Pages 1-77: Previously Denied Closure Report
Pages 78-206: Amended Closure with additional sampling

NM 88220
) 689-8801

September 16, 2018

#5E27408-BG4

NMOCD District I
Olivia Yu
1625 N. French Drive
Hobbs, NM 88240

SUBJECT: SOIL REMEDIATION CLOSURE REPORT FOR THE QUEENIE 15 FEDERAL #1H (1RP-5120), LEA COUNTY, NEW MEXICO

Dear Ms. Yu:

On behalf of Marathon Oil Permian LLC, Souder, Miller & Associates (SMA) has prepared this CLOSURE REPORT that describes the remediation of the release associated with the Queenie 15 Federal #1H. The site is in UNIT M, SECTION 14, TOWNSHIP 20S, RANGE 32E, NMPM, Lea County, New Mexico, on Federal land. Figure 1 illustrates the vicinity and location of the site. Table 1, below, summarizes information regarding the release.

Table 1: Release information and Site Ranking	
Name	Queenie 15 Federal #1H
Company	Marathon Oil Permian LLC
Incident Number	1RP-5120
API Number	30-025-40230
Location	32.5664978, -103.7428894
Estimated Date of Release	6/28/2018
Date Reported to NMOCD	6/28/2018
Land Owner	Federal
Reported To	NMOCD District I
Source of Release	Treater tower gasket
Released Material	Oil and produced water
Released Volume	3 bbl
Recovered Volume	2.5 bbl
Net Release	0.5 bbl
NMOCD Closure Criteria	>100 feet to ground water

1.0 Background

On June 28, 2018, a 3 bbl oil and produced water release (1RP-5120) occurred at the Queenie 15 Federal #1H. The cause of the release was due to a treater tower gasket leak. Pooling and overspray were observed onsite in the treater tower containment. The release traveled off location approximately 50 feet. Standing fluids were recovered via vac truck. An initial light scrape was completed onsite to recover saturated caliche in the treater tower containment. Approximately 2.5 bbl of standing fluid was recovered.

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nOY1819743006
District RP	1RP-5120
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Melodie Sanjari Title: HES Professional

Signature: M. Sanjari Date: 8/29/2023

email: msanjari@marathonoil.com Telephone: 575-370-9782

OCD Only

Received by: Jocelyn Harimon Date: 08/29/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Date: 09/06/2023

Printed Name: Jocelyn Harimon Title: Environmental Speciailst

Pages 1-77: Previously Denied Closure Report
Pages 78-206: Amended Closure with additional sampling

Figure 1 illustrates the site vicinity, Figure 2 illustrates the site location. The initial C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Queenie 15 Fed #1H is located approximately 30 miles east of Carlsbad, New Mexico on Federal (BLM) land.

As summarized in Table 2 and illustrated in Figure 1, depth to protectable groundwater in the area is estimated to be greater than 150 feet below grade surface (bgs). There are no known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database. The nearest surface water is an unnamed drainage feature located approximately 4000 feet to the northeast.

The site is located within 6000 feet of a proposed nuclear repository. In April of 2007, the Eddy Lea Energy Alliance (ELEA) submitted their Final Detailed Siting Report (https://www.nrc.gov/docs/ML1024/ML102440738.pdf) to the Department of Energy (DOE). This report includes extensive data collection on groundwater data, including monitoring wells that were drilled at the site to evaluate groundwater. The ELEA report concludes that shallow water is found at about 35 feet, but this water exceeds 10,000 TDS. Protectable water is found at 300-400 feet bgs. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be greater than 150 feet below ground surface (bgs).

Based on this information, the applicable NMOCD Closure Criteria for this site is for groundwater depth of greater than 100 feet bgs. Unless a deferral is requested and approved by NMOCD per 19.15.29.12.B.(2), the site will be restored to meet the standards of Table I of 19.15.29.12 NMAC.

The attached Table 2 demonstrates the Closure Criteria justification for this location. Pertinent well data is attached in Appendix B

3.0 Release Characterization Activities

On June 29, 2018, SMA personnel arrived on site in response to the release associated with the Queenie 15 Fed #1H.

SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly surface stained area, using a sampling method as described in EPA's Final Sampling Guidance for SW-846 2002. Judgmental sampling design was chosen due to the uniform soil type and the known boundaries of the release.

A total of six sample locations (L1-L6) were investigated using a hand-auger, to depths up to 1 foot bgs. A minimum of two samples were collected at each sampling location. A total of ten samples were collected for laboratory analysis for benzene and total BTEX (benzene, toluene, ethylbenzene and total xylenes) using EPA Method 8021B; MRO, DRO, and GRO (motor, diesel and gasoline range organics, respectively) by EPA Method 8015D; and total chloride using EPA Method 300.0. Laboratory samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix C).

Locations for all samples are depicted on Figure 2, and a summary of the laboratory results is displayed in Table 3. Results indicated that an area approximately 120 feet by 60 feet had been impacted, though

only the surface sample locations L1, L2, and L4 exceeded the NMOCD Closure Criteria for TPH or chloride.

4.0 Soil Remediation Summary

From August 6 to August 7, 2018, after approval from area utilities via 811, SMA returned to the site to guide the excavation of contaminated soil exceeding NMOCD Closure Criteria, as well as to meet the Reclamation requirement of 19.15.29.13(D)(1). SMA guided the excavation activities by collecting composite soil samples for field screening for chloride using a mobile EC meter. The walls and base were excavated until field screening results indicated chloride concentrations were below 600 mg/kg.

The areas around sample locations L1 and L4 were excavated to a depth of two feet bgs, sample location L2 was excavated to a depth of one foot bgs, and sample location L3 was excavated to three feet bgs. Additional samples were collected at the bottom of the excavation at locations L1, L3, and L4, and five-point composite confirmation samples were collected from the excavation walls (SW1-SW9). Figure 4 demonstrates the extent of the excavation and sample locations. The area of overspray, represented by samples L5 and L6, did not indicate impacts requiring excavation.

Results of the confirmation sampling of the excavation indicated all samples were below NMOCD standards for Table I Closure Criteria for Soils Impacted by a release and meet the chloride limits required for reclamation in 19.15.29.13(1). No further action is recommended at this time.

Contaminated soils were removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil was transported for proper disposal at an NMOCD permitted disposal facility. Sample locations are depicted on Figure 2. Laboratory results are summarized in Table 3. Laboratory reports are included in Appendix C.

5.0 Scope and Limitations

The scope of our services consisted of the performance of assessment sampling, verification of release stabilization, regulatory liaison, remediation, and preparation of this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-8801 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

J. Austin Weyant

Austin Weyant
Project Scientist

Reviewed by:

Shawna Chubbuck

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map
Figure 2: Site and Sample Location Map

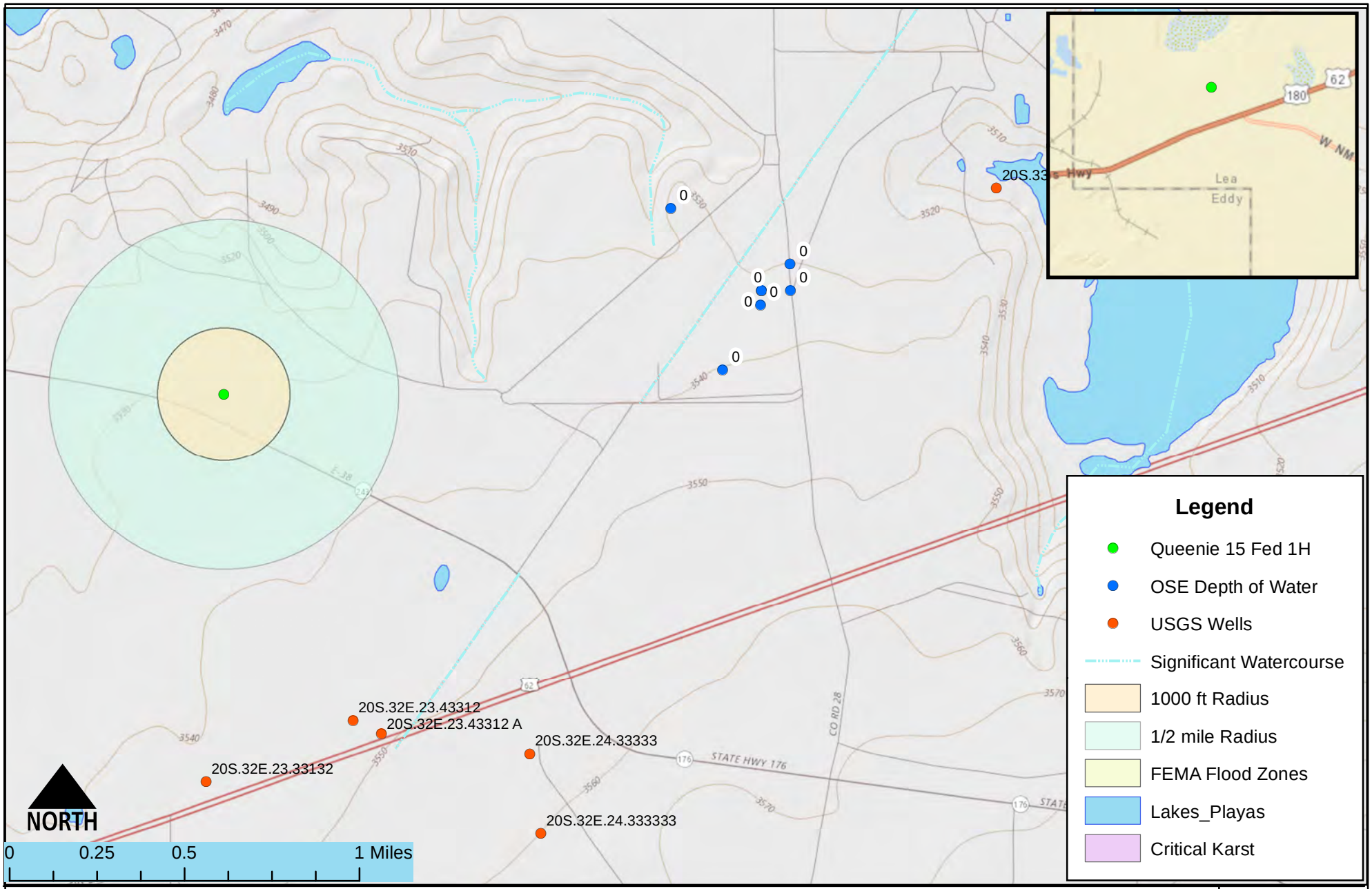
Tables:

Table 2: NMOCD Closure Criteria Justification
Table 3: Summary of Sample Results

Appendices:

Appendix A: Form C141 Initial and Final
Appendix B: NMOSE Wells Report
Appendix C: Laboratory Analytical Reports
Appendix D: Photo Log
Appendix E: Field Data

FIGURES



Vicinity and Well Head Protection Map
Queenie 15 Fed 1H - Marathon
S 14-T20S-R32E, New Mexico

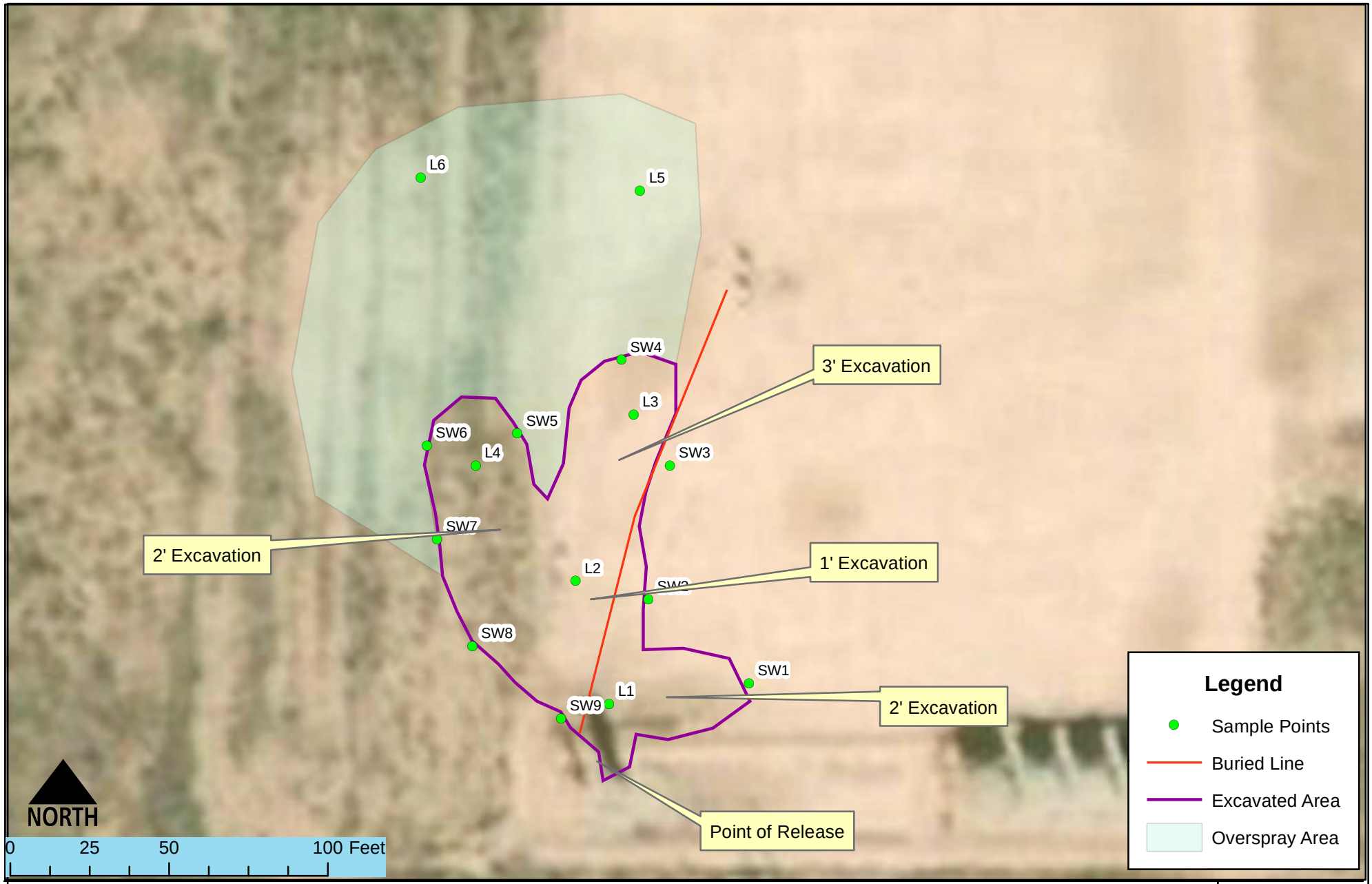
Figure 1

Date Saved: 9/10/2018

Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Heather Patterson
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains



Vicinity and Well Head Protection Map
Queenie 15 Fed 1H - Marathon
S 14-T20S-R32E, New Mexico

Figure 2

Revisions
By: Date: Descr:
By: Date: Descr:

Date Saved: 9/16/2018

Drawn Heather Patterson
Checked
Approved

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Carlsbad, New Mexico 88221
(575) 689-7040
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TABLES

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	150	NMOSE and ELEA
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	4,000	NMOSE
Hortizontal Distance to Nearest Significant Watercourse (ft)	4,000	USGS 7.5 Quadrangle Map

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		**Closure Criteria (units in mg/kg)**				
		Chloride *numerical limit or background, whichever is greater	**TPH**	**GRO + DRO**	**BTEX**	**Benzene**
< 50' BGS		600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'		20000	2500	1000	50	10
Surface Water	**yes or no**	**if yes, then**				
<300' from continuously flowing watercourse or other significant watercourse?	No	20000	100		50	10
<200' from lakebed, sinkhole or playa lake?	No					
Water Well or Water Source						
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No					
<1000' from fresh water well or spring?	No					
Human and Other Areas						
<300' from an occupied permanent residence, school, hospital, institution or church?	No					
within incorporated municipal boundaries or within a defined municipal fresh water well field?	No					
<100' from wetland?	No					
within area overlying a subsurface mine	No					
within an unstable area?	No					
within a 100-year floodplain?	No					

SMA #

Queenie 15 Fed 1H

Table 3.

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- Laboratory mg/Kg
NMOCD Closure Criteria				50 mg/Kg	10 mg/Kg				2500 mg/Kg	20,000
L1	6/29/2018	surface	excavated	21.6	<0.25	450	7600	4100	**12150**	**17,000**
	6/29/2018	1	excavated	1.2	<0.048	52	1100	580	1732	**6,200**
	8/6/2018	2	in-situ	<0.23	<0.025	<5.0	<10	<50	<65	290
L2	6/29/2018	surface	excavated	48.4	<0.49	970	11000	4800	**16770**	120
	6/29/2018	1	in-situ	<0.23	<0.025	<4.9	70	51	121	86
L3	6/29/2018	surface	excavated	14.5	<0.12	220	13,000	6,700	**19,920**	**8,500**
	6/29/2018	1	excavated	<0.23	<0.024	<4.7	260	220	480	**5,200**
	8/6/2018	3	in-situ	<0.23	<0.024	<4.8	<9.7	<48	<63	300
L4	6/29/2018	surface	excavated	0.14	<0.024	5.4	1100	790	1895.4	**21,000**
	6/29/2018	1	excavated	<0.23	<0.024	<4.8	100	72	172	**830**
	8/6/2018	2	in-situ	--	--	--	--	--	--	<30
L5	6/29/2018	0.25	in-situ	<0.23	<0.024	<4.9	56	71	127	490
L6	6/29/2018	0.25	in-situ	<0.23	<0.023	<4.6	<10	<50	<65	110
SW1	8/6/2018	sidewall	in-situ	<0.23	<0.025	<4.9	<9.5	<47	<62	71
SW2	8/6/2018	sidewall	in-situ	--	--	--	--	--	--	62
SW3	8/6/2018	sidewall	in-situ	--	--	--	--	--	--	200
SW4	8/6/2018	sidewall	in-situ	<0.23	<0.023	<4.6	<9.8	<49	<64	100
SW5	8/6/2018	sidewall	in-situ	<0.23	<0.024	<4.7	<9.2	<46	<61	260
SW6	8/6/2018	sidewall	in-situ	--	--	--	--	--	--	290
SW7	8/6/2018	sidewall	in-situ	<0.23	<0.025	<4.9	<9.9	<50	<65	300
SW8	8/6/2018	sidewall	in-situ	--	--	--	--	--	--	33
SW9	8/6/2018	sidewall	in-situ	<0.23	<0.025	<4.9	<9.9	<50	<65	<30
BG	8/6/2018	2	in-situ	--	--	--	--	--	--	<30
	8/6/2018	4	in-situ	--	--	--	--	--	--	430
	8/6/2018	6	in-situ	--	--	--	--	--	--	230
	8/6/2018	8	in-situ	--	--	--	--	--	--	440

"--" = Not Analyzed

APPENDIX A
FORM C141 INITIAL AND FINAL

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Marathon Oil Permian LLC	Contact Callie Karrigan
Address 5555 San Felipe Street, Houston, Texas 77056	Telephone No. 405-202-1028 (cell) 575-297-0956 (office)
Facility Name: Queenie 15 Federal No. 1H	Facility Type Oil and gas production facilities

Surface: Owner: federal	Mineral: Owner: federal	API No. : 30-025-40230

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	14	20S	32	200	S	795	W	Lea

Latitude 32.56638 **Longitude** -103.742341

NATURE OF RELEASE

Type of Release: oil and produced water	Volume of Release: 3 bbls	Volume Recovered: 2.5 bbls
Source of Release: treater gasket	Date and Hour of Occurrence unknown	Date and Hour of Discovery 06/28/2018 11:04 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Olivia Yu, Christina Hernandez and Shelly Tucker	
By Whom? Callie Karrigan	Date and Hour 06/28/2018 4:30 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
Not applicable.

