



August 8, 2025

New Mexico Oil Conservation Division

1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Deferral Request
Zach McCormick 18 TB
Incident Number nAPP2509331052
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Matador Production Company (Matador), has prepared this *Deferral Request (DR)* to document excavation and soil sampling activities performed at the Zach McCormick 18 TB (Site). The purpose of the excavation and soil sampling activities was to address impacts to soil following a release of crude oil at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results following excavation activities, Matador is submitting this *DR*, describing Site assessment and excavation activities that have occurred and requesting deferral of final remediation for Incident Number nAPP2509331052 until the Site is reconstructed and/or the pad is abandoned.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 18, Township 24 South, Range 29 East, in Eddy County, New Mexico (32.22239°, -104.03194°) and is associated with oil and gas exploration and production operations on private land.

On April 02, 2025, corrosion of a nipple on a production tank resulted in the release of approximately 17 barrels (bbls) of crude oil inside the lined secondary containment and overspray from the release impacted areas on pad surface; 17 bbls of crude oil were recovered. Matador reported the release to the New Mexico Oil Conservation Division (NMOCD) via Notification of Release (NOR) on April 3, 2025, and submitted an Initial C-141 Application (Form C-141) via web portal on April 04, 2025, and the release was assigned Incident Number nAPP2509331052.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented below.

The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-00983, 1,390 feet north of the Site, with a depth to water measurement of 40 feet below ground surface (bgs) and a total depth of 92 feet bgs. All wells used to establish depth to groundwater are depicted on Figure 1 and the referenced Well Record is included in Appendix A.

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The closest continuously flowing or significant watercourse to the Site is a riverine, located approximately 37 feet west of the Site. The Site is within 100 feet of a wetland. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, or church. The Site is not within 1,000 feet of a freshwater well or spring. The Site is not within a 100-year floodplain or overlying a subsurface mine. According to the Bureau of Land Management (BLM) New Mexico Carlsbad Field Office Karst Potential Areas, the Site is underlain by unstable geology (medium potential karst designation area). Potential Site receptors are identified on Figure 1.

On June 18, 2025, Ensolum commissioned a geophysical karst survey using a BLM approved third-party cave/karst contractor. The karst survey was conducted under the supervision of Dave Decker, Southwest Geophysical Consulting, LLC. The findings of the report did not indicate evidence of karst features within 200 feet of the release or beneath the Site and determined the underlying geology to be stable within the 200-foot survey boundary. The karst survey report is included in Appendix B. Based on the findings of the karst survey, unstable geology and/or potential conduits to groundwater through karst features appear to be absent and as such, Matador respectfully requests the medium karst potential not be considered as a sensitive Site receptor.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

SITE ASSESSMENT AND DELINEATION SOIL SAMPLING ACTIVITIES

On April 03, 2025, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. The release extent was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. Ensolum personnel returned to the Site on April 16, 2025, to begin delineation soil sampling activities. Lateral delineation soil samples (SS01 through SS04) were collected at ground surface and 1-foot bgs around the secondary lined containment and overspray area on pad surface. Borehole BH01 was advanced via hand auger to a depth of 1.5 feet bgs to assess the vertical extent of the overspray area on the pad surface. Photographic documentation was completed during the Site visit, and a photographic log is included as Appendix C.

Between April 18, 2025 and April 29, 2025, Ensolum personnel competent in conducting liner integrity inspections identified two tears inside the lined secondary containment. Ensolum personnel advanced two boreholes (BH02 and BH03) within the tears inside the secondary containment. Boreholes BH02 and BH03 were advanced via hand auger and 41 MM Shaw backpack core drill to a maximum depth of 4 feet bgs. Discrete delineation soil samples were collected from the ground surface and from each foot and field screened for chloride utilizing Hach® chloride QuanTab® test strips and for TPH using a PetroFLAG® Soil Analyzer. Field screening results and observations for the boreholes were logged on lithologic/soil sampling logs, which are included in Appendix D. The delineation soil sample locations are depicted on Figure 2.

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All delineation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice and transported under strict chain-of-custody procedures to Envirotech Analysis Laboratory (Envirotech) in Farmington, New Mexico, for analysis of the following contaminants of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

EXCAVATION AND CONFIRMATION SOIL SAMPLING ACTIVITIES

Beginning on May 12, 2025, Ensolum personnel oversaw the excavation of impacted soil from the overspray area outside of containment. The excavation of the impacted area on pad was completed with a hydro-vac and hand tools. The excavation occurred on the well pad on the south side of the lined secondary containment. To direct excavation activities, Ensolum personnel field screened soil samples for chloride and TPH in the same manner as previously described.

Following the removal of impacted soil, Ensolum personnel collected 5-point composite soil samples representing no more than 200 square feet from the floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples (FS01 through FS03) were collected from the floor of the excavation at depths ranging from 1.5 feet to 2.5 feet bgs. Confirmation sidewall soil samples (SW01 through SW02) were collected from the sidewalls of the excavation at depths ranging from the ground surface to 2.5 feet bgs. The excavation soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

The final excavation extent measured approximately 465 square feet. A total of approximately 60 cubic yards of impacted soil was removed during the excavation activities. Impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico. Upon approval of this DR the excavation will be backfilled.

LABORATORY ANALYTICAL RESULTS

Lateral delineation soil samples (SS01 through SS04) were all in compliance with the Site Closure Criteria per NMOCD Table I at ground surface and 1-foot bgs. Laboratory analytical results for delineation soil samples collected from borehole BH01 exceeded the Site Closure Criteria from ground surface to a depth of 1-foot bgs and was in compliance with the Site Closure Criteria at a depth of 1.5 feet bgs. Laboratory analytical results for boreholes BH02 and BH03, collected from inside the lined secondary containment, exceed the Site Closure Criteria at ground surface. Borehole BH02 was in compliance with the Site Closure Criteria at a depth of 4 feet bgs. Borehole BH03 was in compliance with the Site Closure Criteria at a depth of 1-foot bgs.

Laboratory analytical results for excavation floor samples (FS01 through FS03) indicated all COC concentrations were in compliance with the Site Closure Criteria at depths ranging from 1.5 feet bgs to 2.5 feet bgs. Excavation sidewall soil sample SW01, collected from ground surface to 2.5 feet bgs, indicated concentrations of TPH exceeded the Site Closure Criteria along the south containment wall. Laboratory analytical results for confirmation sidewall soil sample SW02, collected from ground surface to 2.5 feet bgs, indicated all COC concentrations were in compliance with the Site Closure Criteria. The laboratory analytical results are summarized in Tables 1 and 2 and the complete laboratory analytical reports are included in Appendix E. All sampling notifications to NMOCD and additional correspondence are included in Appendix F.

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DEFERRAL REQUEST

Matador is requesting deferral of final remediation due to the presence of active production equipment, production tanks and process piping, preventing full excavation of impacted soil. The estimated area of remaining impacted soil measures approximately 1,398 square feet, mostly underneath the lined secondary containment, and assuming a depth of up to 4 feet bgs. Based on the analytical results from delineation borehole BH02, a total of approximately 207 cubic yards of impacted soil remains in place. Soil in the vicinity of confirmation sidewall soil sample SW01 was included in this deferment request due to the proximity of production equipment and safety concerns of excavating deeper, which has the potential to destabilize the equipment and harm workers and/or the environment. The deferral area and delineation soil samples are depicted on Figure 4.

Impacted soil is limited to the area beneath the tank battery containment and adjacent to the containment, where remediation would require a major facility deconstruction. The release extent has been laterally delineated by delineation soil samples (SS01 through SS04) collected at ground surface and 1-foot bgs, sidewall soil sample SW02 collected at depths ranging from ground surface to 2.5 feet bgs and vertically delineated by borehole sample BH01 at 1.5 feet bgs, borehole BH02 at ground surface to a depth of 4 feet bgs and by borehole BH03 at a depth of 1-foot bgs.

Matador does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be 40 feet bgs, and all accessible impacted soil was removed to the Maximum Extent Practicable (MEP) during the excavation activities. Based on the presence of active production equipment within the release area and the complete lateral and vertical delineation of impacted soil remaining in place, Matador requests deferral of final remediation for Incident Number nAPP2509331052 until final reclamation of the well pad or major construction, whichever comes first.

If you have any questions or comments, please contact Ms. Ashley Giovengo at (575) 988-0055 or agiovengo@ensolum.com.

Sincerely,
Ensolum, LLC



Chad Hamilton
Project Geologist



Daniel R. Moir, PG (licensed in WY & TX)
Senior Managing Geologist

cc: Jason Touchet, Matador Production Company

Matador Production Company
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Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
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Appendix D	Lithologic Soil Sampling Logs
Appendix E	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix F	NMOCD Correspondence



FIGURES



1

Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- Delineation Soil Sample with Concentrations Previously Exceeding Closure Criteria
- Liner
- Release Extent



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in bold indicate sample exceeded applicable Closure Criteria.
 Grey text indicate soil sample has been excavated.

0 5 10 20
 Feet

Sources: Environmental Systems Research Institute (ESRI)



Delineation Soil Sample Locations

Matador Production Company
 Zach McCormick 18 TB
 Incident Number: nAPP2509331052
 Unit D, Section 18, T 24S, R 29E
 Eddy County, New Mexico

FIGURE

2

Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample with Concentrations Exceeding Closure Criteria
- Excavation Extent
- Lined Containment



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in bold indicate sample exceeded applicable Closure Criteria.

0 5 10 20
 Feet

Sources: Environmental Systems Research Institute (ESRI)



Excavation Soil Sample Locations

Matador Production Company
 Zach McCormick 18 TB
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 Unit D, Section 18, T 24S, R 29E
 Eddy County, New Mexico

FIGURE

3

Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- Delineation Soil Sample with Concentrations Previously Exceeding Closure Criteria
- ▲ Excavation Sidewall Soil Sample with Concentrations Exceeding Closure Criteria
- Area of Requested Deferral: Area - 1,344 sq. ft., Depth - 4 ft.

SS04@0'
SS04@1'

SS01@0'
SS01@1'

SS02@0'
SS02@1'

BH02@0'
BH02@1'
BH02@2'
BH02@4'

BH03@0'
BH03@1'
BH03@1.5'
BH03@2'

SW01@0-2.5'

SS03@0'
SS03@1'

Notes:
Sample ID @ Depth Below Ground Surface.
Samples in bold indicate sample exceeded applicable closure criteria.

0 5 10 20
Feet

Sources: Environmental Systems Research Institute (ESRI)



Area of Requested Deferral

Matador Production Company
Zach McCormick 18 TB
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Unit D, Section 18, T 24S, R 29E
Eddy County, New Mexico

FIGURE

4



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 Zach McCormick 18 TB
 Matador Production Company
 Eddy County, New Mexico

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
Delineation Soil Samples										
SS01	4/16/2025	0	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
SS01	4/16/2025	1	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	73.2
SS02	4/16/2025	0	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<20.0
SS02	4/16/2025	1	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	91.1
SS03	4/16/2025	0	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	<100
SS03	4/16/2025	1	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	31.9
SS04	4/16/2025	0	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	65.4
SS04	4/16/2025	1	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	118
BH01	4/16/2025	0	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	1,840
BH01	4/16/2025	1	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	829
BH01	4/16/2025	1.5	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	449
BH02	4/18/2025	0	<0.0250	131	2,690	29,900	9,690	32,590	42,280	673
BH02	4/18/2025	1	<0.0250	47.6	859	7,260	2,110	8,119	10,229	186
BH02	4/18/2025	2	0.0635	26.8	454	7,450	2,300	7,904	10,204	203
BH02	4/29/2025	4	<0.0250	<0.0500	<20.0	43.9	<50.0	<25.0	43.9	201
BH03	4/29/2025	0	<0.0250	<0.0500	<20.0	25.0	54.2	25.0	79.2	1,040
BH03	4/18/2025	1	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	66.3
BH03	4/18/2025	1.5	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	75.9
BH03	4/18/2025	2	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	58.2

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Grey text represents samples that have been excavated

<": Laboratory Analytical result is less than reporting limit

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.

* Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes



TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS
 Zach McCormick 18 TB
 Matador Production Company
 Eddy County, New Mexico

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
Excavation Floor Soil Samples										
FS01	5/14/2025	1.5	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	431
FS02	5/14/2025	2.5	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	80.5
FS03	5/14/2025	2	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	410
Excavation Sidewall Soil Samples										
SW01	5/14/2025	0-2.5	<0.0250	5.00	102	2,030	345.0	2,132	2,477	345
SW02	5/14/2025	0-2.5	<0.0250	<0.0500	<20.0	<25.0	<50.0	<25.0	<50.0	295

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Grey text represents samples that have been excavated

<: Laboratory Analytical result is less than reporting limit

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.

