



McNabb Partners, LLC
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November 26, 2024

NM Oil Conservation Division
Environmental Bureau
1220 South St. Francis Dr.
Santa Fe, NM 87505

RE: Remediation Work Plan Proposal
Incident ID: nAPP2415757870
Carbon Valley 31 Fed #001H
Project ID: 20240410-murchison-carbonValley31_1H

NMOCD:

McNabb Partners submits this remediation work plan proposal and deferral request on behalf of 3R Operating, LLC. This document describes site assessment, soil sample analysis and proposed remediation method for Carbon Valley 31 Fed #001 (Site)

On June 5th, 2024; NMOCD notified the operator at the time, Murchison Oil and Gas, to submit a Notification of Release (NOR) for the subject legacy release first identified by the environmental consultant conducting site inspection on April 10th, 2024. The cause of release is unknown. Prior to all site assessment activities, all impacted gravel was hand-shoveled and hauled off to the approved disposal facility. The release consisted of 8.8 barrels (bbls) of crude oil. The attached volume calculation is based on actual gravel volume removed and hauled to R360 for proper disposal.

1. Characterization

The following sections address items as described in 19.15.29.11.A, paragraphs 1- 4. Please refer to the characterization table below for additional setback criteria and Plats 2-9 for verification.

1.1. Site Map

Plate 1 shows the release extent relative to Carbon Valley 31 Federal Com #001 site pad. The suspected source of the release is located 32.876260, -104.207663 (Lat, Long; NAD83).



Site Characterization	
What is the shallowest depth to groundwater (ft bgs) Plate 2	<50 ft bgs (Unknown)
What measure was used to determine this?	N/A
Did this release impact ground or surface water?	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
<ul style="list-style-type: none"> A continuously flowing watercourse or any other significant watercourse. Plate 4 	1,400 ft N (Intermittent riverine)
<ul style="list-style-type: none"> Any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark). Plate 4 	>0.5 mile
<ul style="list-style-type: none"> An occupied permanent residence, school, hospital, institution or church. Plate 5 	>0.5 mile
<ul style="list-style-type: none"> A spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes. Plate 3 	>1 mile SE (Livestock watering well)
<ul style="list-style-type: none"> Any other fresh water well or spring. Plate 3 	>1 mile SE (Livestock watering well)
<ul style="list-style-type: none"> Incorporated municipal boundaries or a defined municipal fresh water well field. Plate 3 	>0.5 mile
<ul style="list-style-type: none"> A wetland. Plate 6 	>1 mile
<ul style="list-style-type: none"> A subsurface mine. Plate 7 	>0.5 mile
<ul style="list-style-type: none"> A (non-karst) unstable area. 	Within High Karst
<ul style="list-style-type: none"> Categorize the risk of this well/site being in a karst geology. Plate 8 	High Karst
<ul style="list-style-type: none"> A 100-year floodplain. Plate 9 	>1 mile
<ul style="list-style-type: none"> Did the release impact areas not on an exploration, development, production, or storage site? 	No

1.2. Depth to Ground Water

Based on a review of the USGS and NMOSE groundwater databases, there are no known groundwater sources within ½-mile of the Site. The nearest identified boring RA-13179-POD1 is located 1,560 feet south of the release extent and was drilled in 2022 to 50 ft below ground surface (ft bgs). Groundwater was not present at any depth. The boring is identified on Plate 2 according to their OSE File #. The plugging record is located in Appendix B. The boring has been plugged.

1.3. Wellhead Protection Area

Plate 3 shows that the release extent is:

- Not within incorporated municipal boundaries or within a defined municipal fresh water well field.
- Not within ½-mile of any documented water sources (wells and springs).
- Not within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes.
- Not within 1000 feet of any other freshwater well or spring.

1.4. Distance to Nearest Significant Water Course

Plate 4 shows that the release extent is:

- Within ½ mile of a significant water course (lake/pond).
- Not within 300 feet of a continuously flowing watercourse or any other significant watercourse.
- Not within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

Plate 6 shows that the release extent is:

- Within a ½ mile of a significant water course (freshwater emergent wetland).
- Not within 300 feet of a continuously flowing watercourse or any other significant watercourse.

1.5. Soil/Waste Characteristics

The USDA Natural Resources Conservation Service (NRCS) soil survey¹ describes the upper 5-feet of lithology as a mixture of Gypsum land-Cottonwood complex and Reeves-Gypsum land complex:

- Largo-Stony land complex (39.5% of area)
 - Slope: 0 to 25 percent
 - Typical profile

¹ NRCS Field Guide and the NRCS web survey tool (<https://websoilsurvey.nrcs.usda.gov/app/>)



- ✓ H1 - 0 to 4 inches: loam
- ✓ H2 - 4 to 47 inches: silt loam
- ✓ H3 - 47 to 65 inches: loam
- Reeves-Gypsum land complex (60.5% of area)
 - Slope: 0 to 3 percent
 - Typical profile
 - ✓ H1 - 0 to 8 inches: loam
 - ✓ H2 - 8 to 32 inches: sandy loam
 - ✓ H2 - 32 to 60 inches: gypsiferous material

The lithology as described by the NRCS is consistent with professional observations during hand auger borehole activities during characterization sampling.

1.6. Initial Liner Inspection

Prior to liner inspection, approximately 60 cubic yards of hydrocarbon impacted gravel was removed off-site for proper disposal. The gravel was removed by hand shoveling and broom sweeping.

On June 24th, 2024, McNabb Partners were on site to perform an initial liner inspection. Notifications of sampling and liner inspections are located in Appendix A. During the initial liner inspection, three (3) significant breaches and several minorly stressed areas of the were identified within the lined containment. Figures 1 through 3 show the condition of the liner during initial inspection and Figures 4 through 6 shows soil sample from the hole in the liner.

1.7. Closure Criteria

Closure Criteria as listed in Table 1 of 19.15.29 NMAC, where the Karst potential is high is undetermined, is defined as:

High Karst Potential	Chloride (mg/kg)	GRO+DRO (mg/kg)	TPH Ext. (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)
NMOCD Closure Criteria	600	--	100	10	50

2. Site Assessment and Characterization Sampling

During the liner inspection on June 24th, 2024, three grab characterization samples (i.e., CS-01 through CS-03) were collected from the breach in the liner at various depths of 0-2, 2-4 and 4-6 ft bgs. All samples were analyzed for BTEX, Benzene, TPH and Chloride by Cardinal Laboratories. Analytical results indicated that samples CS-01 and CS-02 exceeded closure criteria for the site at a depth 0-2 ft bgs. Sample CS-03 exceeded closure criteria concentrations at all depths between 0-2 to 4-6 ft bgs.

4 lateral delineation sample points (i.e., H-1 through H-4) were collected with a geotechnical hand auger. Grab soil samples were collected at depths of 0-2 ft bgs. All samples were analyzed for



BTEX, TPH and Chloride by Cardinal Laboratories. Analytical results indicated that all sample point met closure criteria for the Site.

On August 13th, 2024, additional delineation samples were collected. Sample point CS-03 was extended to a depth of 12.25 ft bgs with geotechnical hand auger and a grab sample was collected at this depth. The sample point CS-03 at 12.25 ft bgs was analyzed for TPH, Chloride and BTEX concentrations and met NMOCD closure criteria. A sample point CS-04 was installed with GeoProbe outside of the tank battery in a close proximity to sample point CS-03 to determine if hydrocarbon impacts went outside of the lined containment. Grab soil samples were collected at depths of 0.5, 2 and 4 ft bgs, analyzed for TPH, Chloride and BTEX concentrations and met NMOCD closure criteria for the Site. During the site visit, it was noted that sample point CS-02 was extended to a hard refusal with a hand auger at a depth of 0-2 ft bgs.

Following a conversation with NMOCD, McNabb Partners returned to the site on September 19th, 2024, to cut a 5x5 ft hole for every hole found in the liner during initial liner inspection. 3 composite samples were to be collected from 5x5 holes at the surface depth (0 ft bgs) under the liner and analyzed for TPH, BTEX and chloride by a certified laboratory. Composite sample CS-01, CS-02 and CS-03 were collected around holes in the liner (previously sampled as grab samples CS-01, CS-02 and CS-03 on 6/24/2024). During the site visit, it was noted that cutting multiple 5x5 ft holes in the liner would compromise its integrity, making it impossible to repair effectively after. Therefore, the liner would not be able to contain any future releases. After a conversation with NMOCD and Murchison Oil and Gas, the impacted areas of the liner were to be removed completely and sampled accordingly. The conditions of the soil under the liner are shown in Figures 7 through 10.

On October 4th, 2024, after all impacted areas of the liner have been cut out and removed, McNabb Partners collected 11 composite surface samples (i.e., FS-01 through FS-11), each representing an area no greater than 200 sq ft. All samples were analyzed for BTEX, TPH and chloride concentrations. Samples FS-01 through FS-06 and FS-08 through FS-11 exceeded closure criteria concentrations for TPH. On October 7th, 2024, 5 grab vertical delineation samples (i.e., G-1 through G-5) were collected in the areas with highest field chloride concentrations and most visually impacted areas showing saturated stains and/or salt precipitate crusting. Sample point was installed in a close proximity to a breach in a liner (i.e., CS-01) to provide vertical delineation for this sample point. Samples were collected with a geotechnical hand auger at depths ranging from 0.5 to 4 ft bgs. All samples were analyzed for BTEX, TPH and chloride concentrations. Complete vertical delineation was obtained for all sample points G-1 through G-5 at various depths.

- Plate 1 shows a site map of the entire Carbon Valley 25 Fed 7 well pad.
- Plates 2 through 9 provide complete site characterization information.
- Plates 10, 11 & 12 show all site characterization, surface composite and grab delineation samples respectively.
- Table A shows the summary of all laboratory data for each sample collected at Site
- All sampling notifications and communications are included in Appendix A.
- Well driller log is included in Appendix B.
- Laboratory Reports and Chains of Custodies for all samples are included in Appendix C.

- Figures 1 through 16 show the photolog of various activities on Site.

3. Remediation Work Plan

Remediation Plan	
Requesting a remediation plan approval with this submission?	Yes
Have the lateral and vertical extents of the contamination been fully delineated (<i>attach report demonstrating lateral and vertical extents</i>)?	Yes
Was this release entirely contained within a lined containment area?	No
Soil Contamination Sampling (Highest observable value for each in mg/kg)	
• Chloride	1,060
• TPH (DRO+GRO+MRO)	16,207
• GRO+DRO	13,680
• BTEX	12.5
• Benzene	0.1
On what estimated date will the remediation commence	12/10/2024
On what date will (or did) the final sampling or liner inspection occur	01/10/2025
On what date will (or was) the remediation completed	02/10/2025
What is the estimated surface area (in square feet) that will be reclaimed	3800
What is the estimated volume (in cubic yards) that will be reclaimed	315
What is the estimated surface area (in square ft) that will be remediated	3800
What is the estimated volume (in cubic yards) that will be remediated	315
The remediation will (or is expected to) utilize the following processes to remediate/reduce contaminants:	
• Excavation and off-site disposal	Yes
• Excavation and on-site disposal	
• Soil Vapor Extraction (in Situ)	
• Chemical processing (in Situ)	
• Biological processing (in Situ)	
• Physical processing (in Situ)	
• Groundwater abatement	
• Other (non-listed remedial process)	
• Other non-listed remedial process. Please specify	



McNabb Partners propose remediation of the release in question by a method of dig and haul. Prior to the excavation, all storage tanks and associated flowlines will be removed from the lined containment.

We propose excavating areas represented by sample points G-1 and G-2 to a depth of one (1) ft bgs. The area represented by sample points G-3, G-4 and G-5 will be excavated to 3.5 ft bgs. The area around sample point CS-03 (grab) will be excavated to 11 ft bgs, and the area around sample point CS-01 (grab) will be excavated to 2 ft bgs. The depths mentioned above are initial proposal based on the analytical data from sampling events on site, and the excavation will continue until all confirmation samples meet most stringent criteria concentrations. The area below storage tanks will be excavated to the most stringent criteria limits, if field screens and/or visual observations suggest chloride, BTEX, and TPH concentrations are above limits. The proposed excavation map is shown in Figure 13.

Following the completion of the excavation, confirmation samples will be collected from the base and side walls of the excavation using a five (5) point composite method, representing an area not larger than 200 square feet. If any discoloration is noted, discrete grab soil samples will be collected from such areas. All confirmation samples will be sent to a certified laboratory for testing of BTEX, TPH and chloride concentrations. If any of the confirmation samples indicate concentrations that exceed the regulatory limits in Table I (NMAC 19.15.23.12), the areas represented by those samples will be further excavated until the concentrations are below the NMOCD Closure Criteria.

Approximately, 315 cubic yards of the contaminated material will be excavated for a proper disposal at NMOCD approved disposal facility. The area will be backfilled with non-waste containing, uncontaminated topsoil and caliche material that was laboratory tested to meet NMOCD most stringent limits. 3,800 square feet of the affected surface will be restored to the production grade to allow reconstruction of a lined tank battery containment.

After NMOCD grants approval to this remediation work plan, the remediation will be completed within 90 days. A closure report detailing the final remediation efforts and confirmation sampling activities will be submitted to NMOCD upon the completion of this remediation plan.

Please contact me with any questions at 917-497-6890.

Sincerely,


Dimitry Nikanorov
Project Manager
McNabb Partners
(917) 497-6890



Copy: Brad Grandstaff, 3R Operating, LLC
Bureau of Land Management



Figure 1. Initial Liner Inspection.



Figure 2. Initial Liner Inspection.



Figure 3. Initial Liner Inspection.

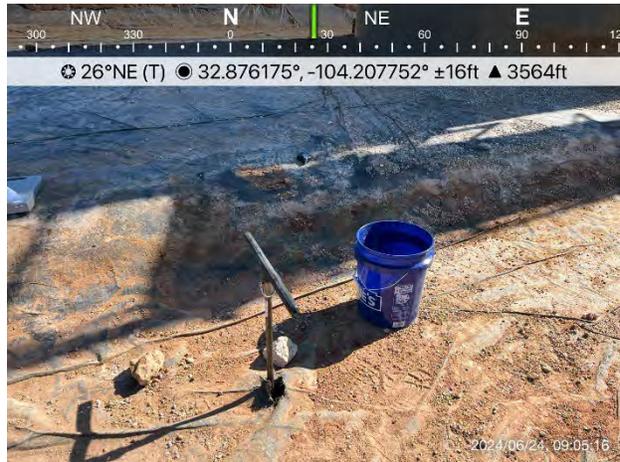


Figure 4. Hole in the liner (CS-01)



Figure 5. Hole in the liner (CS-02)



Figure 6. Hole in the liner (CS-03)



Figure 7. Soil conditions after liner removal



Figure 8. Soil conditions after liner removal



Figure 9. Soil conditions after liner removal.



Figure 10. Soil conditions after liner removal.



Fig. 11. Composite surface sample CS-01 before liner removal.



Fig. 12. Composite surface sample CS-03 before liner removal.



Fig. 13. Surface composite sample (FS-10).



Fig. 14. Surface composite sample (FS-02).



Figure 15. Vertical Delineation Sampling (G-5).

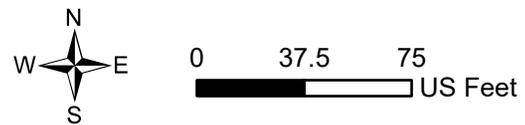
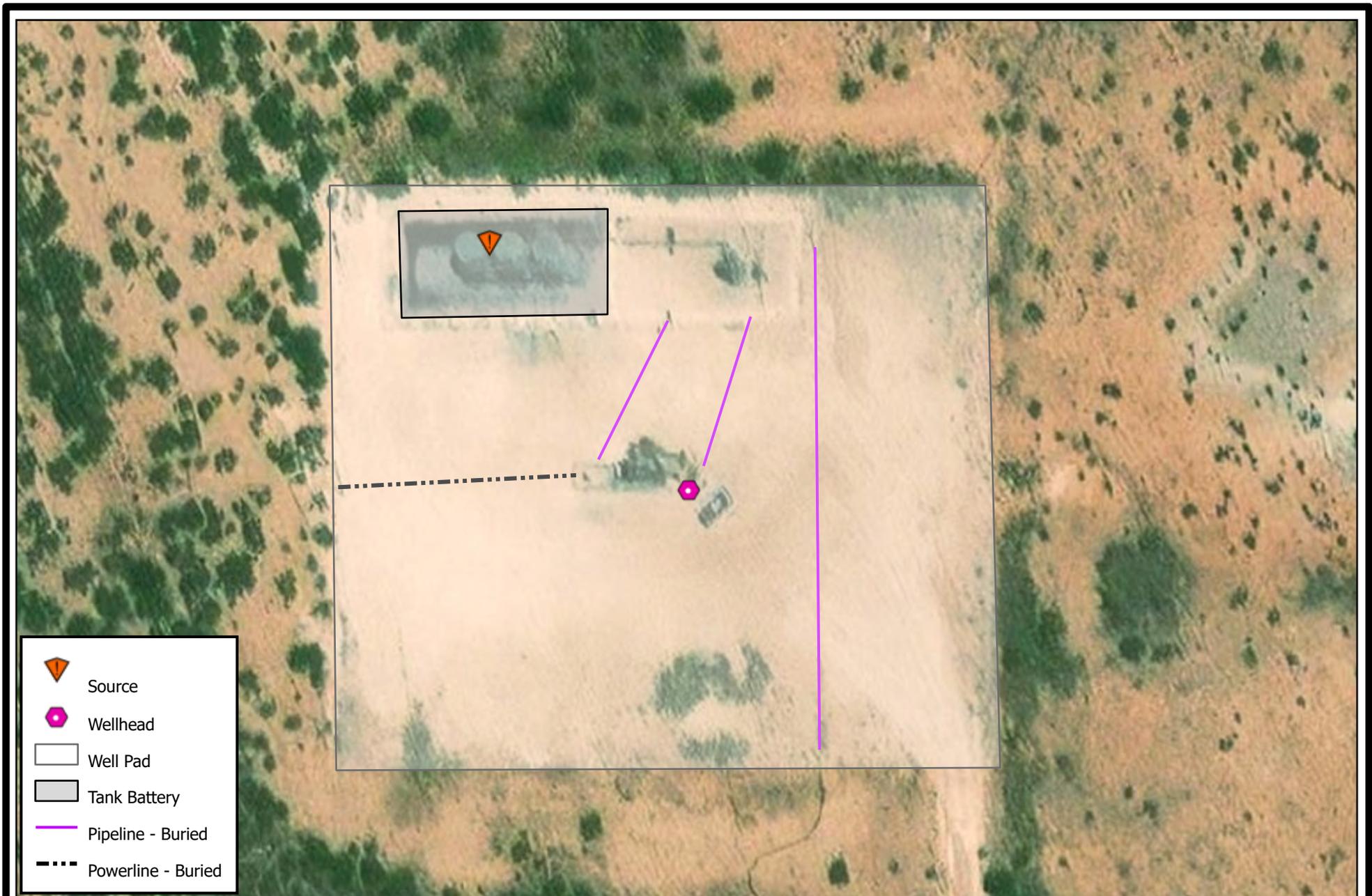


Figure 16. Vertical Delineation Sampling (G-2).