RECEIVED
By Olivia Yu at 11:44 am, Jul 16, 2018

Describe Cause of Problem and Remedial Action Taken.*
At 11:04 am, Operator reported a gasket leak from the treater. Approximately 3 bbls of oil and produced water was released from the treater gasket.

Describe Area Affected and Cleanup Action Taken.*
Pooling and overspray was observed onsite in the treater containment and traveling off location approximately 50 feet. Standing fluids were recovered via vac truck. An initial light scrape was completed onsite to recover saturated caliche in treater containment. Samples were taken and currently being assessed by SMA.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Callie Karrigan Signature:	OIL CONSERVATION DIVISION Approved by Environmental Specialist:	
Printed Name: Callie Karrigan		
Title: HES Professional	Approval Date: 7/16/2018	Expiration Date:
E-mail Address: cnkarrigan@marathonoil.com	Conditions of Approval: Confirmatory samples from impacted area (pools and overspray).	Attached ☑
Date: 07/11/18 Phone: 405-02-1028(cell) 575-297-0956 (office)		

* Attach Additional Sheets If Necessary

1RP-5120 nOY1819743006 pOY1819743340

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _6/28/2018_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-5120__ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _8/16/2018_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

●Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

● If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

● Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	1RP-5120
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Marathon Oil Permian	OGRID 372098
Contact Name Callie Karrigan	Contact Telephone 405-202-1028 (cell) 575-297-0956 (office)
Contact email cnkarrigan@marathonoil.com	Incident # *(assigned by OCD)*
Contact mailing address 5555 San Felipe St, Houston Texas 77056	

Location of Release Source

Latitude 32.56638 Longitude -103.742341
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Queenie 15 Fed #15	Site Type Oil and Gas Production Facilities
Date Release Discovered 6/28/2018	API# *(if applicable)* 30-025-40230

Unit Letter	Section	Township	Range	County
M	14	20S	32E	Lea

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) .5	Volume Recovered (bbls) .5
☒ Produced Water	Volume Released (bbls) 3	Volume Recovered (bbls) 2
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

At 11:04 am, Operator reported a gasket leak from the treater. Approximately 3 bbls of oil and produced water w released from the treater gasket

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5120
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: __Callie Karrigan_____ Title: _____HES Professional_____

Signature: _*Callie Karrigan*_____ Date: _9/17/18_____

email: ___cnkarrigan@marathonoil.com_____ Telephone: __575-297-0956_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5120
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____Callie Karrigan_____ Title: _____HES Professional_____

Signature: *Callie Karrigan* Date: __9/17/18_____

email: __cnkarrigan@marathonoil.com_____ Telephone: _____575-297-0956_____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX B
NMOSE WELLS REPORT

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00075	O	CP	LE		2	4	34	19S	32E	617502	3609301	5402	575		
CP 00317		CP	LE	3	4	3	05	20S	33E	623054	3607235*	6039	680	325	355
L 07023		L	LE	2	3	3	32	19S	33E	622840	3609047*	7046	262	185	77
CP 00368		CP	LE			2	36	20S	31E	610955	3600163*	7988	303		

Average Depth to Water: **255 feet**

Minimum Depth: **185 feet**

Maximum Depth: **325 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 618004 **Northing (Y):** 3603922 **Radius:** 8000

***UTM location was derived from PLSS - see Help**

APPENDIX C

LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 16, 2018

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: Queenie OrderNo.: 1807143

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 10 sample(s) on 7/4/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1807143**
Date Reported: **7/16/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-Surface
Project: Queenie
Collection Date: 6/29/2018 11:56:00 AM
Lab ID: 1807143-001 **Matrix:** SOIL **Received Date:** 7/4/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	17000	750		mg/Kg	500	7/13/2018 12:58:00 PM	39135
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	7600	99		mg/Kg	10	7/9/2018 9:57:21 PM	39064
Motor Oil Range Organics (MRO)	4100	490		mg/Kg	10	7/9/2018 9:57:21 PM	39064
Surr: DNOP	0	70-130	S	%Rec	10	7/9/2018 9:57:21 PM	39064
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	450	49		mg/Kg	10	7/6/2018 10:16:56 AM	39050
Surr: BFB	327	15-316	S	%Rec	10	7/6/2018 10:16:56 AM	39050
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Methyl tert-butyl ether (MTBE)	ND	0.98		mg/Kg	10	7/6/2018 10:16:56 AM	39050
Benzene	ND	0.25		mg/Kg	10	7/6/2018 10:16:56 AM	39050
Toluene	4.0	0.49		mg/Kg	10	7/6/2018 10:16:56 AM	39050
Ethylbenzene	3.6	0.49		mg/Kg	10	7/6/2018 10:16:56 AM	39050
Xylenes, Total	14	0.98		mg/Kg	10	7/6/2018 10:16:56 AM	39050
Surr: 4-Bromofluorobenzene	127	80-120	S	%Rec	10	7/6/2018 10:16:56 AM	39050

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

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

Analytical Report
Lab Order **1807143**
Date Reported: **7/16/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-1'
Project: Queenie
Collection Date: 6/29/2018 11:58:00 AM
Lab ID: 1807143-002 **Matrix:** SOIL **Received Date:** 7/4/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	6200	300		mg/Kg	200	7/12/2018 4:34:13 PM	39135
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	1100	100		mg/Kg	10	7/9/2018 11:03:50 PM	39064
Motor Oil Range Organics (MRO)	580	500		mg/Kg	10	7/9/2018 11:03:50 PM	39064
Surr: DNOP	0	70-130	S	%Rec	10	7/9/2018 11:03:50 PM	39064
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	52	9.5		mg/Kg	2	7/6/2018 2:10:23 PM	39050
Surr: BFB	303	15-316		%Rec	2	7/6/2018 2:10:23 PM	39050
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.19		mg/Kg	2	7/6/2018 2:10:23 PM	39050
Benzene	ND	0.048		mg/Kg	2	7/6/2018 2:10:23 PM	39050
Toluene	ND	0.095		mg/Kg	2	7/6/2018 2:10:23 PM	39050
Ethylbenzene	0.22	0.095		mg/Kg	2	7/6/2018 2:10:23 PM	39050
Xylenes, Total	0.98	0.19		mg/Kg	2	7/6/2018 2:10:23 PM	39050
Surr: 4-Bromofluorobenzene	119	80-120		%Rec	2	7/6/2018 2:10:23 PM	39050

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

Qualifiers:

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

Analytical Report
Lab Order **1807143**
Date Reported: **7/16/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-Surface
Project: Queenie
Collection Date: 6/29/2018 11:40:00 AM
Lab ID: 1807143-003 **Matrix:** SOIL **Received Date:** 7/4/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	120	30		mg/Kg	20	7/12/2018 12:45:10 AM	39135
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	11000	200		mg/Kg	20	7/9/2018 2:33:47 PM	39064
Motor Oil Range Organics (MRO)	4800	1000		mg/Kg	20	7/9/2018 2:33:47 PM	39064
Surr: DNOP	0	70-130	S	%Rec	20	7/9/2018 2:33:47 PM	39064
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	970	99		mg/Kg	20	7/6/2018 9:11:28 PM	39050
Surr: BFB	342	15-316	S	%Rec	20	7/6/2018 9:11:28 PM	39050
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Methyl tert-butyl ether (MTBE)	ND	2.0		mg/Kg	20	7/6/2018 9:11:28 PM	39050
Benzene	ND	0.49		mg/Kg	20	7/6/2018 9:11:28 PM	39050
Toluene	7.1	0.99		mg/Kg	20	7/6/2018 9:11:28 PM	39050
Ethylbenzene	8.3	0.99		mg/Kg	20	7/6/2018 9:11:28 PM	39050
Xylenes, Total	33	2.0		mg/Kg	20	7/6/2018 9:11:28 PM	39050
Surr: 4-Bromofluorobenzene	124	80-120	S	%Rec	20	7/6/2018 9:11:28 PM	39050

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

Qualifiers:

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

Analytical Report
Lab Order **1807143**
Date Reported: **7/16/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-1'
Project: Queenie
Collection Date: 6/29/2018 11:42:00 AM
Lab ID: 1807143-004 **Matrix:** SOIL **Received Date:** 7/4/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	86	30		mg/Kg	20	7/12/2018 12:57:35 AM	39135
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	70	9.9		mg/Kg	1	7/10/2018 12:10:21 AM	39064
Motor Oil Range Organics (MRO)	51	50		mg/Kg	1	7/10/2018 12:10:21 AM	39064
Surr: DNOP	133	70-130	S	%Rec	1	7/10/2018 12:10:21 AM	39064
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/6/2018 9:57:58 PM	39050
Surr: BFB	100	15-316		%Rec	1	7/6/2018 9:57:58 PM	39050
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	7/6/2018 9:57:58 PM	39050
Benzene	ND	0.025		mg/Kg	1	7/6/2018 9:57:58 PM	39050
Toluene	ND	0.049		mg/Kg	1	7/6/2018 9:57:58 PM	39050
Ethylbenzene	ND	0.049		mg/Kg	1	7/6/2018 9:57:58 PM	39050
Xylenes, Total	ND	0.098		mg/Kg	1	7/6/2018 9:57:58 PM	39050
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/6/2018 9:57:58 PM	39050

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

Qualifiers:

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

Analytical Report
Lab Order **1807143**
Date Reported: **7/16/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-Surface
Project: Queenie
Collection Date: 6/29/2018 11:30:00 AM
Lab ID: 1807143-005 **Matrix:** SOIL **Received Date:** 7/4/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	8500	750		mg/Kg	500	7/12/2018 4:46:37 PM	39135
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	13000	200		mg/Kg	20	7/9/2018 3:40:12 PM	39064
Motor Oil Range Organics (MRO)	6700	990		mg/Kg	20	7/9/2018 3:40:12 PM	39064
Surr: DNOP	0	70-130	S	%Rec	20	7/9/2018 3:40:12 PM	39064
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	220	24		mg/Kg	5	7/6/2018 10:21:10 PM	39050
Surr: BFB	322	15-316	S	%Rec	5	7/6/2018 10:21:10 PM	39050
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Methyl tert-butyl ether (MTBE)	ND	0.48		mg/Kg	5	7/6/2018 10:21:10 PM	39050
Benzene	ND	0.12		mg/Kg	5	7/6/2018 10:21:10 PM	39050
Toluene	2.5	0.24		mg/Kg	5	7/6/2018 10:21:10 PM	39050
Ethylbenzene	2.4	0.24		mg/Kg	5	7/6/2018 10:21:10 PM	39050
Xylenes, Total	9.6	0.48		mg/Kg	5	7/6/2018 10:21:10 PM	39050
Surr: 4-Bromofluorobenzene	124	80-120	S	%Rec	5	7/6/2018 10:21:10 PM	39050

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

Qualifiers:

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

Analytical Report
Lab Order **1807143**
Date Reported: **7/16/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-1'
Project: Queenie
Collection Date: 6/29/2018 11:36:00 AM
Lab ID: 1807143-006 **Matrix:** SOIL **Received Date:** 7/4/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	5200	300		mg/Kg	200	7/12/2018 4:59:01 PM	39135
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	260	10		mg/Kg	1	7/6/2018 6:09:57 PM	39064
Motor Oil Range Organics (MRO)	220	50		mg/Kg	1	7/6/2018 6:09:57 PM	39064
Surr: DNOP	102	70-130		%Rec	1	7/6/2018 6:09:57 PM	39064
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/6/2018 11:07:35 PM	39050
Surr: BFB	114	15-316		%Rec	1	7/6/2018 11:07:35 PM	39050
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	7/6/2018 11:07:35 PM	39050
Benzene	ND	0.024		mg/Kg	1	7/6/2018 11:07:35 PM	39050
Toluene	ND	0.047		mg/Kg	1	7/6/2018 11:07:35 PM	39050
Ethylbenzene	ND	0.047		mg/Kg	1	7/6/2018 11:07:35 PM	39050
Xylenes, Total	ND	0.094		mg/Kg	1	7/6/2018 11:07:35 PM	39050
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/6/2018 11:07:35 PM	39050

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

Qualifiers:

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

Analytical Report
Lab Order **1807143**
Date Reported: **7/16/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-Surface
Project: Queenie
Collection Date: 6/29/2018 12:03:00 PM
Lab ID: 1807143-007 **Matrix:** SOIL **Received Date:** 7/4/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	21000	1500		mg/Kg	1E	7/12/2018 5:36:15 PM	39148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	1100	100		mg/Kg	10	7/9/2018 4:46:28 PM	39064
Motor Oil Range Organics (MRO)	790	500		mg/Kg	10	7/9/2018 4:46:28 PM	39064
Surr: DNOP	0	70-130	S	%Rec	10	7/9/2018 4:46:28 PM	39064
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	5.4	4.8		mg/Kg	1	7/6/2018 11:30:46 PM	39050
Surr: BFB	127	15-316		%Rec	1	7/6/2018 11:30:46 PM	39050
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	7/6/2018 11:30:46 PM	39050
Benzene	ND	0.024		mg/Kg	1	7/6/2018 11:30:46 PM	39050
Toluene	ND	0.048		mg/Kg	1	7/6/2018 11:30:46 PM	39050
Ethylbenzene	ND	0.048		mg/Kg	1	7/6/2018 11:30:46 PM	39050
Xylenes, Total	0.14	0.096		mg/Kg	1	7/6/2018 11:30:46 PM	39050
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/6/2018 11:30:46 PM	39050

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

Qualifiers:

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

Analytical Report
Lab Order **1807143**
Date Reported: **7/16/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-1'
Project: Queenie
Collection Date: 6/29/2018 12:07:00 PM
Lab ID: 1807143-008 **Matrix:** SOIL **Received Date:** 7/4/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	830	30		mg/Kg	20	7/11/2018 1:59:50 PM	39148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	100	10		mg/Kg	1	7/10/2018 1:16:56 AM	39064
Motor Oil Range Organics (MRO)	72	50		mg/Kg	1	7/10/2018 1:16:56 AM	39064
Surr: DNOP	119	70-130		%Rec	1	7/10/2018 1:16:56 AM	39064
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/6/2018 11:54:04 PM	39050
Surr: BFB	93.2	15-316		%Rec	1	7/6/2018 11:54:04 PM	39050
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	7/6/2018 11:54:04 PM	39050
Benzene	ND	0.024		mg/Kg	1	7/6/2018 11:54:04 PM	39050
Toluene	ND	0.048		mg/Kg	1	7/6/2018 11:54:04 PM	39050
Ethylbenzene	ND	0.048		mg/Kg	1	7/6/2018 11:54:04 PM	39050
Xylenes, Total	ND	0.096		mg/Kg	1	7/6/2018 11:54:04 PM	39050
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/6/2018 11:54:04 PM	39050

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

Qualifiers:

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

Analytical Report
Lab Order **1807143**
Date Reported: **7/16/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L5-0.25'
Project: Queenie
Collection Date: 6/29/2018 12:17:00 PM
Lab ID: 1807143-009 **Matrix:** SOIL **Received Date:** 7/4/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	490	30		mg/Kg	20	7/11/2018 2:12:15 PM	39148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	56	10		mg/Kg	1	7/10/2018 2:23:37 AM	39064
Motor Oil Range Organics (MRO)	71	50		mg/Kg	1	7/10/2018 2:23:37 AM	39064
Surr: DNOP	99.7	70-130		%Rec	1	7/10/2018 2:23:37 AM	39064
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2018 12:17:16 AM	39050
Surr: BFB	96.7	15-316		%Rec	1	7/7/2018 12:17:16 AM	39050
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	7/7/2018 12:17:16 AM	39050
Benzene	ND	0.024		mg/Kg	1	7/7/2018 12:17:16 AM	39050
Toluene	ND	0.049		mg/Kg	1	7/7/2018 12:17:16 AM	39050
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2018 12:17:16 AM	39050
Xylenes, Total	ND	0.098		mg/Kg	1	7/7/2018 12:17:16 AM	39050
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/7/2018 12:17:16 AM	39050

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

Qualifiers:

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

Analytical Report
Lab Order **1807143**
Date Reported: **7/16/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L6-0.25'
Project: Queenie
Collection Date: 6/29/2018 12:25:00 PM
Lab ID: 1807143-010 **Matrix:** SOIL **Received Date:** 7/4/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	110	30		mg/Kg	20	7/11/2018 2:24:39 PM	39148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/6/2018 8:22:43 PM	39064
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/6/2018 8:22:43 PM	39064
Surr: DNOP	77.2	70-130		%Rec	1	7/6/2018 8:22:43 PM	39064
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/7/2018 2:13:38 AM	39050
Surr: BFB	89.5	15-316		%Rec	1	7/7/2018 2:13:38 AM	39050
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	7/7/2018 2:13:38 AM	39050
Benzene	ND	0.023		mg/Kg	1	7/7/2018 2:13:38 AM	39050
Toluene	ND	0.046		mg/Kg	1	7/7/2018 2:13:38 AM	39050
Ethylbenzene	ND	0.046		mg/Kg	1	7/7/2018 2:13:38 AM	39050
Xylenes, Total	ND	0.093		mg/Kg	1	7/7/2018 2:13:38 AM	39050
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/7/2018 2:13:38 AM	39050

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807143**

16-Jul-18

Client: Souder, Miller & Associates

Project: Queenie

Sample ID	**MB-39135**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**39135**	RunNo:	**52601**					
Prep Date:	**7/10/2018**	Analysis Date:	**7/10/2018**	SeqNo:	**1726455**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-39135**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**39135**	RunNo:	**52601**					
Prep Date:	**7/10/2018**	Analysis Date:	**7/10/2018**	SeqNo:	**1726456**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.5	90	110			

Sample ID	**MB-39148**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**39148**	RunNo:	**52622**					
Prep Date:	**7/11/2018**	Analysis Date:	**7/11/2018**	SeqNo:	**1727842**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-39148**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**39148**	RunNo:	**52622**					
Prep Date:	**7/11/2018**	Analysis Date:	**7/11/2018**	SeqNo:	**1727843**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807143**

16-Jul-18

Client: Souder, Miller & Associates

Project: Queenie

Sample ID	**MB-39064**	SampType:	**MBLK**	TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**PBS**	Batch ID:	**39064**	RunNo:	**52510**					
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**	SeqNo:	**1722073**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.8		10.00		97.5	70	130			

Sample ID	**LCS-39064**	SampType:	**LCS**	TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**LCSS**	Batch ID:	**39064**	RunNo:	**52510**					
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**	SeqNo:	**1722074**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.7	70	130			
Surr: DNOP	4.4		5.000		87.8	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807143**

16-Jul-18

Client: Souder, Miller & Associates

Project: Queenie

Sample ID	**MB-39050**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**39050**	RunNo:	**52519**					
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**	SeqNo:	**1722508**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		96.0	15	316			

Sample ID	**LCS-39050**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**39050**	RunNo:	**52519**					
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**	SeqNo:	**1722509**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	75.9	131			
Surr: BFB	1000		1000		101	15	316			

Sample ID	**MB-39060**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**39060**	RunNo:	**52519**					
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**	SeqNo:	**1722527**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.1	15	316			

Sample ID	**LCS-39060**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**39060**	RunNo:	**52519**					
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**	SeqNo:	**1722528**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807143**