* Indicates sample was collected in area to be reclaimed after remediation is complete; reclamation for chloride in the top 4 feet is 600 mg/kg and total TPH is 100 mg/kg.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes



APPENDIX A

Well Log and Record

Form WR-23

SANTA FE

STATE ENGINEER OFFICE

WELL RECORD

462518 J43725

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well E. J. Rogers
Street and Number Box 193
City Malaga State New Mexico
Well was drilled under Permit No. C-983 and is located in the
SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 12 Twp. 24 Rge. 28
(B) Drilling Contractor Emmett Barron License No. WD 30
Street and Number 307 S. 10th
City Carlsbad State New Mexico
Drilling was commenced Feb 16 19 61
Drilling was completed Feb 20 19 61

(Plat of 640 acres)

Elevation at top of casing in feet above sea level _____ Total depth of well 92'
State whether well is shallow or artesian Shallow Depth to water upon completion 40

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	40	92	52'	River Sand and Gravel
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
7" O.D.	23	10	0	82	82	none	59	82 (23Ft.)

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
Street and Number _____ City _____ State _____
Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
Plugging method used _____ Date Plugged _____ 19 _____
Plugging approved by: _____ Cement Plugs were placed as follows:

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received 1961 MAR 21 AM 8:24

File No. C-983 Use Down Location No. 24.28.12.444

No.	Depth of Plug		No. of Sacks Used
	From	To	

LOG OF WELL

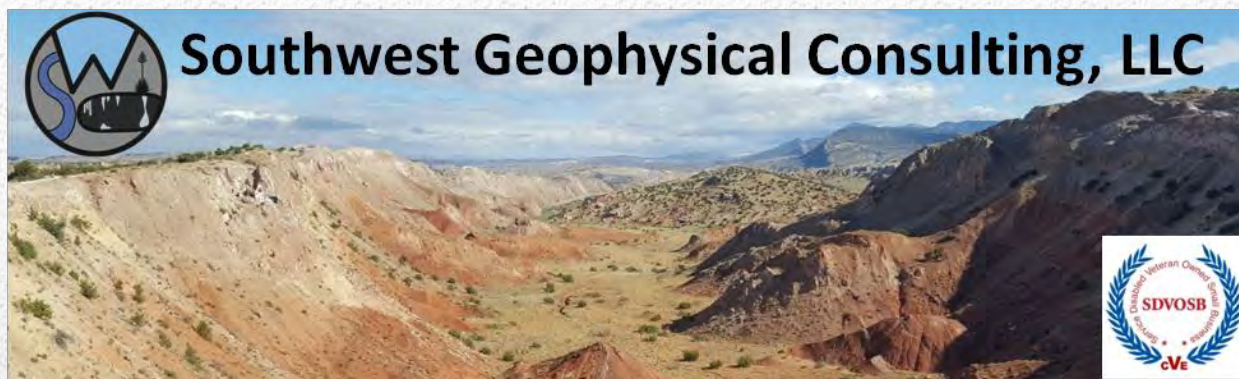
The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Well Driller



APPENDIX B

Karst Survey



Environmental Karst Study Report Matador Zach McCormick 18 CTB Eddy County, New Mexico

**Prepared For:
Ensolum, LLC
3122 National Parks Highway
Carlsbad, NM 88220**

Within 200 feet of the spill delineation boundary:

- ☒ Negative ☐ Positive for surface karst
- ☒ Stable ☐ Unstable Ground
- ☐ Karst Monitor Recommended

July 21, 2025

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1.0 INTRODUCTION

This report was commissioned by Ensolum, LLC (hereinafter referred to as "the client"), on June 18, 2025, for the purpose of conducting an environmental karst study within an area encompassing the Matador Zach McCormick 18 CTB release site (hereinafter termed "ZM18") centered at N 32.222295° W 104.031864°.

1.1 Goals of this Study

The goals of this study are to conduct a surface karst inventory and provide the client with the location and description of any surface karst features located within 200 feet (61 meters) of the spill delineation boundary (as defined by 19.15.29.12 NMAC^[1]), and to determine whether stable ground exists (as defined by 19.15.2 NMAC Definitions^[2]) within the 200 feet of the spill delineation boundary of the Matador Zach McCormick 18 CTB release as provided by the client via e-mail (**Zach McCormick 18 TB.kmz**) on June 18, 2025, using electrical resistivity imaging^[3].

1.2 Summary of Findings

- **No surface karst features exist within 200 feet (61 meters) of the spill delineation boundary.**
- **No anomalies consistent with subsurface air- or water-filled voids were found within the ZM18 geophysical survey area, indicating the zone beneath the geophysical survey is not subject to collapse.**
- **Well-layered stratigraphy is interpreted to exist beneath the area where the geophysical survey was conducted, indicating stable ground within the 200-foot survey boundary.**

1.3 Affected Environment

The ZM18 project site is located in evaporite karst terrain, a landform that is characterized by underground drainage through solutionally enlarged conduits. Evaporite karst terrain may contain sinkholes, sinking streams, caves, and springs. Sinkholes leading to underground drainages and voids are common. These karst features, as well as occasional fissures and discontinuities in the bedrock, provide the primary sources for rapid recharge of the groundwater aquifers of the region. Additionally, karst may develop by hypogene processes involving dissolution by upwelling fluids from depth independent of recharge from the overlying or immediately adjacent surface. Hypogene karst systems may not be connected to the surface and can remain undiscovered unless encountered during drilling or excavation.

Karst features are delicate resources that are often of geological, hydrological, biological, and archeological importance, and should be protected. The four primary concerns in these types of terrain are environmental issues, worker safety, equipment damage, and infrastructure integrity.

The Bureau of Land Management (BLM) categorizes all areas within the Carlsbad Field Office (CFO) zone of responsibility as having either low, medium, high, or critical cave potential based on geology, occurrence of known caves, density of karst features, and potential impacts to freshwater aquifers^[4]. These designations are also recognized by the New Mexico State Land Office (NMSLO). This project occurs within a **MEDIUM** karst occurrence zone (MKOZ)^[5] (**Figure 1**).

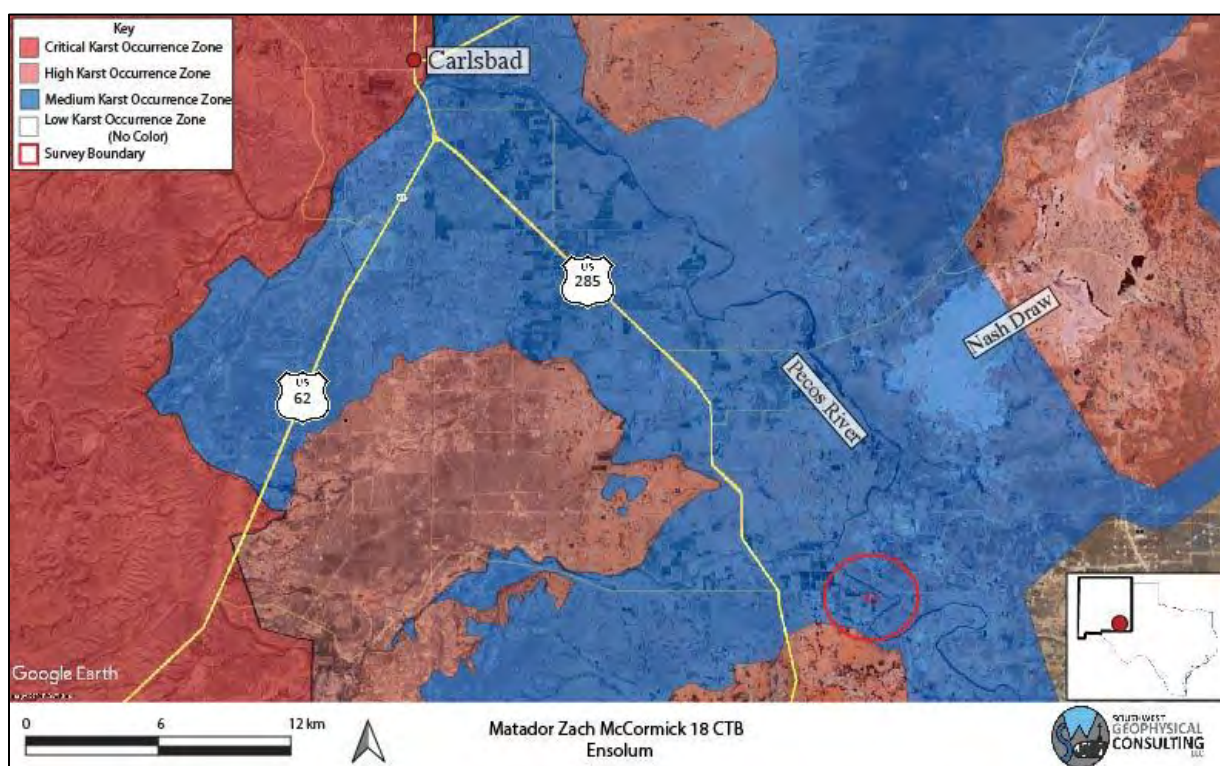


Figure 1: Karst occurrence zone overview. Background image credit: Google Earth. Image date: July 13, 2024. Image datum: WGS-84.

A medium karst occurrence zone is defined as an area in known soluble rock types that may have a shallow insoluble overburden. These areas may contain isolated karst features such as caves and sinkholes. Groundwater recharge may not be wholly dependent on karst features, but the karst features still provide the most rapid aquifer recharge in response to surface runoff^[4].

Due to the rapidity with which evaporite karst develops, each location within a BLM-CFO designated critical or high karst occurrence zone must be assessed on an individual basis to determine the existence of surface karst features and the possibility of sub-surface karst development each time a release occurs.

1.4 Limitations of Report

This report should be read in full. No responsibility is accepted for the use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

This report has been prepared for the use of Ensolum, LLC, in accordance with generally accepted consulting practices. Every effort has been made to ensure the information in this report is accurate as of the time of its writing. This report has not been prepared for use by parties other than the client, their contracting party, and their respective consulting advisors. It may not contain sufficient information for the purposes of other parties or for other uses.

This report was prepared upon completion of the associated fieldwork using a standard template prepared by Southwest Geophysical Consulting and is based on information collected prior to fieldwork, conditions encountered on site, and data collected during the fieldwork and reviewed at the time of preparation. Southwest Geophysical Consulting disclaims responsibility for any changes that might have occurred at the site after this time. The interpreted results, locations, and depths noted in this report (if applicable) should be taken as an interpretation only and no decision should be based solely on this information. Physical verification of aerial imagery analysis results should be conducted in the field prior to using this information for remediation planning. Physical verification of geophysical results using geotechnical methods should be conducted.

To the best of our knowledge, the information contained in this report is accurate at the date of issue. Due to the nature of karst terrain, the information in this report shall not be used beyond two years past the date of the field work provided in section **2.3 Description of Survey**. Large weather events can shorten this time period as areas subject to karst development can rapidly form new features subsequent to these events.

2.0 LOCATION AND DESCRIPTION OF STUDY AREA

2.1 Description of Site

The site is located 28.5 kilometers (17.7 miles) southeast of Carlsbad, New Mexico, east of U.S. Highway 285 and south of Duarte Road. The release area is located within the NE ¼ section of section 13, NM T24S R28E and the NW ¼ section of section 18, NM T24S R29E^[6] (**Figure 1** and **Figure 2**). The region has rolling terrain with karstification occurring in the gypsite soils and underlying gypsum and dolomite bedrock^[7] (see section **2.2 Local Geology Summary** for further information). The climate in this area of southeast New Mexico is semi-arid with an average annual precipitation of approximately 13 inches, of which about two-thirds falls as rain during summer thunderstorms from June to October. Summers are hot and sunny while winters are generally mild, with an average maximum temperature of 96°F in July and an average minimum temperature of 28°F in January^[8]. This area is within the Chihuahuan Desert Thornscrub as defined by the Southwestern Regional ReGAP Vegetation map^[9] and the vegetation consists mostly of areas of blue grama, nine-awned pappus grass, burro grass and low scrub including yucca. The spill delineation boundary is located within an MKOZ^[5] (**Figure 1**) and within privately managed land^[10] (**Figure 2**).