Plates

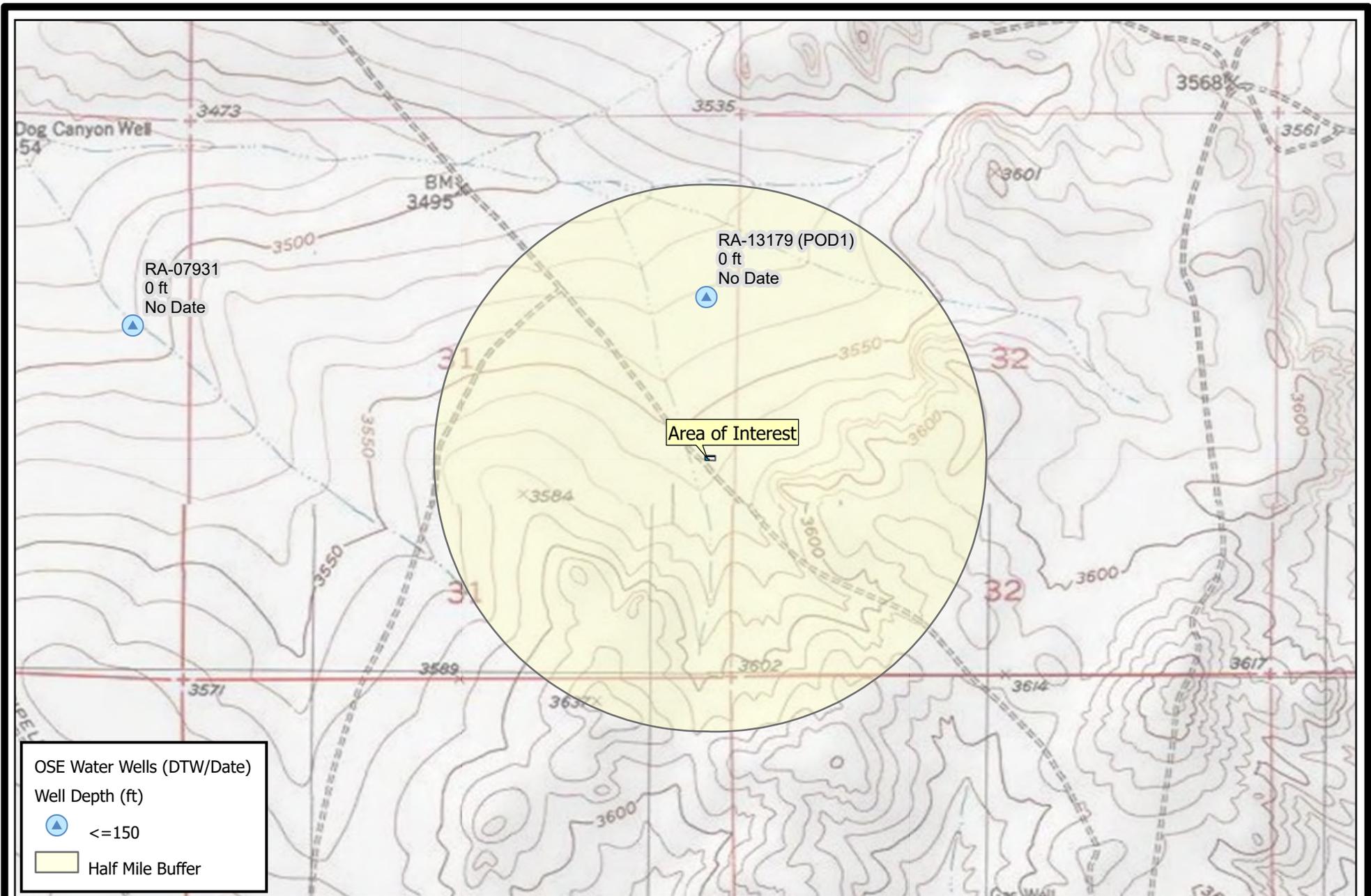


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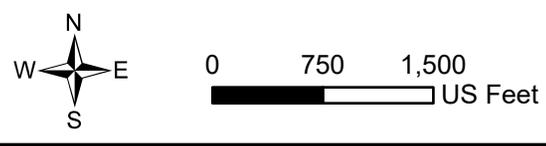


Site Map Carbon Valley 31 Federal Com #001H Incident #: nAPP2415757870 Prj. ID: 20240410-murchison-carbonValley31_1H

Plate 1 07/10/2024

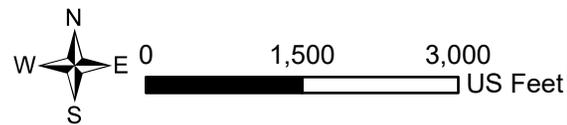
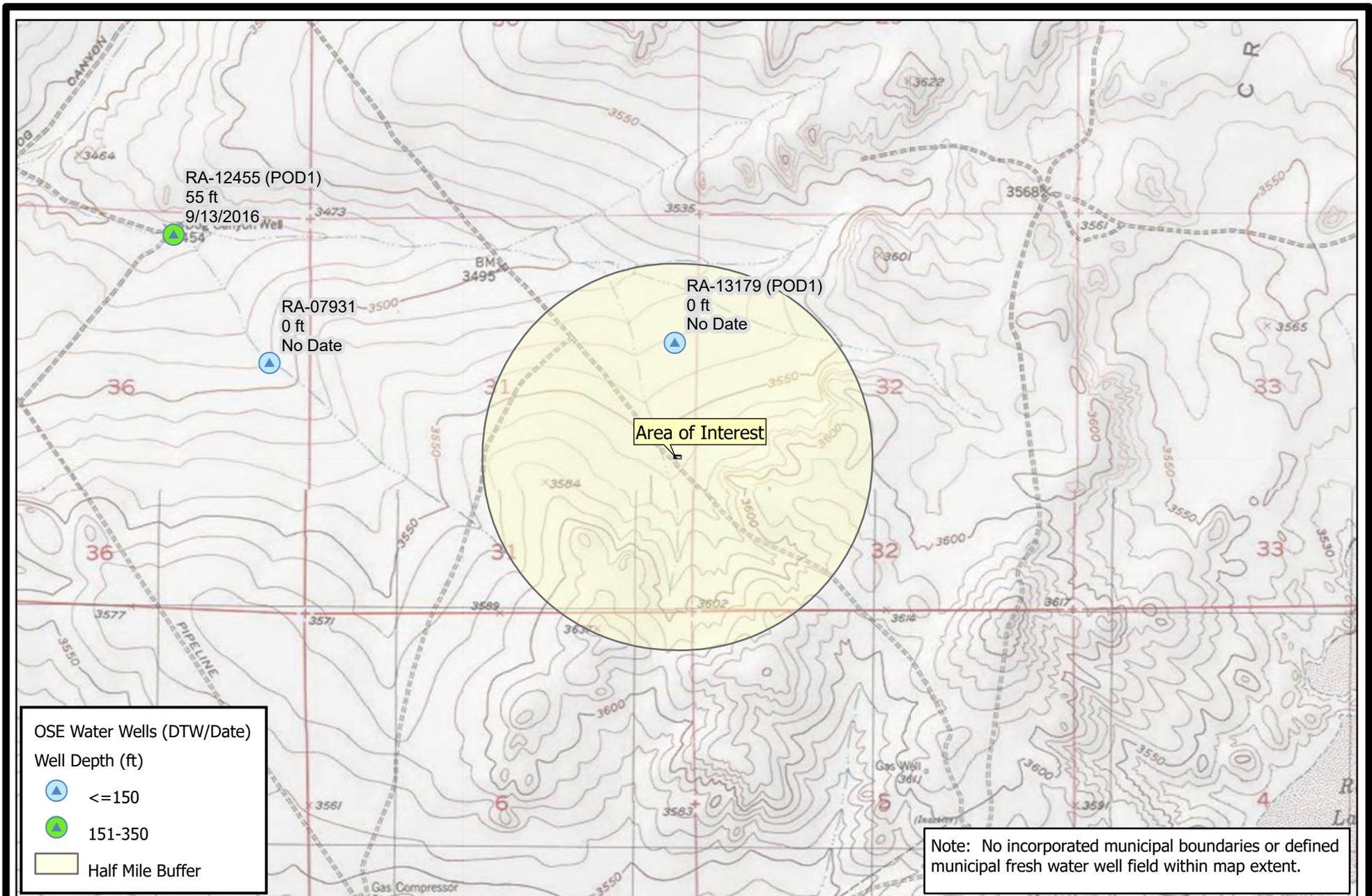


OSE Water Wells (DTW/Date)
 Well Depth (ft)
 ● ≤150
 ■ Half Mile Buffer



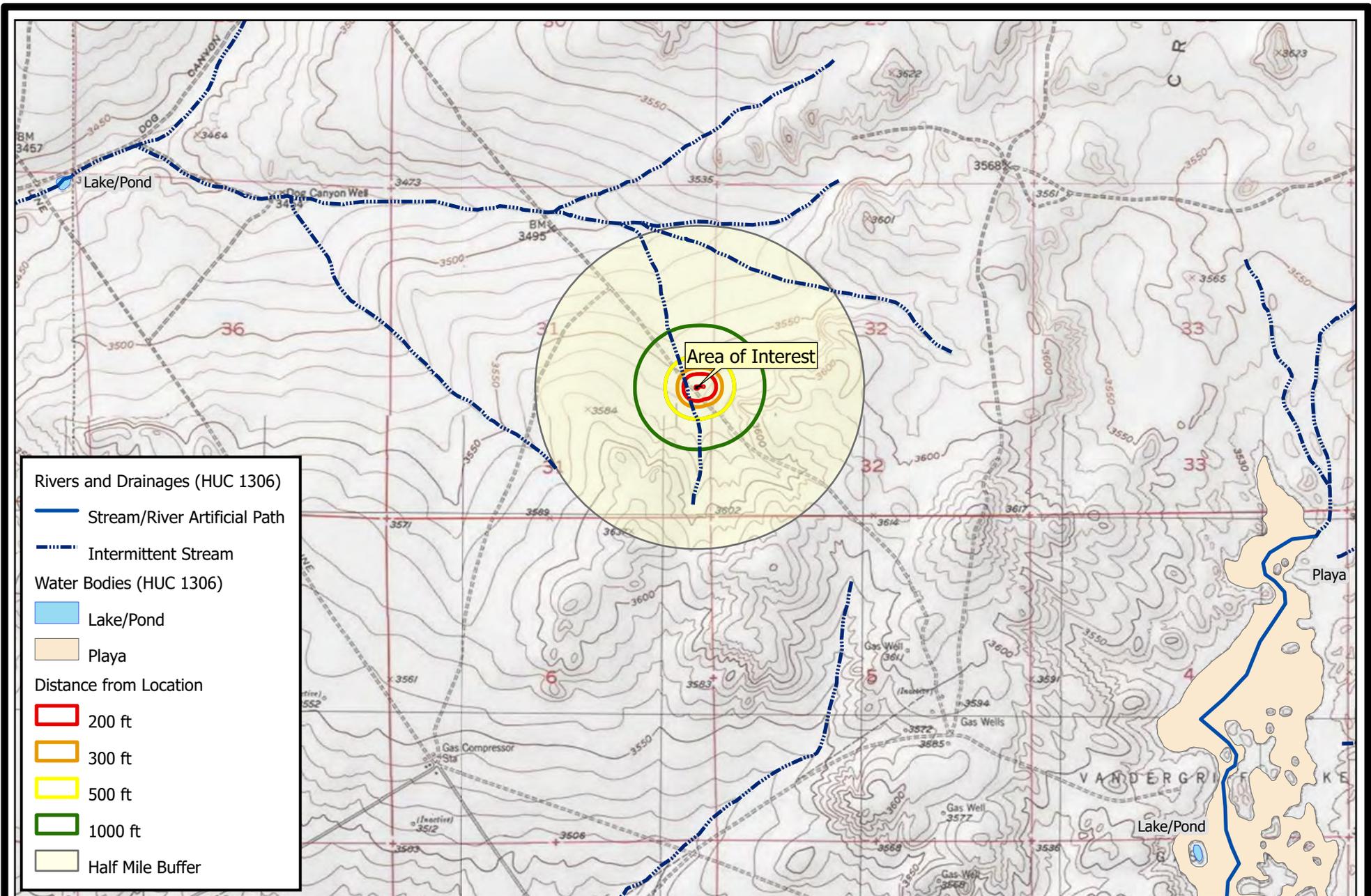
Depth to Water
 Carbon Valley 31 Federal Com #001H
 Incident #: nAPP2415757870
 Prj. ID: 20240410-murchison-carbonValley31_1H

Plate 2
 07/10/2024



Wellhead Protection
 Carbon Valley 31 Federal Com #001H
 Incident #: nAPP2415757870
 Prj. ID: 20240410-murchison-carbonValley31_1H

Plate 3
 07/11/2024



Rivers and Drainages (HUC 1306)

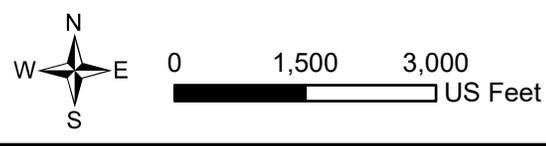
- Stream/River Artificial Path
- Intermittent Stream

Water Bodies (HUC 1306)