16-Jul-18

Client: Souder, Miller & Associates

Project: Queenie

Sample ID	**MB-39050**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**39050**	RunNo:	**52519**					
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**	SeqNo:	**1722550**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID	**LCS-39050**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**39050**	RunNo:	**52519**					
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**	SeqNo:	**1722551**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.90	0.10	1.000	0	90.4	70.1	121			
Benzene	0.95	0.025	1.000	0	94.9	77.3	128			
Toluene	0.98	0.050	1.000	0	98.0	79.2	125			
Ethylbenzene	0.96	0.050	1.000	0	96.3	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	98.2	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID	**1807143-002AMS**	SampType:	**MS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**L1-1'**	Batch ID:	**39050**	RunNo:	**52519**					
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**	SeqNo:	**1722556**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.97	0.19	0.9461	0	102	56.9	130			
Benzene	1.0	0.047	0.9461	0	107	68.5	133			
Toluene	1.1	0.095	0.9461	0.07257	108	75	130			
Ethylbenzene	1.2	0.095	0.9461	0.2213	103	79.4	128			
Xylenes, Total	3.8	0.19	2.838	0.9806	100	77.3	131			
Surr: 4-Bromofluorobenzene	2.2		1.892		117	80	120			

Sample ID	**1807143-002AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**L1-1'**	Batch ID:	**39050**	RunNo:	**52519**					
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**	SeqNo:	**1722557**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.93	0.19	0.9337	0	100	56.9	130	3.79	20	
Benzene	0.94	0.047	0.9337	0	101	68.5	133	6.97	20	
Toluene	1.0	0.093	0.9337	0.07257	102	75	130	6.80	20	
Ethylbenzene	1.1	0.093	0.9337	0.2213	97.7	79.4	128	5.27	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807143**

16-Jul-18

Client: Souder, Miller & Associates

Project: Queenie

Sample ID	**1807143-002AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8021B: Volatiles**				
Client ID:	**L1-1'**	Batch ID:	**39050**		RunNo:	**52519**				
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**		SeqNo:	**1722557**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.7	0.19	2.801	0.9806	95.5	77.3	131	4.44	20	
Surr: 4-Bromofluorobenzene	2.2		1.867		117	80	120	0	0	

Sample ID	**MB-39060**	SampType:	**MBLK**		TestCode:	**EPA Method 8021B: Volatiles**				
Client ID:	**PBS**	Batch ID:	**39060**		RunNo:	**52519**				
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**		SeqNo:	**1722567**	Units:	**%Rec**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID	**LCS-39060**	SampType:	**LCS**		TestCode:	**EPA Method 8021B: Volatiles**				
Client ID:	**LCSS**	Batch ID:	**39060**		RunNo:	**52519**				
Prep Date:	**7/5/2018**	Analysis Date:	**7/6/2018**		SeqNo:	**1722568**	Units:	**%Rec**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1807143 RcptNo: 1

Received By: Andy Freeman 7/4/2018 9:50:00 AM

Completed By: Ashley Gallegos 7/5/2018 9:05:24 AM

Reviewed By: AG 07/05/18 Labeled by. JO 7/5/18

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐ # of preserved bottles checked for pH: 10 (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐ Adjusted? 7/5/18
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐ Checked by:

Special Handling (if applicable)

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

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.9	Good	Yes			

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 5 day

Project Name: Queenie

Project #:

Project Manager: Austin Weyant

Sampler: MRS/HNP

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.9°C

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1807143	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
6/29/18	11:56	Soil	L1-Surface	4oz.		-001	✓		✓					✓				
"	11:58	"	L1-1'	"		-002	✓		✓					✓				
"	11:40	"	L2-Surface	"		-003	✓		✓					✓				
"	11:42	"	L2-1'	"		-004	✓		✓					✓				
"	11:30	"	L3-Surface	"		-005	✓		✓					✓				
"	11:36	"	L3-1'	"		-006	✓		✓					✓				
"	12:03	"	L4-Surface	"		-007	✓		✓					✓				
"	12:07	"	L4-1'	"		-008	✓		✓					✓				
"	12:17	"	L5-0.25'	"		-009	✓		✓					✓				
"	12:25	"	L6-0.25'	"		-010	✓		✓					✓				

Date	Time	Relinquished by	Received by	Date	Time
7/5/18	1400			7/3/18	1400
7/3/18	1900			7/4/18	0950

Remarks: Marathon.

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 17, 2018

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: Queenie 15 OrderNo.: 1808660

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 10 sample(s) on 8/10/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1808660**
Date Reported: **8/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3
Project: Queenie 15
Collection Date: 8/7/2018 2:17:00 PM
Lab ID: 1808660-001 **Matrix:** SOIL **Received Date:** 8/10/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	200	30		mg/Kg	20	8/15/2018 1:50:41 PM	39803

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

Qualifiers:

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

Analytical Report
Lab Order **1808660**
Date Reported: **8/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2
Project: Queenie 15
Collection Date: 8/7/2018 3:21:00 PM
Lab ID: 1808660-002 **Matrix:** SOIL **Received Date:** 8/10/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	62	30		mg/Kg	20	8/15/2018 2:27:53 PM	39803

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

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

Analytical Report
Lab Order **1808660**
Date Reported: **8/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW5
Project: Queenie 15
Collection Date: 8/7/2018 3:58:00 PM
Lab ID: 1808660-003 **Matrix:** SOIL **Received Date:** 8/10/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	260	30		mg/Kg	20	8/15/2018 3:05:07 PM	39803
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/15/2018 1:28:55 PM	39752
Surr: BFB	115	70-130		%Rec	1	8/15/2018 1:28:55 PM	39752
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/15/2018 6:13:13 PM	39769
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/15/2018 6:13:13 PM	39769
Surr: DNOP	93.6	50.6-138		%Rec	1	8/15/2018 6:13:13 PM	39769
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Methyl tert-butyl ether (MTBE)	ND	0.047		mg/Kg	1	8/15/2018 1:28:55 PM	39752
Benzene	ND	0.024		mg/Kg	1	8/15/2018 1:28:55 PM	39752
Toluene	ND	0.047		mg/Kg	1	8/15/2018 1:28:55 PM	39752
Ethylbenzene	ND	0.047		mg/Kg	1	8/15/2018 1:28:55 PM	39752
Xylenes, Total	ND	0.095		mg/Kg	1	8/15/2018 1:28:55 PM	39752
Surr: 4-Bromofluorobenzene	129	70-130		%Rec	1	8/15/2018 1:28:55 PM	39752
Surr: Toluene-d8	93.3	70-130		%Rec	1	8/15/2018 1:28:55 PM	39752

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

Qualifiers:

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

Analytical Report
Lab Order **1808660**
Date Reported: **8/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW6
Project: Queenie 15
Collection Date: 8/7/2018 4:09:00 PM
Lab ID: 1808660-004 **Matrix:** SOIL **Received Date:** 8/10/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	290	30		mg/Kg	20	8/15/2018 3:17:31 PM	39803

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

Qualifiers:

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

Analytical Report
Lab Order **1808660**
Date Reported: **8/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW7
Project: Queenie 15
Collection Date: 8/7/2018 4:24:00 PM
Lab ID: 1808660-005 **Matrix:** SOIL **Received Date:** 8/10/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	300	30		mg/Kg	20	8/15/2018 3:29:55 PM	39803
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/15/2018 1:52:13 PM	39752
Surr: BFB	115	70-130		%Rec	1	8/15/2018 1:52:13 PM	39752
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/15/2018 6:37:37 PM	39769
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/15/2018 6:37:37 PM	39769
Surr: DNOP	94.1	50.6-138		%Rec	1	8/15/2018 6:37:37 PM	39769
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	8/15/2018 1:52:13 PM	39752
Benzene	ND	0.025		mg/Kg	1	8/15/2018 1:52:13 PM	39752
Toluene	ND	0.049		mg/Kg	1	8/15/2018 1:52:13 PM	39752
Ethylbenzene	ND	0.049		mg/Kg	1	8/15/2018 1:52:13 PM	39752
Xylenes, Total	ND	0.098		mg/Kg	1	8/15/2018 1:52:13 PM	39752
Surr: 4-Bromofluorobenzene	129	70-130		%Rec	1	8/15/2018 1:52:13 PM	39752
Surr: Toluene-d8	95.7	70-130		%Rec	1	8/15/2018 1:52:13 PM	39752

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

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

Analytical Report
Lab Order **1808660**
Date Reported: **8/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW8
Project: Queenie 15
Collection Date: 8/7/2018 4:36:00 PM
Lab ID: 1808660-006 **Matrix:** SOIL **Received Date:** 8/10/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	33	30		mg/Kg	20	8/15/2018 3:42:20 PM	39803

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

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

Analytical Report
Lab Order **1808660**
Date Reported: **8/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW9
Project: Queenie 15
Collection Date: 8/7/2018 4:40:00 PM
Lab ID: 1808660-007 **Matrix:** SOIL **Received Date:** 8/10/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	8/15/2018 3:54:44 PM	39803
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/15/2018 7:02:11 PM	39769
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/15/2018 7:02:11 PM	39769
Surr: DNOP	82.3	50.6-138		%Rec	1	8/15/2018 7:02:11 PM	39769
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/14/2018 11:54:35 AM	39754
Surr: BFB	91.7	15-316		%Rec	1	8/14/2018 11:54:35 AM	39754
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	8/14/2018 11:54:35 AM	39754
Benzene	ND	0.025		mg/Kg	1	8/14/2018 11:54:35 AM	39754
Toluene	ND	0.049		mg/Kg	1	8/14/2018 11:54:35 AM	39754
Ethylbenzene	ND	0.049		mg/Kg	1	8/14/2018 11:54:35 AM	39754
Xylenes, Total	ND	0.098		mg/Kg	1	8/14/2018 11:54:35 AM	39754
Surr: 4-Bromofluorobenzene	96.4	80-120		%Rec	1	8/14/2018 11:54:35 AM	39754

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

Qualifiers:

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

Analytical Report
Lab Order **1808660**
Date Reported: **8/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: Queenie 15
Collection Date: 8/7/2018 5:27:00 PM
Lab ID: 1808660-008 **Matrix:** SOIL **Received Date:** 8/10/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	71	30		mg/Kg	20	8/15/2018 4:07:09 PM	39803
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/15/2018 7:26:38 PM	39769
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/15/2018 7:26:38 PM	39769
Surr: DNOP	67.3	50.6-138		%Rec	1	8/15/2018 7:26:38 PM	39769
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/14/2018 1:04:41 PM	39754
Surr: BFB	88.9	15-316		%Rec	1	8/14/2018 1:04:41 PM	39754
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	8/14/2018 1:04:41 PM	39754
Benzene	ND	0.025		mg/Kg	1	8/14/2018 1:04:41 PM	39754
Toluene	ND	0.049		mg/Kg	1	8/14/2018 1:04:41 PM	39754
Ethylbenzene	ND	0.049		mg/Kg	1	8/14/2018 1:04:41 PM	39754
Xylenes, Total	ND	0.098		mg/Kg	1	8/14/2018 1:04:41 PM	39754
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	8/14/2018 1:04:41 PM	39754

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

Qualifiers:

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

Analytical Report
Lab Order **1808660**
Date Reported: **8/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-2
Project: Queenie 15
Collection Date: 8/6/2018 1:35:00 PM
Lab ID: 1808660-009 **Matrix:** SOIL **Received Date:** 8/10/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	290	30		mg/Kg	20	8/15/2018 4:19:33 PM	39803
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/15/2018 7:51:08 PM	39769
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/15/2018 7:51:08 PM	39769
Surr: DNOP	81.4	50.6-138		%Rec	1	8/15/2018 7:51:08 PM	39769
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/14/2018 4:36:09 PM	39754
Surr: BFB	95.5	15-316		%Rec	1	8/14/2018 4:36:09 PM	39754
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	8/14/2018 4:36:09 PM	39754
Benzene	ND	0.025		mg/Kg	1	8/14/2018 4:36:09 PM	39754
Toluene	ND	0.050		mg/Kg	1	8/14/2018 4:36:09 PM	39754
Ethylbenzene	ND	0.050		mg/Kg	1	8/14/2018 4:36:09 PM	39754
Xylenes, Total	ND	0.099		mg/Kg	1	8/14/2018 4:36:09 PM	39754
Surr: 4-Bromofluorobenzene	99.6	80-120		%Rec	1	8/14/2018 4:36:09 PM	39754

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

Qualifiers:

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

Analytical Report
Lab Order **1808660**
Date Reported: **8/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-2
Project: Queenie 15
Collection Date: 8/6/2018 1:50:00 PM
Lab ID: 1808660-010 **Matrix:** SOIL **Received Date:** 8/10/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	8/15/2018 4:31:58 PM	39803

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808660**

17-Aug-18

Client: Souder, Miller & Associates

Project: Queenie 15

Sample ID	**MB-39803**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**39803**	RunNo:	**53451**					
Prep Date:	**8/15/2018**	Analysis Date:	**8/15/2018**	SeqNo:	**1762216**	Units:	**mg/Kg**			

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

Sample ID	**LCS-39803**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**39803**	RunNo:	**53451**					
Prep Date:	**8/15/2018**	Analysis Date:	**8/15/2018**	SeqNo:	**1762217**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808660**

17-Aug-18

Client: Souder, Miller & Associates

Project: Queenie 15

Sample ID	**MB-39769**	SampType:	**MBLK**	TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**PBS**	Batch ID:	**39769**	RunNo:	**53447**					
Prep Date:	**8/14/2018**	Analysis Date:	**8/15/2018**	SeqNo:	**1762337**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		95.3	50.6	138			

Sample ID	**LCS-39769**	SampType:	**LCS**	TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**LCSS**	Batch ID:	**39769**	RunNo:	**53447**					
Prep Date:	**8/14/2018**	Analysis Date:	**8/15/2018**	SeqNo:	**1762338**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.6	70	130			
Surr: DNOP	4.5		5.000		89.4	50.6	138			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808660**

17-Aug-18

Client: Souder, Miller & Associates

Project: Queenie 15

Sample ID	**MB-39754**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**39754**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759922**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.3	15	316			

Sample ID	**LCS-39754**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**39754**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759923**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.3	75.9	131			
Surr: BFB	1100		1000		106	15	316			

Sample ID	**1808660-007AMS**	SampType:	**MS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**SW9**	Batch ID:	**39754**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759925**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.73	0	103	77.8	128			
Surr: BFB	1000		989.1		103	15	316			

Sample ID	**1808660-007AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**SW9**	Batch ID:	**39754**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759926**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	24.06	0	112	77.8	128	6.25	20	
Surr: BFB	990		962.5		103	15	316	0	0	

Sample ID	**MB-39756**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**39756**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759946**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.4	15	316			

Sample ID	**LCS-39756**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**39756**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759947**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		102	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808660**

17-Aug-18

Client: Souder, Miller & Associates

Project: Queenie 15

Sample ID	**MB-39754**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**39754**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759957**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		97.8	80	120			

Sample ID	**LCS-39754**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**39754**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759958**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.80	0.10	1.000	0	80.3	70.1	121			
Benzene	0.90	0.025	1.000	0	90.4	77.3	128			
Toluene	0.97	0.050	1.000	0	96.6	79.2	125			
Ethylbenzene	0.96	0.050	1.000	0	95.8	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	98.2	81.6	129			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID	**1808660-008AMS**	SampType:	**MS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**SW1**	Batch ID:	**39754**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759961**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.91	0.099	0.9852	0	92.2	56.9	130			
Benzene	1.0	0.025	0.9852	0	102	68.5	133			
Toluene	1.1	0.049	0.9852	0.007556	110	75	130			
Ethylbenzene	1.1	0.049	0.9852	0	111	79.4	128			
Xylenes, Total	3.4	0.099	2.956	0.01050	113	77.3	131			
Surr: 4-Bromofluorobenzene	0.95		0.9852		96.5	80	120			

Sample ID	**1808660-008AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**SW1**	Batch ID:	**39754**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759962**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.92	0.099	0.9852	0	93.1	56.9	130	1.00	20	
Benzene	1.0	0.025	0.9852	0	102	68.5	133	0.509	20	
Toluene	1.1	0.049	0.9852	0.007556	110	75	130	0.497	20	
Ethylbenzene	1.1	0.049	0.9852	0	114	79.4	128	1.85	20	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808660**
17-Aug-18

Client: Souder, Miller & Associates
Project: Queenie 15

Sample ID	**1808660-008AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**SW1**	Batch ID:	**39754**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759962**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.4	0.099	2.956	0.01050	115	77.3	131	0.939	20	
Surr: 4-Bromofluorobenzene	0.98		0.9852		99.9	80	120	0	0	

Sample ID	**MB-39756**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**39756**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759977**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98		1.000		98.1	80	120			

Sample ID	**LCS-39756**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**39756**	RunNo:	**53435**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759978**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.96		1.000		95.5	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808660**

17-Aug-18

Client: Souder, Miller & Associates

Project: Queenie 15

Sample ID	**lcs-39752**	SampType:	**LCS4**	TestCode:	**EPA Method 8260B: Volatiles Short List**					
Client ID:	**BatchQC**	Batch ID:	**39752**	RunNo:	**53416**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759392**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.91	0.050	1.000	0	91.5	80	120			
Benzene	0.94	0.025	1.000	0	93.9	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.1	0.050	1.000	0	105	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 4-Bromofluorobenzene	0.58		0.5000		117	70	130			
Surr: Toluene-d8	0.47		0.5000		94.3	70	130			

Sample ID	**mb-39752**	SampType:	**MBLK**	TestCode:	**EPA Method 8260B: Volatiles Short List**					
Client ID:	**PBS**	Batch ID:	**39752**	RunNo:	**53416**					
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759393**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.64		0.5000		128	70	130			
Surr: Toluene-d8	0.46		0.5000		92.8	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808660**

17-Aug-18

Client: Souder, Miller & Associates

Project: Queenie 15

Sample ID	**mb-39752**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D Mod: Gasoline Range**
Client ID:	**PBS**	Batch ID:	**39752**	RunNo:	**53416**
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1759389** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	570		500.0		113	70	130			

Sample ID	**lcs-39752**	SampType:	**LCS**	TestCode:	**EPA Method 8015D Mod: Gasoline Range**
Client ID:	**LCSS**	Batch ID:	**39752**	RunNo:	**53416**
Prep Date:	**8/13/2018**	Analysis Date:	**8/14/2018**	SeqNo:	**1760265** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	70	130			
Surr: BFB	540		500.0		108	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1808660 RcptNo: 1

Received By: Isaiah Ortiz 8/10/2018 9:40:00 AM IO

Completed By: Erin Melendrez 8/10/2018 11:09:01 AM

Reviewed By: JMS 08/10/18

LB: JO 08/10/18

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: JO (<2 or >12 unless noted)
Adjusted?
Checked by: 8/10/18

Special Handling (if applicable)

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

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.2	Good	Yes			

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 5 day

Project Name: Queenie 15

Project #:

Project Manager: Austin Weyant

Sampler: CAA

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.2

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808060	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
8/7/18	217	Soil	SW 3	4 oz		-001								X				
	321	Soil	SW 2			-002								X				
	358		SW 5			-003	X		X					X				
	409		SW 6			-004								X				
	424		SW 7			-005	X		X					X				
	436		SW 8			-006								X				
	440		SW 9			-007	X		X					X				
	527		SW 1			-008	X		X					X				
8/6/18	135		L1-2			-009	X		X					X				
	150		L4-2			-010								X				
						-011 ENM 8/10/18												

Date: 8/9/18 Time: 1330 Relinquished by:

Received by: Date 8/9/18 Time 1330

Date: 8/9/18 Time: 1900 Relinquished by:

Received by: COURIER Date 8/10/18 Time 0940

Remarks: Marathon Oil

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 29, 2018

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: Queenie OrderNo.: 1808D81

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 6 sample(s) on 8/22/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1808D81**
Date Reported: **8/29/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW 4
Project: Queenie
Collection Date: 8/6/2018 11:28:00 AM
Lab ID: 1808D81-001 **Matrix:** SOIL **Received Date:** 8/22/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	100	30		mg/Kg	20	8/28/2018 3:03:22 PM	40017
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8	H	mg/Kg	1	8/25/2018 11:41:21 AM	39966
Motor Oil Range Organics (MRO)	ND	49	H	mg/Kg	1	8/25/2018 11:41:21 AM	39966
Surr: DNOP	92.5	50.6-138	H	%Rec	1	8/25/2018 11:41:21 AM	39966
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6	H	mg/Kg	1	8/23/2018 4:57:24 PM	39931
Surr: BFB	92.0	15-316	H	%Rec	1	8/23/2018 4:57:24 PM	39931
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023	H	mg/Kg	1	8/23/2018 4:57:24 PM	39931
Toluene	ND	0.046	H	mg/Kg	1	8/23/2018 4:57:24 PM	39931
Ethylbenzene	ND	0.046	H	mg/Kg	1	8/23/2018 4:57:24 PM	39931
Xylenes, Total	ND	0.092	H	mg/Kg	1	8/23/2018 4:57:24 PM	39931
Surr: 4-Bromofluorobenzene	113	80-120	H	%Rec	1	8/23/2018 4:57:24 PM	39931

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

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

Analytical Report
Lab Order **1808D81**
Date Reported: **8/29/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-3
Project: Queenie
Collection Date: 8/6/2018 1:45:00 PM
Lab ID: 1808D81-002 **Matrix:** SOIL **Received Date:** 8/22/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	300	30		mg/Kg	20	8/28/2018 4:05:24 PM	40017
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7	H	mg/Kg	1	8/25/2018 12:55:09 PM	39966
Motor Oil Range Organics (MRO)	ND	48	H	mg/Kg	1	8/25/2018 12:55:09 PM	39966
Surr: DNOP	86.8	50.6-138	H	%Rec	1	8/25/2018 12:55:09 PM	39966
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8	H	mg/Kg	1	8/23/2018 5:20:50 PM	39931
Surr: BFB	88.3	15-316	H	%Rec	1	8/23/2018 5:20:50 PM	39931
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024	H	mg/Kg	1	8/23/2018 5:20:50 PM	39931
Toluene	ND	0.048	H	mg/Kg	1	8/23/2018 5:20:50 PM	39931
Ethylbenzene	ND	0.048	H	mg/Kg	1	8/23/2018 5:20:50 PM	39931
Xylenes, Total	ND	0.095	H	mg/Kg	1	8/23/2018 5:20:50 PM	39931
Surr: 4-Bromofluorobenzene	110	80-120	H	%Rec	1	8/23/2018 5:20:50 PM	39931

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

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

Analytical Report
Lab Order **1808D81**
Date Reported: **8/29/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BG-2
Project: Queenie
Collection Date: 8/6/2018 3:21:00 PM
Lab ID: 1808D81-003 **Matrix:** SOIL **Received Date:** 8/22/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	8/28/2018 4:17:48 PM	40017

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

Qualifiers:

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

Analytical Report
Lab Order **1808D81**
Date Reported: **8/29/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BG-4
Project: Queenie
Collection Date: 8/6/2018 3:24:00 PM
Lab ID: 1808D81-004 **Matrix:** SOIL **Received Date:** 8/22/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	430	30		mg/Kg	20	8/28/2018 4:30:12 PM	40017

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

Qualifiers:

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

Analytical Report
Lab Order **1808D81**
Date Reported: **8/29/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BG-6
Project: Queenie
Collection Date: 8/6/2018 3:27:00 PM
Lab ID: 1808D81-005 **Matrix:** SOIL **Received Date:** 8/22/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	230	30		mg/Kg	20	8/28/2018 4:42:37 PM	40017

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

Qualifiers:

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

Analytical Report
Lab Order **1808D81**
Date Reported: **8/29/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: BG-8
Project: Queenie
Collection Date: 8/6/2018 3:30:00 PM
Lab ID: 1808D81-006 **Matrix:** SOIL **Received Date:** 8/22/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	440	30		mg/Kg	20	8/28/2018 4:55:01 PM	40017

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808D81**

29-Aug-18

Client: Souder, Miller & Associates

Project: Queenie

Sample ID	**MB-40017**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**40017**	RunNo:	**53754**					
Prep Date:	**8/28/2018**	Analysis Date:	**8/28/2018**	SeqNo:	**1774320**	Units:	**mg/Kg**			

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

Sample ID	**LCS-40017**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**40017**	RunNo:	**53754**					
Prep Date:	**8/28/2018**	Analysis Date:	**8/28/2018**	SeqNo:	**1774322**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808D81**
29-Aug-18

Client: Souder, Miller & Associates
Project: Queenie

Sample ID	**1808D81-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**SW 4**	Batch ID:	**39966**		RunNo:	**53712**				
Prep Date:	**8/23/2018**	Analysis Date:	**8/25/2018**		SeqNo:	**1771880**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	49.85	0	104	53.5	126			H
Surr: DNOP	5.4		4.985		109	50.6	138			H

Sample ID	**1808D81-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**SW 4**	Batch ID:	**39966**		RunNo:	**53712**				
Prep Date:	**8/23/2018**	Analysis Date:	**8/25/2018**		SeqNo:	**1771881**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.8	48.83	0	103	53.5	126	3.53	21.7	H
Surr: DNOP	5.4		4.883		110	50.6	138	0	0	H

Sample ID	**LCS-39966**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**39966**		RunNo:	**53712**				
Prep Date:	**8/23/2018**	Analysis Date:	**8/25/2018**		SeqNo:	**1771900**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.4	70	130			
Surr: DNOP	5.3		5.000		105	50.6	138			

Sample ID	**MB-39966**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**39966**		RunNo:	**53712**				
Prep Date:	**8/23/2018**	Analysis Date:	**8/25/2018**		SeqNo:	**1771901**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		111	50.6	138			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808D81**

29-Aug-18

Client: Souder, Miller & Associates

Project: Queenie

Sample ID	**MB-39931**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**39931**	RunNo:	**53673**					
Prep Date:	**8/22/2018**	Analysis Date:	**8/23/2018**	SeqNo:	**1769982**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.8	15	316			

Sample ID	**LCS-39931**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**39931**	RunNo:	**53673**					
Prep Date:	**8/22/2018**	Analysis Date:	**8/23/2018**	SeqNo:	**1769983**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.4	75.9	131			
Surr: BFB	1000		1000		101	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808D81**

29-Aug-18

Client: Souder, Miller & Associates

Project: Queenie

Sample ID	**MB-39931**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**39931**	RunNo:	**53673**					
Prep Date:	**8/22/2018**	Analysis Date:	**8/23/2018**	SeqNo:	**1770004**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID	**LCS-39931**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**39931**	RunNo:	**53673**					
Prep Date:	**8/22/2018**	Analysis Date:	**8/23/2018**	SeqNo:	**1770005**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	105	77.3	128			
Toluene	1.1	0.050	1.000	0	108	79.2	125			
Ethylbenzene	1.1	0.050	1.000	0	108	80.7	127			
Xylenes, Total	3.3	0.10	3.000	0	109	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1808D81 RcptNo: 1

Received By: **Jazzmine Burkhead** 8/22/2018 9:05:00 AM

Completed By: **Ashley Gallegos** 8/22/2018 2:12:25 PM

Reviewed By: ENM 8/22/18 labeled by: IO 8/22/18

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: 10 (<2 or >12 unless noted)

Adjusted? 8/22/18

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.7	Good	Yes			

Chain-of-Custody Record

Client: SMA- Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☑ Rush 5 day

Project Name: Queenie

Project #:

Project Manager: Austin Weyant

Sampler: LAA

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808D81	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
8/16/18	11:28	Soil	SW 4	4 oz		-001	X		X					X								
	1:45		L3-3			-002	X		X					X								
	321		BG-2			-003								X								
	324		BG-4			-004								X								
	327		BG-6			-005								X								
	330		BG-8			-006								X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/21/18	1230			8/21/18	1230
8/21/18	1900			08/22/18	09:05

Remarks: Marathon

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

APPENDIX D
PHOTO LOG

Photo Log

Photo Taken August 7, 2018

Facing north

32.566207, -103.743220

Photo Taken August 7, 2018

Facing North

32.566262, -103.743111

Photo Taken August 7, 2018

Facing South

32.566356, -103.742921

APPENDIX E
FIELD DATA

SUBJECT Sampling PROJECT Queenie PAGE 1/1

CLIENT Marathon DATE 8/7/2018 BY LA

CHECKED BY

Sample	EC	temp	Time
Sw 3	10.38	35.6	217
Sw 2	10.28	33.3	321
Sw 1	10.30	34.5	~~3326~~ 527
Sw 5	10.18	33.1	358
Sw 6	10.37	33.1	409
Sw 7	10.38	31.7	424
Sw 8	10.14	31.7	436
Sw 9	10.18	33.9	440
~~Sw~~			

~~Tested~~ Reflagged Samples and tested them to get a better accuracy of side wall.

- Moved original Sidewall in from previous day.

APPENDIX A

CARMONA RESOURCES

CARMONA RESOURCES

August 18, 2023

New Mexico Oil Conservation Division
1220 South St, Francis Drive
Santa Fe, NM 87505

Re: Amendment to Closure Report
Queenie 15 Federal #1H
Marathon Oil Corporation
NOY1819743006
1RP-5120
Site Location: Unit M, S14, T20S, R32E
(Lat 32.5664978°, Long -103.7428894°)
Lea County, New Mexico

To Whom It May Concern:

On behalf of Marathon Oil Corporation (Marathon), Carmona Resource, LLC has prepared this letter to document additional site activities for the Queenie 15 Federal #1H. The site is located at the GPS 32.5664978, -103.7428894° within Unit M, S14, T20S, R32E in Lea County, New Mexico.

1.0 Site Information and Background

NOY1819743006/1RP-5120

On June 7, 2023, the New Mexico OCD denied the closure report for the following reason: "This closure is denied. When nearby wells are used to determine groundwater depth, the wells should be no further than ½ mile away from the site, data should be no more than 25 years old, and well construction information should be provided. If evidence of depth to groundwater within a ½ mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for groundwater at a depth of 50 feet or less. Sample points L5 and L2 exceed the TPH allowance for the depth to groundwater <100' and are, therefore, not fully delineated. L4 was in exceedance at 1' for depth to groundwater <100' and was not tested for TPH at all at 2'. A revised closure report should be submitted by 09/05/2023."

2.0 Site Assessment Activities

On June 28, 2023, Carmona Resources, LLC performed site assessment activities to evaluate soil impacts stemming from the release. Three (3) sample points (S-, S-2, and S-3) were advanced to a depth ranging from the surface to 2.0' bgs inside the release area at L5, L2, and L4 to assess the vertical extent. See Figure 3 for the sample locations. For chemical analysis, the soil samples were collected and placed directly into laboratory-provided sample containers, stored on ice, and transported under the proper chain-of-custody protocol to Europhins Laboratories in Midland, Texas. The samples were analyzed for total petroleum hydrocarbons (TPH) by EPA method 8015, modified benzene, toluene, ethylbenzene, and xylenes (BTEX) by

310 West Wall Street, Suite 500
Midland, Texas 79701
432.813.1992

EPA Method 8021B, and chloride by EPA method 300.0. The laboratory reports, including analytical methods, results, and chain-of-custody documents, are attached in Appendix D.

All samples were below the regulatory requirements for TPH, BTEX, and chloride. Refer to Table 1. The sample points of L5, L2, and L4 have undergone natural attenuation from precipitation and weather events from the initial sampling conducted on June 29, 2018, to the present day.

3.0 Conclusions

Based on the assessment results and the analytical data, no further actions are required at the site. The final C-141 is attached in Appendix A of the original request for closure. Marathon formally requests the closure of the spill. If you have any questions regarding this report or need additional information, please contact us at 432-813-1992.

Sincerely,

Carmona Resources, LLC

Mike Carmona
Environmental Manager

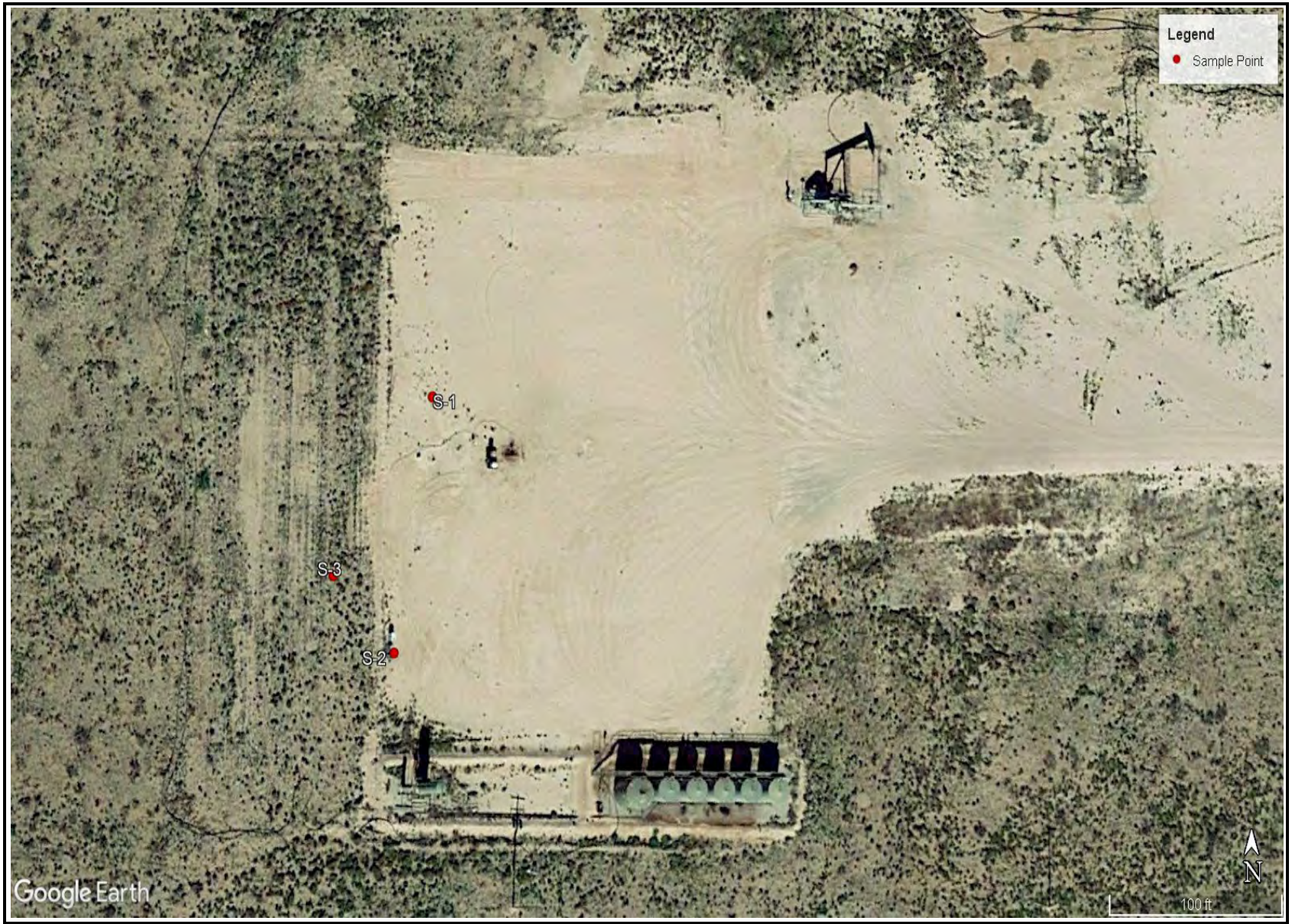
Clinton Merritt
Sr. Project Manager

FIGURES

CARMONA RESOURCES

OVERVIEW MAP MARATHON OIL CORPORATION QUEENIE 15 FEDERAL #1H LEA COUNTY, NEW MEXICO 32.5664978, -103.7428894°	CARMONA RESOURCES	FIGURE 1

TOPOGRAPHIC MAP MARATHON OIL CORPORATION QUEENIE 15 FEDERAL #1H LEA COUNTY, NEW MEXICO 32.5664978, -103.7428894°	CARMONA RESOURCES	FIGURE 2



SAMPLE LOCATION MAP MARATHON OIL CORPORATION QUEENIE 15 FEDERAL #1H LEA COUNTY, NEW MEXICO 32.5664978, -103.7428894°	CARMONA RESOURCES	FIGURE 3

APPENDIX B

CARMONA RESOURCES

Table 1
Marathon Oil Co.
Queenie 15 Federal #1H
Lea County, New Mexico

Sample ID	Date	Depth (ft)	TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			GRO	DRO	MRO	Total						
S-1	6/28/2023	0-0.25'	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	380
	"	0.5'	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00397	<0.00397	55.4
	"	1'	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	48.9
S-2	6/28/2023	0-0.25'	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	34.2
	"	0.5'	<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	26.3
	"	1'	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	28.0
S-3	7/25/2023	0-0.25	<50.3	<50.3	<50.3	<50.3	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	65.6
	"	0.5	<49.7	<49.7	<49.7	<49.7	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	53.1
	"	1	<50.2	<50.2	<50.2	<50.2	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	44.7
	"	2	<49.7	<49.7	<49.7	<49.7	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	57.9
Regulatory Criteria [A]						100 mg/kg	10 mg/kg				50 mg/kg	600 mg/kg

(-) Not Analyzed
[A] – Table 1 - 19.15.29 NMAC
mg/kg - milligram per kilogram
TPH- Total Petroleum Hydrocarbons
ft-feet
(S) Soil Sample

APPENDIX C

CARMONA RESOURCES

PHOTOGRAPHIC LOG

Marathon Oil Corporation

Photograph No. 1

Facility: Queenie 15 Federal #1H

County: Lea County, New Mexico

Description:
View South of sample point S-1 and S-2.

Photograph No. 2

Facility: Queenie 15 Federal #1H

County: Lea County, New Mexico

Description:
View North of sample point S-1 and S-2.

Photograph No. 3

Facility: Queenie 15 Federal #1H

County: Lea County, New Mexico

Description:
View Northwest of sample point S-1 and S-2.