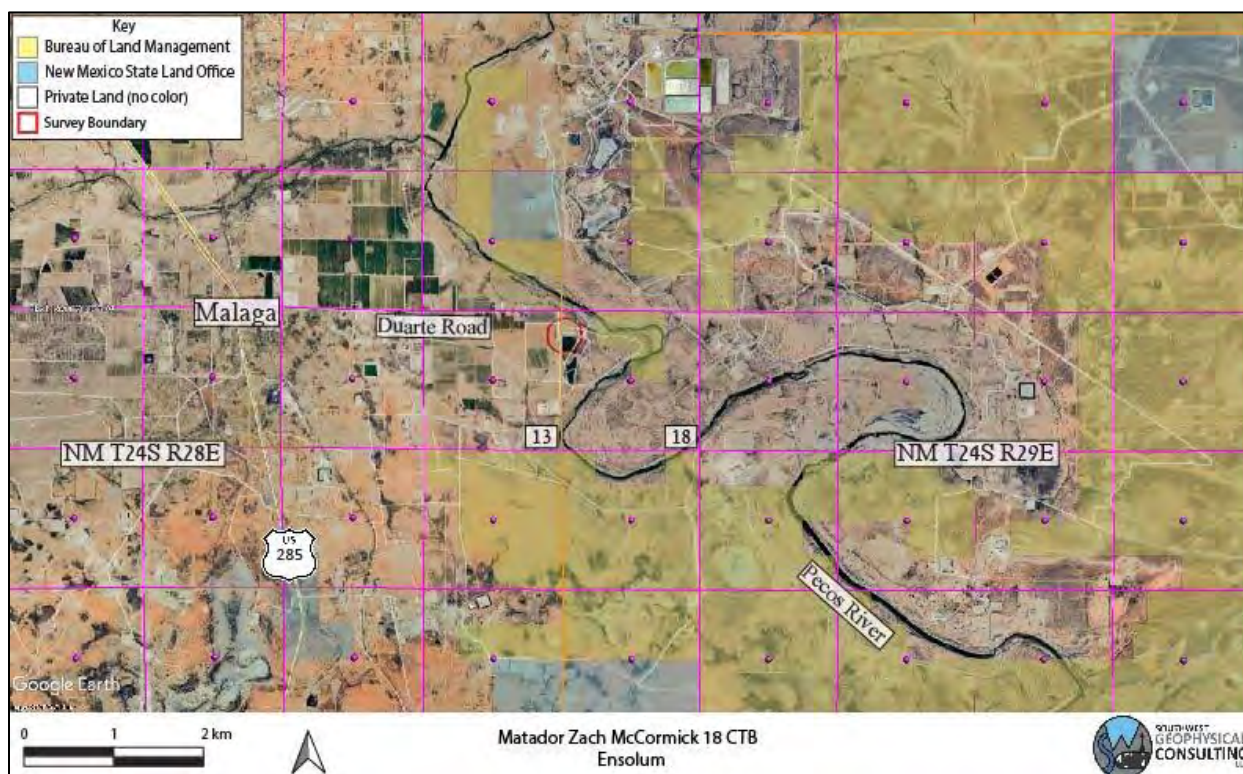


Figure 2: Land ownership and PLSS overview. Background image credit: Google Earth. Image date: July 13, 2024. Image datum: WGS-84.

2.2 Local Geology Summary

The site for the ZM18 survey is located at an elevation of 900 meters (2,953 feet), \pm 2 meters (6.6 feet). This region is entirely underlain by the Permian Rustler Formation (Pru). The area is mantled by thin gypsiferous soils (gypsite), Quaternary alluvial piedmont (Qp), eolian deposits (Qe), and alluvium (Qal)^[11] up to 5 meters in depth (**Figure 3**).

The Rustler Formation is an evaporite facies composed mainly of thin siltstones and sandstones interbedded with claystones, dolomite, and gypsum, and contains both karst-forming strata (the Forty-niner and Tamarisk members) and two shallow aquifers (the Magenta and Culebra Dolomite members)^[12].

The Pru overlies the Permian Salado Formation (Psl – not shown), a layer of extremely soluble halite which can readily dissolve to create caves, sinkholes, and other karst features; however, due to its extremely soluble nature, only non-soluble silt and sand remain from the dissolution of this layer at the surface^[12]. The Rustler Formation may be subject to collapse if a void has developed beneath it in the Salado Formation^[13].

The survey area is covered by the easily accessible Geologic Map of New Mexico (2003) at 1:500,000 scale^[14] and the Digital Geologic Map of New Mexico in ARC/INFO Format^[11].

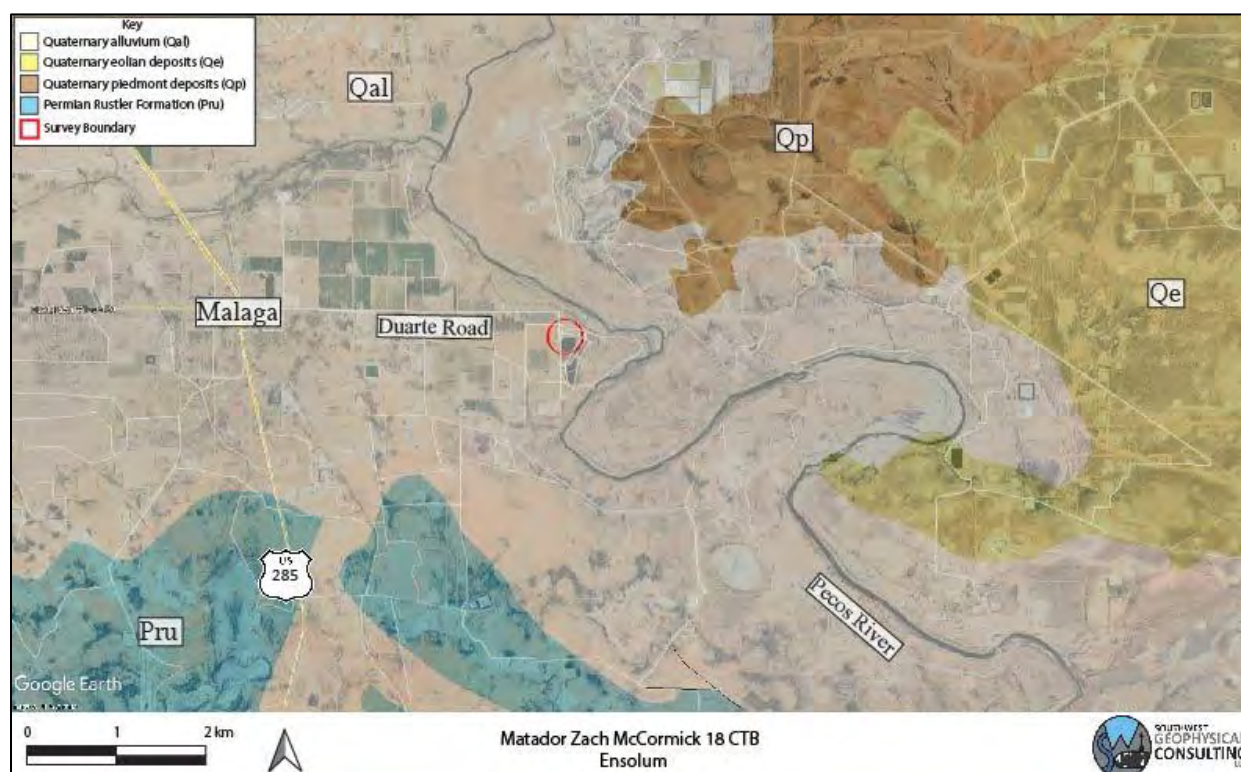


Figure 3: Geology overview. Geology map credit: The Digital Geologic Map of New Mexico in ARC/INFO Format. Background image credit: Google Earth. Image date: July 13, 2024. Image datum: WGS-84.

2.3 Description of Survey

2.3.1 Surface Karst Survey

Southwest Geophysical Consulting, in partnership with SWCA Environmental Consultants, provides surface karst surveys using small, uncrewed aerial systems (sUAS) that are flown by qualified, FAA licensed drone pilots and that meet the stringent Bureau of Land Management – Carlsbad Field Office requirements for both pedestrian and aerial karst surveys.

The surface karst survey includes a desk study prior to the flight which allows us to provide client feedback in the event of any previously known karst features in the area. The desk study is performed out to 305 meters (1,000 feet) from the spill delineation boundary per New Mexico Oil Conservation Division guidance^[1] (**Figure 4**). The study was performed using satellite and aerial imagery from Google Earth Pro dated July 13, 2024 (please note features less than one meter in diameter are generally not visible using this method); the Southwest Geophysical Cave and Karst Database dated May 20, 2025^[15]; the Malaga, NM, 1:24,000 quad, 1985, USGS topographic map; and the latest lidar imagery from CalTopo.com. Please note that we use older topographic maps because newer maps have had caves removed from them. These searches and queries returned no results within the survey boundary.

Surface karst surveys are conducted by sUAS at low elevation within 200 meters of the spill delineation boundary^[4] (**Figure 4**) following a preplanned raster pattern flightpath designed for the purpose of generating at least 75% imagery overlap. The collected high-resolution, georeferenced imagery is stitched together to develop orthomosaic imagery which is further developed into a digital elevation model (DEM); the DEM is then processed into a local relief model (LRM) (**Figure 6**). This LRM is color coded to enhance differences in elevation of as little as five centimeters. The orthoimagery, DEM, and LRM are uploaded to a server where they are analyzed by an experienced karst geologist. Finally, the data is reviewed by a senior karst geologist for quality assurance and downloaded into a table for inclusion in a written report^[16].



Figure 4: Surface survey overview. Background image credit: Google Earth. Image date: July 13, 2024. Datum: WGS-84.

The resolution of the orthoimagery is clear enough that features as small as 10 centimeters can be positively identified in most circumstances. Occasionally there are ambiguous features identified during an aerial survey that will need to be checked in the field if they are impacted by the proposed remediation efforts. Specifically, it is difficult to tell the difference between solution tubes, abandoned uncased well bores, and some burrows in drone imagery. If an ambiguous feature is located during imagery analysis, it is marked with a yellow dot in **Figure 6**. If a feature of any likelihood is subsequently verified in the field prior to publication of the report, the dot will be changed to a red triangle if confirmed as a karst feature or deleted if not.

The imagery for this study was collected via aerial survey by Pat Lagodney of SWCA on June 23, 2025. Surface karst features may have developed after this date and will not be noted in this report. Imagery analysis was completed by Britt Bommer of Southwest Geophysical Consulting on July 3, 2025.

2.3.2 Geophysical Survey

For this survey, a Guideline Geo Terrameter LS 2 and a 28-electrode array of 40-centimeter-long electrodes were used to image the subsurface. This survey consisted of two resistivity lines in a dipole-dipole configuration; line ZM1801 is laid out east to west while line ZM1802 is laid out south to north. Both lines consisted of 28 electrodes at 5-meter spacing, resulting in 135-meter-long arrays (**Figure 5, Table 1**). A preconfigured protocol file was used to run the data collection (DipoleDipole2x14). This electrode configuration provided a depth of investigation of 27 meters (89 feet) and a resolution of 2.5 to 3.0 meters (8.2 to 9.8 feet) within the first 5 to 8 meters (16 to 26 feet) from the surface. A Leica GS18 GPS was used to record electrode locations and elevations.



Figure 5: Geophysical survey overview. Two survey lines were conducted with 28 electrodes each at 5-meter spacing (yellow dots denoted with blue numbers). Background image credit: Google Earth. Image date: July 13, 2024. Image datum: WGS-84.

Table 1 provides basic line data. Detailed information including electrode number, location in latitude/longitude (decimal degree format), and elevation in meters can be found in the accompanying data files.

Table 1: Survey Line Data Table. The .kmz file contains all the points for the survey line listed in the file name. These data are available in the accompanying files ZM18_ERI_Points.xlsx and ENS-014-20250618_ZM18_Data_Files.kmz.

File Name:	Completed By:	Date:
ZM1801.kmz	Garrett Jorgensen Olague – Senior Field Geologist Britt Bommer – Field Geologist Steven Kesler – Field Geologist	7/8/2025
ZM1802.kmz		

EarthImager™ 2D software was used to download and process the data and to provide the model used to make our interpretations. The design of the survey and the orientation of each of the lines provides the information necessary to make the determination of “stable” or “unstable” ground at this site.

A typical starting model was used for the data processing due to the two-layer model of the geology in the area; specifically, generally high-resistivity gypsum and dolomite at the surface and low-resistivity saturated gypsum and dolomite bedrock at depth. The starting model used was “average apparent resistivity” and a default inversion setting of “surface,” with a minimum apparent resistivity set to 0.1 Ohm-meters (Ohm-m or Ω -m) and a max apparent resistivity set to 100,000 Ω -m (**Table 2**).

Table 2: Software Information and Settings

Software Name:	EarthImager™ 2D
Version:	2.4.4.649
Starting Model:	Average Apparent Resistivity
Default Inversion Settings:	Surface
Changes to Default Inversion Settings:	Max Apparent Resistivity = 100 k Ω -m Min Apparent Resistivity = 0.1 Ω -m

Note: Raw data files (.dat files for EarthImager™ 2D) and processed data (.trn files, terrain files for surface correction in EarthImager™ 2D and .out files, the processed .dat files) are available upon request.

All field work, including setup, stow, and travel, was completed by Garrett Jorgensen Olague, Britt Bommer, and Steven Kesler on July 8, 2025.

3.0 RESULTS

3.1 Surface Karst Survey

The desk study and surface karst survey showed no surface karst features located within the 200-foot (61-meter)^[1] survey area surrounding the spill delineation boundary (Figure 6).

No springs exist within the 305-meter (1,000-foot)^[1] survey boundary (Figure 6).