- Lake/Pond
- Playa

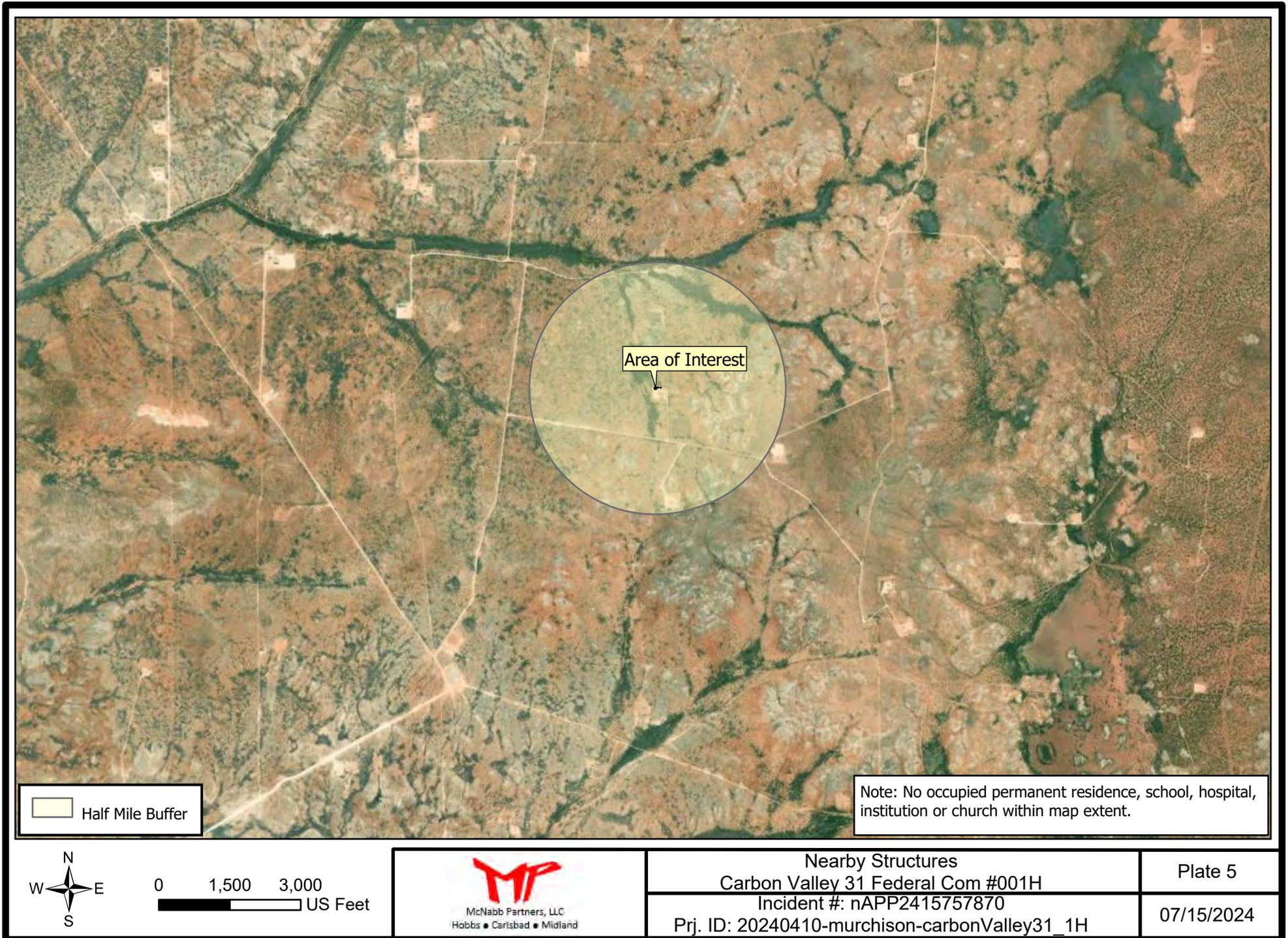
Distance from Location

- 200 ft
- 300 ft
- 500 ft
- 1000 ft
- Half Mile Buffer

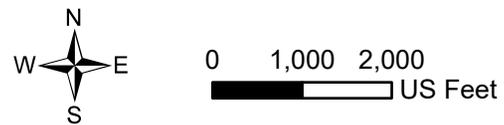
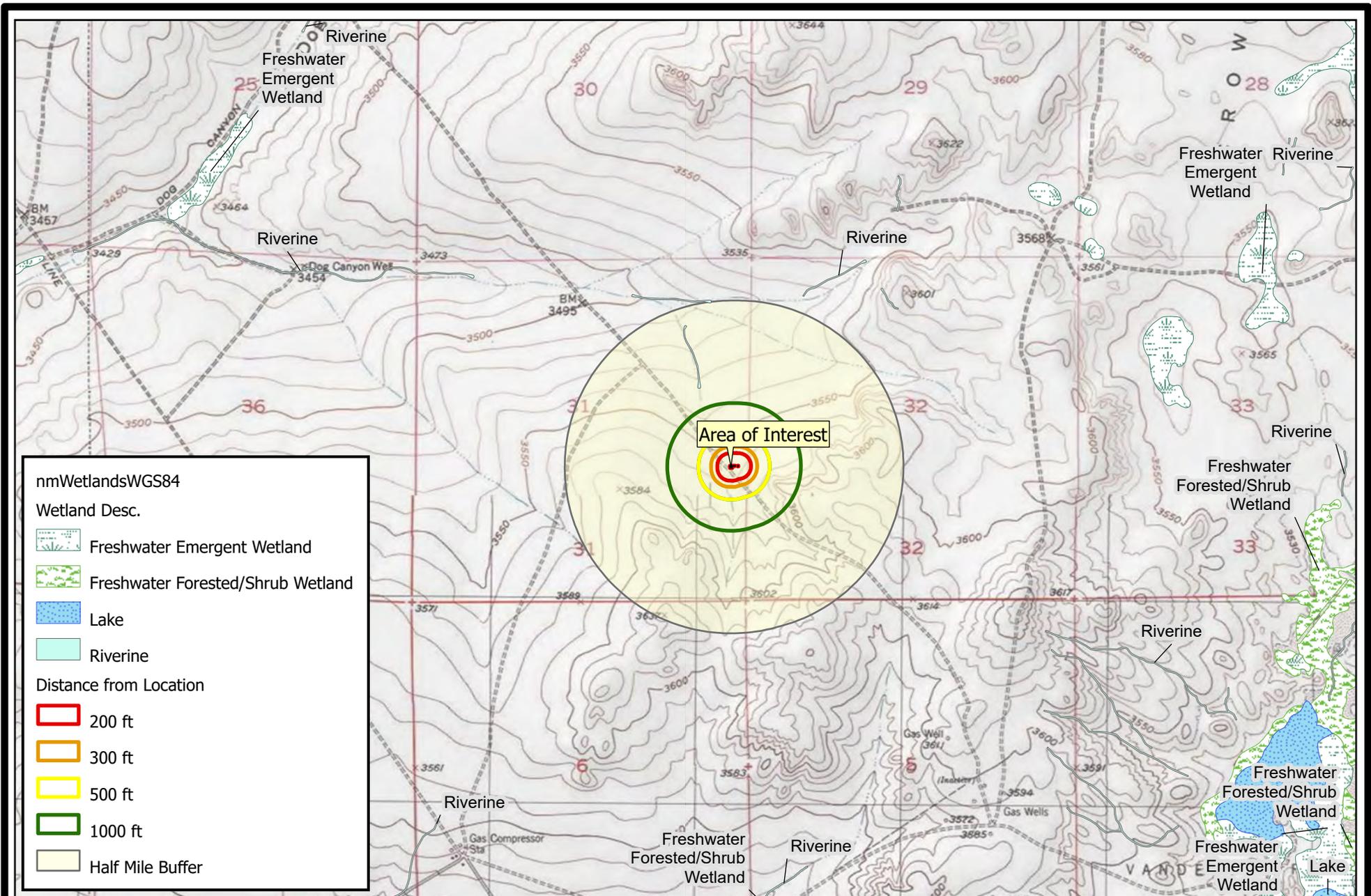


Significant Watercourses
 Carbon Valley 31 Federal Com #001H
 Incident #: nAPP2415757870
 Prj. ID: 20240410-murchison-carbonValley31_1H

Plate 4
 07/15/2024

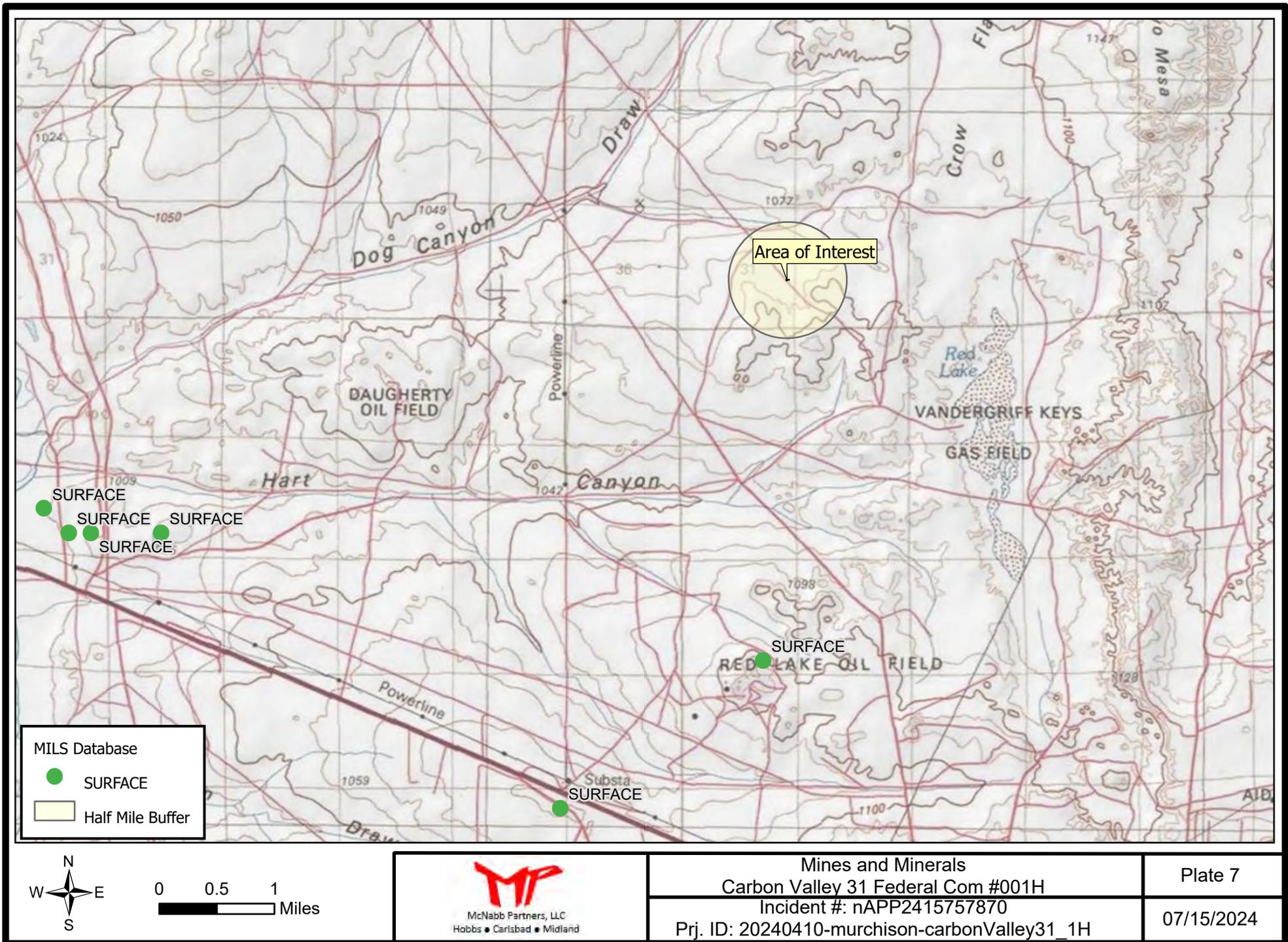


Note: No occupied permanent residence, school, hospital, institution or church within map extent.



Wetlands
 Carbon Valley 31 Federal Com #001H
 Incident #: nAPP2415757870
 Prj. ID: 20240410-murchison-carbonValley31_1H