APPENDIX D

CARMONA RESOURCES

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Conner Moehring
Carmona Resources
310 W Wall St
Ste 500
Midland, Texas 79701

Generated 7/3/2023 2:19:39 PM

JOB DESCRIPTION

Queenie 15 Federal 1H
SDG NUMBER Lea County, New Mexico

JOB NUMBER

880-30185-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

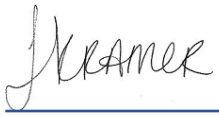
Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
7/3/2023 2:19:39 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Laboratory Job ID: 880-30185-1
SDG: Lea County, New Mexico

Table of Contents

Definitions/Glossary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

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Laboratory: Eurofins Midland

Narrative

Job Narrative
880-30185-1

Receipt
The samples were received on 6/29/2023 2:34 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (880-30176-A-3-D) and (880-30176-A-3-B MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: S-1 (0-3") (880-30185-1), S-1 (6") (880-30185-2) and S-1 (1') (880-30185-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: S-1 (0-3") (880-30185-1), S-1 (6") (880-30185-2) and S-1 (1') (880-30185-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-56773 recovered below the lower control limit for Gasoline Range Organics (GRO)-C6-C10. An acceptable CCV was ran within the 12 hour window therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-56773/31).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Client Sample ID: S-1 (0-3")

Lab Sample ID: 880-30185-1
Matrix: Solid
Date Collected: 06/28/23 09:25
Date Received: 06/29/23 14:34

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/30/23 08:34	06/30/23 21:07	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/30/23 08:34	06/30/23 21:07	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/30/23 08:34	06/30/23 21:07	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/30/23 08:34	06/30/23 21:07	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/30/23 08:34	06/30/23 21:07	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/30/23 08:34	06/30/23 21:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*144*	*S1+*	*70 - 130*	*06/30/23 08:34*	*06/30/23 21:07*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*06/30/23 08:34*	*06/30/23 21:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			07/03/23 01:44	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/03/23 15:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/02/23 11:21	07/03/23 00:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/02/23 11:21	07/03/23 00:36	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/02/23 11:21	07/03/23 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*07/02/23 11:21*	*07/03/23 00:36*	*1*
o-Terphenyl	*68*	*S1-*	*70 - 130*	*07/02/23 11:21*	*07/03/23 00:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**380**		4.99		mg/Kg			07/01/23 14:47	1

Client Sample ID: S-1 (6")

Lab Sample ID: 880-30185-2
Matrix: Solid
Date Collected: 06/28/23 09:28
Date Received: 06/29/23 14:34

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/30/23 08:34	06/30/23 21:33	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/30/23 08:34	06/30/23 21:33	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/30/23 08:34	06/30/23 21:33	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		06/30/23 08:34	06/30/23 21:33	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/30/23 08:34	06/30/23 21:33	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		06/30/23 08:34	06/30/23 21:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*144*	*S1+*	*70 - 130*	*06/30/23 08:34*	*06/30/23 21:33*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*06/30/23 08:34*	*06/30/23 21:33*	*1*

Eurofins Midland

Client Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Client Sample ID: S-1 (6")

Lab Sample ID: 880-30185-2
Matrix: Solid
Date Collected: 06/28/23 09:28
Date Received: 06/29/23 14:34

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			07/03/23 01:44	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/03/23 15:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/02/23 11:21	07/03/23 00:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/02/23 11:21	07/03/23 00:56	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/02/23 11:21	07/03/23 00:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*07/02/23 11:21*	*07/03/23 00:56*	*1*
o-Terphenyl	*63*	*S1-*	*70 - 130*	*07/02/23 11:21*	*07/03/23 00:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**55.4**		4.96		mg/Kg			07/01/23 14:53	1

Client Sample ID: S-1 (1')

Lab Sample ID: 880-30185-3
Matrix: Solid
Date Collected: 06/28/23 09:30
Date Received: 06/29/23 14:34

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/30/23 08:34	06/30/23 21:59	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/30/23 08:34	06/30/23 21:59	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/30/23 08:34	06/30/23 21:59	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		06/30/23 08:34	06/30/23 21:59	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/30/23 08:34	06/30/23 21:59	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		06/30/23 08:34	06/30/23 21:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*	*06/30/23 08:34*	*06/30/23 21:59*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*06/30/23 08:34*	*06/30/23 21:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			07/03/23 01:44	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/03/23 15:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/02/23 11:21	07/03/23 01:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/02/23 11:21	07/03/23 01:17	1

Client Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Client Sample ID: S-1 (1')
Date Collected: 06/28/23 09:30
Date Received: 06/29/23 14:34

Lab Sample ID: 880-30185-3
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/02/23 11:21	07/03/23 01:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*07/02/23 11:21*	*07/03/23 01:17*	*1*
o-Terphenyl	*54*	*S1-*	*70 - 130*	*07/02/23 11:21*	*07/03/23 01:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**48.9**		4.95		mg/Kg			07/01/23 14:59	1

Surrogate Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-30176-A-3-B MS	Matrix Spike	136 S1+	98
880-30176-A-3-C MSD	Matrix Spike Duplicate	112	83
880-30185-1	S-1 (0-3")	144 S1+	91
880-30185-2	S-1 (6")	144 S1+	96
880-30185-3	S-1 (1')	135 S1+	82
LCS 880-56654/1-A	Lab Control Sample	106	91
LCSD 880-56654/2-A	Lab Control Sample Dup	120	90
MB 880-56654/5-A	Method Blank	71	87

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-30185-1	S-1 (0-3")	90	68 S1-
880-30185-2	S-1 (6")	83	63 S1-
880-30185-3	S-1 (1')	79	54 S1-

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-56654/5-A
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56654

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/30/23 08:34	06/30/23 12:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*06/30/23 08:34*	*06/30/23 12:27*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/30/23 08:34*	*06/30/23 12:27*	*1*

Lab Sample ID: LCS 880-56654/1-A
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56654

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1145		mg/Kg		115	70 - 130		
Toluene			0.100	0.1146		mg/Kg		115	70 - 130		
Ethylbenzene			0.100	0.1107		mg/Kg		111	70 - 130		
m-Xylene & p-Xylene			0.200	0.2152		mg/Kg		108	70 - 130		
o-Xylene			0.100	0.1095		mg/Kg		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: LCSD 880-56654/2-A
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56654

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1259		mg/Kg		126	70 - 130	9	35
Toluene			0.100	0.1228		mg/Kg		123	70 - 130	7	35
Ethylbenzene			0.100	0.1200		mg/Kg		120	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2354		mg/Kg		118	70 - 130	9	35
o-Xylene			0.100	0.1232		mg/Kg		123	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: 880-30176-A-3-B MS
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56654

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.1246		mg/Kg		125	70 - 130		
Toluene	0.00264		0.0996	0.1189		mg/Kg		117	70 - 130		

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-30176-A-3-B MS
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56654

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0996	0.1137		mg/Kg		114	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.199	0.2242		mg/Kg		113	70 - 130
o-Xylene	<0.00200	U	0.0996	0.1072		mg/Kg		108	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-30176-A-3-C MSD
Matrix: Solid
Analysis Batch: 56649

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 56654

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.1120		mg/Kg		113	70 - 130	11	35
Toluene	0.00264		0.0994	0.1080		mg/Kg		106	70 - 130	10	35
Ethylbenzene	<0.00200	U	0.0994	0.09685		mg/Kg		97	70 - 130	16	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1886		mg/Kg		95	70 - 130	17	35
o-Xylene	<0.00200	U	0.0994	0.1028		mg/Kg		103	70 - 130	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-56635/1-A
Matrix: Solid
Analysis Batch: 56695

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/01/23 12:10	1

Lab Sample ID: LCS 880-56635/2-A
Matrix: Solid
Analysis Batch: 56695

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	238.9		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-56635/3-A
Matrix: Solid
Analysis Batch: 56695

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	238.2		mg/Kg		95	90 - 110	0	20

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-30176-A-11-B MS
Matrix: Solid
Analysis Batch: 56695

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	55.3		250	293.5		mg/Kg		95	90 - 110

Lab Sample ID: 880-30176-A-11-C MSD
Matrix: Solid
Analysis Batch: 56695

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	55.3		250	290.3		mg/Kg		94	90 - 110	1	20

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

GC VOA

Analysis Batch: 56649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30185-1	S-1 (0-3")	Total/NA	Solid	8021B	56654
880-30185-2	S-1 (6")	Total/NA	Solid	8021B	56654
880-30185-3	S-1 (1')	Total/NA	Solid	8021B	56654
MB 880-56654/5-A	Method Blank	Total/NA	Solid	8021B	56654
LCS 880-56654/1-A	Lab Control Sample	Total/NA	Solid	8021B	56654
LCSD 880-56654/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56654
880-30176-A-3-B MS	Matrix Spike	Total/NA	Solid	8021B	56654
880-30176-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	56654

Prep Batch: 56654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30185-1	S-1 (0-3")	Total/NA	Solid	5035	
880-30185-2	S-1 (6")	Total/NA	Solid	5035	
880-30185-3	S-1 (1')	Total/NA	Solid	5035	
MB 880-56654/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56654/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56654/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30176-A-3-B MS	Matrix Spike	Total/NA	Solid	5035	
880-30176-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 56810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30185-1	S-1 (0-3")	Total/NA	Solid	Total BTEX	
880-30185-2	S-1 (6")	Total/NA	Solid	Total BTEX	
880-30185-3	S-1 (1')	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 56773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30185-1	S-1 (0-3")	Total/NA	Solid	8015B NM	56778
880-30185-2	S-1 (6")	Total/NA	Solid	8015B NM	56778
880-30185-3	S-1 (1')	Total/NA	Solid	8015B NM	56778

Prep Batch: 56778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30185-1	S-1 (0-3")	Total/NA	Solid	8015NM Prep	
880-30185-2	S-1 (6")	Total/NA	Solid	8015NM Prep	
880-30185-3	S-1 (1')	Total/NA	Solid	8015NM Prep	

Analysis Batch: 56921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30185-1	S-1 (0-3")	Total/NA	Solid	8015 NM	
880-30185-2	S-1 (6")	Total/NA	Solid	8015 NM	
880-30185-3	S-1 (1')	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 56635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30185-1	S-1 (0-3")	Soluble	Solid	DI Leach	
880-30185-2	S-1 (6")	Soluble	Solid	DI Leach	

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

HPLC/IC (Continued)

Leach Batch: 56635 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30185-3	S-1 (1')	Soluble	Solid	DI Leach	
MB 880-56635/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-56635/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-56635/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-30176-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-30176-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 56695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30185-1	S-1 (0-3")	Soluble	Solid	300.0	56635
880-30185-2	S-1 (6")	Soluble	Solid	300.0	56635
880-30185-3	S-1 (1')	Soluble	Solid	300.0	56635
MB 880-56635/1-A	Method Blank	Soluble	Solid	300.0	56635
LCS 880-56635/2-A	Lab Control Sample	Soluble	Solid	300.0	56635
LCSD 880-56635/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	56635
880-30176-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	56635
880-30176-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	56635

Lab Chronicle

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Client Sample ID: S-1 (0-3")

Lab Sample ID: 880-30185-1
Matrix: Solid
Date Collected: 06/28/23 09:25
Date Received: 06/29/23 14:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	56654	06/30/23 08:34	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56649	06/30/23 21:07	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56810	07/03/23 01:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			56921	07/03/23 15:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56778	07/02/23 11:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56773	07/03/23 00:36	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	56635	06/29/23 17:15	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56695	07/01/23 14:47	CH	EET MID

Client Sample ID: S-1 (6")

Lab Sample ID: 880-30185-2
Matrix: Solid
Date Collected: 06/28/23 09:28
Date Received: 06/29/23 14:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	56654	06/30/23 08:34	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56649	06/30/23 21:33	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56810	07/03/23 01:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			56921	07/03/23 15:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	56778	07/02/23 11:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56773	07/03/23 00:56	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	56635	06/29/23 17:15	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56695	07/01/23 14:53	CH	EET MID

Client Sample ID: S-1 (1')

Lab Sample ID: 880-30185-3
Matrix: Solid
Date Collected: 06/28/23 09:30
Date Received: 06/29/23 14:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	56654	06/30/23 08:34	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56649	06/30/23 21:59	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56810	07/03/23 01:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			56921	07/03/23 15:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	56778	07/02/23 11:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56773	07/03/23 01:17	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	56635	06/29/23 17:15	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56695	07/01/23 14:59	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30185-1
SDG: Lea County, New Mexico

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-30185-1	S-1 (0-3")	Solid	06/28/23 09:25	06/29/23 14:34
880-30185-2	S-1 (6")	Solid	06/28/23 09:28	06/29/23 14:34
880-30185-3	S-1 (1')	Solid	06/28/23 09:30	06/29/23 14:34

Work Order No: 30185

7/3/2023

Page 1 of 1

Project Manager	Clinton Merritt	Bill to (if different)	Melodie Sanjari
Company Name	Carmona Resources	Company Name	Marathon Oil Corporation
Address	310 W Wall St Ste 500	Address	990 Town and Country Blvd
City, State ZIP	Midland, TX 79701	City, State ZIP	Houston, TX 77024
Phone		Email	msanjari@marathonoil.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

Reporting Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐

Deliverables EDD ☐ ADaPT ☐ Other

Project Name	Queenie 15 Federal 1H	Turn Around	
Project Number	2051	☑ Routine	☐ Rush
Project Location	Lea County, New Mexico	Due Date	5 Day TAT
Sampler's Name	CCM		
PO #			

SAMPLE RECEIPT			
Temp Blank	Yes (No)	Wet Ice	(Yes) No
Received Intact	(Yes) No	Thermometer ID	IR8
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-3.0
Sample Custody Seals	Yes No (N/A)	Temperature Reading	0.8
Total Containers		Corrected Temperature	0.5

Preservative Codes

None NO — DI Water H_2O

Cool Cool — MeOH Me

HCL HC — HNO_3 HN

H_2S0_4 H_2 — NaOH Na

H_3PO_4 HP

$NaHSO_4$ NABIS

$Na_2S_2O_3$ $NaSO_3$

Zn Acetate+NaOH Zn

NaOH+Ascorbic Acid SAPC

Sample Identification	Date	Time	Soil	Water	Grab/ Comp	# of Cont	Pres. Code	BTEX 8021B	TPH 8015M (GRO + DRO + MRO)	Chloride 4500
S-1 (0-3")	6/28/2023	9 25	X		G	1		X	X	X
S-1 (6")	6/28/2023	9 28	X		G	1		X	X	X
S-1 (1')	6/28/2023	9 30	X		G	1		X	X	X

ANALYSIS REQUEST — Parameters

Sample Comments

880-30185 Chain of Custody

Comments: Email results to Mike Carmona mcarmona@carmonaresources.com, Conner Moehring cmoehring@carmonaresources.com, Clint Merritt MerrittC@carmonaresources.com

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
	6-29-23 1434		

Login Sample Receipt Checklist

Client: Carmona Resources

Job Number: 880-30185-1
SDG Number: Lea County, New Mexico

Login Number: 30185
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Clint Merritt
Carmona Resources
310 W Wall St
Ste 500
Midland, Texas 79701

Generated 7/11/2023 10:43:32 AM

JOB DESCRIPTION

Queenie 15 Federal 1H
SDG NUMBER Lea County, New Mexico

JOB NUMBER

880-30364-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated
7/11/2023 10:43:32 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Laboratory Job ID: 880-30364-1
SDG: Lea County, New Mexico

Table of Contents

Definitions/Glossary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Job ID: 880-30364-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-30364-1

Receipt
The samples were received on 7/5/2023 4:44 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: S-2 (0-3") (880-30364-1), S-2 (6") (880-30364-2) and S-2 (1') (880-30364-3).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-57061 and analytical batch 880-57056 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: The laboratory control sample (LCS) for preparation batch 880-57061 and analytical batch 880-57056 recovered outside control limits for the following analytes: Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. Since only an acceptable LCS or LCSD is required per the method, the data has been qualified and reported.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-57056 recovered below the lower control limit for m-Xylene & p-Xylene and o-Xylene. An acceptable CCV was analyzed within the 12 hour window, therefore data was qualified and reported. The associated sample is impacted: (CCV 880-57056/20).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-57042 and analytical batch 880-57284 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Client Sample ID: S-2 (0-3")

Lab Sample ID: 880-30364-1
Matrix: Solid
Date Collected: 06/28/23 10:00
Date Received: 07/05/23 16:44

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/06/23 09:41	07/06/23 16:06	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/06/23 09:41	07/06/23 16:06	1
Ethylbenzene	<0.00202	U *-	0.00202		mg/Kg		07/06/23 09:41	07/06/23 16:06	1
m-Xylene & p-Xylene	<0.00403	U *-	0.00403		mg/Kg		07/06/23 09:41	07/06/23 16:06	1
o-Xylene	<0.00202	U *-	0.00202		mg/Kg		07/06/23 09:41	07/06/23 16:06	1
Xylenes, Total	<0.00403	U *-	0.00403		mg/Kg		07/06/23 09:41	07/06/23 16:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*07/06/23 09:41*	*07/06/23 16:06*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*07/06/23 09:41*	*07/06/23 16:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			07/07/23 10:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/11/23 10:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		07/05/23 17:46	07/10/23 14:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/05/23 17:46	07/10/23 14:00	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/05/23 17:46	07/10/23 14:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*07/05/23 17:46*	*07/10/23 14:00*	*1*
o-Terphenyl	*101*		*70 - 130*	*07/05/23 17:46*	*07/10/23 14:00*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34.2**		4.96		mg/Kg			07/06/23 16:12	1

Client Sample ID: S-2 (6")

Lab Sample ID: 880-30364-2
Matrix: Solid
Date Collected: 06/28/23 10:05
Date Received: 07/05/23 16:44

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		07/06/23 09:41	07/06/23 16:27	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/06/23 09:41	07/06/23 16:27	1
Ethylbenzene	<0.00198	U *-	0.00198		mg/Kg		07/06/23 09:41	07/06/23 16:27	1
m-Xylene & p-Xylene	<0.00396	U *-	0.00396		mg/Kg		07/06/23 09:41	07/06/23 16:27	1
o-Xylene	<0.00198	U *-	0.00198		mg/Kg		07/06/23 09:41	07/06/23 16:27	1
Xylenes, Total	<0.00396	U *-	0.00396		mg/Kg		07/06/23 09:41	07/06/23 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*07/06/23 09:41*	*07/06/23 16:27*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*07/06/23 09:41*	*07/06/23 16:27*	*1*

Client Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Client Sample ID: S-2 (6")

Date Collected: 06/28/23 10:05
Date Received: 07/05/23 16:44

Lab Sample ID: 880-30364-2
Matrix: Solid

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			07/07/23 10:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			07/11/23 10:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		07/05/23 17:46	07/10/23 15:25	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/05/23 17:46	07/10/23 15:25	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/05/23 17:46	07/10/23 15:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*07/05/23 17:46*	*07/10/23 15:25*	*1*
o-Terphenyl	*95*		*70 - 130*	*07/05/23 17:46*	*07/10/23 15:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26.3**		5.02		mg/Kg			07/06/23 16:27	1

Client Sample ID: S-2 (1')

Date Collected: 06/28/23 10:10
Date Received: 07/05/23 16:44

Lab Sample ID: 880-30364-3
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/06/23 09:41	07/06/23 16:47	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/06/23 09:41	07/06/23 16:47	1
Ethylbenzene	<0.00199	U *-	0.00199		mg/Kg		07/06/23 09:41	07/06/23 16:47	1
m-Xylene & p-Xylene	<0.00398	U *-	0.00398		mg/Kg		07/06/23 09:41	07/06/23 16:47	1
o-Xylene	<0.00199	U *-	0.00199		mg/Kg		07/06/23 09:41	07/06/23 16:47	1
Xylenes, Total	<0.00398	U *-	0.00398		mg/Kg		07/06/23 09:41	07/06/23 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*07/06/23 09:41*	*07/06/23 16:47*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*07/06/23 09:41*	*07/06/23 16:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/07/23 10:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			07/11/23 10:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		07/05/23 17:46	07/10/23 15:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/05/23 17:46	07/10/23 15:47	1

Client Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Client Sample ID: S-2 (1')
Date Collected: 06/28/23 10:10
Date Received: 07/05/23 16:44

Lab Sample ID: 880-30364-3
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/05/23 17:46	07/10/23 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*07/05/23 17:46*	*07/10/23 15:47*	*1*
o-Terphenyl	*93*		*70 - 130*	*07/05/23 17:46*	*07/10/23 15:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**28.0**		5.03		mg/Kg			07/06/23 16:32	1