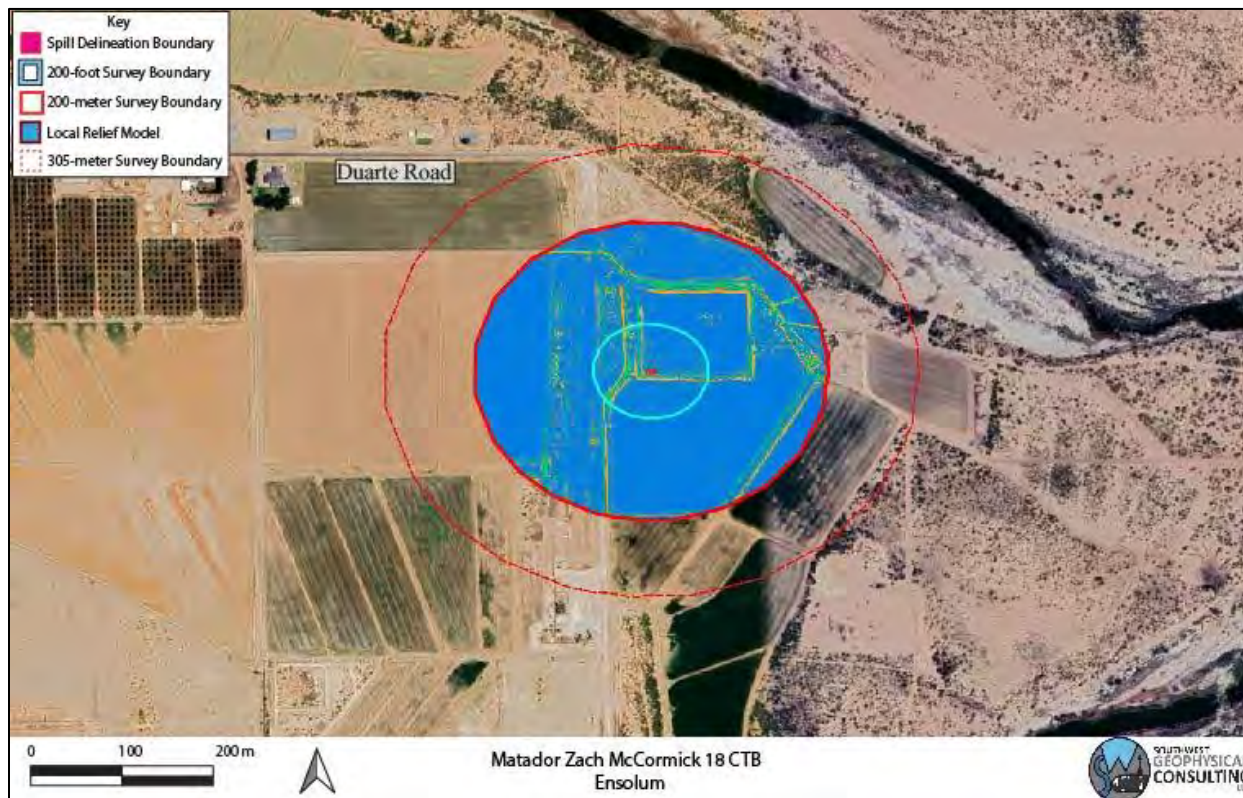


Figure 6: Surface karst survey results. Background image credit: Google Earth. Image date: July 13, 2024. Image datum: WGS-84.

3.2 Geophysical Survey

Electrical resistivity tomography forms images of the subsurface by causing a current to flow through the rock and soil and then measuring the resistance of these materials as the current flows through them. This measurement is taken many times and the resulting data, once processed, is used to produce a model of the subsurface (**Figure 7**). This model is produced using "non-unique" solutions, which means that there are many models and interpretations which will satisfy the data. Using experience and knowledge of the local geology, a high-confidence model can be established and used to develop an accurate understanding of what lies below the surface. This survey was conducted with the express purpose of locating subsurface voids and does not purport to find paleokarst (old, non-active karst features that have been filled in with sand and sediment) or nascent karst features below the resolution limit of the survey.

The results of this study indicate a well-layered geologic system with resistivities between 4.0 and 550 Ohm-m with occasional areas up to 2,854 Ohm-m (**Figure 7**). Please keep in mind when viewing the 2D inverted resistivity sections that color maps can be widely different for each view. Always check the color map located on the right side of the image when viewing the 2D images to ensure you understand the range of resistivities presented. Distances along the top and depths along the left side are in meters. The color map along the right side is in Ohm-m. Due to the nature of the survey, shallower zones have higher resolution between electrodes than deeper zones; therefore, small features at depth will not be visible.

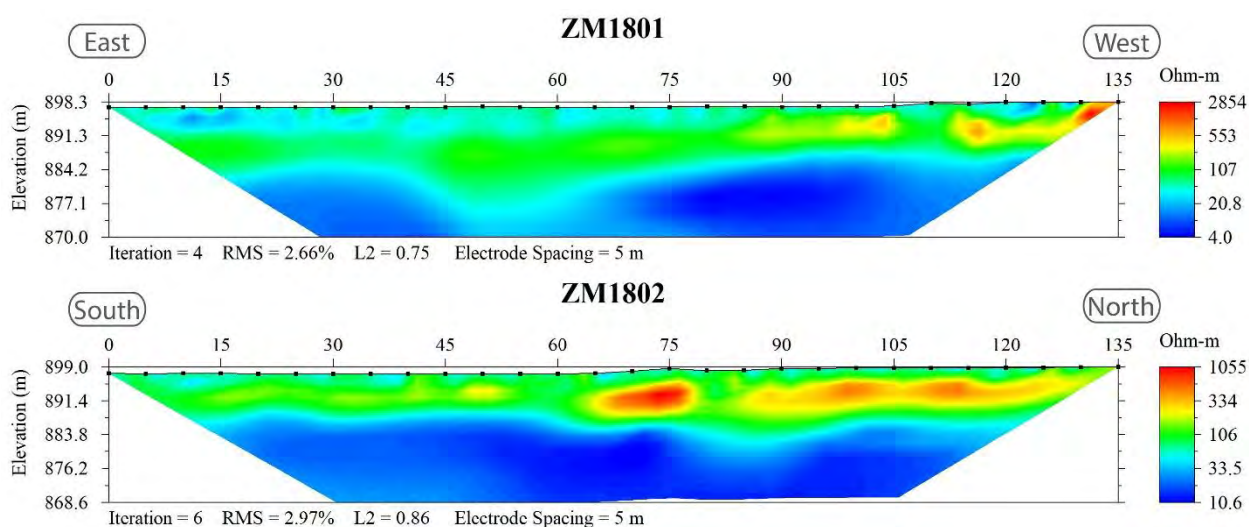


Figure 7: 2D inverted resistivity section. Reds and oranges indicate higher resistivity values. Yellows and greens are medium-resistivity values. Blues are low-resistivity values. Please note that the color scale is relative.

4.0 DISCUSSION

No surface karst features and no anomalies consistent with air-filled subsurface voids are found within the ZM18 survey area. However, small solutionally enlarged voids or fractures at or near the resolution limit of the survey (2.5 – 3.0 meters) may be present. Areas of higher resistivity (reds, yellows, and greens) near the surface are interpreted as dry gypsite soils and gypsum or dolomite bedrock of the Rustler Formation^[17] (**Figure 7** and **Figure 8**). Very low-resistivity areas between 4.0 – 15 Ohm-m may either a layer of either clays and halite lenses or moist or saturated layers within the Rustler Formation (**Figure 7**).

Please remember that these are interpretations made from knowledge of the local subsurface materials and experience. **They remain interpretations until verified by geotechnical methods.** Employing a BLM-CFO approved karst monitor on site during any drilling and/or remediation activities that require excavation below four feet in depth should be considered.

Fracture sets within the subsurface can act as hydrologic pathways to the water table. Rapid dissolution of gypsum can occur along these pathways creating solution-enlarged fractures, and in some cases, voids within months to years. For this reason, this survey is valid only for this remediation event.

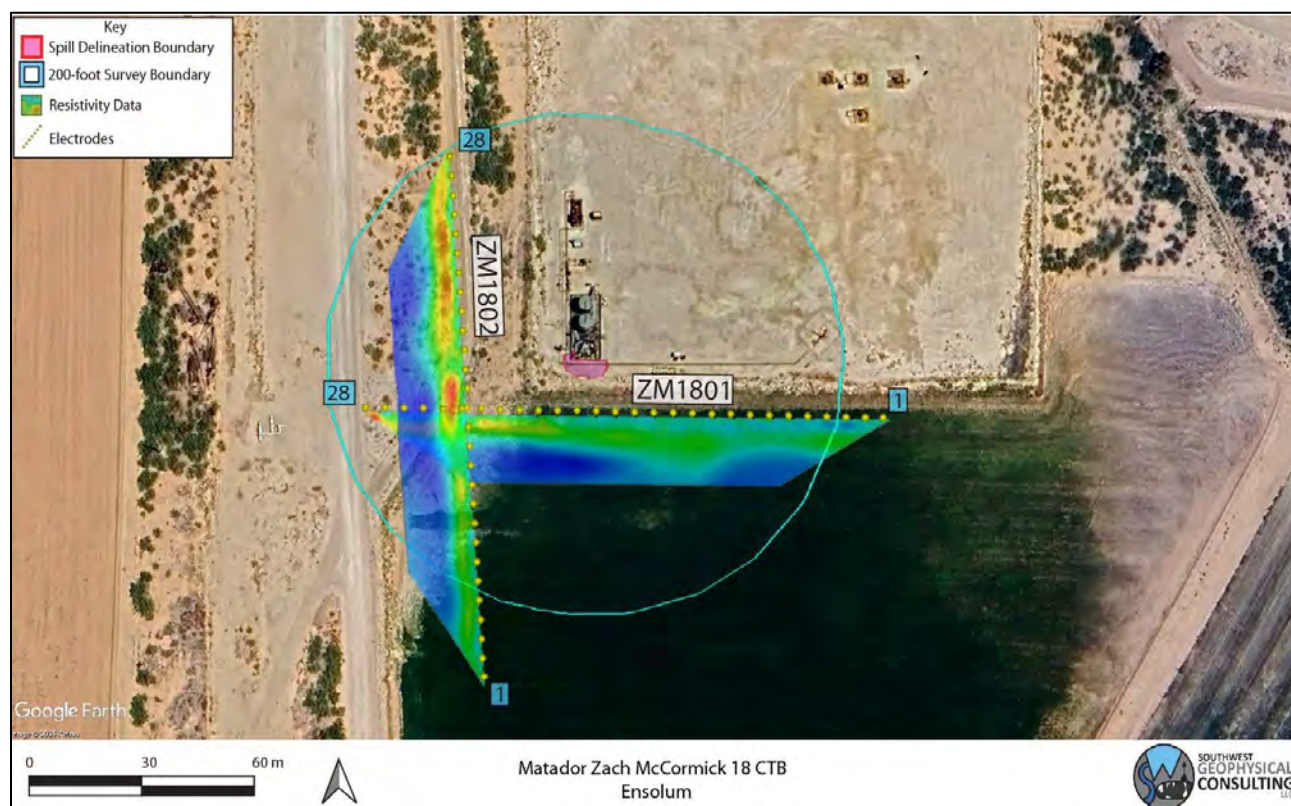


Figure 8: Data overlay. Colored trapezoids are the 2D inverted resistivity lines. Background image credit: Google Earth. Image date: July 13, 2024.

Within karst terrains like the project site, small air- or sediment-filled voids and/or brecciated zones and solutionally enlarged fractures that are below the resolution limit of the survey (2.5–3.0 meters) may exist; these may be encountered during excavation, and if so, should be evaluated by a karst specialist prior to continued work.

5.0 SUMMARY

- **The ZM18 survey contains no surface karst features within 200 feet (61 meters) of the spill delineation boundary.**
- **No shallow anomalies interpreted as large voids or related karst features that would present a danger to equipment operators are located within the geophysical survey area.**
- Intercepting a void during remediation is unlikely, but still possible. Small voids or solutionally enlarged fractures below the resolution limit of the survey may be encountered.
- **Well-layered stratigraphy is interpreted to exist beneath the geophysical survey lines indicating stable ground in the area of the subsurface investigation.**
- When conducting any remediation activities in this area, employing a BLM-CFO approved karst monitor on site should be considered.

6.0 DISCLOSURE STATEMENT

Karst occurrence zones are prone to rapid karst formation and warrant careful planning and engineering to mitigate karst-forming processes that could be accelerated by removal of surface cover or the vibrations associated with heavy equipment used in the remediation process.

Mitigation measures for any karst features revealed during excavation shall be approved by the Bureau of Land Management – Carlsbad Field Office and follow the Natural Resources Conservation Service Conservation Practice Standard for Karst Sinkhole Treatment, Code 527, or the Bureau of Land Management Cave and Karst Management Handbook, H-8380-1.

Vigilance during remediation activities is paramount. If voids are encountered during excavation, contact the Bureau of Land Management Karst Division at (575) 234-5972, the New Mexico State Land Office Surface Resources Division at (505) 827-5768, or a BLM-CFO approved karst contractor and request an on-site investigation from a karst expert if one is not already on site. A karst consultant can generally be available in Eddy County within five hours.