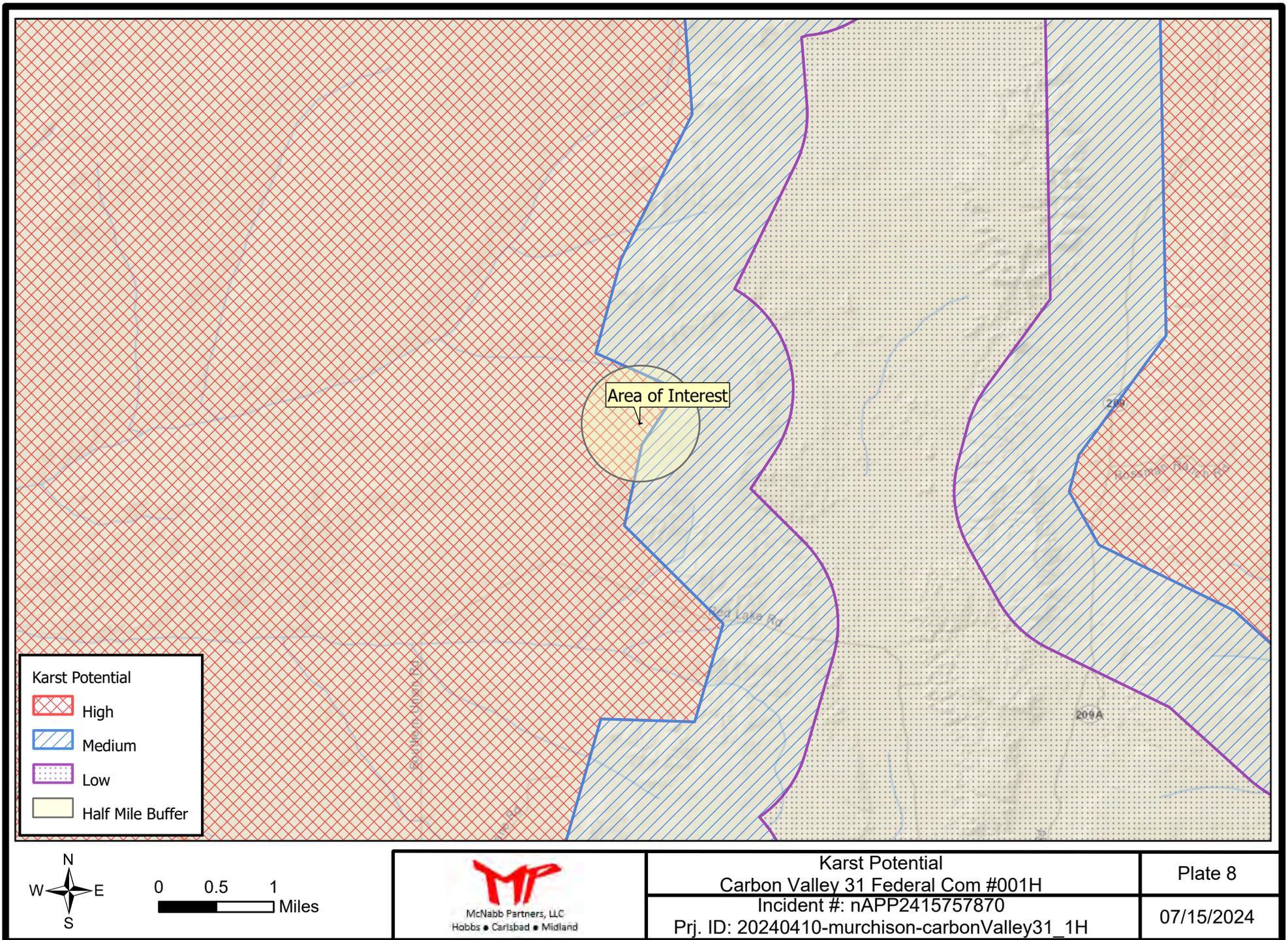
Plate 6
 07/15/2024

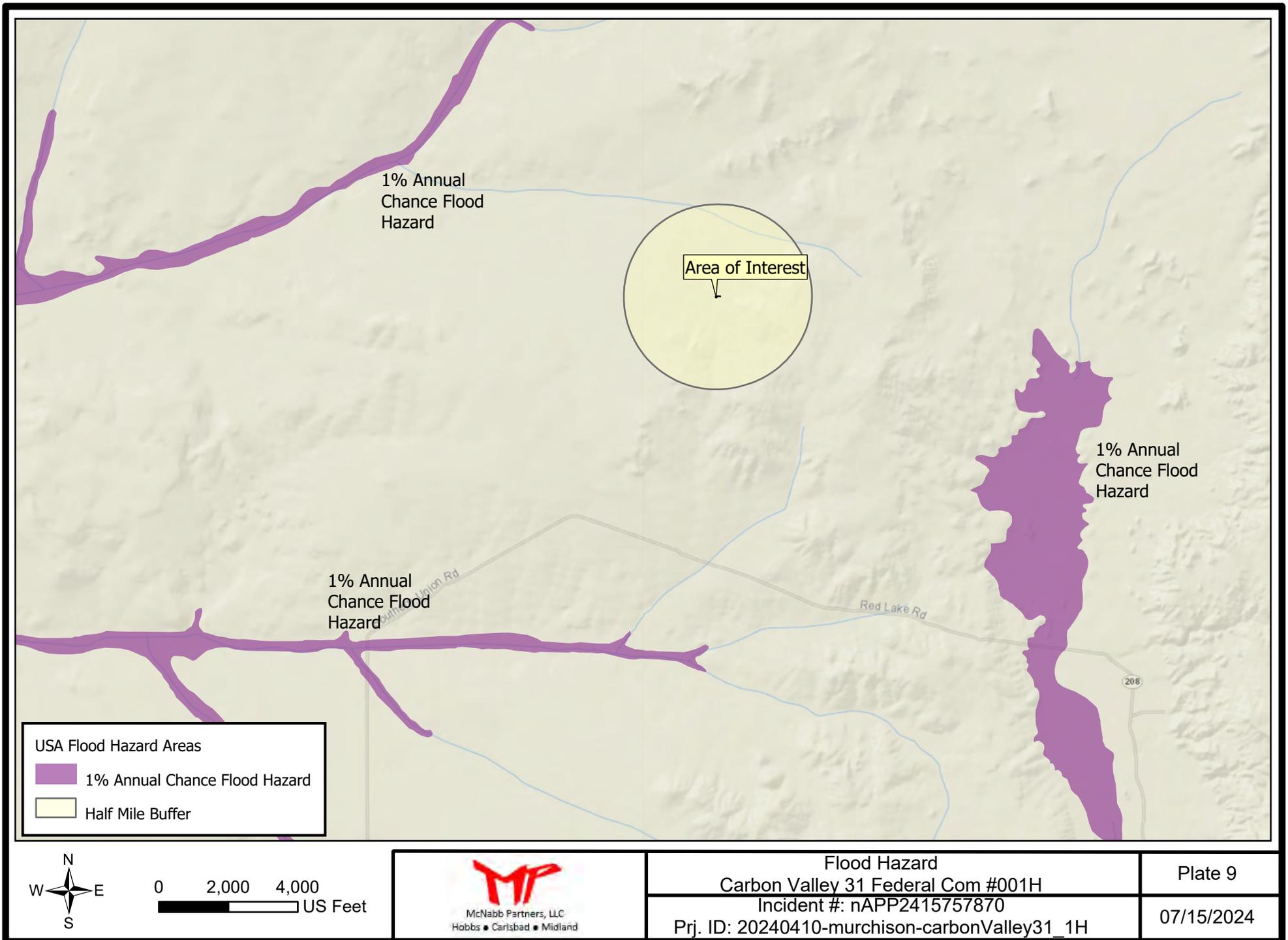


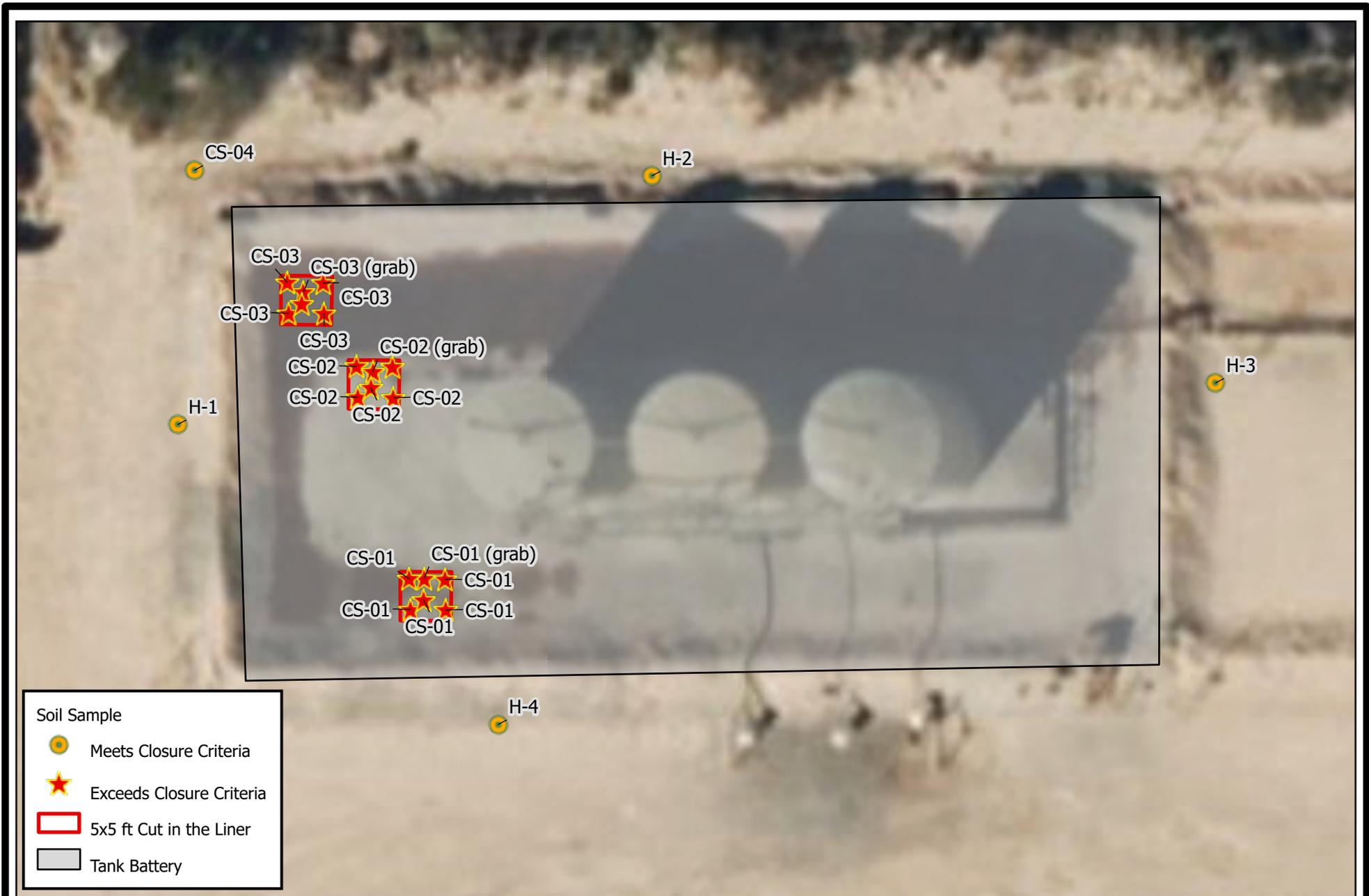
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Mines and Minerals
Carbon Valley 31 Federal Com #001H
Incident #: nAPP2415757870
Prj. ID: 20240410-murchison-carbonValley31_1H

Plate 7
07/15/2024

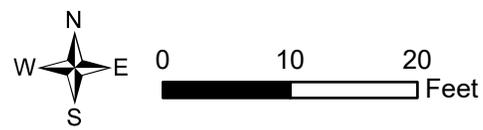






Soil Sample

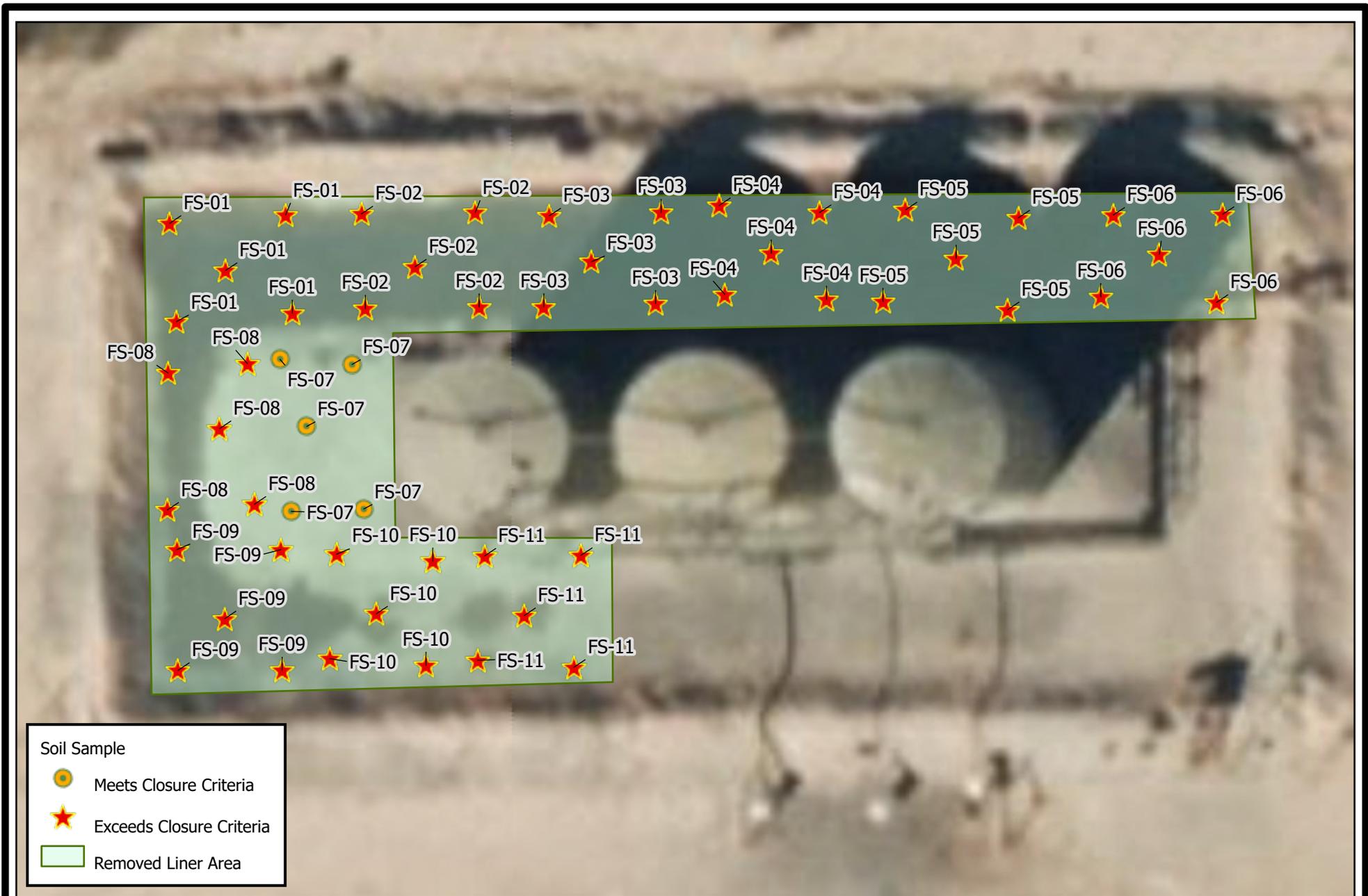
-  Meets Closure Criteria
-  Exceeds Closure Criteria
-  5x5 ft Cut in the Liner
-  Tank Battery




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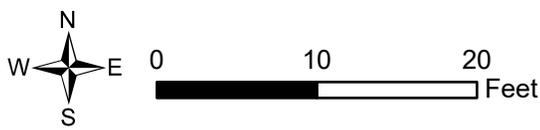
Initial Characterization Samples Carbon Valley 31 Federal #001H
Incident #: nAPP2415757870
Prj. ID: 20240410-murchison-carbonValley31 1H

Plate 10
10/22/2024



Soil Sample

-  Meets Closure Criteria
-  Exceeds Closure Criteria
-  Removed Liner Area




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Surface Sampling Map Carbon Valley 31 Federal #001H
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Plate 11
10/22/2024



Vertical Delineation Samples
 Removed Liner Area



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Vertical Delineation Locations Carbon Valley 31 Federal #001H Incident #: nAPP2415757870 Prj. ID: 20240410-murchison-carbonValley31 1H

Plate 12 10/22/2024



Proposed Remediation Map
Carbon Valley 31 Federal Com #001H
Incident #: nAPP2415757870
Prj. ID: 20240410-murchison-carbonValley31_1H

Plate 13
11/25/2024

Tables



Table A. Analytical Summary
Carbon Valley 31 Fed #001

Sample ID	Date	Depth (Feet)	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	GRO+DRO (mg/kg)	MRO (mg/kg)	TPH Ext. (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)	Lab (Hall/Cardinal)	Lab #
NMOCD Closure Criteria			600	--	--	--	--	100	10	50		
Surface Composite Samples												
CS-01	9/19/2024	0	128	<10.0	96.7	96.7	66.7	163.4	<0.050	<0.300	Cardinal	H245738-01
CS-02	9/19/2024	0	96	<10.0	11000	11000	4340	15340	<0.050	<0.300	Cardinal	H245738-02
CS-03	9/19/2024	0	48	56.6	10300	10356.6	3800	14156.6	<0.050	<0.300	Cardinal	H245738-03
FS-01	10/4/2024	0.5	80	<50.0	6620	6620	2510	9130	<0.050	<0.300	Cardinal	H246075-01
FS-02	10/4/2024	0.5	80	<50.0	7600	7600	2910	10510	<0.050	<0.300	Cardinal	H246075-02
FS-03	10/4/2024	0.5	112	104	10400	10504	3390	13894	<0.050	<0.300	Cardinal	H246075-03
FS-04	10/4/2024	0.5	160	<10.0	6270	6270	1950	8220	<0.050	<0.300	Cardinal	H246075-04
FS-05	10/4/2024	0.5	208	20.3	5400	5420.3	1530	6950.3	<0.050	<0.300	Cardinal	H246075-05
FS-06	10/4/2024	0.5	224	<10.0	5980	5980	1890	7870	<0.050	<0.300	Cardinal	H246075-06
FS-07	10/4/2024	0.5	288	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H246075-07
FS-08	10/4/2024	0.5	224	<10.0	1390	1390	531	1921	<0.050	<0.300	Cardinal	H246075-08
FS-09	10/4/2024	0.5	112	<50.0	9290	9290	2840	12130	<0.050	<0.300	Cardinal	H246075-09
FS-10	10/4/2024	0.5	288	<50.0	12000	12000	3960	15960	<0.050	<0.300	Cardinal	H246075-10
FS-11	10/4/2024	0.5	160	<50.0	9020	9020	2900	11920	<0.050	<0.300	Cardinal	H246075-11
Vertical Delineation Grab Samples												
CS-01	6/24/2024	0-2	64	<10.0	105	105	23.4	128.4	<0.050	<0.300	Cardinal	H243782-01
CS-01	6/24/2024	2-4	224	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H243782-02
CS-02	6/24/2024	0-2	16	<10.0	673	673	265	938	<0.050	<0.300	Cardinal	H243782-03
CS-03	6/24/2024	0-2	176	47.8	876	923.8	190	1113.8	0.077	12.5	Cardinal	H243782-04
CS-03	6/24/2024	2-4	144	<10.0	2730	2730	539	3269	<0.050	0.176	Cardinal	H243782-05
CS-03	6/24/2024	4-6	240	15.5	282	297.5	37	334.5	<0.050	0.883	Cardinal	H243782-06
CS-03	8/13/2024	12.25	480	<10.0	61.5	61.5	<10.0	61.5	<0.050	<0.300	Cardinal	H244992-04
CS-04	8/13/2024	0.5	32	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H244992-01
CS-04	8/13/2024	2	32	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H244992-02
CS-04	8/13/2024	4	16	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H244992-03
G-1	10/7/2024	0.5	96	<50.0	3450	3450	1470	4920	<0.050	<0.300	Cardinal	H246090-01
G-1	10/7/2024	2	464	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H246090-02
G-1	10/7/2024	3	192	<10.0	38.8	38.8	<10.0	38.8	<0.050	<0.300	Cardinal	H246090-03
G-2	10/7/2024	0.5	224	20.4	2370	2390.4	701	3091.4	<0.050	<0.300	Cardinal	H246090-04
G-2	10/7/2024	2	416	<10.0	19.9	19.9	<10.0	19.9	<0.050	<0.300	Cardinal	H246090-05
G-2	10/7/2024	3	240	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H246090-06
G-3	10/7/2024	0.5	64	174	12800	12974	3890	16864	<0.050	0.306	Cardinal	H246090-07
G-3	10/7/2024	2	624	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H246090-08
G-3	10/7/2024	3	736	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H246090-09
G-3	10/7/2024	4	544	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H246090-10
G-4	10/7/2024	0.5	288	179	4460	4639	1020	5659	<0.050	0.733	Cardinal	H246090-11
G-4	10/7/2024	1.5	176	1680	12000	13680	2020	15700	<0.050	19.0	Cardinal	H246090-12
G-4	10/7/2024	3	256	23.7	324	347.7	43.1	390.8	<0.050	<0.300	Cardinal	H246090-13
G-4	10/7/2024	4	32	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H246090-19

Table A. Analytical Summary
Carbon Valley 31 Fed #001

Sample ID	Date	Depth (Feet)	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	GRO+DRO (mg/kg)	MRO (mg/kg)	TPH Ext. (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)	Lab	Lab #
											(Hall/Cardinal)	
NMOCD Closure Criteria			600	--	--	--	--	100	10	50		
G-5	10/7/2024	0.5	288	177	12400	12577	3630	16207	<0.050	<0.300	Cardinal	H246090-14
G-5	10/7/2024	2.5	1060	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H246090-15
G-5	10/7/2024	4	64	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H246090-20
Horizontal Delineation Grab Samples												
H-1	6/24/2024	0-2	<16.0	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H243781-01
H-2	6/24/2024	0-2	<16.0	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H243781-02
H-3	6/24/2024	0-2	<16.0	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H243781-03
H-4	6/24/2024	0-2	<16.0	<10.0	<10.0	<20.0	<10.0	<30.0	<0.050	<0.300	Cardinal	H243781-04
Sample exceeds NMOCD Closure Criteria												

Appendix A

Communications



McNabb Partners, LLC
Hobbs • Carlsbad • Midland

District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720
District II
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 Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Action 355946

QUESTIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 355946
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2415757870
Incident Name	NAPP2415757870 CARBON VALLEY 31 FEDERAL COM #001H @ 30-015-37603
Incident Type	Other
Incident Status	Initial C-141 Approved
Incident Well	[30-015-37603] CARBON VALLEY 31 FEDERAL COM #001H

Location of Release Source

Site Name	CARBON VALLEY 31 FEDERAL COM #001H
Date Release Discovered	04/10/2024
Surface Owner	Federal

Liner Inspection Event Information

Please answer all the questions in this group.

What is the liner inspection surface area in square feet	5,300
Have all the impacted materials been removed from the liner	Yes
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	06/24/2024
Time liner inspection will commence	09:00 AM
Please provide any information necessary for observers to liner inspection	Please contact dimitry@mcnabbpartners.com if needed. 917-497-6890
Please provide any information necessary for navigation to liner inspection site	GPS coordinates: 32.8762606, -104.207663

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

CONDITIONS

Action 355946

CONDITIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 355946
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

CONDITIONS

Created By	Condition	Condition Date
aparkermmp	Failure to notify the OCD of liner inspections including any changes in date/time per the requirements of 19.15.29.11.A(5)(a)(ii) NMAC, may result in the inspection not being accepted.	6/19/2024

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

QUESTIONS

Action 355948

QUESTIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 355948
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2415757870
Incident Name	NAPP2415757870 CARBON VALLEY 31 FEDERAL COM #001H @ 30-015-37603
Incident Type	Other
Incident Status	Initial C-141 Approved
Incident Well	[30-015-37603] CARBON VALLEY 31 FEDERAL COM #001H

Location of Release Source

Site Name	CARBON VALLEY 31 FEDERAL COM #001H
Date Release Discovered	04/10/2024
Surface Owner	Federal

Sampling Event General Information

Please answer all the questions in this group.

What is the sampling surface area in square feet	5,300
What is the estimated number of samples that will be gathered	3
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	06/24/2024
Time sampling will commence	09:00 AM
Please provide any information necessary for observers to contact samplers	Please contact dimitry@mcnabbpartners.com if needed. 917-497-6890
Please provide any information necessary for navigation to sampling site	GPS coordinates: 32.8762606, -104.207663

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Oil Conservation Division
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Santa Fe, NM 87505

CONDITIONS
 Action 355948

CONDITIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 355948
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
aparkermmp	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	6/19/2024

District I
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State of New Mexico
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Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 372127

QUESTIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 372127
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2415757870
Incident Name	NAPP2415757870 CARBON VALLEY 31 FEDERAL COM #001H @ 30-015-37603
Incident Type	Other
Incident Status	Initial C-141 Approved
Incident Well	[30-015-37603] CARBON VALLEY 31 FEDERAL COM #001H

Location of Release Source	
Site Name	CARBON VALLEY 31 FEDERAL COM #001H
Date Release Discovered	04/10/2024
Surface Owner	Federal

Sampling Event General Information	
<i>Please answer all the questions in this group.</i>	
What is the sampling surface area in square feet	600
What is the estimated number of samples that will be gathered	3
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	08/13/2024
Time sampling will commence	08:00 AM
Please provide any information necessary for observers to contact samplers	Please contact dimitry@mcnabbpartners.com if needed. 917-497-6890
Please provide any information necessary for navigation to sampling site	GPS coordinates: 32.876314, -104.207806

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Santa Fe, NM 87505

CONDITIONS

Action 372127

CONDITIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 372127
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
aparkerm	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	8/8/2024

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Oil Conservation Division
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Santa Fe, NM 87505

QUESTIONS

Action 383774

QUESTIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 383774
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2415757870
Incident Name	NAPP2415757870 CARBON VALLEY 31 FEDERAL COM #001H @ 30-015-37603
Incident Type	Other
Incident Status	Initial C-141 Approved
Incident Well	[30-015-37603] CARBON VALLEY 31 FEDERAL COM #001H

Location of Release Source

Site Name	CARBON VALLEY 31 FEDERAL COM #001H
Date Release Discovered	04/10/2024
Surface Owner	Federal

Liner Inspection Event Information

Please answer all the questions in this group.

