action 361485

COMMENTS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 361485
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

COMMENTS

Created By	Comment	Comment Date
bhall	Sent email to operator asking for updated sampling map as there are 5 sample locations from 2020 that are not included. Requested map to be sent via email by EOB on 7/24/2024.	7/9/2024
bhall	Operator sent revised report via email on 7/23/2024. OCD replaced report originally submitted with this application with revised report.	7/25/2024

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CONDITIONS

Action 361485

CONDITIONS

Operator:	OGRID:
Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	15363
	Action Number: 361485
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
bhall	Remediation plan conditionally approved. OCD will not approve the proposed depths and horizontal boundaries found on the proposed excavation area on Figure 5. Excavation extents must be determined by confirmation sampling. OCD will approve the dig and haul remediation technique.	7/25/2024
bhall	OCD requires remediation of the soils at “BG” be completed.	7/25/2024
bhall	If the excavation does not extend to the deepest contamination discovered during previously performed activities, additional investigation must be performed.	7/25/2024
bhall	Horizontal and vertical delineation must be completed through excavation and confirmation sampling pursuant to 19.15.29.12 NMAC. Delineation sampling being performed prior to excavation activities will not be accepted for remediation closure.	7/25/2024
bhall	Remediation confirmation samples must meet the most stringent remediation closure criteria found on Table I of 19.15.29 NMAC.	7/25/2024
bhall	Photos of the stockpile with the BMPs will need to be included in the closure report. The Bills of Lading and photos of the removal of the stockpile and native surface underneath the stockpile will also need to be included in the remediation closure report.	7/25/2024
bhall	Pursuant to 19.15.29.12 D.(1)(a) NMAC, ensure the C-141N (Notification of Sampling) application is completed on the OCD Permitting website at least 2 business days prior to collecting remediation confirmation samples.	7/25/2024
bhall	Be advised that while re-seeding is not required at time of remediation, the site will need to meet all requirements of 19.15.29.13 NMAC when the area is no longer reasonably needed for production or subsequent drilling activities.	7/25/2024
bhall	Approval of this C-141 remediation plan is only applicable for incident nRM2027443562 and is not applicable to any other incident number.	7/25/2024
bhall	The approval of this 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	7/25/2024
bhall	A complete remediation closure report pursuant to 19.15.29 NMAC will need to be submitted by 9/27/2024. Failure to submit a complete remediation plan and/or remediation closure report by 9/27/2024 is subject to compliance and enforcement penalties pursuant to 19.15.5 NMAC.	7/25/2024