Approved karst monitors should have karst feature identification training, at least two years of supervised experience identifying karst features, wilderness first aid training, SRT training, confined space training, gas monitor training, and a minimum of SPAR cave rescue training through NCRC. They should have with them the proper gear and be prepared both physically and mentally to enter a collapse feature within minutes to perform a rescue if needed. Monitoring services with qualified karst monitors, as well as cave surveys and geophysical surveys, are available from Southwest Geophysical Consulting.

Under no circumstances should an untrained, inexperienced person enter a cave, pit, sinkhole, or collapse feature. All field employees of Southwest Geophysical Consulting have extensive caving experience and the ability to determine whether entry into a karst feature is safe or presents a hazard. In the event it is necessary to enter a karst feature, Southwest Geophysical Consulting can provide these services on request.

Cave and karst resource inventory reports, karst feature investigations, and geophysical reports (along with the associated data files) commissioned at the request of the land manager should be submitted to BLM-CFO at blm_nm_karst@blm.gov.

Cave and karst resource inventory reports for the NMSLO should be submitted to the respective project manager.

Environmental karst reports should be submitted to the appropriate project manager at the New Mexico Oil Conservation Division.

7.0 REFERENCES

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- 16 Whitehead, W., Bandy, M. & Decker, D. Protocol for Using UAV Photography for Rapid Assessment of Karst Features in Southeast New Mexico. *Proceedings of the 2022 Cave and Karst Management Symposium* (2022).
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8.0 GLOSSARY OF TERMS

AGI	Advanced Geosciences Inc.
BLM-CFO	Bureau of Land Management - Carlsbad Field Office
brecciated	Fractured rock caused by faulting or collapse.
caprock-collapse sinkhole	Collapse of roof-spanning rock into a cave or void.
cave	Natural opening at the surface large enough for a person to enter.
cover-collapse sinkhole	Collapse of roof-spanning soil or clay ground cover into a subsurface void.
ERI	Electrical Resistivity Imaging
GPS	Global Positioning System
grike	A solutionally enlarged, vertical, or sub-vertical joint or fracture.
(H)	High confidence modifier for a PKF. This is typically reserved for a feature that is definitely karst but has not been confirmed in the field.
HKOZ	High Karst Occurrence Zone
karst	A landscape containing solutional features such as caves, sinkholes, swallets, and springs.
(L)	Low confidence modifier for a PKF. This is typically a feature that cannot be ruled out as karst but is most likely NOT karst related. This modifier may also be used for pseudokarst features.
(M)	Medium confidence modifier for PKF. This is an ambiguous feature that can't be positively identified as karst without a field visit (e.g., burrows, abandoned unlined wells, solution tubes, pseudokarst).
MKOZ	Medium Karst Occurrence Zone
NCRC	National Cave Rescue Commission
NKF	Non-karst feature. Used for features originally identified as PKF that have been subsequently identified in the field as non-karst related. This term may also be used for pseudokarst features.
NMSLO	New Mexico State Land Office
Ohm-m	Ohm-meter, a unit of measurement for resistivity. Sometimes abbreviated Ω -m.
paleokarst	Previously formed karst features that have been filled in by erosion and/or deposition of minerals.
Pat	Permian Artesia Group
Pc	Permian Capitan Formation
Pcs	Permian Castile Formation
Pdl	Permian Dewey Lake Formation
PKF	Possible karst feature. This term is reserved for features identified in satellite or aerial imagery that have NOT been visited in the

	field. Further modifiers include (H) for high confidence, (M) for medium confidence, and (L) for low confidence. These confidence levels are based on field experience.
PLSS	Public Land Survey System
Pqg	Permian Queen/Greyburg Formation
Pru	Permian Rustler Formation
pseudokarst	Karst-like features (sinkholes, conduits, voids etc.) that are not formed by dissolution. These types of features include soil piping, lava tubes, and some cover-collapse and suffosion sinkholes.
PSl	Permian Salado Formation
PSr	Permian Seven Rivers Formation
Pt	Permian Tansill Formation
Py	Permian Yates Formation
Qal	Quaternary alluvium
Qe	Quaternary eolian deposits
Qp	Quaternary piedmont deposits
Qpl	Quaternary playa lake deposits
RKF	Recognized karst feature. This term is reserved for karst features that have been physically verified in the field.
SPAR	Small Party Assisted Rescue
sUAS	Small, uncrewed aerial system
suffosion sinkhole	Raveling of soil into a pre-existing void or fracture.
swallet	A natural opening in the surface, too small for a person, that drains water to an aquifer. Some are "open," meaning a void can be seen below; some are "closed," meaning they are full of sediment.
SWG	Southwest Geophysical Consulting, LLC
UTM	Universal Transverse Mercator (projected coordinates)
(V)	Field verified modifier for a RKF. This indicates that the feature has been visited by a qualified karst professional in the field and fully identified
WGS	World Geodetic System (geographic coordinates)

9.0 ATTESTATION

David D. Decker, PhD, PG, CPG

Chief Executive Officer, Principal Geologist

Southwest Geophysical Consulting, LLC

5117 Fairfax Dr. NW

Albuquerque, NM 87114

dave@swgeophys.com

(505) 585-2550

CERTIFICATE OF AUTHOR

I, David D. Decker, a Licensed Professional Geologist and a Certified Professional Geologist, do certify that:

- I am currently employed as a consulting geologist in the specialty of caves and karst with an office address of 5117 Fairfax Dr. NW, Albuquerque, NM, USA, 87114.
- I graduated with a Master of Science in Applied Physics with a specialization in Sensor Systems from the Naval Post Graduate School in Monterey, California, in 2003, and a Doctor of Philosophy in Earth and Planetary Sciences from the University of New Mexico, Albuquerque, New Mexico, in 2018.
- I am a Licensed Professional Geologist in the State of Texas, USA (PG-15242) and have been since 2021. I am a Certified Professional Geologist through the American Institute of Professional Geologists (CPG-12123) and have been since 2021.
- I have been employed as a geologist continuously since 2016. I was previously employed as a Fire Controlman, Naval Flight Officer, and Aerospace Engineering Duty Officer in the U.S. Navy and operated, maintained, and installed various sensor systems including magnetic, electromagnetic, radar, communications, and acoustic systems in various capacities from 1986 through 2010.
- I have been involved in various aspects of cave and karst studies continuously since 1985, including exploration, mapping, and scientific studies.
- I have read the definition of “qualified karst professional” set out in the ASTM Standard Practice for Preliminary Karst Terrain Assessment for Site Development (ASTM E-1527). I meet the definition of “qualified professional” for the purposes of this standard.
- I am responsible for the content, compilation, and editing of all sections of report number ENS-014-20250618 entitled, “Environmental Karst Study Report, Matador Zach McCormick 18 CTB, Eddy County, New Mexico.” I or a duly authorized and qualified representative of Southwest Geophysical Consulting, LLC, have personally visited this site and/or reviewed the aerial imagery on the date or dates mentioned in section **2.3 Description of Survey**.

- I have no prior involvement nor monetary interest in the described property or project, save for my fee for conducting this investigation and providing the report.

Dated in Albuquerque, New Mexico, July 24, 2025.



David D. Decker
PhD, CPG-12123





APPENDIX C

Photographic Log



Photographic Log

Matador Production Company

Zach McCormick 18 TB

nAPP2509331052



Photograph 1

Date: 04/03/2025

Description: Lease Signage

View: East



Photograph 2

Date: 04/03/2025

Description: Tank Containment

View: East



Photograph 3

Date: 04/03/2025

Description: Tank Containment

View: North



Photograph 4

Date: 04/03/2025

Description: Tank Containment

View: North



Photographic Log

Matador Production Company

Zach McCormick 18 TB

nAPP2509331052



Photograph 5

Date: 04/03/2025

Description: Surface Staining

View: North

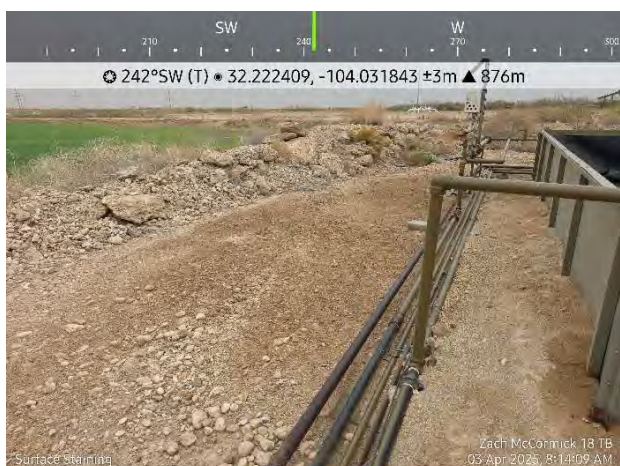


Photograph 6

Date: 04/03/2025

Description: Surface Staining

View: Southwest



Photograph 7

Date: 04/03/2025

Description: Surface Staining

View: Southwest



Photograph 8

Date: 04/03/2025

Description: Surface Staining

View: East



Photographic Log

Matador Production Company

Zach McCormick 18 TB

nAPP2509331052



Photograph 9

Date: 04/16/2025

Description: Delineation Activities

View: North



Photograph 10

Date: 04/16/2025

Description: Delineation Activities

View: West



Photograph 11

Date: 04/18/2025

Description: Liner Delineation Activities

View: West



Photograph 12

Date: 04/18/2025

Description: Liner Delineation Activities

View: Northwest



Photographic Log

Matador Production Company

Zach McCormick 18 TB

nAPP2509331052



Photograph 13

Date: 04/29/2025

Description: Liner Delineation Activities

View: South



Photograph 14

Date: 04/29/2025

Description: Liner Repair From Delineation

View: Southwest



Photograph 15

Date: 04/29/2025

Description: Liner Repair from Delineation

View: Southwest



Photograph 16

Date: 05/13/2025

Description: Excavation Area

View: North



Photographic Log

Matador Production Company

Zach McCormick 18 TB

nAPP2509331052



Photograph 17

Date: 05/14/2025

Description: Hydrovac Activities

View: West



Photograph 18

Date: 05/14/2025

Description: Hydrovac Activities

View: Northeast



Photograph 19

Date: 05/14/2025

Description: Hydrovac Activities

View: East



Photograph 20

Date: 05/14/2025


Description: Hydrovac Activities


View: Northeast




APPENDIX D

Lithologic Soil Sampling Logs

 ENSOLUM		Sample Name: BH01		Date: 4/16/2025				
		Site Name: Zack McCormick 18 TB						
		Incident Number: nAPP2509331052						
		Job Number: 03A2270061						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.222391, -104.031877			Logged By: Jenna Hinkle		Method: Hand Auger			
			Hole Diameter: 3"		Total Depth: 1.5			
Comments: Field screening conducted with HACH Chloride Test Strips and Petroflag for chloride and TPH, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.								
Moisture Content	Chloride (ppm)	TPH (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D			Y	BH01	0	0	CCHE	White Caliche with gravel, fine to medium grained, medium to large sized gravel, stained, non-cohesive, non-plasticity
D	1,254		N	BH01	1	1		White Caliche with gravel, fine to medium grained, medium to large sized gravel, non-cohesive, non-plasticity
D	492	49	N	BH01	1.5			
Total Depth @1.5 feet bgs.								

		Sample Name: BH02		Date: 4/29/2025				
		Site Name: Zack McCormick 18 TB						
		Incident Number: nAPP2509331052						
		Job Number: 03A2270061						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.22239, -104.03194			Logged By: Aboubakar Kone		Method: Drilling			
			Hole Diameter: 2"		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and Petroflag for chloride and TPH, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	767		Yes	BH02	0	0		Pad Caliche, white, Staining, Non Plastic
M	235			BH02	1	1	CCHE	
M	274		No	BH02	2	2		Clayey Sand, Red to Medium Brown, fine, Moist, Plastic, cohesive, Massive, Well Graded
M	240	270		BH02	3	3	SC	
M	201	123		BH02	4	4	CL	Sandy Clay, Light Brown, Coarse to Fine grain, Moist, Slightly-plastic, Slightly Cohesive, Massive, Well Graded
M	ND	28		BH02	5	5	CCHE	Caliche, White, Non-Stain, Non Plastic, Non Cohesive, Massive, Well Graded
M	ND	55		BH02	6	6		
Total depth @ 6 ft bgs.								

		Sample Name: BH03		Date: 4/18/25				
		Site Name: Zach McCormic 18 TB						
		Incident Number: nAPP2509331052						
		Job Number: 03A2270061						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.222426, -104.031912			Logged By: Aboubakar Kone		Method: Hand Auger			
			Hole Diameter: 3"		Total Depth: 2'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	1,332		Yes	BH03	0	0		Tan Caliche Pad, Fine to Coarse Grain, Well graded, Non-Plastic, Non-Cohesive, Massive
M	ND	39	No	BH03	1	1	CCHE	
M	ND			BH03	2	2		
Total depth @ 2 ft bgs.								