Surrogate Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		BFB1	DFBZ1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
880-30364-1	S-2 (0-3")	102	99								
880-30364-2	S-2 (6")	95	96								
880-30364-3	S-2 (1')	90	100								
880-30371-A-21-B MS	Matrix Spike	94	102								
880-30371-A-21-C MSD	Matrix Spike Duplicate	103	101								
LCS 880-57061/1-A	Lab Control Sample	81	101								
LCSD 880-57061/2-A	Lab Control Sample Dup	89	101								
MB 880-57061/5-A	Method Blank	92	124								

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
880-30364-1	S-2 (0-3")	120	101								
880-30364-1 MS	S-2 (0-3")	128	100								
880-30364-1 MSD	S-2 (0-3")	126	98								
880-30364-2	S-2 (6")	114	95								
880-30364-3	S-2 (1')	109	93								
LCS 880-57042/2-A	Lab Control Sample	92	86								
LCSD 880-57042/3-A	Lab Control Sample Dup	116	106								
MB 880-57042/1-A	Method Blank	108	98								

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-57061/5-A
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57061

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/06/23 09:41	07/06/23 13:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/06/23 09:41	07/06/23 13:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/06/23 09:41	07/06/23 13:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/06/23 09:41	07/06/23 13:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/06/23 09:41	07/06/23 13:15	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/06/23 09:41	07/06/23 13:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*07/06/23 09:41*	*07/06/23 13:15*	*1*
1,4-Difluorobenzene (Surr)	*124*		*70 - 130*	*07/06/23 09:41*	*07/06/23 13:15*	*1*

Lab Sample ID: LCS 880-57061/1-A
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57061

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08406		mg/Kg		84	70 - 130		
Toluene			0.100	0.09006		mg/Kg		90	70 - 130		
Ethylbenzene			0.100	0.06694	*-	mg/Kg		67	70 - 130		
m-Xylene & p-Xylene			0.200	0.1328	*-	mg/Kg		66	70 - 130		
o-Xylene			0.100	0.06561	*-	mg/Kg		66	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-57061/2-A
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57061

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1109		mg/Kg		111	70 - 130	28	35
Toluene			0.100	0.1135		mg/Kg		114	70 - 130	23	35
Ethylbenzene			0.100	0.08747		mg/Kg		87	70 - 130	27	35
m-Xylene & p-Xylene			0.200	0.1789		mg/Kg		89	70 - 130	30	35
o-Xylene			0.100	0.08739		mg/Kg		87	70 - 130	28	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-30371-A-21-B MS
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57061

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.101	0.1036		mg/Kg		103	70 - 130		
Toluene	0.135	F1	0.101	0.1370	F1	mg/Kg		2	70 - 130		

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-30371-A-21-B MS
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57061

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U *-	0.101	0.08527		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	<0.00396	U *-	0.202	0.1666		mg/Kg		81	70 - 130
o-Xylene	<0.00198	U *-	0.101	0.08112		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-30371-A-21-C MSD
Matrix: Solid
Analysis Batch: 57056

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 57061

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0998	0.1082		mg/Kg		108	70 - 130	4	35
Toluene	0.135	F1	0.0998	0.1399	F1	mg/Kg		5	70 - 130	2	35
Ethylbenzene	<0.00198	U *-	0.0998	0.09045		mg/Kg		90	70 - 130	6	35
m-Xylene & p-Xylene	<0.00396	U *-	0.200	0.1906		mg/Kg		94	70 - 130	13	35
o-Xylene	<0.00198	U *-	0.0998	0.09251		mg/Kg		92	70 - 130	13	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-57042/1-A
Matrix: Solid
Analysis Batch: 57284

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/05/23 17:46	07/10/23 10:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/05/23 17:46	07/10/23 10:27	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/05/23 17:46	07/10/23 10:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*07/05/23 17:46*	*07/10/23 10:27*	*1*
o-Terphenyl	*98*		*70 - 130*	*07/05/23 17:46*	*07/10/23 10:27*	*1*

Lab Sample ID: LCS 880-57042/2-A
Matrix: Solid
Analysis Batch: 57284

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1030		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	1000	840.2		mg/Kg		84	70 - 130

Eurofins Midland

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-57042/2-A
Matrix: Solid
Analysis Batch: 57284

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57042

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*86*		*70 - 130*

Lab Sample ID: LCSD 880-57042/3-A
Matrix: Solid
Analysis Batch: 57284

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57042

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	818.4	*1	mg/Kg		82	70 - 130	23	20
Diesel Range Organics (Over C10-C28)			1000	912.7		mg/Kg		91	70 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: 880-30364-1 MS
Matrix: Solid
Analysis Batch: 57284

Client Sample ID: S-2 (0-3")
Prep Type: Total/NA
Prep Batch: 57042

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	1000	862.4		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	1059		mg/Kg		102	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*128*		*70 - 130*
o-Terphenyl	*100*		*70 - 130*

Lab Sample ID: 880-30364-1 MSD
Matrix: Solid
Analysis Batch: 57284

Client Sample ID: S-2 (0-3")
Prep Type: Total/NA
Prep Batch: 57042

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	999	831.2		mg/Kg		81	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1031		mg/Kg		100	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*126*		*70 - 130*
o-Terphenyl	*98*		*70 - 130*

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-57057/1-A
Matrix: Solid
Analysis Batch: 57093

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/06/23 15:56	1

Lab Sample ID: LCS 880-57057/2-A
Matrix: Solid
Analysis Batch: 57093

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	251.4		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-57057/3-A
Matrix: Solid
Analysis Batch: 57093

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	253.1		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 880-30364-1 MS
Matrix: Solid
Analysis Batch: 57093

Client Sample ID: S-2 (0-3")
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	34.2		248	290.8		mg/Kg		103	90 - 110		

Lab Sample ID: 880-30364-1 MSD
Matrix: Solid
Analysis Batch: 57093

Client Sample ID: S-2 (0-3")
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	34.2		248	291.3		mg/Kg		104	90 - 110	0	20

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

GC VOA

Analysis Batch: 57056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30364-1	S-2 (0-3")	Total/NA	Solid	8021B	57061
880-30364-2	S-2 (6")	Total/NA	Solid	8021B	57061
880-30364-3	S-2 (1')	Total/NA	Solid	8021B	57061
MB 880-57061/5-A	Method Blank	Total/NA	Solid	8021B	57061
LCS 880-57061/1-A	Lab Control Sample	Total/NA	Solid	8021B	57061
LCSD 880-57061/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	57061
880-30371-A-21-B MS	Matrix Spike	Total/NA	Solid	8021B	57061
880-30371-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	57061

Prep Batch: 57061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30364-1	S-2 (0-3")	Total/NA	Solid	5035	
880-30364-2	S-2 (6")	Total/NA	Solid	5035	
880-30364-3	S-2 (1')	Total/NA	Solid	5035	
MB 880-57061/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-57061/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-57061/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30371-A-21-B MS	Matrix Spike	Total/NA	Solid	5035	
880-30371-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 57137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30364-1	S-2 (0-3")	Total/NA	Solid	Total BTEX	
880-30364-2	S-2 (6")	Total/NA	Solid	Total BTEX	
880-30364-3	S-2 (1')	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 57042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30364-1	S-2 (0-3")	Total/NA	Solid	8015NM Prep	
880-30364-2	S-2 (6")	Total/NA	Solid	8015NM Prep	
880-30364-3	S-2 (1')	Total/NA	Solid	8015NM Prep	
MB 880-57042/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-57042/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-57042/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-30364-1 MS	S-2 (0-3")	Total/NA	Solid	8015NM Prep	
880-30364-1 MSD	S-2 (0-3")	Total/NA	Solid	8015NM Prep	

Analysis Batch: 57284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30364-1	S-2 (0-3")	Total/NA	Solid	8015B NM	57042
880-30364-2	S-2 (6")	Total/NA	Solid	8015B NM	57042
880-30364-3	S-2 (1')	Total/NA	Solid	8015B NM	57042
MB 880-57042/1-A	Method Blank	Total/NA	Solid	8015B NM	57042
LCS 880-57042/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	57042
LCSD 880-57042/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	57042
880-30364-1 MS	S-2 (0-3")	Total/NA	Solid	8015B NM	57042
880-30364-1 MSD	S-2 (0-3")	Total/NA	Solid	8015B NM	57042

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

GC Semi VOA

Analysis Batch: 57391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30364-1	S-2 (0-3")	Total/NA	Solid	8015 NM	
880-30364-2	S-2 (6")	Total/NA	Solid	8015 NM	
880-30364-3	S-2 (1')	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 57057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30364-1	S-2 (0-3")	Soluble	Solid	DI Leach	
880-30364-2	S-2 (6")	Soluble	Solid	DI Leach	
880-30364-3	S-2 (1')	Soluble	Solid	DI Leach	
MB 880-57057/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-57057/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-57057/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-30364-1 MS	S-2 (0-3")	Soluble	Solid	DI Leach	
880-30364-1 MSD	S-2 (0-3")	Soluble	Solid	DI Leach	

Analysis Batch: 57093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-30364-1	S-2 (0-3")	Soluble	Solid	300.0	57057
880-30364-2	S-2 (6")	Soluble	Solid	300.0	57057
880-30364-3	S-2 (1')	Soluble	Solid	300.0	57057
MB 880-57057/1-A	Method Blank	Soluble	Solid	300.0	57057
LCS 880-57057/2-A	Lab Control Sample	Soluble	Solid	300.0	57057
LCSD 880-57057/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	57057
880-30364-1 MS	S-2 (0-3")	Soluble	Solid	300.0	57057
880-30364-1 MSD	S-2 (0-3")	Soluble	Solid	300.0	57057

Lab Chronicle

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Client Sample ID: S-2 (0-3")

Lab Sample ID: 880-30364-1
Matrix: Solid
Date Collected: 06/28/23 10:00
Date Received: 07/05/23 16:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	57061	07/06/23 09:41	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57056	07/06/23 16:06	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57137	07/07/23 10:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			57391	07/11/23 10:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	57042	07/05/23 17:46	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57284	07/10/23 14:00	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	57057	07/06/23 09:31	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	57093	07/06/23 16:12	CH	EET MID

Client Sample ID: S-2 (6")

Lab Sample ID: 880-30364-2
Matrix: Solid
Date Collected: 06/28/23 10:05
Date Received: 07/05/23 16:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	57061	07/06/23 09:41	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57056	07/06/23 16:27	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57137	07/07/23 10:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			57391	07/11/23 10:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	57042	07/05/23 17:46	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57284	07/10/23 15:25	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	57057	07/06/23 09:31	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	57093	07/06/23 16:27	CH	EET MID

Client Sample ID: S-2 (1')

Lab Sample ID: 880-30364-3
Matrix: Solid
Date Collected: 06/28/23 10:10
Date Received: 07/05/23 16:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	57061	07/06/23 09:41	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57056	07/06/23 16:47	SM	EET MID
Total/NA	Analysis	Total BTEX		1			57137	07/07/23 10:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			57391	07/11/23 10:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	57042	07/05/23 17:46	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57284	07/10/23 15:47	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	57057	07/06/23 09:31	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	57093	07/06/23 16:32	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-30364-1
SDG: Lea County, New Mexico

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-30364-1	S-2 (0-3")	Solid	06/28/23 10:00	07/05/23 16:44
880-30364-2	S-2 (6")	Solid	06/28/23 10:05	07/05/23 16:44
880-30364-3	S-2 (1')	Solid	06/28/23 10:10	07/05/23 16:44

Work Order No: 303604

7/11/2023

Page 1 of 1

Project Manager	Clinton Merritt	Bill to (if different)	Melodie Sanjari
Company Name.	Carmona Resources	Company Name:	Marathon Oil Corporation
Address.	310 W Wall St Ste 500	Address	990 Town and Country Blvd
City, State ZIP	Midland, TX 79701	City, State ZIP	Houston TX 77024
Phone:	Email	msanjari@marathonoil.com	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐

Deliverables. EDD ☐ ADaPT ☐ Other:

Project Name	Queenie 15 Federal 1H	Turn Around	
Project Number	2051	☐ Routine	☑ Rush
Project Location	Lea County, New Mexico	Due Date	72 hr
Sampler's Name:	CCM		
PO #:			

SAMPLE RECEIPT			
Temp Blank.	Yes (No)	Wet Ice.	(Yes) No
Received Intact:	(Yes) No	Thermometer ID	IR8
Cooler Custody Seals.	Yes No (N/A)	Correction Factor	-.30
Sample Custody Seals.	Yes No (N/A)	Temperature Reading	4.8
Total Containers.		Corrected Temperature	4.5

Sample Identification	Date	Time	Soil	Water	Grab/ Comp	# of Cont	BTEX 8021B	TPH 8015M (GRO + DRO + MRO)	Chloride 4500
S-2 (0-3")	6/28/2023	10 00	X		G	1	X	X	X
S-2 (6")	6/28/2023	10 05	X		G	1	X	X	X
S-2 (1')	6/28/2023	10 10	X		G	1	X	X	X

ANALYSIS REQUEST — Parameters

Preservative Codes

None. NO — DI Water H_2O

Cool Cool — MeOH Me

HCL. HC — HNO_3 HN

H_2S0_4 H_2 — NaOH Na

H_3PO_4 HP

$NaHSO_4$ NABIS

$Na_2S_2O_3$ $NaSO_3$

Zn Acetate+NaOH Zn

NaOH+Ascorbic Acid SAPC

Sample Comments

880-30364 Chain of Custody

Comments: Email results to Mike Carmona mcarmona@carmonaresources.com, Conner Moehring cmoehring@carmonaresources.com, Clint Merritt MerrittC@carmonaresources.com

Relinquished by: (Signature)	Date/Time	Received by (Signature)	Date/Time
	7/5/23 1644		

Login Sample Receipt Checklist

Client: Carmona Resources

Job Number: 880-30364-1
SDG Number: Lea County, New Mexico

Login Number: 30364
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Clint Merritt
Carmona Resources
310 W Wall St
Ste 500
Midland, Texas 79701

Generated 8/9/2023 9:54:05 AM

JOB DESCRIPTION

Queenie 15 Federal 1H
SDG NUMBER Lea County, New Mexico

JOB NUMBER

880-31292-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated
8/9/2023 9:54:05 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Laboratory Job ID: 880-31292-1
SDG: Lea County, New Mexico

Table of Contents

Definitions/Glossary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Job ID: 880-31292-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-31292-1

Receipt
The sample was received on 7/26/2023 4:45 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: S-3 (0.25') (880-31292-1).

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-59598/31), (CCV 880-59598/47) and (CCV 880-59598/58). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: S-3 (0.25') (880-31292-1), (880-31325-A-21-E), (880-31325-A-21-F MS) and (880-31325-A-21-G MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-59535 and analytical batch 880-59598 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Client Sample ID: S-3 (0.25')

Date Collected: 07/25/23 00:00
Date Received: 07/26/23 16:45

Lab Sample ID: 880-31292-1

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/03/23 02:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/03/23 02:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/03/23 02:57	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/01/23 09:18	08/03/23 02:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/03/23 02:57	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/01/23 09:18	08/03/23 02:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*08/01/23 09:18*	*08/03/23 02:57*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*08/01/23 09:18*	*08/03/23 02:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/03/23 09:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			08/09/23 10:25	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/07/23 14:29	08/09/23 02:58	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/07/23 14:29	08/09/23 02:58	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/07/23 14:29	08/09/23 02:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*08/07/23 14:29*	*08/09/23 02:58*	*1*
o-Terphenyl	*156*	*S1+*	*70 - 130*	*08/07/23 14:29*	*08/09/23 02:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65.6**		5.01		mg/Kg			07/29/23 01:02	1

Surrogate Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-31279-A-1-A MS	Matrix Spike	103	100										
880-31279-A-1-B MSD	Matrix Spike Duplicate	108	104										
880-31292-1	S-3 (0.25')	103	92										
LCS 880-58971/1-A	Lab Control Sample	104	100										
LCSD 880-58971/2-A	Lab Control Sample Dup	95	103										
MB 880-58971/5-A	Method Blank	84	89										
MB 880-58998/5-A	Method Blank	85	89										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-31292-1	S-3 (0.25')	139 S1+	156 S1+										
880-31325-A-21-F MS	Matrix Spike	138 S1+	152 S1+										
880-31325-A-21-G MSD	Matrix Spike Duplicate	160 S1+	166 S1+										
LCS 880-59535/2-A	Lab Control Sample	102	128										
LCSD 880-59535/3-A	Lab Control Sample Dup	102	128										
MB 880-59535/1-A	Method Blank	101	123										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-58971/5-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/01/23 09:18	08/02/23 22:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*08/01/23 09:18*	*08/02/23 22:08*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/01/23 09:18*	*08/02/23 22:08*	*1*

Lab Sample ID: LCS 880-58971/1-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07714		mg/Kg		77	70 - 130		
Toluene			0.100	0.1014		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.08911		mg/Kg		89	70 - 130		
m-Xylene & p-Xylene			0.200	0.1753		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08985		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-58971/2-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58971

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08576		mg/Kg		86	70 - 130	11	35
Toluene			0.100	0.1000		mg/Kg		100	70 - 130	1	35
Ethylbenzene			0.100	0.08572		mg/Kg		86	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1641		mg/Kg		82	70 - 130	7	35
o-Xylene			0.100	0.08388		mg/Kg		84	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-31279-A-1-A MS
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0996	0.07513		mg/Kg		75	70 - 130		
Toluene	<0.00202	U	0.0996	0.08995		mg/Kg		90	70 - 130		

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-31279-A-1-A MS
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0996	0.08100		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1561		mg/Kg		78	70 - 130
o-Xylene	<0.00202	U	0.0996	0.07987		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-31279-A-1-B MSD
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.07017		mg/Kg		71	70 - 130	7	35
Toluene	<0.00202	U	0.0994	0.08738		mg/Kg		88	70 - 130	3	35
Ethylbenzene	<0.00202	U	0.0994	0.07772		mg/Kg		78	70 - 130	4	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1481		mg/Kg		75	70 - 130	5	35
o-Xylene	<0.00202	U	0.0994	0.07711		mg/Kg		78	70 - 130	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 880-58998/5-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58998

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/01/23 10:59	08/02/23 11:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/01/23 10:59*	*08/02/23 11:28*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/01/23 10:59*	*08/02/23 11:28*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-59535/1-A
Matrix: Solid
Analysis Batch: 59598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 59535

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/07/23 14:29	08/08/23 19:25	1

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-59535/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59598 — **Prep Batch: 59535**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/07/23 14:29	08/08/23 19:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/07/23 14:29	08/08/23 19:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*08/07/23 14:29*	*08/08/23 19:25*	*1*
o-Terphenyl	*123*		*70 - 130*	*08/07/23 14:29*	*08/08/23 19:25*	*1*

Lab Sample ID: LCS 880-59535/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59598 — **Prep Batch: 59535**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	970.1		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	1000	964.8		mg/Kg		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*128*		*70 - 130*

Lab Sample ID: LCSD 880-59535/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59598 — **Prep Batch: 59535**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1003		mg/Kg		100	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	969.6		mg/Kg		97	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*128*		*70 - 130*

Lab Sample ID: 880-31325-A-21-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59598 — **Prep Batch: 59535**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1010	984.3		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	136		1010	1054		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*138*	*S1+*	*70 - 130*
o-Terphenyl	*152*	*S1+*	*70 - 130*

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-31325-A-21-G MSD
Matrix: Solid
Analysis Batch: 59598