What is the liner inspection surface area in square feet	5,300
Have all the impacted materials been removed from the liner	Yes
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	09/19/2024
Time liner inspection will commence	10:00 AM
Please provide any information necessary for observers to liner inspection	Please contact dimitry@mcnabbpartners.com if needed. 917-497-6890
Please provide any information necessary for navigation to liner inspection site	GPS coordinates: 32.8762606, -104.207663

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Santa Fe, NM 87505

CONDITIONS
 Action 383774

CONDITIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 383774
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

CONDITIONS

Created By	Condition	Condition Date
aparkerm	Failure to notify the OCD of liner inspections including any changes in date/time per the requirements of 19.15.29.11.A(5)(a)(ii) NMAC, may result in the inspection not being accepted.	9/16/2024

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Oil Conservation Division
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Santa Fe, NM 87505

QUESTIONS

Action 383780

QUESTIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 383780
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2415757870
Incident Name	NAPP2415757870 CARBON VALLEY 31 FEDERAL COM #001H @ 30-015-37603
Incident Type	Other
Incident Status	Initial C-141 Approved
Incident Well	[30-015-37603] CARBON VALLEY 31 FEDERAL COM #001H

Location of Release Source	
Site Name	CARBON VALLEY 31 FEDERAL COM #001H
Date Release Discovered	04/10/2024
Surface Owner	Federal

Sampling Event General Information	
<i>Please answer all the questions in this group.</i>	
What is the sampling surface area in square feet	5,300
What is the estimated number of samples that will be gathered	8
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	09/29/2024
Time sampling will commence	10:00 AM
Please provide any information necessary for observers to contact samplers	Please contact dimitry@mcnabbpartners.com if needed. 917-497-6890
Please provide any information necessary for navigation to sampling site	GPS coordinates: 32.8762606, -104.207663

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Santa Fe, NM 87505

CONDITIONS
 Action 383780

CONDITIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 383780
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
aparkerm	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	9/16/2024

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Santa Fe, NM 87505

QUESTIONS

Action 389298

QUESTIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 389298
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2415757870
Incident Name	NAPP2415757870 CARBON VALLEY 31 FEDERAL COM #001H @ 30-015-37603
Incident Type	Other
Incident Status	Initial C-141 Approved
Incident Well	[30-015-37603] CARBON VALLEY 31 FEDERAL COM #001H

Location of Release Source

Site Name	CARBON VALLEY 31 FEDERAL COM #001H
Date Release Discovered	04/10/2024
Surface Owner	Federal

Sampling Event General Information

Please answer all the questions in this group.

What is the sampling surface area in square feet	2,151
What is the estimated number of samples that will be gathered	11
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	10/04/2024
Time sampling will commence	09:00 AM
Please provide any information necessary for observers to contact samplers	Sampling plan was sent to Brittany.Hall@emnrd.nm.gov as requested. Please contact dimitry@mcnabbpartners.com if needed. 917-497-6890
Please provide any information necessary for navigation to sampling site	GPS coordinates: 32.8759499,-104.2073593

District I
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Santa Fe, NM 87505

CONDITIONS

Action 389298

CONDITIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 389298
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
aparkerm	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	10/2/2024

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

QUESTIONS

Action 389302

QUESTIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 389302
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2415757870
Incident Name	NAPP2415757870 CARBON VALLEY 31 FEDERAL COM #001H @ 30-015-37603
Incident Type	Other
Incident Status	Initial C-141 Approved
Incident Well	[30-015-37603] CARBON VALLEY 31 FEDERAL COM #001H

Location of Release Source	
Site Name	CARBON VALLEY 31 FEDERAL COM #001H
Date Release Discovered	04/10/2024
Surface Owner	Federal

Sampling Event General Information	
<i>Please answer all the questions in this group.</i>	
What is the sampling surface area in square feet	2,151
What is the estimated number of samples that will be gathered	11
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	10/07/2024
Time sampling will commence	09:00 AM
Please provide any information necessary for observers to contact samplers	Sampling plan was sent to Brittany.Hall@emnrd.nm.gov as requested. Please contact dimitry@mcnabbpartners.com if needed. 917-497-6890
Please provide any information necessary for navigation to sampling site	GPS coordinates: 32.8759499,-104.2073593

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Santa Fe, NM 87505

CONDITIONS

Action 389302

CONDITIONS

Operator: Murchison Oil and Gas, LLC 7250 Dallas Parkway Plano, TX 75024	OGRID: 15363
	Action Number: 389302
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
aparkermmp	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	10/2/2024



Outlook

RE: [EXTERNAL] Carbon Valley Sampling Plans

From Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>**Date** Wed 10/2/2024 2:48 PM**To** Cindy Cottrell <ccottrell@jdmii.com>**Cc** Dimitry Nikanorov <Dimitry@mcnabbpartners.com>; Greg Boans <gboans@jdmii.com>; Luke Pumphrey <lpumphrey@jdmii.com>; Smith, Cory, EMNRD <cory.smith@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Powell, Brandon, EMNRD <Brandon.Powell@emnrd.nm.gov>; Romero, Rosa, EMNRD <RosaM.Romero@emnrd.nm.gov>

Cindy,

The sampling plans for the Carbon Valley 25 Federal Com #007 (nAPP2415754364), Carbon Valley 31 Federal Com #001H (nAPP2415757870), and Carbon Valley 26 Federal Com #001H (nAPP2415757665) are approved with the following conditions:

- All aliquots of the 5-point composite samples must be collected from areas where the liner has been removed. Any aliquots collected from soil that is still underneath portions of the liner that remains in place will not be accepted nor will the composite samples that contain those aliquots will not be accepted.
- Site maps must illustrate where the aliquots for each 5-point composite sample were collected from.
- Horizontal delineation must be completed.
- Any deferral requests will be reviewed on a case-by-case basis and must meet the requirements of a deferral pursuant to 19.15.29.12 C.(2) NMAC.

Do you anticipate the sampling taking both days to complete? The sampling notifications were submitted for the same times for each site on 10/4 and 10/7.

Thank you,

Brittany Hall • Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110
505.517.5333 | Brittany.Hall@emnrd.nm.gov
<http://www.emnrd.nm.gov/ocd/>

Please be advised that the new Digital C-141 is live as of December 1, 2023. Please review the new Digital C-141 submission Dec 1, 2023 Guidance document posted on the EMNRD Website prior to submitting any C-141s. The guidance documents can be found at <https://www.emnrd.nm.gov/ocd/ocd-announcements-and-notifications/> or <https://www.emnrd.nm.gov/ocd/ocd-forms/>.

From: Cindy Cottrell <ccottrell@jdmii.com>**Sent:** Wednesday, October 2, 2024 11:09 AM**To:** Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>**Cc:** Dimitry Nikanorov <Dimitry@mcnabbpartners.com>; Greg Boans <gboans@jdmii.com>; Luke Pumphrey <lpumphrey@jdmii.com>**Subject:** [EXTERNAL] Carbon Valley Sampling Plans

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

Hi Brittany,

The sampling plans for the Carbon Valley 25-7, 31-1 and 26-1 are attached for your review and approval. If everything looks good to you, we will send sampling notifications for Friday or next Monday.

Thank you,



Cindy Cottrell
Regulatory Coordinator & Corporate Secretary
7250 Dallas Parkway, Suite 1400
Plano, TX 75024
Direct Line: 469-573-6413

Appendix B

Well Log



McNabb Partners, LLC
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WELL PLUGGING PLAN OF OPERATIONS



NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging. This form may be used to plug a single well, or if you are plugging multiple monitoring wells on the same site using the same plugging methodology.

Alert! Your well may be eligible to participate in the Aquifer Mapping Program (AMP)-NM Bureau of Geology geoinfo.nmt.edu/resources/water/egm/ if within an area of interest and meets the minimum construction requirements, such as there is still water in your well, and the well construction reflected in a well record and log is not compromised, contact AMP at 575-835-5038 or -6951, or by email nmbg-waterlevels@nmt.edu, prior to completing this prior form. Showing proof to the OSE that your well was accepted in this program, may delay the plugging of your well until a later date.

I. FILING FEE: There is no filing fee for this form.

II. GENERAL / WELL OWNERSHIP: Check here if proposing one plan for multiple monitoring wells on the same site and attaching WD-08m

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: RA-13179-POO1

Name of well owner: EOG Resources, Inc.

Mailing address: 104 South Fourth Street County: _____

City: Artesia State: New Mexico Zip code: 88210

Phone number: 575-513-9235 E-mail: jeremy_haas@eogresources.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: HRL Compliance Solutions

New Mexico Well Driller License No.: WD #1789 Expiration Date: _____

IV. WELL INFORMATION: Check here if this plan describes method for plugging multiple monitoring wells on the same site and attach supplemental form WD-08m and skip to #2 in this section.

Note: A copy of the existing Well Record for the well(s) to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: _____ deg, _____ min, _____ sec
Longitude: _____ deg, _____ min, _____ sec, NAD 83

2) Reason(s) for plugging well(s):

Monitoring well(s) do not exist and are not installed. The one soil boring will be plugged for this plan.

3) Was well used for any type of monitoring program? no If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? NA If yes, provide additional detail, including analytical results and/or laboratory report(s): NA

5) Static water level: >50 feet below land surface / feet above land surface (circle one)

6) Depth of the well: 50 feet

- 7) Inside diameter of innermost casing: N/A inches.
- 8) Casing material: N/A
- 9) The well was constructed with:
 - an open-hole production interval, state the open interval: N/A
 - a well screen or perforated pipe, state the screened interval(s): N/A
- 10) What annular interval surrounding the artesian casing of this well is cement-grouted? N/A
- 11) Was the well built with surface casing? NA If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? _____ If yes, please describe:

N/A
- 12) Has all pumping equipment and associated piping been removed from the well? N/A If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

V. DESCRIPTION OF PLANNED WELL PLUGGING: If plugging method differs between multiple wells on same site, a separate form must be completed for each method.

Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan.

Also, if this planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed variance request signed by the applicant.

- 1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well:

Bentonite will be added to the bore hole. The remaining space will be backfilled with the drill cuttings. The ground surface will be re-contoured to natural grade.
- 2) Will well head be cut-off below land surface after plugging? N/A

VI. PLUGGING AND SEALING MATERIALS:

Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant. Attach a copy of the batch mix recipe from the cement company and/or product description for specialty cement mixes or any sealant that deviates from the list of OSE approved sealants.

- 1) For plugging intervals that employ cement grout, complete and attach Table A.
- 2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.
- 3) Theoretical volume of grout required to plug the well to land surface: 4 bags
- 4) Type of Cement proposed: Bentonite Pellets
- 5) Proposed cement grout mix: N/A gallons of water per 94 pound sack of Portland cement.
- 6) Will the grout be: _____ batch-mixed and delivered to the site
 x mixed on site

7) Grout additives requested, and percent by dry weight relative to cement:

N/A

8) Additional notes and calculations:

VII. ADDITIONAL INFORMATION: List additional information below, or on separate sheet(s):

VIII. SIGNATURE:

I, Tami Knight, as agent, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

Tami C. Knight

April 13, 2022

Signature of Applicant

Date

IX. ACTION OF THE STATE ENGINEER:

This Well Plugging Plan of Operations is:

- Approved subject to the attached conditions.
- Not approved for the reasons provided on the attached letter.

CSE 017 APR 14 2022

Witness my hand and official seal this 22 day of April, 2022

Mike A Humman PE
John R. D'Antonio Jr. P.E., New Mexico State Engineer

By: Juli's Sanchez



TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

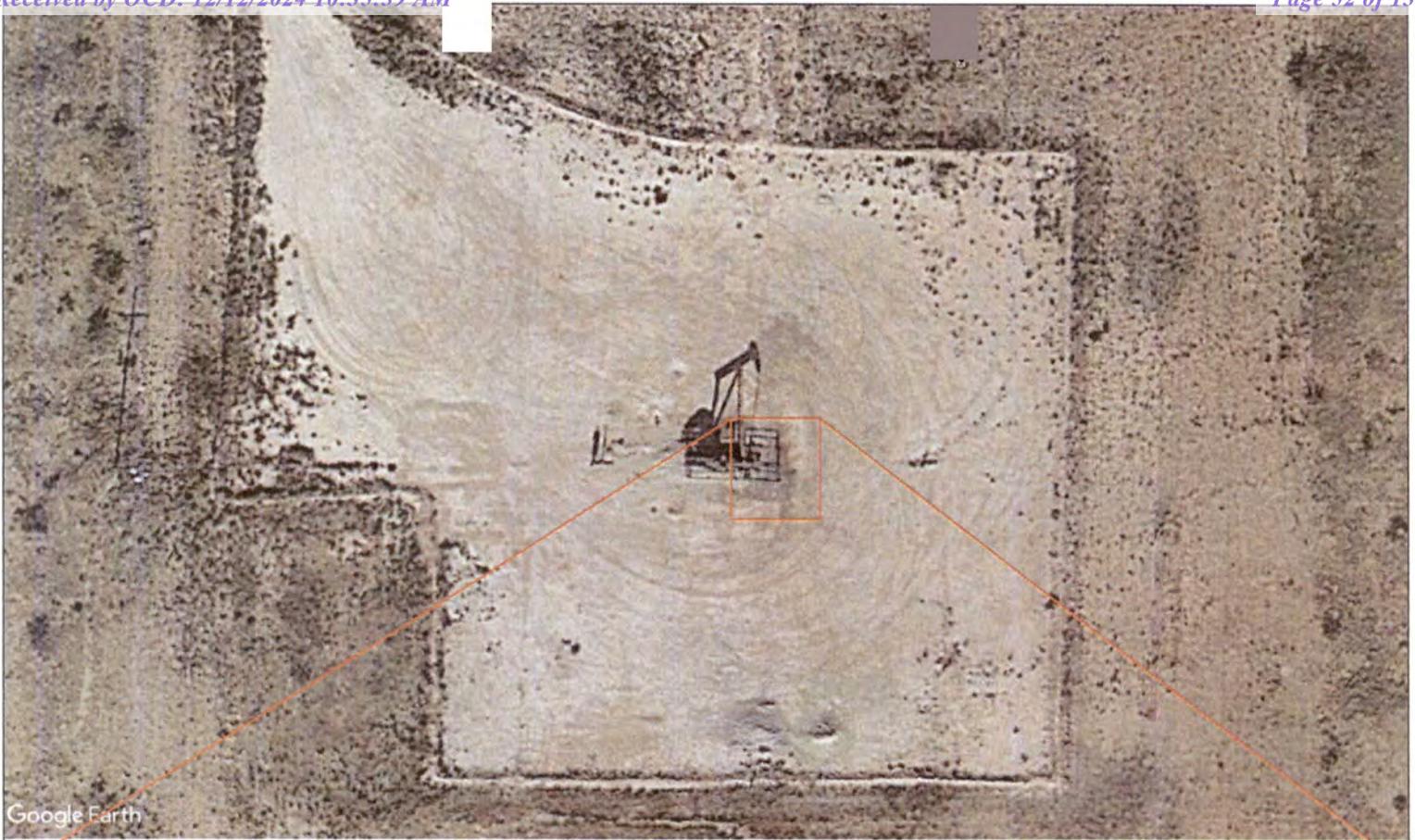
	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)			
Bottom of proposed interval of grout placement (ft bgl)			
Theoretical volume of grout required per interval (gallons)			
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			
Mixed on-site or batch-mixed and delivered?			
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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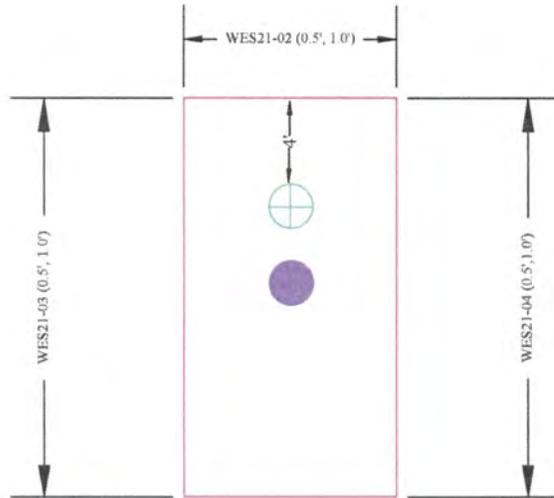
TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)			
Bottom of proposed sealant of grout placement (ft bgl)			
Theoretical volume of sealant required per interval (gallons)			
Proposed abandonment sealant (manufacturer and trade name)			

USE ON APR 14 2022 PM 4:14



Google Earth



USE DTI APR 14 2022 PM 4:14



Legend

- Excavation
- ⊕ - Wellhead
- - BES21-01 (0.5', 1.0')
- WES21-02 (0.5', 1.0') - sample locations

*Sample locations are representative of 5-point composites

MAP DRAWN BY:
KS
11/09/2021

REVISIONS BY:
BAH
11/09/2021

APPROVED BY:
NAME
DATE

Scale
2" = 15'

Figure 2, Site Map

EOG Resources, Inc.
Characterization and Remediation Plan
Lucky Wolf 31 Federal Com #2H Well Site
API: 30-0415-37448
Eddy County, New Mexico
Section 31, Township 16S, Range 28E
Project #19034-0005



5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615



STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL

Mike A. Hamman, P.E
State Engineer

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623-8559

April 22, 2022

EOG Resources, Inc
104 S Fourth Street
Artesia NM 88210

RE: Well Plugging Plan of Operations for well RA-13179-POD1

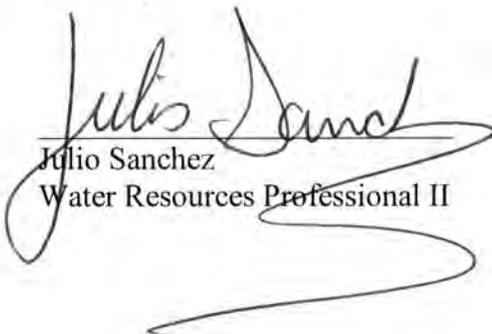
Greetings:

Enclosed is your copy of the Well Plugging Plan of Operations for the above referenced project. The proposed method of operation is found to be acceptable and in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted June 30, 2017 by the State Engineer.