APPENDIX E

Laboratory Analytical Reports & Chain-of-Custody Documentation

Report to:
Ashley Giovengo



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Matador Resources, LLC.

Project Name: Zach McCormick 18 TB

Work Order: E504153

Job Number: 23003-0002

Received: 4/18/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/23/25

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 4/23/25



Ashley Giovengo
5400 LBJ Freeway, Suite 1500
Dallas, TX 75240

Project Name: Zach McCormick 18 TB
Workorder: E504153
Date Received: 4/18/2025 8:15:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/18/2025 8:15:00AM, under the Project Name: Zach McCormick 18 TB.

The analytical test results summarized in this report with the Project Name: Zach McCormick 18 TB apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
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Sample Summary

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 04/23/25 16:32
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SS01-0'	E504153-01A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.
SS01-1'	E504153-02A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.
SS02-0'	E504153-03A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.
SS02-1'	E504153-04A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.
SS03-0'	E504153-05A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.
SS03-1'	E504153-06A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.
SS04-0'	E504153-07A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.
SS04-1'	E504153-08A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.
BH01-0'	E504153-09A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.
BH01-1'	E504153-10A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.
BH01-1.5'	E504153-11A	Soil	04/16/25	04/18/25	Glass Jar, 2 oz.



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/23/2025 4:32:15PM

SS01-0'

E504153-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		99.7 %	70-130	04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		91.8 %	70-130	04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/18/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/18/25	
<i>Surrogate: n-Nonane</i>		101 %	61-141	04/18/25	04/18/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	ND	20.0	1	04/18/25	04/18/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/23/2025 4:32:15PM

SS01-1'

E504153-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	<i>96.8 %</i>	<i>70-130</i>		<i>04/18/25</i>	<i>04/18/25</i>	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	<i>92.2 %</i>	<i>70-130</i>		<i>04/18/25</i>	<i>04/18/25</i>	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/18/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/18/25	
<i>Surrogate: n-Nonane</i>	<i>105 %</i>	<i>61-141</i>		<i>04/18/25</i>	<i>04/18/25</i>	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	73.2	40.0	2	04/18/25	04/18/25	



Sample Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 4/23/2025 4:32:15PM
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SS02-0'

E504153-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
Surrogate: 4-Bromochlorobenzene-PID	99.7 %	70-130		04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
Surrogate: 1-Chloro-4-fluorobenzene-FID	94.8 %	70-130		04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/18/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/18/25	
Surrogate: n-Nonane	107 %	61-141		04/18/25	04/18/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	ND	20.0	1	04/18/25	04/18/25	



Sample Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 4/23/2025 4:32:15PM
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SS02-1'

E504153-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		103 %	70-130	04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		93.4 %	70-130	04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/18/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/18/25	
<i>Surrogate: n-Nonane</i>		101 %	61-141	04/18/25	04/18/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	91.1	20.0	1	04/18/25	04/18/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/23/2025 4:32:15PM

SS03-0'

E504153-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	97.4 %	70-130		04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	93.4 %	70-130		04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/18/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/18/25	
<i>Surrogate: n-Nonane</i>	107 %	61-141		04/18/25	04/18/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	ND	100	5	04/18/25	04/18/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/23/2025 4:32:15PM

SS03-1'

E504153-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		101 %	70-130	04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		89.9 %	70-130	04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/18/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/18/25	
<i>Surrogate: n-Nonane</i>		104 %	61-141	04/18/25	04/18/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	31.9	20.0	1	04/18/25	04/18/25	



Sample Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 4/23/2025 4:32:15PM
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SS04-0'

E504153-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
Surrogate: 4-Bromochlorobenzene-PID	97.1 %	70-130		04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
Surrogate: 1-Chloro-4-fluorobenzene-FID	96.9 %	70-130		04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/18/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/18/25	
Surrogate: n-Nonane	102 %	61-141		04/18/25	04/18/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	65.4	20.0	1	04/18/25	04/18/25	



Sample Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 4/23/2025 4:32:15PM
-----------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------	----------------------------------

SS04-1'

E504153-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
Surrogate: 4-Bromochlorobenzene-PID	102 %	70-130		04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
Surrogate: 1-Chloro-4-fluorobenzene-FID	89.8 %	70-130		04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/18/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/18/25	
Surrogate: n-Nonane	105 %	61-141		04/18/25	04/18/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	118	40.0	2	04/18/25	04/18/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/23/2025 4:32:15PM

BH01-0'

E504153-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		102 %	70-130	04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		93.6 %	70-130	04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/18/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/18/25	
<i>Surrogate: n-Nonane</i>		102 %	61-141	04/18/25	04/18/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	1840	100	5	04/18/25	04/18/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/23/2025 4:32:15PM

BH01-1'

E504153-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		99.1 %	70-130	04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		93.3 %	70-130	04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/19/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/19/25	
<i>Surrogate: n-Nonane</i>		101 %	61-141	04/18/25	04/19/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	829	40.0	2	04/18/25	04/18/25	



Sample Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 4/23/2025 4:32:15PM
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BH01-1.5'
E504153-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Benzene	ND	0.0250	1	04/18/25	04/18/25	
Ethylbenzene	ND	0.0250	1	04/18/25	04/18/25	
Toluene	ND	0.0250	1	04/18/25	04/18/25	
o-Xylene	ND	0.0250	1	04/18/25	04/18/25	
p,m-Xylene	ND	0.0500	1	04/18/25	04/18/25	
Total Xylenes	ND	0.0250	1	04/18/25	04/18/25	
Surrogate: 4-Bromochlorobenzene-PID	102 %	70-130		04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2516091	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/18/25	04/18/25	
Surrogate: 1-Chloro-4-fluorobenzene-FID	90.6 %	70-130		04/18/25	04/18/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KH		Batch: 2516095	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/18/25	04/19/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/18/25	04/19/25	
Surrogate: n-Nonane	106 %	61-141		04/18/25	04/19/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2516097	
Chloride	449	40.0	2	04/18/25	04/18/25	



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	4/23/2025 4:32:15PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2516091-BLK1) Prepared: 04/18/25 Analyzed: 04/18/25

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.01		8.00		100	70-130			

LCS (2516091-BS1) Prepared: 04/18/25 Analyzed: 04/18/25

Benzene	4.39	0.0250	5.00		87.9	70-130			
Ethylbenzene	4.35	0.0250	5.00		87.1	70-130			
Toluene	4.39	0.0250	5.00		87.8	70-130			
o-Xylene	4.32	0.0250	5.00		86.5	70-130			
p,m-Xylene	8.68	0.0500	10.0		86.8	70-130			
Total Xylenes	13.0	0.0250	15.0		86.7	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.90		8.00		98.7	70-130			

Matrix Spike (2516091-MS1) Source: E504153-02 Prepared: 04/18/25 Analyzed: 04/18/25

Benzene	4.09	0.0250	5.00	ND	81.7	70-130			
Ethylbenzene	4.05	0.0250	5.00	ND	81.0	70-130			
Toluene	4.09	0.0250	5.00	ND	81.8	70-130			
o-Xylene	4.03	0.0250	5.00	ND	80.6	70-130			
p,m-Xylene	8.09	0.0500	10.0	ND	80.9	70-130			
Total Xylenes	12.1	0.0250	15.0	ND	80.8	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.73		8.00		96.6	70-130			

Matrix Spike Dup (2516091-MSD1) Source: E504153-02 Prepared: 04/18/25 Analyzed: 04/18/25

Benzene	4.23	0.0250	5.00	ND	84.7	70-130	3.56	27	
Ethylbenzene	4.21	0.0250	5.00	ND	84.3	70-130	3.95	26	
Toluene	4.24	0.0250	5.00	ND	84.8	70-130	3.61	20	
o-Xylene	4.18	0.0250	5.00	ND	83.5	70-130	3.53	25	
p,m-Xylene	8.40	0.0500	10.0	ND	84.0	70-130	3.81	23	
Total Xylenes	12.6	0.0250	15.0	ND	83.8	70-130	3.72	26	
Surrogate: 4-Bromochlorobenzene-PID	7.89		8.00		98.6	70-130			



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	4/23/2025 4:32:15PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2516091-BLK1) Prepared: 04/18/25 Analyzed: 04/18/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.17		8.00		89.6	70-130			

LCS (2516091-BS2) Prepared: 04/18/25 Analyzed: 04/18/25

Gasoline Range Organics (C6-C10)	46.2	20.0	50.0		92.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.79		8.00		97.3	70-130			

Matrix Spike (2516091-MS2) Source: E504153-02 Prepared: 04/18/25 Analyzed: 04/18/25

Gasoline Range Organics (C6-C10)	45.4	20.0	50.0	ND	90.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.87		8.00		98.4	70-130			

Matrix Spike Dup (2516091-MSD2) Source: E504153-02 Prepared: 04/18/25 Analyzed: 04/18/25

Gasoline Range Organics (C6-C10)	48.6	20.0	50.0	ND	97.2	70-130	6.82	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.88		8.00		98.5	70-130			



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	4/23/2025 4:32:15PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KH

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2516095-BLK1)					Prepared: 04/18/25 Analyzed: 04/18/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	50.2		50.0		100	61-141			

LCS (2516095-BS1)					Prepared: 04/18/25 Analyzed: 04/18/25				
Diesel Range Organics (C10-C28)	238	25.0	250		95.2	66-144			
Surrogate: n-Nonane	49.4		50.0		98.7	61-141			

Matrix Spike (2516095-MS1)					Source: E504153-02		Prepared: 04/18/25 Analyzed: 04/18/25		
Diesel Range Organics (C10-C28)	245	25.0	250	ND	98.1	56-156			
Surrogate: n-Nonane	50.9		50.0		102	61-141			

Matrix Spike Dup (2516095-MSD1)					Source: E504153-02		Prepared: 04/18/25 Analyzed: 04/18/25		
Diesel Range Organics (C10-C28)	262	25.0	250	ND	105	56-156	6.54	20	
Surrogate: n-Nonane	53.0		50.0		106	61-141			



QC Summary Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 4/23/2025 4:32:15PM
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Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2516097-BLK1)					Prepared: 04/18/25 Analyzed: 04/18/25				
Chloride	ND	20.0							
LCS (2516097-BS1)					Prepared: 04/18/25 Analyzed: 04/18/25				
Chloride	255	20.0	250		102	90-110			
Matrix Spike (2516097-MS1)					Source: E504152-02		Prepared: 04/18/25 Analyzed: 04/18/25		
Chloride	712	20.0	250	449	106	80-120			
Matrix Spike Dup (2516097-MSD1)					Source: E504152-02		Prepared: 04/18/25 Analyzed: 04/18/25		
Chloride	716	20.0	250	449	107	80-120	0.459	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	Reported:
Dallas TX, 75240	Project Manager:	Ashley Giovengo	04/23/25 16:32

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Chain of Custody

Client Information				Invoice Information		Lab Use Only		TAT				State					
Client: Matador Production Company				Company: Ensolum LLC		Lab WOH		1D 2D 3D Std				NM CO UT TX					
Project: Zach McLaughlin 18 TB				Address: 3122 National Parks Hwy		E004153		Job Number				2M30002					
Project Manager: Ashley Giovengo				City, State, Zip: Carlsbad NM, 88220								x					
Address: 3122 National Parks Hwy				Phone: 575-988-0055													
City, State, Zip: Carlsbad NM, 88220				Email: agiovengo@ensolum.com													
Phone: 575-988-0055				Miscellaneous:													
Email: agiovengo@ensolum.com																	
Sample Information						Analysis and Method								EPA Program			
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	PHO/RO by 8015	GRD/RO by 8015	BTEN by 8021	VOC by 8260	Chloride 300.0	SGDOC NM	TL - 1005	RCRA 8 Metals	SDWA	CWA	RCRA
0806	4/16/25	Soil	1	SS01-0'		1						+					
0808				01-1'		2						+					
0808				02-0'		3						+					
031				02-1'		4						+					
0436				03-0'		5						+					
1049				03-1'		6						+					
0813				04-0'		7						+					
1106				04-1'		8						+					
1148				BH01-0'		9						+					
1212				BH01-1'		10						+					
Additional Instructions: Please CC: cburton@ensolum.com, agiovengo@ensolum.com, lestrella@ensolum.com, chamlton@ensolum.com, bsimmons@ensolum.com, jhinkle@ensolum.com, rral@ensolum.com																	
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																	
Sampled by: Jenna Hinkle and Anthony Ro-																	
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days. Received on ice: <input checked="" type="radio"/> Y / <input type="radio"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C 3.7									
Jenna Hinkle		4-17-25	1630	Michelle Gonzalez		4-17-25	0711										
Michelle Gonzalez		4-17-25	1630	JLH		4-17-25	1700										
Anthony Ro-		4-17-25	2400	Caitlin Mann		4-17-25	815										
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time										
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other																	
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																	
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																	



Chain of Custody

[illegible]

Envirotech Analytical Laboratory

Printed: 4/18/2025 11:37:20AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Matador Resources, LLC.	Date Received:	04/18/25 08:15	Work Order ID:	E504153
Phone:	(972) 371-5200	Date Logged In:	04/17/25 16:02	Logged In By:	Noe Soto
Email:	agiovento@ensolum.com	Due Date:	04/24/25 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 3.7°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Ashley Giovengo



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Matador Resources, LLC.