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 59535

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1010	1127		mg/Kg		108	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	136		1010	1203		mg/Kg		106	70 - 130	13	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*160*	*S1+*	*70 - 130*
o-Terphenyl	*166*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-58660/1-A
Matrix: Solid
Analysis Batch: 58743

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/29/23 00:46	1

Lab Sample ID: LCS 880-58660/2-A
Matrix: Solid
Analysis Batch: 58743

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	253.7		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-58660/3-A
Matrix: Solid
Analysis Batch: 58743

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	269.2		mg/Kg		108	90 - 110	6	20

Lab Sample ID: 880-31292-1 MS
Matrix: Solid
Analysis Batch: 58743

Client Sample ID: S-3 (0.25')
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	65.6		251	292.8		mg/Kg		91	90 - 110

Lab Sample ID: 880-31292-1 MSD
Matrix: Solid
Analysis Batch: 58743

Client Sample ID: S-3 (0.25')
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	65.6		251	304.8		mg/Kg		95	90 - 110	4	20

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

GC VOA

Prep Batch: 58971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31292-1	S-3 (0.25')	Total/NA	Solid	5035	
MB 880-58971/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-58971/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-58971/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-31279-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-31279-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 58998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-58998/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 59072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31292-1	S-3 (0.25')	Total/NA	Solid	8021B	58971
MB 880-58971/5-A	Method Blank	Total/NA	Solid	8021B	58971
MB 880-58998/5-A	Method Blank	Total/NA	Solid	8021B	58998
LCS 880-58971/1-A	Lab Control Sample	Total/NA	Solid	8021B	58971
LCSD 880-58971/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	58971
880-31279-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	58971
880-31279-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	58971

Analysis Batch: 59208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31292-1	S-3 (0.25')	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 59535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31292-1	S-3 (0.25')	Total/NA	Solid	8015NM Prep	
MB 880-59535/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-59535/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-59535/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-31325-A-21-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-31325-A-21-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 59598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31292-1	S-3 (0.25')	Total/NA	Solid	8015B NM	59535
MB 880-59535/1-A	Method Blank	Total/NA	Solid	8015B NM	59535
LCS 880-59535/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	59535
LCSD 880-59535/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	59535
880-31325-A-21-F MS	Matrix Spike	Total/NA	Solid	8015B NM	59535
880-31325-A-21-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	59535

Analysis Batch: 59736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31292-1	S-3 (0.25')	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

HPLC/IC

Leach Batch: 58660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31292-1	S-3 (0.25')	Soluble	Solid	DI Leach	
MB 880-58660/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-58660/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-58660/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-31292-1 MS	S-3 (0.25')	Soluble	Solid	DI Leach	
880-31292-1 MSD	S-3 (0.25')	Soluble	Solid	DI Leach	

Analysis Batch: 58743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31292-1	S-3 (0.25')	Soluble	Solid	300.0	58660
MB 880-58660/1-A	Method Blank	Soluble	Solid	300.0	58660
LCS 880-58660/2-A	Lab Control Sample	Soluble	Solid	300.0	58660
LCSD 880-58660/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	58660
880-31292-1 MS	S-3 (0.25')	Soluble	Solid	300.0	58660
880-31292-1 MSD	S-3 (0.25')	Soluble	Solid	300.0	58660

Lab Chronicle

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Client Sample ID: S-3 (0.25')

Date Collected: 07/25/23 00:00
Date Received: 07/26/23 16:45

Lab Sample ID: 880-31292-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	58971	08/01/23 09:18	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59072	08/03/23 02:57	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59208	08/03/23 09:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			59736	08/09/23 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	59535	08/07/23 14:29	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59598	08/09/23 02:58	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	58660	07/27/23 14:22	KS	EET MID
Soluble	Analysis	300.0		1			58743	07/29/23 01:02	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31292-1
SDG: Lea County, New Mexico

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-31292-1	S-3 (0.25')	Solid	07/25/23 00:00	07/26/23 16:45

880-31292 Chain of Custody

Project Manager	Clinton Merritt	Bill to (if different)	Melodie Sanjari
Company Name	Carmona Resources	Company Name	Marathon Oil Corporation
Address	310 W Wall St Ste 500	Address	990 Town and Country Blvd
City, State ZIP	Midland, TX 79701	City, State ZIP	Houston TX 77024
Phone		Email	msanjari@marathonoil com

Work Order Comments

Program UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project.
Reporting Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables EDD ☐ ADaPT ☐ Other

Project Name	Queenie 15 Federal 1H	Turn Around	
Project Number	2051	☑ Routine	☐ Rush
Project Location	Lea County New Mexico	Due Date	5 day
Sampler's Name	CCM		
PO #			

SAMPLE RECEIPT				
Temp Blank	Yes (No)	Wet Ice	(Yes) No	
Received Intact:	(Yes) No	Thermometer ID	IR8	
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-.30	
Sample Custody Seals.	Yes No (N/A)	Temperature Reading	4.8	
Total Containers.		Corrected Temperature	4.5	

ANALYSIS REQUEST

Preservative Codes

None NO DI Water H_2O
Cool Cool MeOH Me
HCL HC HNO_3 HN
H_2SO_4 H_2 NaOH Na
H PO_4 HP
NaHSO NABIS
$Na_2S_2O_3$ $NaSO_3$
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Identification	Date	Time	Soil	Water	Grab/ Comp	# of Cont	Pres. Code	BTEX 8021B	TPH 8015M (GRO + DRO + MRO)	Chloride 300 0	Sample Comments
S-3 (0-0 25')	7 25 23		X		G	1		X	X	X	

Comments Email results to Mike Carmona mcarmona@carmonaresources com, Conner Moehring cmoehring@carmonaresources com, Clint Merritt MerrittC@carmonaresources com

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
	7-26-23 1645		

Login Sample Receipt Checklist

Client: Carmona Resources

Job Number: 880-31292-1
SDG Number: Lea County, New Mexico

Login Number: 31292
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Clint Merritt
Carmona Resources
310 W Wall St
Ste 500
Midland, Texas 79701

Generated 8/9/2023 9:54:03 AM

JOB DESCRIPTION

Queenie 15 Federal 1H
SDG NUMBER Lea County, New Mexico

JOB NUMBER

880-31293-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

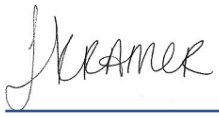
Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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8/9/2023 9:54:03 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Laboratory Job ID: 880-31293-1
SDG: Lea County, New Mexico

Table of Contents

Definitions/Glossary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Job ID: 880-31293-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-31293-1

Receipt
The sample was received on 7/26/2023 4:45 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: S-3 (0.5') (880-31293-1).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: S-3 (0.5') (880-31293-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-59598/31), (CCV 880-59598/47) and (CCV 880-59598/58). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: S-3 (0.5') (880-31293-1), (880-31325-A-21-E), (880-31325-A-21-F MS) and (880-31325-A-21-G MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-59535 and analytical batch 880-59598 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Client Sample ID: S-3 (0.5')

Date Collected: 07/25/23 00:00
Date Received: 07/26/23 16:45

Lab Sample ID: 880-31293-1

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/01/23 09:18	08/03/23 03:18	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/01/23 09:18	08/03/23 03:18	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/01/23 09:18	08/03/23 03:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/01/23 09:18	08/03/23 03:18	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/01/23 09:18	08/03/23 03:18	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/01/23 09:18	08/03/23 03:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*	*08/01/23 09:18*	*08/03/23 03:18*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*08/01/23 09:18*	*08/03/23 03:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/03/23 09:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/09/23 10:25	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/07/23 14:29	08/09/23 03:20	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/07/23 14:29	08/09/23 03:20	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/07/23 14:29	08/09/23 03:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*140*	*S1+*	*70 - 130*	*08/07/23 14:29*	*08/09/23 03:20*	*1*
o-Terphenyl	*158*	*S1+*	*70 - 130*	*08/07/23 14:29*	*08/09/23 03:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**53.1**		5.04		mg/Kg			07/29/23 01:18	1

Surrogate Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)										
880-31279-A-1-A MS	Matrix Spike	103	100										
880-31279-A-1-B MSD	Matrix Spike Duplicate	108	104										
880-31293-1	S-3 (0.5')	131 S1+	101										
LCS 880-58971/1-A	Lab Control Sample	104	100										
LCSD 880-58971/2-A	Lab Control Sample Dup	95	103										
MB 880-58971/5-A	Method Blank	84	89										
MB 880-58998/5-A	Method Blank	85	89										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)										
880-31293-1	S-3 (0.5')	140 S1+	158 S1+										
880-31325-A-21-F MS	Matrix Spike	138 S1+	152 S1+										
880-31325-A-21-G MSD	Matrix Spike Duplicate	160 S1+	166 S1+										
LCS 880-59535/2-A	Lab Control Sample	102	128										
LCSD 880-59535/3-A	Lab Control Sample Dup	102	128										
MB 880-59535/1-A	Method Blank	101	123										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-58971/5-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/01/23 09:18	08/02/23 22:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*08/01/23 09:18*	*08/02/23 22:08*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/01/23 09:18*	*08/02/23 22:08*	*1*

Lab Sample ID: LCS 880-58971/1-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07714		mg/Kg		77	70 - 130		
Toluene			0.100	0.1014		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.08911		mg/Kg		89	70 - 130		
m-Xylene & p-Xylene			0.200	0.1753		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08985		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-58971/2-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58971

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08576		mg/Kg		86	70 - 130	11	35
Toluene			0.100	0.1000		mg/Kg		100	70 - 130	1	35
Ethylbenzene			0.100	0.08572		mg/Kg		86	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1641		mg/Kg		82	70 - 130	7	35
o-Xylene			0.100	0.08388		mg/Kg		84	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-31279-A-1-A MS
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0996	0.07513		mg/Kg		75	70 - 130		
Toluene	<0.00202	U	0.0996	0.08995		mg/Kg		90	70 - 130		

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-31279-A-1-A MS
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0996	0.08100		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1561		mg/Kg		78	70 - 130
o-Xylene	<0.00202	U	0.0996	0.07987		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-31279-A-1-B MSD
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.07017		mg/Kg		71	70 - 130	7	35
Toluene	<0.00202	U	0.0994	0.08738		mg/Kg		88	70 - 130	3	35
Ethylbenzene	<0.00202	U	0.0994	0.07772		mg/Kg		78	70 - 130	4	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1481		mg/Kg		75	70 - 130	5	35
o-Xylene	<0.00202	U	0.0994	0.07711		mg/Kg		78	70 - 130	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 880-58998/5-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58998

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/01/23 10:59	08/02/23 11:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/01/23 10:59*	*08/02/23 11:28*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/01/23 10:59*	*08/02/23 11:28*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-59535/1-A
Matrix: Solid
Analysis Batch: 59598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 59535

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/07/23 14:29	08/08/23 19:25	1

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-59535/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59598 — **Prep Batch: 59535**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/07/23 14:29	08/08/23 19:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/07/23 14:29	08/08/23 19:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*08/07/23 14:29*	*08/08/23 19:25*	*1*
o-Terphenyl	*123*		*70 - 130*	*08/07/23 14:29*	*08/08/23 19:25*	*1*

Lab Sample ID: LCS 880-59535/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59598 — **Prep Batch: 59535**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	970.1		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	964.8		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*128*		*70 - 130*

Lab Sample ID: LCSD 880-59535/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59598 — **Prep Batch: 59535**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1003		mg/Kg		100	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	969.6		mg/Kg		97	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*128*		*70 - 130*

Lab Sample ID: 880-31325-A-21-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59598 — **Prep Batch: 59535**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1010	984.3		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)	136		1010	1054		mg/Kg		91	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*138*	*S1+*	*70 - 130*
o-Terphenyl	*152*	*S1+*	*70 - 130*

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-31325-A-21-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59598 — **Prep Batch: 59535**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1010	1127		mg/Kg		108	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	136		1010	1203		mg/Kg		106	70 - 130	13	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*160*	*S1+*	*70 - 130*
o-Terphenyl	*166*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-58660/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/29/23 00:46	1

Lab Sample ID: LCS 880-58660/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	253.7		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-58660/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	269.2		mg/Kg		108	90 - 110	6	20

Lab Sample ID: 880-31292-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	65.6		251	292.8		mg/Kg		91	90 - 110

Lab Sample ID: 880-31292-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	65.6		251	304.8		mg/Kg		95	90 - 110	4	20

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

GC VOA

Prep Batch: 58971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31293-1	S-3 (0.5')	Total/NA	Solid	5035	
MB 880-58971/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-58971/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-58971/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-31279-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-31279-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 58998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-58998/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 59072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31293-1	S-3 (0.5')	Total/NA	Solid	8021B	58971
MB 880-58971/5-A	Method Blank	Total/NA	Solid	8021B	58971
MB 880-58998/5-A	Method Blank	Total/NA	Solid	8021B	58998
LCS 880-58971/1-A	Lab Control Sample	Total/NA	Solid	8021B	58971
LCSD 880-58971/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	58971
880-31279-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	58971
880-31279-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	58971

Analysis Batch: 59209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31293-1	S-3 (0.5')	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 59535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31293-1	S-3 (0.5')	Total/NA	Solid	8015NM Prep	
MB 880-59535/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-59535/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-59535/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-31325-A-21-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-31325-A-21-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 59598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31293-1	S-3 (0.5')	Total/NA	Solid	8015B NM	59535
MB 880-59535/1-A	Method Blank	Total/NA	Solid	8015B NM	59535
LCS 880-59535/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	59535
LCSD 880-59535/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	59535
880-31325-A-21-F MS	Matrix Spike	Total/NA	Solid	8015B NM	59535
880-31325-A-21-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	59535

Analysis Batch: 59737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31293-1	S-3 (0.5')	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

HPLC/IC

Leach Batch: 58660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31293-1	S-3 (0.5')	Soluble	Solid	DI Leach	
MB 880-58660/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-58660/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-58660/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-31292-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-31292-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 58743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31293-1	S-3 (0.5')	Soluble	Solid	300.0	58660
MB 880-58660/1-A	Method Blank	Soluble	Solid	300.0	58660
LCS 880-58660/2-A	Lab Control Sample	Soluble	Solid	300.0	58660
LCSD 880-58660/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	58660
880-31292-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	58660
880-31292-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	58660

Lab Chronicle

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Client Sample ID: S-3 (0.5')

Date Collected: 07/25/23 00:00
Date Received: 07/26/23 16:45

Lab Sample ID: 880-31293-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	58971	08/01/23 09:18	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59072	08/03/23 03:18	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59209	08/03/23 09:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			59737	08/09/23 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	59535	08/07/23 14:29	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59598	08/09/23 03:20	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	58660	07/27/23 14:22	KS	EET MID
Soluble	Analysis	300.0		1			58743	07/29/23 01:18	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31293-1
SDG: Lea County, New Mexico

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-31293-1	S-3 (0.5')	Solid	07/25/23 00:00	07/26/23 16:45

880-31293 Chain of Custody

Project Manager	Clinton Merritt	Bill to (if different)	Melodie Sanjari
Company Name	Carmona Resources	Company Name	Marathon Oil Corporation
Address	310 W Wall St Ste 500	Address	990 Town and Country Blvd
City, State ZIP	Midland, TX 79701	City, State ZIP	Houston TX 77024
Phone		Email	msanjari@marathonoil.com

Work Order Comments

Program. UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project.
Reporting Level II ☐ Level III ☐ ST/UST ☐ TRRP ☐ Level IV ☐
Deliverables EDD ☐ ADaPT ☐ Other

Project Name	Queenie 15 Federal 1H	Turn Around	
Project Number	2051	☑ Routine	☐ Rush
Project Location	Lea County, New Mexico	Due Date	5 day
Sampler's Name	CCM		
PO #			

SAMPLE RECEIPT				
Temp Blank	Yes No	Wet Ice	Yes No	
Received Intact:	Yes No	Thermometer ID	IR9	
Cooler Custody Seals	Yes No N/A	Correction Factor	-.2	
Sample Custody Seals	Yes No N/A	Temperature Reading	4.8	
Total Containers		Corrected Temperature	4.6	

Preservative Codes

None NO DI Water H_2O
Cool Cool MeOH Me
HCL HC HNO_3 HN
H_2S0_4 H_2 NaOH Na
H PO_4 HP
$NaHSO_4$ NABIS
Na S_2O_3 $NaSO_3$
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Identification	Date	Time	Soil	Water	Grab/ Comp	# of Cont	Pres. Code	BTEX 8021B	TPH 8015M (GRO + DRO + MRO)	Chloride 300 0	Sample Comments
S-3 (0 5')	7 25 23		X		G	1		X	X	X	

Parameters

ANALYSIS REQUEST

Comments Email results to Mike Carmona mcarmona@carmonaresources com, Conner Moehring cmoehring@carmonaresources com, Clint Merritt MerrittC@carmonaresources com

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
	7-26-23 1645		

8/9/2023

Login Sample Receipt Checklist

Client: Carmona Resources

Job Number: 880-31293-1
SDG Number: Lea County, New Mexico

Login Number: 31293
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Clint Merritt
Carmona Resources
310 W Wall St
Ste 500
Midland, Texas 79701

Generated 8/9/2023 9:55:17 AM

JOB DESCRIPTION

Queenie 15 Federal 1H
SDG NUMBER Lea County, New Mexico

JOB NUMBER

880-31294-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

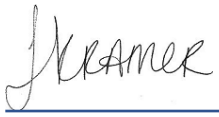
Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Laboratory Job ID: 880-31294-1
SDG: Lea County, New Mexico

Table of Contents

Definitions/Glossary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Job ID: 880-31294-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-31294-1

Receipt
The sample was received on 7/26/2023 4:45 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: S-3 (1') (880-31294-1), (CCV 880-59596/31), (CCV 880-59596/47), (LCS 880-59402/2-A), (LCSD 880-59402/3-A), (870-19120-A-2-E), (870-19120-A-2-F MS) and (870-19120-A-2-G MSD). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-59402 and analytical batch 880-59596 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-59402 and analytical batch 880-59596 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Client Sample ID: S-3 (1')

Date Collected: 07/25/23 00:00
Date Received: 07/26/23 16:45

Lab Sample ID: 880-31294-1

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/03/23 03:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/03/23 03:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/03/23 03:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/01/23 09:18	08/03/23 03:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/03/23 03:38	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/01/23 09:18	08/03/23 03:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*08/01/23 09:18*	*08/03/23 03:38*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*08/01/23 09:18*	*08/03/23 03:38*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			08/03/23 09:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/09/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/07/23 14:17	08/08/23 23:02	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/07/23 14:17	08/08/23 23:02	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/07/23 14:17	08/08/23 23:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*157*	*S1+*	*70 - 130*	*08/07/23 14:17*	*08/08/23 23:02*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*08/07/23 14:17*	*08/08/23 23:02*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**44.7**		5.05		mg/Kg			07/29/23 01:23	1

Surrogate Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)										
880-31279-A-1-A MS	Matrix Spike	103	100										
880-31279-A-1-B MSD	Matrix Spike Duplicate	108	104										
880-31294-1	S-3 (1')	109	106										
LCS 880-58971/1-A	Lab Control Sample	104	100										
LCSD 880-58971/2-A	Lab Control Sample Dup	95	103										
MB 880-58971/5-A	Method Blank	84	89										
MB 880-58998/5-A	Method Blank	85	89										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)										
870-19120-A-2-F MS	Matrix Spike	152 S1+	113										
870-19120-A-2-G MSD	Matrix Spike Duplicate	151 S1+	122										
880-31294-1	S-3 (1')	157 S1+	133 S1+										
LCS 880-59402/2-A	Lab Control Sample	169 S1+	148 S1+										
LCSD 880-59402/3-A	Lab Control Sample Dup	172 S1+	158 S1+										
MB 880-59402/1-A	Method Blank	113	105										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-58971/5-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/01/23 09:18	08/02/23 22:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*08/01/23 09:18*	*08/02/23 22:08*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/01/23 09:18*	*08/02/23 22:08*	*1*