- (1) Plugging operations shall also be conducted in accordance with NMED, NMOCD, or other State or Federal agencies having oversight for the above described project.*
- (2) Bentonite Pellets: Fresh water to be added above water column at rate of 5 gallons per 50-lb sack/bucket*
- (3) Any deviation from this plan must obtain an approved variance from this office prior to implementation.*

Within 30 days after the well is plugged, the well driller is required to file a complete plugging record with the OSE and the permit holder.

Sincerely,



Julio Sanchez
Water Resources Professional II

Appendix C

Laboratory Reports and Chain-Of-Custody Documents



McNabb Partners, LLC
Hobbs • Carlsbad • Midland



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

July 08, 2024

DIMITRY NIKANOROV

MC NABB SERVICES

P. O. BOX 5753

HOBBS, NM 88240

RE: CARBON VALLEY 31-1

Enclosed are the results of analyses for samples received by the laboratory on 06/25/24 13:22.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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 accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	06/25/2024	Sampling Date:	06/24/2024
Reported:	07/08/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: H - 1 0-2 (H243781-01)

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	07/05/2024	ND	2.00	100	2.00	2.14	
Toluene*	<0.050	0.050	07/05/2024	ND	2.10	105	2.00	2.79	
Ethylbenzene*	<0.050	0.050	07/05/2024	ND	2.17	109	2.00	3.06	
Total Xylenes*	<0.150	0.150	07/05/2024	ND	6.65	111	6.00	2.98	
Total BTEX	<0.300	0.300	07/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/03/2024	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	07/03/2024	ND	189	94.7	200	0.908	
DRO >C10-C28*	<10.0	10.0	07/03/2024	ND	192	96.2	200	2.63	
EXT DRO >C28-C36	<10.0	10.0	07/03/2024	ND					

Surrogate: 1-Chlorooctane 126 % 48.2-134

Surrogate: 1-Chlorooctadecane 128 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	06/25/2024	Sampling Date:	06/24/2024
Reported:	07/08/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: H - 2 0-2 (H243781-02)

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	07/05/2024	ND	2.00	100	2.00	2.14	
Toluene*	<0.050	0.050	07/05/2024	ND	2.10	105	2.00	2.79	
Ethylbenzene*	<0.050	0.050	07/05/2024	ND	2.17	109	2.00	3.06	
Total Xylenes*	<0.150	0.150	07/05/2024	ND	6.65	111	6.00	2.98	
Total BTEX	<0.300	0.300	07/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/03/2024	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	07/03/2024	ND	189	94.7	200	0.908	
DRO >C10-C28*	<10.0	10.0	07/03/2024	ND	192	96.2	200	2.63	
EXT DRO >C28-C36	<10.0	10.0	07/03/2024	ND					

Surrogate: 1-Chlorooctane 82.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	06/25/2024	Sampling Date:	06/24/2024
Reported:	07/08/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: H - 3 0-2 (H243781-03)

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	07/05/2024	ND	2.00	100	2.00	2.14	
Toluene*	<0.050	0.050	07/05/2024	ND	2.10	105	2.00	2.79	
Ethylbenzene*	<0.050	0.050	07/05/2024	ND	2.17	109	2.00	3.06	
Total Xylenes*	<0.150	0.150	07/05/2024	ND	6.65	111	6.00	2.98	
Total BTEX	<0.300	0.300	07/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/03/2024	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	07/03/2024	ND	189	94.7	200	0.908	
DRO >C10-C28*	<10.0	10.0	07/03/2024	ND	192	96.2	200	2.63	
EXT DRO >C28-C36	<10.0	10.0	07/03/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	06/25/2024	Sampling Date:	06/24/2024
Reported:	07/08/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: H - 4 0-2 (H243781-04)

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	07/05/2024	ND	2.00	100	2.00	2.14	
Toluene*	<0.050	0.050	07/05/2024	ND	2.10	105	2.00	2.79	
Ethylbenzene*	<0.050	0.050	07/05/2024	ND	2.17	109	2.00	3.06	
Total Xylenes*	<0.150	0.150	07/05/2024	ND	6.65	111	6.00	2.98	
Total BTEX	<0.300	0.300	07/05/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/03/2024	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	07/03/2024	ND	189	94.7	200	0.908	
DRO >C10-C28*	<10.0	10.0	07/03/2024	ND	192	96.2	200	2.63	
EXT DRO >C28-C36	<10.0	10.0	07/03/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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 client for 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 thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: McNabb Partners

BILL TO

ANALYSIS REQUEST

Project Manager: Dmitry Nikanorov
 Address: 5014 W Carlsbad Hwy
 City: Hobbs State: NM Zip: 88220
 Phone #: 9174976890 Fax #: Company: McNabb Partners
 Project #: Project Owner: Murchison Oil & Gas
 Project Location: Carbon Valley 31-1
 Project Name: Eddy Co, NM
 Sampler Name: Chris Turner, Dmitry Nikanorov
 P.O. #: Company: McNabb Partners
 Address: City: State: Zip: Phone #: Fax #:

FOR LAB USE ONLY
 Lab I.D. Sample I.D.

Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	Chloride	TPH	BTEX	Remarks
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER								
H243781										6/24/24	14:00	X	X	X	Hold to 6/25/24 Hold Removed 7/2/24 to.	
1			X							6/24/24	14:20	X	X	X		
2			X							6/24/24	14:40	X	X	X		
3			X							6/24/24	15:00	X	X	X		
4			X													

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Relinquished By: [Signature]
 Received By: [Signature]
 Date: 6/25-24
 Time: 13:30
 Verbal Result: Yes No
 All Results are emailed. Please provide Email address: dmitrynikanorov@gmail.com, dmitry@mcnabbpartners.com, andrew@mcnabbpartners.com
 REMARKS:

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other: Standard
 Observed Temp. °C: 2.5
 Corrected Temp. °C: [Blank]
 Sample Condition Cool Intact: Yes No
 CHECKED BY: [Signature]
 Turnaround Time: Standard Rush
 Thermometer ID #1440
 Correction Factor: [Blank]
 Cool Intact: Yes No
 Observed Temp. °C: [Blank]
 Corrected Temp. °C: [Blank]

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

FORM-006 R 3.2 10/07/21



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

July 02, 2024

DIMITRY NIKANOROV

MC NABB SERVICES

P. O. BOX 5753

HOBBS, NM 88240

RE: CARBON VALLEY 31-1

Enclosed are the results of analyses for samples received by the laboratory on 06/25/24 13:22.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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 accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	06/25/2024	Sampling Date:	06/24/2024
Reported:	07/02/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 01 0-2 (H243782-01)

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	06/30/2024	ND	1.97	98.3	2.00	5.13	
Toluene*	<0.050	0.050	06/30/2024	ND	1.93	96.3	2.00	4.90	
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	1.96	98.0	2.00	4.81	
Total Xylenes*	<0.150	0.150	06/30/2024	ND	5.76	95.9	6.00	4.69	
Total BTEX	<0.300	0.300	06/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	64.0	16.0	06/28/2024	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	06/29/2024	ND	202	101	200	1.22	
DRO >C10-C28*	105	10.0	06/29/2024	ND	184	92.0	200	8.60	
EXT DRO >C28-C36	23.4	10.0	06/29/2024	ND					

Surrogate: 1-Chlorooctane 88.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	06/25/2024	Sampling Date:	06/24/2024
Reported:	07/02/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 01 2-4 (H243782-02)

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	06/30/2024	ND	1.97	98.3	2.00	5.13	
Toluene*	<0.050	0.050	06/30/2024	ND	1.93	96.3	2.00	4.90	
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	1.96	98.0	2.00	4.81	
Total Xylenes*	<0.150	0.150	06/30/2024	ND	5.76	95.9	6.00	4.69	
Total BTEX	<0.300	0.300	06/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	06/28/2024	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	06/29/2024	ND	202	101	200	1.22	
DRO >C10-C28*	<10.0	10.0	06/29/2024	ND	184	92.0	200	8.60	
EXT DRO >C28-C36	<10.0	10.0	06/29/2024	ND					

Surrogate: 1-Chlorooctane 86.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	06/25/2024	Sampling Date:	06/24/2024
Reported:	07/02/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 02 0-2 (H243782-03)

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	06/30/2024	ND	1.97	98.3	2.00	5.13	
Toluene*	<0.050	0.050	06/30/2024	ND	1.93	96.3	2.00	4.90	
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	1.96	98.0	2.00	4.81	
Total Xylenes*	<0.150	0.150	06/30/2024	ND	5.76	95.9	6.00	4.69	
Total BTEX	<0.300	0.300	06/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.6 % 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	16.0	16.0	06/28/2024	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	06/29/2024	ND	202	101	200	1.22	
DRO >C10-C28*	673	10.0	06/29/2024	ND	184	92.0	200	8.60	
EXT DRO >C28-C36	265	10.0	06/29/2024	ND					

Surrogate: 1-Chlorooctane 85.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	06/25/2024	Sampling Date:	06/24/2024
Reported:	07/02/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 03 0-2 (H243782-04)

BTEX 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.077	0.050	06/30/2024	ND	1.97	98.3	2.00	5.13	
Toluene*	0.570	0.050	06/30/2024	ND	1.93	96.3	2.00	4.90	
Ethylbenzene*	1.71	0.050	06/30/2024	ND	1.96	98.0	2.00	4.81	
Total Xylenes*	10.2	0.150	06/30/2024	ND	5.76	95.9	6.00	4.69	
Total BTEX	12.5	0.300	06/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 309 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	06/28/2024	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*	47.8	10.0	06/29/2024	ND	202	101	200	1.22	
DRO >C10-C28*	876	10.0	06/29/2024	ND	184	92.0	200	8.60	
EXT DRO >C28-C36	190	10.0	06/29/2024	ND					

Surrogate: 1-Chlorooctane 93.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	06/25/2024	Sampling Date:	06/24/2024
Reported:	07/02/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 03 2-4 (H243782-05)

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	06/30/2024	ND	1.97	98.3	2.00	5.13	
Toluene*	<0.050	0.050	06/30/2024	ND	1.93	96.3	2.00	4.90	
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	1.96	98.0	2.00	4.81	
Total Xylenes*	0.176	0.150	06/30/2024	ND	5.76	95.9	6.00	4.69	
Total BTEX	<0.300	0.300	06/30/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	06/28/2024	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	06/29/2024	ND	202	101	200	1.22	
DRO >C10-C28*	2730	10.0	06/29/2024	ND	184	92.0	200	8.60	
EXT DRO >C28-C36	539	10.0	06/29/2024	ND					

Surrogate: 1-Chlorooctane 89.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	06/25/2024	Sampling Date:	06/24/2024
Reported:	07/02/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 03 4-6 (H243782-06)

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	06/30/2024	ND	2.12	106	2.00	2.44	QM-07
Toluene*	<0.050	0.050	06/30/2024	ND	2.31	115	2.00	2.16	
Ethylbenzene*	0.123	0.050	06/30/2024	ND	2.32	116	2.00	1.58	QM-07
Total Xylenes*	0.760	0.150	06/30/2024	ND	6.94	116	6.00	1.74	QM-07
Total BTEX	0.883	0.300	06/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 137 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	06/28/2024	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*	15.5	10.0	06/29/2024	ND	202	101	200	1.22	
DRO >C10-C28*	282	10.0	06/29/2024	ND	184	92.0	200	8.60	
EXT DRO >C28-C36	37.0	10.0	06/29/2024	ND					

Surrogate: 1-Chlorooctane 89.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.6 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

August 20, 2024

DIMITRY NIKANOROV

MC NABB SERVICES

P. O. BOX 5753

HOBBS, NM 88240

RE: CARBON VALLEY 31-1

Enclosed are the results of analyses for samples received by the laboratory on 08/16/24 12:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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 accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	08/16/2024	Sampling Date:	08/13/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Alyssa Parras
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 04 (0.5') (H244992-01)

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	08/19/2024	ND	2.21	111	2.00	6.41	
Toluene*	<0.050	0.050	08/19/2024	ND	2.33	116	2.00	4.14	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.44	122	2.00	1.93	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	7.38	123	6.00	1.14	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	08/19/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/19/2024	ND	214	107	200	3.07	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	221	110	200	2.77	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 68.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	08/16/2024	Sampling Date:	08/13/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Alyssa Parras
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 04 (2') (H244992-02)

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	08/19/2024	ND	2.21	111	2.00	6.41	
Toluene*	<0.050	0.050	08/19/2024	ND	2.33	116	2.00	4.14	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.44	122	2.00	1.93	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	7.38	123	6.00	1.14	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/19/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/19/2024	ND	214	107	200	3.07	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	221	110	200	2.77	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 76.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	08/16/2024	Sampling Date:	08/13/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Alyssa Parras
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 04 (4') (H244992-03)

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	08/19/2024	ND	2.21	111	2.00	6.41	
Toluene*	<0.050	0.050	08/19/2024	ND	2.33	116	2.00	4.14	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.44	122	2.00	1.93	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	7.38	123	6.00	1.14	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/19/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/19/2024	ND	214	107	200	3.07	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	221	110	200	2.77	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 74.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	08/16/2024	Sampling Date:	08/13/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Alyssa Parras
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 03 (12.25') (H244992-04)

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	08/19/2024	ND	2.21	111	2.00	6.41	
Toluene*	<0.050	0.050	08/19/2024	ND	2.33	116	2.00	4.14	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.44	122	2.00	1.93	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	7.38	123	6.00	1.14	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 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	480	16.0	08/19/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/19/2024	ND	214	107	200	3.07	
DRO >C10-C28*	61.5	10.0	08/19/2024	ND	221	110	200	2.77	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 81.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: McNabb Partners Project Manager: Dmirity Nikanorov Address: 5014 W Carlsbad Hwy City: Hobbs State: NM Zip: 88240 Phone #: 917-497-6890 Fax #: Project #: Project Name: Carbon Valley 31-1 Project Location: Eddy Co. NM Sampler Name: Dmirity Nikanorov, Andrew Parker		P.O. #: Company: Murchison Oil & Gas Attn: Greg Boans Address: 5325 Sierra Vista Dr. City: Carlsbad State: NM Zip: 88220 Phone #: 575-706-0667	
FOR LAB USE ONLY Lab I.D. H244992 Sample I.D. CS-04 (0.5') CS-04 (2') CS-04 (4') CS-03 (12.25')		BILL TO ANALYSIS REQUEST	
(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER :		MATRIX ACID/BASE: ICE / COOL OTHER :	
DATE 8/13/24 8/13/24 8/13/24 8/13/24		TIME 8:00 8:10 8:20 15:45	
TPH Chloride BTEX			

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Relinquished By: *[Signature]* Date: 8/10/24
 Received By: *[Signature]* Date: 8/10/24
 Time: 1:00 PM

Delivered By: (Circle One) Observed Temp. °C: 1.0 Corrected Temp. °C: 0.4
 Sampler - UPS - Bus - Other: Sample Condition: Cool Intact Yes No
 Checked By: *[Signature]* Turnaround Time: 48 hours Standard Add'l Phone #: *[Blank]*
 Thermometer ID #140 Correction Factor -0.5°C Bacteria (only) Sample Condition: Cool Intact Yes No
 Corrected Temp. °C

REMARKS: All Results are emailed. Please provide Email address: dmirity@mcnabbpartners.com, andrew@mcnabbpartners.com, laura@mcnabbpartners.com

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



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September 24, 2024

DIMITRY NIKANOROV

MC NABB SERVICES

P. O. BOX 5753

HOBBS, NM 88240

RE: CARBON VALLEY 31-1

Enclosed are the results of analyses for samples received by the laboratory on 09/20/24 12:48.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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 accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	09/20/2024	Sampling Date:	09/19/2024
Reported:	09/24/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 01 0 FT (H245738-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2024	ND	2.09	105	2.00	2.25	
Toluene*	<0.050	0.050	09/20/2024	ND	2.04	102	2.00	2.32	
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	2.11	106	2.00	2.51	
Total Xylenes*	<0.150	0.150	09/20/2024	ND	6.33	105	6.00	2.57	
Total BTEX	<0.300	0.300	09/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	128	16.0	09/23/2024	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	220	110	200	2.49	
DRO >C10-C28*	96.7	10.0	09/20/2024	ND	218	109	200	2.01	
EXT DRO >C28-C36	66.7	10.0	09/20/2024	ND					

Surrogate: 1-Chlorooctane 81.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	09/20/2024	Sampling Date:	09/19/2024
Reported:	09/24/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 02 0 FT (H245738-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2024	ND	2.09	105	2.00	2.25	
Toluene*	<0.050	0.050	09/20/2024	ND	2.04	102	2.00	2.32	
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	2.11	106	2.00	2.51	GC-NC
Total Xylenes*	<0.150	0.150	09/20/2024	ND	6.33	105	6.00	2.57	
Total BTEX	<0.300	0.300	09/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 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	96.0	16.0	09/23/2024	ND	416	104	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*	<50.0	50.0	09/21/2024	ND	220	110	200	2.49		
DRO >C10-C28*	11000	50.0	09/21/2024	ND	218	109	200	2.01		
EXT DRO >C28-C36	4340	50.0	09/21/2024	ND						

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 189 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES
 DIMITRY NIKANOROV
 P. O. BOX 5753
 HOBBS NM, 88240
 Fax To: (575) 391-8484

Received:	09/20/2024	Sampling Date:	09/19/2024
Reported:	09/24/2024	Sampling Type:	Soil
Project Name:	CARBON VALLEY 31-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MURCHISON EDDY CO, NM		