Project Name: Zach McCormick 18 TB

Work Order: E504232

Job Number: 23003-0002

Received: 4/23/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/29/25

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 4/29/25



Ashley Giovengo
5400 LBJ Freeway, Suite 1500
Dallas, TX 75240

Project Name: Zach McCormick 18 TB
Workorder: E504232
Date Received: 4/23/2025 8:00:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 4/23/2025 8:00:00AM, under the Project Name: Zach McCormick 18 TB.

The analytical test results summarized in this report with the Project Name: Zach McCormick 18 TB apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

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Client Representative
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mgonzaless@envirotech-inc.com

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Sample Summary

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 04/29/25 13:23
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH02-0'	E504232-01A	Soil	04/18/25	04/23/25	Glass Jar, 2 oz.
BH02-1'	E504232-02A	Soil	04/18/25	04/23/25	Glass Jar, 2 oz.
BH02-2'	E504232-03A	Soil	04/18/25	04/23/25	Glass Jar, 2 oz.
BH03-1'	E504232-04A	Soil	04/18/25	04/23/25	Glass Jar, 2 oz.
BH03-1.5'	E504232-05A	Soil	04/18/25	04/23/25	Glass Jar, 2 oz.
BH03-2'	E504232-06A	Soil	04/18/25	04/23/25	Glass Jar, 2 oz.



Sample Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 4/29/2025 1:23:30PM
-----------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------	-----------------------------------------

BH02-0'

E504232-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2517066	
Benzene	ND	2.50	100	04/23/25	04/24/25	
Ethylbenzene	9.53	2.50	100	04/23/25	04/24/25	
Toluene	16.8	2.50	100	04/23/25	04/24/25	
o-Xylene	21.7	2.50	100	04/23/25	04/24/25	
p,m-Xylene	82.9	5.00	100	04/23/25	04/24/25	
Total Xylenes	105	2.50	100	04/23/25	04/24/25	
Surrogate: 4-Bromochlorobenzene-PID		102 %	70-130	04/23/25	04/24/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2517066	
Gasoline Range Organics (C6-C10)	2690	2000	100	04/23/25	04/24/25	
Surrogate: 1-Chloro-4-fluorobenzene-FID		102 %	70-130	04/23/25	04/24/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: HM		Batch: 2517061	
Diesel Range Organics (C10-C28)	29900	2500	100	04/23/25	04/29/25	T11
Oil Range Organics (C28-C36)	9690	5000	100	04/23/25	04/29/25	
Surrogate: n-Nonane		559 %	61-141	04/23/25	04/29/25	S5
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2517073	
Chloride	673	20.0	1	04/23/25	04/23/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/29/2025 1:23:30PM

BH02-1'

E504232-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2517066	
Benzene	ND	0.125	5	04/23/25	04/24/25	
Ethylbenzene	3.87	0.125	5	04/23/25	04/24/25	
Toluene	4.36	0.125	5	04/23/25	04/24/25	
o-Xylene	7.56	0.125	5	04/23/25	04/24/25	
p,m-Xylene	31.8	0.250	5	04/23/25	04/24/25	
Total Xylenes	39.4	0.125	5	04/23/25	04/24/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.5 %	70-130		04/23/25	04/24/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2517066	
Gasoline Range Organics (C6-C10)	859	100	5	04/23/25	04/24/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	126 %	70-130		04/23/25	04/24/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2517061	
Diesel Range Organics (C10-C28)	7260	250	10	04/23/25	04/29/25	T11
Oil Range Organics (C28-C36)	2110	500	10	04/23/25	04/29/25	
<i>Surrogate: n-Nonane</i>						
	297 %	61-141		04/23/25	04/29/25	S5
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2517073	
Chloride	186	40.0	2	04/23/25	04/23/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/29/2025 1:23:30PM

BH02-2'

E504232-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: IY		Batch: 2517066	
Benzene	0.0635	0.0500	2	04/23/25	04/25/25	
Ethylbenzene	2.02	0.0500	2	04/23/25	04/25/25	
Toluene	2.18	0.0500	2	04/23/25	04/25/25	
o-Xylene	4.59	0.0500	2	04/23/25	04/25/25	
p,m-Xylene	18.0	0.100	2	04/23/25	04/25/25	
Total Xylenes	22.6	0.0500	2	04/23/25	04/25/25	
Surrogate: 4-Bromochlorobenzene-PID	98.1 %	70-130		04/23/25	04/25/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: IY		Batch: 2517066	
Gasoline Range Organics (C6-C10)	454	40.0	2	04/23/25	04/25/25	
Surrogate: 1-Chloro-4-fluorobenzene-FID	132 %	70-130		04/23/25	04/25/25	S4
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: HM		Batch: 2517061	
Diesel Range Organics (C10-C28)	7450	250	10	04/23/25	04/29/25	T11
Oil Range Organics (C28-C36)	2300	500	10	04/23/25	04/29/25	
Surrogate: n-Nonane	239 %	61-141		04/23/25	04/29/25	S5
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2517073	
Chloride	203	40.0	2	04/23/25	04/23/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/29/2025 1:23:30PM

BH03-1'

E504232-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2517066	
Benzene	ND	0.0250	1	04/23/25	04/25/25	
Ethylbenzene	ND	0.0250	1	04/23/25	04/25/25	
Toluene	ND	0.0250	1	04/23/25	04/25/25	
o-Xylene	ND	0.0250	1	04/23/25	04/25/25	
p,m-Xylene	ND	0.0500	1	04/23/25	04/25/25	
Total Xylenes	ND	0.0250	1	04/23/25	04/25/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		111 %	70-130	04/23/25	04/25/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2517066	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/23/25	04/25/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		95.3 %	70-130	04/23/25	04/25/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2517061	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/23/25	04/29/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/23/25	04/29/25	
<i>Surrogate: n-Nonane</i>						
		84.8 %	61-141	04/23/25	04/29/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2517073	
Chloride	66.3	20.0	1	04/23/25	04/23/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/29/2025 1:23:30PM

BH03-1.5'

E504232-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2517066	
Benzene	ND	0.0250	1	04/23/25	04/25/25	
Ethylbenzene	ND	0.0250	1	04/23/25	04/25/25	
Toluene	ND	0.0250	1	04/23/25	04/25/25	
o-Xylene	ND	0.0250	1	04/23/25	04/25/25	
p,m-Xylene	ND	0.0500	1	04/23/25	04/25/25	
Total Xylenes	ND	0.0250	1	04/23/25	04/25/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.5 %	70-130		04/23/25	04/25/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2517066	
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/23/25	04/25/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.9 %	70-130		04/23/25	04/25/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: HM		Batch: 2517061	
Diesel Range Organics (C10-C28)	ND	25.0	1	04/23/25	04/24/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/23/25	04/24/25	
<i>Surrogate: n-Nonane</i>						
	87.6 %	61-141		04/23/25	04/24/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: DT		Batch: 2517073	
Chloride	75.9	40.0	2	04/23/25	04/23/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
4/29/2025 1:23:30PM

BH03-2'

E504232-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2517066
Benzene	ND	0.0250	1	04/23/25	04/25/25	
Ethylbenzene	ND	0.0250	1	04/23/25	04/25/25	
Toluene	ND	0.0250	1	04/23/25	04/25/25	
o-Xylene	ND	0.0250	1	04/23/25	04/25/25	
p,m-Xylene	ND	0.0500	1	04/23/25	04/25/25	
Total Xylenes	ND	0.0250	1	04/23/25	04/25/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	04/23/25	04/25/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2517066
Gasoline Range Organics (C6-C10)	ND	20.0	1	04/23/25	04/25/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		94.2 %	70-130	04/23/25	04/25/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: HM		Batch: 2517061
Diesel Range Organics (C10-C28)	ND	25.0	1	04/23/25	04/24/25	
Oil Range Organics (C28-C36)	ND	50.0	1	04/23/25	04/24/25	
<i>Surrogate: n-Nonane</i>						
		88.9 %	61-141	04/23/25	04/24/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: DT		Batch: 2517073
Chloride	58.2	40.0	2	04/23/25	04/23/25	



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	4/29/2025 1:23:30PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2517066-BLK1)

Prepared: 04/23/25 Analyzed: 04/23/25

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.52		8.00		94.0	70-130			

LCS (2517066-BS1)

Prepared: 04/23/25 Analyzed: 04/23/25

Benzene	4.16	0.0250	5.00		83.2	70-130			
Ethylbenzene	4.13	0.0250	5.00		82.7	70-130			
Toluene	4.17	0.0250	5.00		83.5	70-130			
o-Xylene	4.13	0.0250	5.00		82.6	70-130			
p,m-Xylene	8.28	0.0500	10.0		82.8	70-130			
Total Xylenes	12.4	0.0250	15.0		82.8	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.86		8.00		98.2	70-130			

Matrix Spike (2517066-MS1)

Source: E504230-05

Prepared: 04/23/25 Analyzed: 04/23/25

Benzene	4.47	0.0250	5.00	ND	89.5	70-130			
Ethylbenzene	4.43	0.0250	5.00	ND	88.6	70-130			
Toluene	4.47	0.0250	5.00	ND	89.4	70-130			
o-Xylene	4.40	0.0250	5.00	ND	88.1	70-130			
p,m-Xylene	8.86	0.0500	10.0	ND	88.6	70-130			
Total Xylenes	13.3	0.0250	15.0	ND	88.4	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.77		8.00		97.1	70-130			

Matrix Spike Dup (2517066-MSD1)

Source: E504230-05

Prepared: 04/23/25 Analyzed: 04/23/25

Benzene	3.97	0.0250	5.00	ND	79.5	70-130	11.8	27	
Ethylbenzene	3.95	0.0250	5.00	ND	78.9	70-130	11.6	26	
Toluene	3.97	0.0250	5.00	ND	79.5	70-130	11.8	20	
o-Xylene	3.92	0.0250	5.00	ND	78.4	70-130	11.7	25	
p,m-Xylene	7.90	0.0500	10.0	ND	79.0	70-130	11.5	23	
Total Xylenes	11.8	0.0250	15.0	ND	78.8	70-130	11.5	26	
Surrogate: 4-Bromochlorobenzene-PID	7.73		8.00		96.7	70-130			



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	4/29/2025 1:23:30PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2517066-BLK1) Prepared: 04/23/25 Analyzed: 04/23/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.02		8.00		100	70-130			

LCS (2517066-BS2) Prepared: 04/23/25 Analyzed: 04/23/25

Gasoline Range Organics (C6-C10)	48.3	20.0	50.0		96.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.20		8.00		102	70-130			

Matrix Spike (2517066-MS2) Source: E504230-05 Prepared: 04/23/25 Analyzed: 04/23/25

Gasoline Range Organics (C6-C10)	52.9	20.0	50.0	ND	106	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.16		8.00		102	70-130			

Matrix Spike Dup (2517066-MSD2) Source: E504230-05 Prepared: 04/23/25 Analyzed: 04/24/25

Gasoline Range Organics (C6-C10)	47.3	20.0	50.0	ND	94.5	70-130	11.3	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.59		8.00		94.9	70-130			

QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	4/29/2025 1:23:30PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: HM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2517061-BLK1)					Prepared: 04/23/25 Analyzed: 04/24/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	44.8		50.0		89.7	61-141			

LCS (2517061-BS1)					Prepared: 04/23/25 Analyzed: 04/24/25				
Diesel Range Organics (C10-C28)	251	25.0	250		100	66-144			
Surrogate: n-Nonane	44.8		50.0		89.6	61-141			

Matrix Spike (2517061-MS1)					Source: E504228-03		Prepared: 04/23/25 Analyzed: 04/24/25		
Diesel Range Organics (C10-C28)	253	25.0	250	ND	101	56-156			
Surrogate: n-Nonane	44.5		50.0		89.0	61-141			

Matrix Spike Dup (2517061-MSD1)					Source: E504228-03		Prepared: 04/23/25 Analyzed: 04/24/25		
Diesel Range Organics (C10-C28)	241	25.0	250	ND	96.4	56-156	4.77	20	
Surrogate: n-Nonane	43.1		50.0		86.2	61-141			



QC Summary Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 4/29/2025 1:23:30PM
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Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2517073-BLK1)					Prepared: 04/23/25 Analyzed: 04/23/25				
Chloride	ND	20.0							
LCS (2517073-BS1)					Prepared: 04/23/25 Analyzed: 04/23/25				
Chloride	255	20.0	250		102	90-110			
Matrix Spike (2517073-MS1)					Source: E504230-03		Prepared: 04/23/25 Analyzed: 04/23/25		
Chloride	3110	40.0	250	3080	15.0	80-120			M4
Matrix Spike Dup (2517073-MSD1)					Source: E504230-03		Prepared: 04/23/25 Analyzed: 04/23/25		
Chloride	3100	40.0	250	3080	8.75	80-120	0.504	20	M4