Lab Sample ID: LCS 880-58971/1-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07714		mg/Kg		77	70 - 130		
Toluene			0.100	0.1014		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.08911		mg/Kg		89	70 - 130		
m-Xylene & p-Xylene			0.200	0.1753		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08985		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-58971/2-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58971

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08576		mg/Kg		86	70 - 130	11	35
Toluene			0.100	0.1000		mg/Kg		100	70 - 130	1	35
Ethylbenzene			0.100	0.08572		mg/Kg		86	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1641		mg/Kg		82	70 - 130	7	35
o-Xylene			0.100	0.08388		mg/Kg		84	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-31279-A-1-A MS
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0996	0.07513		mg/Kg		75	70 - 130		
Toluene	<0.00202	U	0.0996	0.08995		mg/Kg		90	70 - 130		

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-31279-A-1-A MS
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0996	0.08100		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1561		mg/Kg		78	70 - 130
o-Xylene	<0.00202	U	0.0996	0.07987		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-31279-A-1-B MSD
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.07017		mg/Kg		71	70 - 130	7	35
Toluene	<0.00202	U	0.0994	0.08738		mg/Kg		88	70 - 130	3	35
Ethylbenzene	<0.00202	U	0.0994	0.07772		mg/Kg		78	70 - 130	4	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1481		mg/Kg		75	70 - 130	5	35
o-Xylene	<0.00202	U	0.0994	0.07711		mg/Kg		78	70 - 130	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 880-58998/5-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58998

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/01/23 10:59	08/02/23 11:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/01/23 10:59*	*08/02/23 11:28*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/01/23 10:59*	*08/02/23 11:28*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-59402/1-A
Matrix: Solid
Analysis Batch: 59596

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 59402

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/05/23 18:11	08/08/23 19:25	1

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-59402/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59596 — **Prep Batch: 59402**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/05/23 18:11	08/08/23 19:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/05/23 18:11	08/08/23 19:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*08/05/23 18:11*	*08/08/23 19:25*	*1*
o-Terphenyl	*105*		*70 - 130*	*08/05/23 18:11*	*08/08/23 19:25*	*1*

Lab Sample ID: LCS 880-59402/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59596 — **Prep Batch: 59402**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1068		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1003		mg/Kg		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*169*	*S1+*	*70 - 130*
o-Terphenyl	*148*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-59402/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59596 — **Prep Batch: 59402**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1052		mg/Kg		105	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	960.9		mg/Kg		96	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*172*	*S1+*	*70 - 130*
o-Terphenyl	*158*	*S1+*	*70 - 130*

Lab Sample ID: 870-19120-A-2-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59596 — **Prep Batch: 59402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	999	1013		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	<50.2	U F1	999	1459	F1	mg/Kg		144	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*152*	*S1+*	*70 - 130*
o-Terphenyl	*113*		*70 - 130*

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 870-19120-A-2-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59596 — **Prep Batch: 59402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	999	1118		mg/Kg		108	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<50.2	U F1	999	1472	F1	mg/Kg		146	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*151*	*S1+*	*70 - 130*
o-Terphenyl	*122*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-58660/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/29/23 00:46	1

Lab Sample ID: LCS 880-58660/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	253.7		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-58660/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	269.2		mg/Kg		108	90 - 110	6	20

Lab Sample ID: 880-31292-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	65.6		251	292.8		mg/Kg		91	90 - 110

Lab Sample ID: 880-31292-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	65.6		251	304.8		mg/Kg		95	90 - 110	4	20

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

GC VOA

Prep Batch: 58971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31294-1	S-3 (1')	Total/NA	Solid	5035	
MB 880-58971/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-58971/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-58971/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-31279-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-31279-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 58998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-58998/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 59072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31294-1	S-3 (1')	Total/NA	Solid	8021B	58971
MB 880-58971/5-A	Method Blank	Total/NA	Solid	8021B	58971
MB 880-58998/5-A	Method Blank	Total/NA	Solid	8021B	58998
LCS 880-58971/1-A	Lab Control Sample	Total/NA	Solid	8021B	58971
LCSD 880-58971/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	58971
880-31279-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	58971
880-31279-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	58971

Analysis Batch: 59210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31294-1	S-3 (1')	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 59402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31294-1	S-3 (1')	Total/NA	Solid	8015NM Prep	
MB 880-59402/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-59402/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-59402/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
870-19120-A-2-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
870-19120-A-2-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 59596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31294-1	S-3 (1')	Total/NA	Solid	8015B NM	59402
MB 880-59402/1-A	Method Blank	Total/NA	Solid	8015B NM	59402
LCS 880-59402/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	59402
LCSD 880-59402/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	59402
870-19120-A-2-F MS	Matrix Spike	Total/NA	Solid	8015B NM	59402
870-19120-A-2-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	59402

Analysis Batch: 59740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31294-1	S-3 (1')	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

HPLC/IC

Leach Batch: 58660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31294-1	S-3 (1')	Soluble	Solid	DI Leach	
MB 880-58660/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-58660/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-58660/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-31292-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-31292-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 58743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31294-1	S-3 (1')	Soluble	Solid	300.0	58660
MB 880-58660/1-A	Method Blank	Soluble	Solid	300.0	58660
LCS 880-58660/2-A	Lab Control Sample	Soluble	Solid	300.0	58660
LCSD 880-58660/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	58660
880-31292-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	58660
880-31292-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	58660

Lab Chronicle

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Client Sample ID: S-3 (1')

Date Collected: 07/25/23 00:00
Date Received: 07/26/23 16:45

Lab Sample ID: 880-31294-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	58971	08/01/23 09:18	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59072	08/03/23 03:38	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59210	08/03/23 09:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			59740	08/09/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	59402	08/07/23 14:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59596	08/08/23 23:02	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	58660	07/27/23 14:22	KS	EET MID
Soluble	Analysis	300.0		1			58743	07/29/23 01:23	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31294-1
SDG: Lea County, New Mexico

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-31294-1	S-3 (1')	Solid	07/25/23 00:00	07/26/23 16:45

880-31294 Chain of Custody

Project Manager	Clinton Merritt	Bill to (if different)	Melodie Sanjari
Company Name	Carmona Resources	Company Name	Marathon Oil Corporation
Address	310 W Wall St Ste 500	Address	990 Town and Country Blvd
City, State ZIP	Midland, TX 79701	City, State ZIP	Houston TX 77024
Phone		Email	msanjari@marathonoil.com

Work Order Comments

Program UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project.
Reporting Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables EDD ☐ ADaPT ☐ Other

Project Name	Queenie 15 Federal 1H	Turn Around	
Project Number	2051	☑ Routine	☐ Rush
Project Location	Lea County, New Mexico	Due Date	5 day
Sampler's Name	CCM		
PO #			

SAMPLE RECEIPT

Temp Blank	Yes (No)	Wet Ice	(Yes) No		
Received Intact	(Yes) No	Thermometer ID	IR8		
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-.20		
Sample Custody Seals	Yes No (N/A)	Temperature Reading	4.8		
Total Containers		Corrected Temperature	4.6		

ANALYSIS REQUEST

Sample Identification	Date	Time	Soil	Water	Grab/ Comp	# of Cont	Pres. Code	BTEX 8021B	TPH 8015M (GRO + DRO + MRO)	Chloride 300 0
S-3 (1')	7 25 23		X		G	1		X	X	X

Parameters

Preservative Codes

None NO DI Water H_2O
Cool Cool MeOH Me
HCL HC HNO_3 HN
H_2S0_4 H_2 NaOH Na
H PO_4 HP
$NaHSO_4$ NABIS
Na_2S_2O NaSO
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Comments

Comments Email results to Mike Carmona mcarmona@carmonaresources com, Conner Moehring cmoehring@carmonaresources com, Clint Merritt MerrittC@carmonaresources com

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
	7-26-23 1645		

Login Sample Receipt Checklist

Client: Carmona Resources

Job Number: 880-31294-1
SDG Number: Lea County, New Mexico

Login Number: 31294
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Clint Merritt
Carmona Resources
310 W Wall St
Ste 500
Midland, Texas 79701

Generated 8/9/2023 9:55:40 AM

JOB DESCRIPTION

Queenie 15 Federal 1H
SDG NUMBER Lea County, New Mexico

JOB NUMBER

880-31295-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

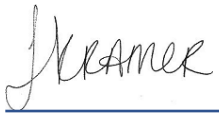
Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Laboratory Job ID: 880-31295-1
SDG: Lea County, New Mexico

Table of Contents

Definitions/Glossary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Job ID: 880-31295-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-31295-1

Receipt
The sample was received on 7/26/2023 4:45 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: S-3 (2') (880-31295-1).

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: S-3 (2') (880-31295-1), (CCV 880-59596/31), (CCV 880-59596/47), (LCS 880-59402/2-A), (LCSD 880-59402/3-A), (870-19120-A-2-E), (870-19120-A-2-F MS) and (870-19120-A-2-G MSD). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-59402 and analytical batch 880-59596 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-59402 and analytical batch 880-59596 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Client Sample ID: S-3 (2')

Date Collected: 07/25/23 00:00
Date Received: 07/26/23 16:45

Lab Sample ID: 880-31295-1

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/01/23 09:18	08/03/23 03:59	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/01/23 09:18	08/03/23 03:59	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/01/23 09:18	08/03/23 03:59	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/01/23 09:18	08/03/23 03:59	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/01/23 09:18	08/03/23 03:59	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/01/23 09:18	08/03/23 03:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*08/01/23 09:18*	*08/03/23 03:59*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*08/01/23 09:18*	*08/03/23 03:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/03/23 09:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/09/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/07/23 14:17	08/08/23 23:23	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/07/23 14:17	08/08/23 23:23	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/07/23 14:17	08/08/23 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*178*	*S1+*	*70 - 130*	*08/07/23 14:17*	*08/08/23 23:23*	*1*
o-Terphenyl	*158*	*S1+*	*70 - 130*	*08/07/23 14:17*	*08/08/23 23:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**57.9**		5.03		mg/Kg			07/29/23 01:29	1

Surrogate Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-31279-A-1-A MS	Matrix Spike	103	100
880-31279-A-1-B MSD	Matrix Spike Duplicate	108	104
880-31295-1	S-3 (2')	102	103
LCS 880-58971/1-A	Lab Control Sample	104	100
LCSD 880-58971/2-A	Lab Control Sample Dup	95	103
MB 880-58971/5-A	Method Blank	84	89
MB 880-58998/5-A	Method Blank	85	89

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
870-19120-A-2-F MS	Matrix Spike	152 S1+	113
870-19120-A-2-G MSD	Matrix Spike Duplicate	151 S1+	122
880-31295-1	S-3 (2')	178 S1+	158 S1+
LCS 880-59402/2-A	Lab Control Sample	169 S1+	148 S1+
LCSD 880-59402/3-A	Lab Control Sample Dup	172 S1+	158 S1+
MB 880-59402/1-A	Method Blank	113	105

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-58971/5-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/23 09:18	08/02/23 22:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/01/23 09:18	08/02/23 22:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*08/01/23 09:18*	*08/02/23 22:08*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/01/23 09:18*	*08/02/23 22:08*	*1*

Lab Sample ID: LCS 880-58971/1-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07714		mg/Kg		77	70 - 130		
Toluene			0.100	0.1014		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.08911		mg/Kg		89	70 - 130		
m-Xylene & p-Xylene			0.200	0.1753		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08985		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-58971/2-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58971

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08576		mg/Kg		86	70 - 130	11	35
Toluene			0.100	0.1000		mg/Kg		100	70 - 130	1	35
Ethylbenzene			0.100	0.08572		mg/Kg		86	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1641		mg/Kg		82	70 - 130	7	35
o-Xylene			0.100	0.08388		mg/Kg		84	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-31279-A-1-A MS
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0996	0.07513		mg/Kg		75	70 - 130		
Toluene	<0.00202	U	0.0996	0.08995		mg/Kg		90	70 - 130		

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-31279-A-1-A MS
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0996	0.08100		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1561		mg/Kg		78	70 - 130
o-Xylene	<0.00202	U	0.0996	0.07987		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-31279-A-1-B MSD
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 58971

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.07017		mg/Kg		71	70 - 130	7	35
Toluene	<0.00202	U	0.0994	0.08738		mg/Kg		88	70 - 130	3	35
Ethylbenzene	<0.00202	U	0.0994	0.07772		mg/Kg		78	70 - 130	4	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1481		mg/Kg		75	70 - 130	5	35
o-Xylene	<0.00202	U	0.0994	0.07711		mg/Kg		78	70 - 130	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 880-58998/5-A
Matrix: Solid
Analysis Batch: 59072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58998

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/23 10:59	08/02/23 11:28	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/01/23 10:59	08/02/23 11:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*08/01/23 10:59*	*08/02/23 11:28*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/01/23 10:59*	*08/02/23 11:28*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-59402/1-A
Matrix: Solid
Analysis Batch: 59596

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 59402

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/05/23 18:11	08/08/23 19:25	1

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-59402/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59596 — **Prep Batch: 59402**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/05/23 18:11	08/08/23 19:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/05/23 18:11	08/08/23 19:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*08/05/23 18:11*	*08/08/23 19:25*	*1*
o-Terphenyl	*105*		*70 - 130*	*08/05/23 18:11*	*08/08/23 19:25*	*1*

Lab Sample ID: LCS 880-59402/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59596 — **Prep Batch: 59402**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1068		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1003		mg/Kg		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*169*	*S1+*	*70 - 130*
o-Terphenyl	*148*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-59402/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59596 — **Prep Batch: 59402**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1052		mg/Kg		105	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	960.9		mg/Kg		96	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*172*	*S1+*	*70 - 130*
o-Terphenyl	*158*	*S1+*	*70 - 130*

Lab Sample ID: 870-19120-A-2-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59596 — **Prep Batch: 59402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	999	1013		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	<50.2	U F1	999	1459	F1	mg/Kg		144	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*152*	*S1+*	*70 - 130*
o-Terphenyl	*113*		*70 - 130*

QC Sample Results

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 870-19120-A-2-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59596 — **Prep Batch: 59402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	999	1118		mg/Kg		108	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<50.2	U F1	999	1472	F1	mg/Kg		146	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*151*	*S1+*	*70 - 130*
o-Terphenyl	*122*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-58660/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/29/23 00:46	1

Lab Sample ID: LCS 880-58660/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	253.7		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-58660/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	269.2		mg/Kg		108	90 - 110	6	20

Lab Sample ID: 880-31292-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	65.6		251	292.8		mg/Kg		91	90 - 110

Lab Sample ID: 880-31292-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58743

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	65.6		251	304.8		mg/Kg		95	90 - 110	4	20

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

GC VOA

Prep Batch: 58971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31295-1	S-3 (2')	Total/NA	Solid	5035	
MB 880-58971/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-58971/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-58971/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-31279-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-31279-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 58998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-58998/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 59072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31295-1	S-3 (2')	Total/NA	Solid	8021B	58971
MB 880-58971/5-A	Method Blank	Total/NA	Solid	8021B	58971
MB 880-58998/5-A	Method Blank	Total/NA	Solid	8021B	58998
LCS 880-58971/1-A	Lab Control Sample	Total/NA	Solid	8021B	58971
LCSD 880-58971/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	58971
880-31279-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	58971
880-31279-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	58971

Analysis Batch: 59211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31295-1	S-3 (2')	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 59402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31295-1	S-3 (2')	Total/NA	Solid	8015NM Prep	
MB 880-59402/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-59402/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-59402/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
870-19120-A-2-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
870-19120-A-2-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 59596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31295-1	S-3 (2')	Total/NA	Solid	8015B NM	59402
MB 880-59402/1-A	Method Blank	Total/NA	Solid	8015B NM	59402
LCS 880-59402/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	59402
LCSD 880-59402/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	59402
870-19120-A-2-F MS	Matrix Spike	Total/NA	Solid	8015B NM	59402
870-19120-A-2-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	59402

Analysis Batch: 59741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31295-1	S-3 (2')	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

HPLC/IC

Leach Batch: 58660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31295-1	S-3 (2')	Soluble	Solid	DI Leach	
MB 880-58660/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-58660/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-58660/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-31292-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-31292-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 58743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-31295-1	S-3 (2')	Soluble	Solid	300.0	58660
MB 880-58660/1-A	Method Blank	Soluble	Solid	300.0	58660
LCS 880-58660/2-A	Lab Control Sample	Soluble	Solid	300.0	58660
LCSD 880-58660/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	58660
880-31292-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	58660
880-31292-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	58660

Lab Chronicle

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Client Sample ID: S-3 (2')

Date Collected: 07/25/23 00:00
Date Received: 07/26/23 16:45

Lab Sample ID: 880-31295-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	58971	08/01/23 09:18	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59072	08/03/23 03:59	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59211	08/03/23 09:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			59741	08/09/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	59402	08/07/23 14:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59596	08/08/23 23:23	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	58660	07/27/23 14:22	KS	EET MID
Soluble	Analysis	300.0		1			58743	07/29/23 01:29	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Carmona Resources
Project/Site: Queenie 15 Federal 1H

Job ID: 880-31295-1
SDG: Lea County, New Mexico

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-31295-1	S-3 (2')	Solid	07/25/23 00:00	07/26/23 16:45

880-31295 Chain of Custody

Project Manager	Clinton Merritt	Bill to (if different)	Melodie Sanjari
Company Name	Carmona Resources	Company Name	Marathon Oil Corporation
Address	310 W Wall St Ste 500	Address	990 Town and Country Blvd
City, State ZIP	Midland TX 79701	City, State ZIP	Houston TX 77024
Phone		Email	msanjari@marathonoil com

Work Order Comments

Program UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project.
Reporting Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables EDD ☐ ADaPT ☐ Other

Project Name	Queenie 15 Federal 1H	Turn Around	
Project Number	2051	☑ Routine ☐ Rush	
Project Location	Lea County, New Mexico	Due Date	5 day
Sampler's Name	CCM		
PO #			

SAMPLE RECEIPT				
Temp Blank	Yes (No)	Wet Ice	(Yes) No	
Received Intact:	(Yes) No	Thermometer ID	IR6	
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-.30	
Sample Custody Seals	Yes No (N/A)	Temperature Reading	4.8	
Total Containers		Corrected Temperature	4.5	

ANALYSIS REQUEST

Preservative Codes

None NO DI Water H_2O
Cool Cool MeOH Me
HCL HC HNO_3 HN
H_2S0_4 H_2 NaOH Na
H PO_4 HP
$NaHSO_4$ NABIS
$Na_2S_2O_3$ NaSO
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Identification	Date	Time	Soil	Water	Grab/ Comp	# of Cont	Pres. Code	BTEX 8021B	TPH 8015M (GRO + DRO + MRO)	Chloride 300 0	Sample Comments
S-3 (2')	7 25 23		X		G	1		X	X	X	

Comments Email results to Mike Carmona mcarmona@carmonaresources com, Conner Moehring cmoehring@carmonaresources com, Clint Merritt MerrittC@carmonaresources com

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
	7-26-23 1645		

8/9/2023

Login Sample Receipt Checklist

Client: Carmona Resources

Job Number: 880-31295-1
SDG Number: Lea County, New Mexico

Login Number: 31295
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 258837

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 258837
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	9/6/2023