Sample ID: CS - 03 0 FT (H245738-03)

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	09/20/2024	ND	2.09	105	2.00	2.25	
Toluene*	<0.050	0.050	09/20/2024	ND	2.04	102	2.00	2.32	
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	2.11	106	2.00	2.51	GC-NC
Total Xylenes*	<0.150	0.150	09/20/2024	ND	6.33	105	6.00	2.57	
Total BTEX	<0.300	0.300	09/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 172 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/23/2024	ND	416	104	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*	56.6	50.0	09/21/2024	ND	220	110	200	2.49	
DRO >C10-C28*	10300	50.0	09/21/2024	ND	218	109	200	2.01	
EXT DRO >C28-C36	3800	50.0	09/21/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 190 % 49.1-148

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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.
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-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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: McNabb Partners
 Project Manager: Dimitri Nikanorov
 Address: 5014 W Carlisbad State: NM Zip: 88240
 City: Lubbock
 Phone #: 917-497-6840 Fax #:
 Project #: Project Owner: Murchison
 Project Name: Carlson Valley 31-1
 Project Location: Eddy County
 Sampler Name: Auben Escrigle

P.O. #:
 Company: Murchison
 Attn: Greg Boman
 Address:
 City:
 State: Zip:
 Phone #:
 Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							PRESERV.	SAMPLING	DATE	TIME	TAP	Chloride	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:							
<u>H245738</u>	<u>1 CS-01</u>	<u>OFT.</u>	<u>1</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>9/19/24</u>	<u>1:30</u>	<u>X</u>	<u>X</u>	<u>X</u>	
	<u>2 CS-02</u>	<u>OFT</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>9/19/24</u>	<u>1:45</u>	<u>X</u>	<u>X</u>	<u>X</u>	
	<u>3 CS-03</u>	<u>OFT.</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>9/19/24</u>	<u>1:58</u>	<u>X</u>	<u>X</u>	<u>X</u>	

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Relinquished By: [Signature]
 Date: 9/20/24
 Time: 12:48
 Received By: [Signature]
 Date: 9/20/24
 Time: 12:48

Vertical Result: Yes No Add'l Phone #:
 All Results are emailed. Please provide Email address:
 REMARKS: Dimitri @ McNabb Partners

Delivered By: (Circle One) Observed Temp. °C 6.0 Sample Condition Intact Cool Yes No
 Corrected Temp. °C 5.4 Checked By: [Signature]
 Sampler - UPS - Bus - Other: Yes No



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

October 18, 2024

DIMITRY NIKANOROV
MC NABB SERVICES
P. O. BOX 5753
HOBBS, NM 88240

RE: CARBON VALLEY 31-1

Enclosed are the results of analyses for samples received by the laboratory on 10/04/24 16:14.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2 Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2 Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS - 01 0'	H246075-01	Soil	04-Oct-24 11:18	04-Oct-24 16:14
FS - 02 0'	H246075-02	Soil	04-Oct-24 11:21	04-Oct-24 16:14
FS - 03 0'	H246075-03	Soil	04-Oct-24 11:36	04-Oct-24 16:14
FS - 04 0'	H246075-04	Soil	04-Oct-24 11:38	04-Oct-24 16:14
FS - 05 0'	H246075-05	Soil	04-Oct-24 11:56	04-Oct-24 16:14
FS - 06 0'	H246075-06	Soil	04-Oct-24 12:03	04-Oct-24 16:14
FS - 07 0'	H246075-07	Soil	04-Oct-24 13:08	04-Oct-24 16:14
FS - 08 0'	H246075-08	Soil	04-Oct-24 13:14	04-Oct-24 16:14
FS - 09 0'	H246075-09	Soil	04-Oct-24 13:28	04-Oct-24 16:14
FS - 10 0'	H246075-10	Soil	04-Oct-24 13:32	04-Oct-24 16:14
FS - 11 0'	H246075-11	Soil	04-Oct-24 13:38	04-Oct-24 16:14

10/18/24 - Client changed the depth on all samples (see COC). This is the revised report and will replace the one sent on 10/10/24.

Cardinal Laboratories

*=Accredited Analyte

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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 01 0'
H246075-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	80.0		16.0	mg/kg	4	4100801	KV	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100503	JH	07-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			110 %		71.5-134	4100503	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	<50.0		50.0	mg/kg	5	4100506	MS	07-Oct-24	8015B	
DRO >C10-C28*	6620		50.0	mg/kg	5	4100506	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	2510		50.0	mg/kg	5	4100506	MS	07-Oct-24	8015B	

Surrogate: 1-Chlorooctane			98.3 %		48.2-134	4100506	MS	07-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			155 %		49.1-148	4100506	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 02 0'
H246075-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	80.0		16.0	mg/kg	4	4100801	KV	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	GC-NC
Total Xylenes*	<0.150		0.150	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100503	JH	07-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			131 %	71.5-134		4100503	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	<50.0		50.0	mg/kg	5	4100506	MS	07-Oct-24	8015B	
DRO >C10-C28*	7600		50.0	mg/kg	5	4100506	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	2910		50.0	mg/kg	5	4100506	MS	07-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			97.6 %	48.2-134		4100506	MS	07-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			195 %	49.1-148		4100506	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 03 0'
H246075-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	112		16.0	mg/kg	4	4100801	KV	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	GC-NC
Total Xylenes*	<0.150		0.150	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100503	JH	07-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			170 %	71.5-134		4100503	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	104		50.0	mg/kg	5	4100506	MS	07-Oct-24	8015B	
DRO >C10-C28*	10400		50.0	mg/kg	5	4100506	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	3390		50.0	mg/kg	5	4100506	MS	07-Oct-24	8015B	

Surrogate: 1-Chlorooctane			121 %	48.2-134		4100506	MS	07-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			310 %	49.1-148		4100506	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 04 0'
H246075-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	160		16.0	mg/kg	4	4100801	KV	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100503	JH	07-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			119 %	71.5-134		4100503	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-04

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	
DRO >C10-C28*	6270		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	1950		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	

Surrogate: 1-Chlorooctane			91.7 %	48.2-134		4100506	MS	07-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			163 %	49.1-148		4100506	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 05 0'
H246075-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	208		16.0	mg/kg	4	4100731	HM	07-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	GC-NC
Total Xylenes*	<0.150		0.150	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100503	JH	07-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			152 %	71.5-134		4100503	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	20.3		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	
DRO >C10-C28*	5400		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	1530		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	

Surrogate: 1-Chlorooctane			86.1 %	48.2-134		4100506	MS	07-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			126 %	49.1-148		4100506	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 06 0'
H246075-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	224		16.0	mg/kg	4	4100731	HM	07-Oct-24	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100503	JH	07-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			126 %	71.5-134		4100503	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	
DRO >C10-C28*	5980		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	1890		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	

Surrogate: 1-Chlorooctane			85.2 %	48.2-134		4100506	MS	07-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			136 %	49.1-148		4100506	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 07 0'
H246075-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	288		16.0	mg/kg	4	4100731	HM	07-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100503	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100503	JH	07-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			108 %	71.5-134		4100503	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4100506	MS	07-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			71.9 %	48.2-134		4100506	MS	07-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			70.3 %	49.1-148		4100506	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 08 0'
H246075-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	224		16.0	mg/kg	4	4100731	HM	07-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100504	JH	07-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			101 %	71.5-134		4100504	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100508	MS	07-Oct-24	8015B	
DRO >C10-C28*	1390		10.0	mg/kg	1	4100508	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	531		10.0	mg/kg	1	4100508	MS	07-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			87.0 %	48.2-134		4100508	MS	07-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			117 %	49.1-148		4100508	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 09 0'
H246075-09 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	112		16.0	mg/kg	4	4100731	HM	07-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100504	JH	07-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			117 %	71.5-134		4100504	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	<50.0		50.0	mg/kg	5	4100508	MS	07-Oct-24	8015B	
DRO >C10-C28*	9290		50.0	mg/kg	5	4100508	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	2840		50.0	mg/kg	5	4100508	MS	07-Oct-24	8015B	

Surrogate: 1-Chlorooctane			90.0 %	48.2-134		4100508	MS	07-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			229 %	49.1-148		4100508	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 10 0'
H246075-10 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	288		16.0	mg/kg	4	4100731	HM	07-Oct-24	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100504	JH	07-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			110 %	71.5-134		4100504	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	<50.0		50.0	mg/kg	5	4100508	MS	07-Oct-24	8015B	
DRO >C10-C28*	12000		50.0	mg/kg	5	4100508	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	3960		50.0	mg/kg	5	4100508	MS	07-Oct-24	8015B	

Surrogate: 1-Chlorooctane			99.5 %	48.2-134		4100508	MS	07-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			434 %	49.1-148		4100508	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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FS - 11 0'
H246075-11 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	160		16.0	mg/kg	4	4100731	HM	07-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100504	JH	07-Oct-24	8021B	GC-NC
Total Xylenes*	<0.150		0.150	mg/kg	50	4100504	JH	07-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100504	JH	07-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			125 %	71.5-134		4100504	JH	07-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	<50.0		50.0	mg/kg	5	4100508	MS	07-Oct-24	8015B	
DRO >C10-C28*	9020		50.0	mg/kg	5	4100508	MS	07-Oct-24	8015B	
EXT DRO >C28-C36	2900		50.0	mg/kg	5	4100508	MS	07-Oct-24	8015B	

Surrogate: 1-Chlorooctane			96.8 %	48.2-134		4100508	MS	07-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			234 %	49.1-148		4100508	MS	07-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4100731 - 1:4 DI Water

Blank (4100731-BLK1)				Prepared & Analyzed: 07-Oct-24						
Chloride	ND	16.0	mg/kg							
LCS (4100731-BS1)				Prepared & Analyzed: 07-Oct-24						
Chloride	432	16.0	mg/kg	400		108	80-120			
LCS Dup (4100731-BSD1)				Prepared & Analyzed: 07-Oct-24						
Chloride	432	16.0	mg/kg	400		108	80-120	0.00	20	

Batch 4100801 - 1:4 DI Water

Blank (4100801-BLK1)				Prepared & Analyzed: 08-Oct-24						
Chloride	ND	16.0	mg/kg							
LCS (4100801-BS1)				Prepared & Analyzed: 08-Oct-24						
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (4100801-BSD1)				Prepared & Analyzed: 08-Oct-24						
Chloride	416	16.0	mg/kg	400		104	80-120	0.00	20	

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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4100503 - Volatiles

Blank (4100503-BLK1)			Prepared: 05-Oct-24 Analyzed: 07-Oct-24							
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0529		mg/kg	0.0500		106	71.5-134			

LCS (4100503-BS1)			Prepared: 05-Oct-24 Analyzed: 07-Oct-24							
Benzene	2.11	0.050	mg/kg	2.00		105	82.8-130			
Toluene	2.08	0.050	mg/kg	2.00		104	86-128			
Ethylbenzene	2.15	0.050	mg/kg	2.00		108	85.9-128			
m,p-Xylene	4.36	0.100	mg/kg	4.00		109	89-129			
o-Xylene	2.15	0.050	mg/kg	2.00		107	86.1-125			
Total Xylenes	6.51	0.150	mg/kg	6.00		109	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0511		mg/kg	0.0500		102	71.5-134			

LCS Dup (4100503-BSD1)			Prepared: 05-Oct-24 Analyzed: 07-Oct-24							
Benzene	2.07	0.050	mg/kg	2.00		103	82.8-130	2.09	15.8	
Toluene	2.03	0.050	mg/kg	2.00		101	86-128	2.64	15.9	
Ethylbenzene	2.07	0.050	mg/kg	2.00		104	85.9-128	3.95	16	
m,p-Xylene	4.19	0.100	mg/kg	4.00		105	89-129	3.92	16.2	
o-Xylene	2.06	0.050	mg/kg	2.00		103	86.1-125	4.30	16.7	
Total Xylenes	6.25	0.150	mg/kg	6.00		104	88.2-128	4.05	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0503		mg/kg	0.0500		101	71.5-134			

Batch 4100504 - Volatiles

Blank (4100504-BLK1)			Prepared: 05-Oct-24 Analyzed: 07-Oct-24							
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4100504 - Volatiles

Blank (4100504-BLK1)

Prepared: 05-Oct-24 Analyzed: 07-Oct-24

Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0542		mg/kg	0.0500		108	71.5-134			

LCS (4100504-BS1)

Prepared: 05-Oct-24 Analyzed: 07-Oct-24

Benzene	2.05	0.050	mg/kg	2.00		102	82.8-130			
Toluene	2.06	0.050	mg/kg	2.00		103	86-128			
Ethylbenzene	2.12	0.050	mg/kg	2.00		106	85.9-128			
m,p-Xylene	4.15	0.100	mg/kg	4.00		104	89-129			
o-Xylene	2.07	0.050	mg/kg	2.00		104	86.1-125			
Total Xylenes	6.22	0.150	mg/kg	6.00		104	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0490		mg/kg	0.0500		98.1	71.5-134			

LCS Dup (4100504-BSD1)

Prepared: 05-Oct-24 Analyzed: 07-Oct-24

Benzene	2.09	0.050	mg/kg	2.00		105	82.8-130	2.15	15.8	
Toluene	2.10	0.050	mg/kg	2.00		105	86-128	2.04	15.9	
Ethylbenzene	2.18	0.050	mg/kg	2.00		109	85.9-128	2.98	16	
m,p-Xylene	4.29	0.100	mg/kg	4.00		107	89-129	3.36	16.2	
o-Xylene	2.15	0.050	mg/kg	2.00		108	86.1-125	3.71	16.7	
Total Xylenes	6.45	0.150	mg/kg	6.00		107	88.2-128	3.48	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0496		mg/kg	0.0500		99.2	71.5-134			

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4100506 - General Prep - Organics

Blank (4100506-BLK1)		Prepared: 05-Oct-24 Analyzed: 08-Oct-24								
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	46.8		mg/kg	50.0		93.5	48.2-134			
Surrogate: 1-Chlorooctadecane	39.3		mg/kg	50.0		78.5	49.1-148			

LCS (4100506-BS1)		Prepared: 05-Oct-24 Analyzed: 07-Oct-24								
GRO C6-C10	204	10.0	mg/kg	200		102	66.4-123			
DRO >C10-C28	194	10.0	mg/kg	200		97.2	66.5-118			
Total TPH C6-C28	399	10.0	mg/kg	400		99.7	77.6-123			
Surrogate: 1-Chlorooctane	49.2		mg/kg	50.0		98.5	48.2-134			
Surrogate: 1-Chlorooctadecane	31.9		mg/kg	50.0		63.9	49.1-148			

LCS Dup (4100506-BSD1)		Prepared: 05-Oct-24 Analyzed: 07-Oct-24								
GRO C6-C10	202	10.0	mg/kg	200		101	66.4-123	0.897	17.7	
DRO >C10-C28	182	10.0	mg/kg	200		91.0	66.5-118	6.61	21	
Total TPH C6-C28	384	10.0	mg/kg	400		96.1	77.6-123	3.64	18.5	
Surrogate: 1-Chlorooctane	51.5		mg/kg	50.0		103	48.2-134			
Surrogate: 1-Chlorooctadecane	33.4		mg/kg	50.0		66.8	49.1-148			

Batch 4100508 - General Prep - Organics

Blank (4100508-BLK1)		Prepared: 05-Oct-24 Analyzed: 07-Oct-24								
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	44.4		mg/kg	50.0		88.8	48.2-134			
Surrogate: 1-Chlorooctadecane	37.7		mg/kg	50.0		75.4	49.1-148			

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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: 20240410-MURCHINSON-CARBON Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 18-Oct-24 16:51
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Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4100508 - General Prep - Organics

LCS (4100508-BS1)		Prepared: 05-Oct-24 Analyzed: 07-Oct-24								
GRO C6-C10	150	10.0	mg/kg	200		75.1	66.4-123			
DRO >C10-C28	184	10.0	mg/kg	200		92.2	66.5-118			
Total TPH C6-C28	335	10.0	mg/kg	400		83.6	77.6-123			
Surrogate: 1-Chlorooctane	44.3		mg/kg	50.0		88.7	48.2-134			
Surrogate: 1-Chlorooctadecane	44.7		mg/kg	50.0		89.5	49.1-148			
LCS Dup (4100508-BSD1)		Prepared: 05-Oct-24 Analyzed: 07-Oct-24								
GRO C6-C10	182	10.0	mg/kg	200		91.1	66.4-123	19.3	17.7	QR-04
DRO >C10-C28	183	10.0	mg/kg	200		91.7	66.5-118	0.523	21	
Total TPH C6-C28	366	10.0	mg/kg	400		91.4	77.6-123	8.87	18.5	
Surrogate: 1-Chlorooctane	50.0		mg/kg	50.0		99.9	48.2-134			
Surrogate: 1-Chlorooctadecane	42.6		mg/kg	50.0		85.3	49.1-148			

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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.
QR-04 The RPD for the BS/BSD was outside of historical limits.
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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

October 14, 2024

DIMITRY NIKANOROV
MC NABB SERVICES
P. O. BOX 5753
HOBBS, NM 88240

RE: CARBON VALLEY 31-1

Enclosed are the results of analyses for samples received by the laboratory on 10/08/24 10:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2 Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2 Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G - 1 (0.5')	H246090-01	Soil	07-Oct-24 09:00	08-Oct-24 10:50
G - 1 (2')	H246090-02	Soil	07-Oct-24 09:05	08-Oct-24 10:50
G - 1 (3')	H246090-03	Soil	07-Oct-24 09:10	08-Oct-24 10:50
G - 2 (0.5')	H246090-04	Soil	07-Oct-24 09:15	08-Oct-24 10:50
G - 2 (2')	H246090-05	Soil	07-Oct-24 09:20	08-Oct-24 10:50
G - 2 (3')	H246090-06	Soil	07-Oct-24 09:25	08-Oct-24 10:50
G - 3 (0.5')	H246090-07	Soil	07-Oct-24 09:30	08-Oct-24 10:50
G - 3 (2')	H246090-08	Soil	07-Oct-24 09:35	08-Oct-24 10:50
G - 3 (3')	H246090-09	Soil	07-Oct-24 09:40	08-Oct-24 10:50
G - 3 (4')	H246090-10	Soil	07-Oct-24 09:45	08-Oct-24 10:50
G - 4 (0.5')	H246090-11	Soil	07-Oct-24 09:50	08-Oct-24 10:50
G - 4 (1.5')	H246090-12	Soil	07-Oct-24 09:55	08-Oct-24 10:50
G - 4 (3')	H246090-13	Soil	07-Oct-24 10:00	08-Oct-24 10:50
G - 5 (0.5')	H246090-14	Soil	07-Oct-24 10:05	08-Oct-24 10:50
G - 5 (2.5')	H246090-15	Soil	07-Oct-24 10:10	08-Oct-24 10:50
G - 4 (4')	H246090-19	Soil	07-Oct-24 10:30	08-Oct-24 10:50
G - 5 (4')	H246090-20	Soil	07-Oct-24 10:35	08-Oct-24 10:50

10/14/24 - Client added analysis to -19 and -20 (see COC). This is the revised report and will replace the one sent on 10/10/24.

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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**G - 1 (0.5')
H246090-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	96.0		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			108 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	<50.0		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	3450		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	QM-07, QR-03
EXT DRO >C28-C36	1470		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	

Surrogate: 1-Chlorooctane			104 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			152 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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**G - 1 (2')
H246090-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	464		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			103 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

Surrogate: 1-Chlorooctane			99.3 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			80.1 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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G - 1 (3')

H246090-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	192		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			103 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	38.8		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			89.9 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			76.9 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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**G - 2 (0.5')
H246090-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	224		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			176 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	20.4		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	2370		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	701		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

Surrogate: 1-Chlorooctane			91.4 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			111 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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G - 2 (2')

H246090-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	416		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			180 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	19.9		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			102 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			94.6 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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G - 2 (3')

H246090-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	240		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			103 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

Surrogate: 1-Chlorooctane			103 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			95.5 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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**G - 3 (0.5')
H246090-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	64.0		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC
Total Xylenes*	0.304		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC1
Total BTEX	0.306		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC1

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			370 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	174		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	12800		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	3890		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			117 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			251 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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G - 3 (2')

H246090-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	624		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			96.3 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			86.0 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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G - 3 (3')

H246090-09 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	736		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			103 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

Surrogate: 1-Chlorooctane			105 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			94.7 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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**G - 3 (4')
H246090-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	544		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			104 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			94.9 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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**G - 4 (0.5')
H246090-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	288		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC1
Total Xylenes*	0.732		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC1
Total BTEX	0.733		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC1

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			414 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	179		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	4460		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	1020		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			97.9 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			107 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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**G - 4 (1.5')
H246090-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	176		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<1.00		1.00	mg/kg	1000	4100808	JH	08-Oct-24	8021B	
Toluene*	<1.00		1.00	mg/kg	1000	4100808	JH	08-Oct-24	8021B	GC-NC
Ethylbenzene*	2.51		1.00	mg/kg	1000	4100808	JH	08-Oct-24	8021B	GC-NC1
Total Xylenes*	16.5		3.00	mg/kg	1000	4100808	JH	08-Oct-24	8021B	GC-NC1
Total BTEX	19.0		6.00	mg/kg	1000	4100808	JH	08-Oct-24	8021B	GC-NC1

Surrogate: 4-Bromofluorobenzene (PID)			151 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	1680		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	12000		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	2020		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	
Surrogate: 1-Chlorooctane			199 %	48.2-134		4100813	MS	09-Oct-24	8015B	
Surrogate: 1-Chlorooctadecane			236 %	49.1-148		4100813	MS	09-Oct-24	8015B	

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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G - 4 (3')

H246090-13 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	256		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			114 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	23.7		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	324		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	43.1		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

Surrogate: 1-Chlorooctane			105 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			94.8 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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**G - 5 (0.5')
H246090-14 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	288		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	GC-NC
Total Xylenes*	0.291		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			268 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	177		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	12400		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	3630		50.0	mg/kg	5	4100813	MS	09-Oct-24	8015B	

Surrogate: 1-Chlorooctane			109 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			325 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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**G - 5 (2.5')
H246090-15 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	1060		16.0	mg/kg	4	4100831	AC	08-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4100808	JH	08-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4100808	JH	08-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		4100808	JH	08-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4100813	MS	09-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			96.3 %	48.2-134		4100813	MS	09-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			89.4 %	49.1-148		4100813	MS	09-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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G - 4 (4')

H246090-19 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	32.0		16.0	mg/kg	4	4101138	HM	11-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101029	JH	11-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	77.5-125		4101029	JH	11-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			101 %	48.2-134		4101104	MS	11-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			111 %	49.1-148		4101104	MS	11-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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**G - 5 (4')
H246090-20 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	64.0		16.0	mg/kg	4	4101138	HM	11-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101029	JH	11-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	77.5-125		4101029	JH	11-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			98.5 %	48.2-134		4101104	MS	11-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			105 %	49.1-148		4101104	MS	11-Oct-24	8015B	
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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4100831 - 1:4 DI Water

Blank (4100831-BLK1)		Prepared & Analyzed: 08-Oct-24								
Chloride	ND	16.0	mg/kg							
LCS (4100831-BS1)		Prepared & Analyzed: 08-Oct-24								
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (4100831-BSD1)		Prepared & Analyzed: 08-Oct-24								
Chloride	432	16.0	mg/kg	400		108	80-120	3.77	20	

Batch 4101138 - 1:4 DI Water

Blank (4101138-BLK1)		Prepared & Analyzed: 11-Oct-24								
Chloride	ND	16.0	mg/kg							
LCS (4101138-BS1)		Prepared & Analyzed: 11-Oct-24								
Chloride	432	16.0	mg/kg	400		108	80-120			
LCS Dup (4101138-BSD1)		Prepared & Analyzed: 11-Oct-24								
Chloride	432	16.0	mg/kg	400		108	80-120	0.00	20	

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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4100808 - Volatiles

Blank (4100808-BLK1)		Prepared & Analyzed: 08-Oct-24								
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0512		mg/kg	0.0500		102	71.5-134			

LCS (4100808-BS1)		Prepared & Analyzed: 08-Oct-24								
Benzene	2.18	0.050	mg/kg	2.00		109	82.8-130			
Toluene	2.09	0.050	mg/kg	2.00		105	86-128			
Ethylbenzene	2.11	0.050	mg/kg	2.00		106	85.9-128			
m,p-Xylene	4.21	0.100	mg/kg	4.00		105	89-129			
o-Xylene	2.07	0.050	mg/kg	2.00		103	86.1-125			
Total Xylenes	6.28	0.150	mg/kg	6.00		105	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0520		mg/kg	0.0500		104	71.5-134			

LCS Dup (4100808-BSD1)		Prepared & Analyzed: 08-Oct-24								
Benzene	2.13	0.050	mg/kg	2.00		107	82.8-130	2.09	15.8	
Toluene	2.03	0.050	mg/kg	2.00		102	86-128	2.77	15.9	
Ethylbenzene	2.04	0.050	mg/kg	2.00		102	85.9-128	3.59	16	
m,p-Xylene	4.07	0.100	mg/kg	4.00		102	89-129	3.54	16.2	
o-Xylene	1.99	0.050	mg/kg	2.00		99.5	86.1-125	3.74	16.7	
Total Xylenes	6.06	0.150	mg/kg	6.00		101	88.2-128	3.61	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0512		mg/kg	0.0500		102	71.5-134			

Batch 4101029 - Volatiles

Blank (4101029-BLK1)		Prepared: 10-Oct-24 Analyzed: 11-Oct-24								
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4101029 - Volatiles

Blank (4101029-BLK1)

Prepared: 10-Oct-24 Analyzed: 11-Oct-24

Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0530		mg/kg	0.0500		106	77.5-125			

LCS (4101029-BS1)

Prepared: 10-Oct-24 Analyzed: 11-Oct-24

Benzene	1.99	0.050	mg/kg	2.00		99.3	80.8-112			
Toluene	2.06	0.050	mg/kg	2.00		103	78.7-114			
Ethylbenzene	2.09	0.050	mg/kg	2.00		105	70.9-120			
m,p-Xylene	4.21	0.100	mg/kg	4.00		105	76.9-119			
o-Xylene	2.05	0.050	mg/kg	2.00		102	71.7-120			
Total Xylenes	6.26	0.150	mg/kg	6.00		104	75.6-119			
Surrogate: 4-Bromofluorobenzene (PID)	0.0527		mg/kg	0.0500		105	77.5-125			

LCS Dup (4101029-BSD1)

Prepared: 10-Oct-24 Analyzed: 11-Oct-24

Benzene	1.94	0.050	mg/kg	2.00		97.1	80.8-112	2.22	8.26	
Toluene	1.98	0.050	mg/kg	2.00		99.1	78.7-114	3.77	9.03	
Ethylbenzene	2.01	0.050	mg/kg	2.00		100	70.9-120	4.27	11.9	
m,p-Xylene	4.00	0.100	mg/kg	4.00		100	76.9-119	4.97	11	
o-Xylene	1.94	0.050	mg/kg	2.00		97.1	71.7-120	5.34	15	
Total Xylenes	5.95	0.150	mg/kg	6.00		99.1	75.6-119	5.09	12.2	
Surrogate: 4-Bromofluorobenzene (PID)	0.0522		mg/kg	0.0500		104	77.5-125			

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4100813 - General Prep - Organics

Blank (4100813-BLK1)		Prepared & Analyzed: 08-Oct-24								
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	47.2		mg/kg	50.0		94.3	48.2-134			
Surrogate: 1-Chlorooctadecane	42.3		mg/kg	50.0		84.6	49.1-148			

LCS (4100813-BS1)		Prepared & Analyzed: 08-Oct-24								
GRO C6-C10	211	10.0	mg/kg	200		106	66.4-123			
DRO >C10-C28	192	10.0	mg/kg	200		95.9	66.5-118			
Total TPH C6-C28	403	10.0	mg/kg	400		101	77.6-123			
Surrogate: 1-Chlorooctane	51.2		mg/kg	50.0		102	48.2-134			
Surrogate: 1-Chlorooctadecane	43.7		mg/kg	50.0		87.4	49.1-148			

LCS Dup (4100813-BS1)		Prepared & Analyzed: 08-Oct-24								
GRO C6-C10	212	10.0	mg/kg	200		106	66.4-123	0.509	17.7	
DRO >C10-C28	190	10.0	mg/kg	200		94.8	66.5-118	1.13	21	
Total TPH C6-C28	402	10.0	mg/kg	400		101	77.6-123	0.267	18.5	
Surrogate: 1-Chlorooctane	52.0		mg/kg	50.0		104	48.2-134			
Surrogate: 1-Chlorooctadecane	45.3		mg/kg	50.0		90.5	49.1-148			

Batch 4101104 - General Prep - Organics

Blank (4101104-BLK1)		Prepared & Analyzed: 11-Oct-24								
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	51.6		mg/kg	50.0		103	48.2-134			
Surrogate: 1-Chlorooctadecane	58.4		mg/kg	50.0		117	49.1-148			

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Analytical Results For:

MC NABB SERVICES P. O. BOX 5753 HOBBS NM, 88240	Project: CARBON VALLEY 31-1 Project Number: NONE GIVEN Project Manager: DIMITRY NIKANOROV Fax To: (575) 391-8484	Reported: 14-Oct-24 12:28
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Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4101104 - General Prep - Organics

LCS (4101104-BS1)

Prepared & Analyzed: 11-Oct-24

GRO C6-C10	184	10.0	mg/kg	200		92.1	66.4-123			
DRO >C10-C28	182	10.0	mg/kg	200		91.2	66.5-118			
Total TPH C6-C28	367	10.0	mg/kg	400		91.7	77.6-123			
Surrogate: 1-Chlorooctane	54.6		mg/kg	50.0		109	48.2-134			
Surrogate: 1-Chlorooctadecane	57.7		mg/kg	50.0		115	49.1-148			

LCS Dup (4101104-BSD1)

Prepared & Analyzed: 11-Oct-24

GRO C6-C10	179	10.0	mg/kg	200		89.4	66.4-123	3.03	17.7	
DRO >C10-C28	179	10.0	mg/kg	200		89.7	66.5-118	1.63	21	
Total TPH C6-C28	358	10.0	mg/kg	400		89.6	77.6-123	2.33	18.5	
Surrogate: 1-Chlorooctane	58.0		mg/kg	50.0		116	48.2-134			
Surrogate: 1-Chlorooctadecane	62.8		mg/kg	50.0		126	49.1-148			

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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.
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.
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

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Celest D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: McNabb Partners
Project Manager: Dmitry Nikanorov

Address: 5014 W Carlsbad Hwy
City: Hobbs State: NM Zip: 88240

Phone #: 917-497-6990 Fax #:

Project #:

Project Name: Carbon Valley 31-1

Project Location: Eddy Co, NM

Sampler Name: Dmitry Nikanorov, Auden Escalada

FOR LAB USE ONLY

BILL TO

P.O. #:

Company: Murchison Oil & Gas
Attn: Greg Boans

Address: 5325 Sierra Vista Dr.
City: Carlsbad

State: NM Zip: 88220

Phone #: 575-706-0667 Fax #:

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX							DATE	TIME	TPH	Chloride	BTEX	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE						
H240090																
11	G-4	(0.5)	G 1	X												
12	G-4	(1.5)	G 1	X												
13	G-4	(3)	G 1	X												
14	G-5	(0.5)	G 1	X												
15	G-5	(2.5)	G 1	X												
14	G-1	(4)	G 1	X												
17	G-2	(4)	G 1	X												
18	G-3	(4.5)	G 1	X												
19	G-4	(4)	G 1	X												
20	G-5	(4)	G 1	X												

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Relinquished By: [Signature]

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

Delivered By: (Circle One) UPS Bus Other

Observed Temp. °C: 5.9°C Corrected Temp. °C: 5.3°C

Sample Condition: Cool Intact Yes No

Checked By: [Signature]

Turning Time: 48 hours Thermometer ID: #140 Correction Factor: -0.5°C

Standard: Bacteria (only) Sample Condition: Cool Intact Yes No

Observed Temp. °C: Corrected Temp. °C:

Remarks: [Handwritten notes]

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

QUESTIONS

Action 411147

QUESTIONS

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 411147
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2415757870
Incident Name	NAPP2415757870 CARBON VALLEY 31 FEDERAL COM #001H @ 30-015-37603
Incident Type	Other
Incident Status	Remediation Plan Received
Incident Well	[30-015-37603] CARBON VALLEY 31 FEDERAL COM #001H

Location of Release Source	
<i>Please answer all the questions in this group.</i>	
Site Name	CARBON VALLEY 31 FEDERAL COM #001H
Date Release Discovered	04/10/2024
Surface Owner	Federal

Incident Details	
<i>Please answer all the questions in this group.</i>	
Incident Type	Other
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	
<i>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.</i>	
Crude Oil Released (bbls) Details	Cause: Normal Operations Unknown Crude Oil Released: 0 BBL (Unknown Released Amount) Recovered: 0 BBL Lost: 0 BBL.
Produced Water Released (bbls) Details	Not answered.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
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)	C-141 requested by OCD for area of impact identified by Environmental consultant at site inspection on 4/10/24. Environmental consultant to investigate area inside lined tank battery containment. Stained caliche being removed and disposed of at OCD approved facility. Preparing for liner inspection.

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QUESTIONS, Page 2

Action 411147

QUESTIONS (continued)

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 411147
	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.
<i>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.</i>	

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: 06/17/2024
--	---

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QUESTIONS, Page 3

Action 411147

QUESTIONS (continued)

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 411147
	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)	Less than or equal 25 (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 ½ and 1 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between ½ and 1 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between ½ and 1 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between ½ and 1 (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	Between 1 and 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
<i>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.</i>	
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)	1060
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	16207
GRO+DRO (EPA SW-846 Method 8015M)	13680
BTEX (EPA SW-846 Method 8021B or 8260B)	12.5
Benzene (EPA SW-846 Method 8021B or 8260B)	0.1

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	12/16/2024
On what date will (or did) the final sampling or liner inspection occur	01/16/2025
On what date will (or was) the remediation complete(d)	02/16/2025
What is the estimated surface area (in square feet) that will be reclaimed	3800
What is the estimated volume (in cubic yards) that will be reclaimed	315
What is the estimated surface area (in square feet) that will be remediated	3800
What is the estimated volume (in cubic yards) that will be remediated	315

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, Page 4

Action 411147

QUESTIONS (continued)

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 411147
	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	R360 ARTESIA LLC LANDFARM [FEEM0112340644]
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: Dmitry Nikanorov Email: dimitry@mcnabbpartners.com Date: 12/12/2024
--	---

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, Page 5

Action 411147

QUESTIONS (continued)

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 411147
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
<i>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.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS, Page 6

Action 411147

QUESTIONS (continued)

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 411147
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	389302
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	10/07/2024
What was the (estimated) number of samples that were to be gathered	11
What was the sampling surface area in square feet	2151

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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CONDITIONS

Action 411147

CONDITIONS

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 411147
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
bhall	Remediation plan approved. There is a statement on the first page that states "...this remediation work plan proposal and deferral request..." This approval is not an approval for a deferral.	12/13/2024
bhall	The proposed depths and lateral extents of the proposed excavations must be expanded if confirmation/final samples do not meet the most stringent closure criteria.	12/13/2024
bhall	Confirmation samples must be five (5) point composite samples collected from the base and side walls of the excavations and must represent an area no larger than 200 square feet. Grab soil samples must be collected from any areas of discoloration. All confirmation samples must be analyzed for BTEX, TPH, and chloride.	12/13/2024
bhall	Submit a complete and accurate report through the OCD permitting website by 3/13/2025.	12/13/2024