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	Reported:
Dallas TX, 75240	Project Manager:	Ashley Giovengo	04/29/25 13:23

M4	Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
S4	Surrogate spike recovery was outside acceptance limits. Sample was reanalyzed with similar results. LCS spike recovery was acceptable.
S5	Surrogate spike recovery exceeded acceptance limits due to interfering target and/or non-target analytes.
T11	DRO includes undifferentiated early and late eluting analytes characteristic of both GRO and ORO.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite
DNR	Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Chain of Custody

Page 1 of 1

Client Information				Invoice Information		Lab Use Only		TAT				State						
Client: Matador Production Company				Company: Ensolum LLC		Lab WO# E504232		Job Number 23003-0002				1D 2D 3D Std X						
Project: Zach McCormick 18 TB				Address: 3122 National Parks Hwy								NM CO UT TX X						
Project Manager: Ashley Giovengo				City, State, Zip: Carlsbad NM, 88220														
Address: 3122 National Parks Hwy				Phone: 575-988-0055														
City, State, Zip: Carlsbad NM, 88220				Email: agiovengo@ensolum.com														
Phone: 575-988-0055				Miscellaneous:														
Email: agiovengo@ensolum.com																		
Sample Information						Analysis and Method								EPA Program				
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals	SDWA	CWA	RCRA	
13:05	4/18/2025	S	1	BH02-0'		1						X						
13:41	4/18/2025	S	1	BH02-1'		2						X						
14:14	4/18/2025	S	1	BH02-2'		3						X						
12:01	4/18/2025	S	1	BH03-1'		4						X						
12:09	4/18/2025	S	1	BH03-1.5'		5						X						
12:20	4/18/2025	S	1	BH03-2'		6						X						
Additional Instructions: Please CC: cburton@ensolum.com, agiovengo@ensolum.com, chamilton@ensolum.com, iestrella@ensoulm.com, bsimmons@ensolum.com, igonzalez@ensolum.com, bmoir@ensolum.com, oaderinto@ensolum.com I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																		
Sampled by: Aboubakar Kone																		
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days. Lab Use Only Received on ice: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N T1 _____ T2 _____ T3 _____ AVG Temp °C _____										
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time											
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time											
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time											
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA _____																		
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																		



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Envirotech Analytical Laboratory

Printed: 4/23/2025 10:02:28AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Matador Resources, LLC.	Date Received:	04/23/25 08:00	Work Order ID:	E504232
Phone:	(972) 371-5200	Date Logged In:	04/22/25 15:36	Logged In By:	Caitlin Mars
Email:	agiovengo@ensolum.com	Due Date:	04/29/25 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature:

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Ashley Giovengo



5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Matador Resources, LLC.

Project Name: Zach McCormick 18 TB

Work Order: E504314

Job Number: 23003-0002

Received: 5/1/2025

Revision: 2

Report Reviewed By:

Walter Hinchman
Laboratory Director
5/7/25

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 5/7/25

Ashley Giovengo
5400 LBJ Freeway, Suite 1500
Dallas, TX 75240



Project Name: Zach McCormick 18 TB
Workorder: E504314
Date Received: 5/1/2025 7:30:00AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/1/2025 7:30:00AM, under the Project Name: Zach McCormick 18 TB.

The analytical test results summarized in this report with the Project Name: Zach McCormick 18 TB apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

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mgonzaless@envirotech-inc.com

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Sample Summary

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 05/07/25 13:10
-----------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH03-0'	E504314-01A	Soil	04/29/25	05/01/25	Glass Jar, 2 oz.
BH02-4'	E504314-02A	Soil	04/29/25	05/01/25	Glass Jar, 2 oz.
BH02-5'	E504314-03A	Soil	04/29/25	05/01/25	Glass Jar, 2 oz.
BH02-6'	E504314-04A	Soil	04/29/25	05/01/25	Glass Jar, 2 oz.



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
5/7/2025 1:10:42PM

BH03-0'

E504314-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA		Batch: 2518088	
Benzene	ND	0.0250	1	05/01/25	05/02/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/02/25	
Toluene	ND	0.0250	1	05/01/25	05/02/25	
o-Xylene	ND	0.0250	1	05/01/25	05/02/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/02/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		105 %	70-130	05/01/25	05/02/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA		Batch: 2518088	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		92.9 %	70-130	05/01/25	05/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV		Batch: 2518083	
Diesel Range Organics (C10-C28)	25.0	25.0	1	05/01/25	05/02/25	
Oil Range Organics (C28-C36)	54.2	50.0	1	05/01/25	05/02/25	
<i>Surrogate: n-Nonane</i>		99.7 %	61-141	05/01/25	05/02/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2518086	
Chloride	1040	40.0	2	05/01/25	05/01/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
5/7/2025 1:10:42PM

BH02-4'

E504314-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: BA		Batch: 2518088	
Benzene	ND	0.0250	1	05/01/25	05/02/25	
Ethylbenzene	ND	0.0250	1	05/01/25	05/02/25	
Toluene	ND	0.0250	1	05/01/25	05/02/25	
o-Xylene	ND	0.0250	1	05/01/25	05/02/25	
p,m-Xylene	ND	0.0500	1	05/01/25	05/02/25	
Total Xylenes	ND	0.0250	1	05/01/25	05/02/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		107 %	70-130	05/01/25	05/02/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: BA		Batch: 2518088	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/01/25	05/02/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		92.8 %	70-130	05/01/25	05/02/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV		Batch: 2518083	
Diesel Range Organics (C10-C28)	43.9	25.0	1	05/01/25	05/02/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/01/25	05/02/25	
<i>Surrogate: n-Nonane</i>		102 %	61-141	05/01/25	05/02/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT		Batch: 2518086	
Chloride	201	100	5	05/01/25	05/01/25	



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	5/7/2025 1:10:42PM

Volatile Organics by EPA 8021B

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518088-BLK1)

Prepared: 05/01/25 Analyzed: 05/02/25

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.13		8.00		102	70-130			

LCS (2518088-BS1)

Prepared: 05/01/25 Analyzed: 05/02/25

Benzene	4.95	0.0250	5.00		98.9	70-130			
Ethylbenzene	5.19	0.0250	5.00		104	70-130			
Toluene	5.15	0.0250	5.00		103	70-130			
o-Xylene	5.16	0.0250	5.00		103	70-130			
p,m-Xylene	10.5	0.0500	10.0		105	70-130			
Total Xylenes	15.6	0.0250	15.0		104	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.13		8.00		102	70-130			

Matrix Spike (2518088-MS1)

Source: E504314-03

Prepared: 05/01/25 Analyzed: 05/02/25

Benzene	5.02	0.0250	5.00	ND	100	70-130			
Ethylbenzene	5.28	0.0250	5.00	ND	106	70-130			
Toluene	5.22	0.0250	5.00	ND	104	70-130			
o-Xylene	5.23	0.0250	5.00	ND	105	70-130			
p,m-Xylene	10.6	0.0500	10.0	ND	106	70-130			
Total Xylenes	15.9	0.0250	15.0	ND	106	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.28		8.00		103	70-130			

Matrix Spike Dup (2518088-MSD1)

Source: E504314-03

Prepared: 05/01/25 Analyzed: 05/02/25

Benzene	5.55	0.0250	5.00	ND	111	70-130	10.2	27	
Ethylbenzene	5.83	0.0250	5.00	ND	117	70-130	9.96	26	
Toluene	5.77	0.0250	5.00	ND	115	70-130	10.0	20	
o-Xylene	5.80	0.0250	5.00	ND	116	70-130	10.3	25	
p,m-Xylene	11.7	0.0500	10.0	ND	117	70-130	9.72	23	
Total Xylenes	17.5	0.0250	15.0	ND	117	70-130	9.91	26	
Surrogate: 4-Bromochlorobenzene-PID	8.33		8.00		104	70-130			



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	5/7/2025 1:10:42PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518088-BLK1) Prepared: 05/01/25 Analyzed: 05/02/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.41		8.00		92.6	70-130			

LCS (2518088-BS2) Prepared: 05/01/25 Analyzed: 05/02/25

Gasoline Range Organics (C6-C10)	48.1	20.0	50.0		96.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.59		8.00		94.8	70-130			

Matrix Spike (2518088-MS2) Source: E504314-03 Prepared: 05/01/25 Analyzed: 05/02/25

Gasoline Range Organics (C6-C10)	44.4	20.0	50.0	ND	88.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.39		8.00		92.4	70-130			

Matrix Spike Dup (2518088-MSD2) Source: E504314-03 Prepared: 05/01/25 Analyzed: 05/02/25

Gasoline Range Organics (C6-C10)	44.7	20.0	50.0	ND	89.4	70-130	0.672	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.37		8.00		92.2	70-130			



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	5/7/2025 1:10:42PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518083-BLK1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	46.1		50.0		92.2	61-141			

LCS (2518083-BS1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Diesel Range Organics (C10-C28)	274	25.0	250		110	66-144			
Surrogate: n-Nonane	48.7		50.0		97.4	61-141			

Matrix Spike (2518083-MS1)					Source: E504307-03		Prepared: 05/01/25 Analyzed: 05/01/25		
Diesel Range Organics (C10-C28)	270	25.0	250	ND	108	56-156			
Surrogate: n-Nonane	48.6		50.0		97.1	61-141			

Matrix Spike Dup (2518083-MSD1)					Source: E504307-03		Prepared: 05/01/25 Analyzed: 05/01/25		
Diesel Range Organics (C10-C28)	272	25.0	250	ND	109	56-156	0.796	20	
Surrogate: n-Nonane	48.9		50.0		97.8	61-141			



QC Summary Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 5/7/2025 1:10:42PM
-----------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------	-------------------------------------

Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2518086-BLK1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Chloride	ND	20.0							
LCS (2518086-BS1)					Prepared: 05/01/25 Analyzed: 05/01/25				
Chloride	259	20.0	250		104	90-110			
Matrix Spike (2518086-MS1)					Source: E504308-01		Prepared: 05/01/25 Analyzed: 05/01/25		
Chloride	318	20.0	250	56.5	105	80-120			
Matrix Spike Dup (2518086-MSD1)					Source: E504308-01		Prepared: 05/01/25 Analyzed: 05/01/25		
Chloride	316	20.0	250	56.5	104	80-120	0.802	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	Reported:
Dallas TX, 75240	Project Manager:	Ashley Giovengo	05/07/25 13:10

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Released to Imaging: 9/5/2025 9:41:48 AM



Envirotech Analytical Laboratory

Printed: 5/1/2025 8:30:32AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Matador Resources, LLC.	Date Received:	05/01/25 07:30	Work Order ID:	E504314
Phone:	(972) 371-5200	Date Logged In:	04/30/25 14:35	Logged In By:	Caitlin Mars
Email:	agiovento@ensolum.com	Due Date:	05/07/25 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? Yes

Note: Thermal preservation is not required, if samples are received within 15 minutes of sampling

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Ashley Giovengo



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Matador Resources, LLC.

Project Name: Zach McCormick 18 TB

Work Order: E505173

Job Number: 23003-0002

Received: 5/16/2025

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
5/22/25

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 5/22/25



Ashley Giovengo
5400 LBJ Freeway, Suite 1500
Dallas, TX 75240

Project Name: Zach McCormick 18 TB
Workorder: E505173
Date Received: 5/16/2025 8:30:22AM

Ashley Giovengo,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 5/16/2025 8:30:22AM, under the Project Name: Zach McCormick 18 TB.

The analytical test results summarized in this report with the Project Name: Zach McCormick 18 TB apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
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Sample Summary

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 05/22/25 07:55
-----------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
FS01-1.5'	E505173-01A	Soil	05/14/25	05/16/25	Glass Jar, 2 oz.
FS02-2.5'	E505173-02A	Soil	05/14/25	05/16/25	Glass Jar, 2 oz.
FS03-2'	E505173-03A	Soil	05/14/25	05/16/25	Glass Jar, 2 oz.
SW01-0-2.5'	E505173-04A	Soil	05/14/25	05/16/25	Glass Jar, 2 oz.
SW02-0-2.5'	E505173-05A	Soil	05/14/25	05/16/25	Glass Jar, 2 oz.



Sample Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 5/22/2025 7:55:26AM
-----------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------	-----------------------------------------

FS01-1.5'

E505173-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2520111	
Benzene	ND	0.0250	1	05/16/25	05/17/25	
Ethylbenzene	ND	0.0250	1	05/16/25	05/17/25	
Toluene	ND	0.0250	1	05/16/25	05/17/25	
o-Xylene	ND	0.0250	1	05/16/25	05/17/25	
p,m-Xylene	ND	0.0500	1	05/16/25	05/17/25	
Total Xylenes	ND	0.0250	1	05/16/25	05/17/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	85.5 %	70-130		05/16/25	05/17/25	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2520111	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/16/25	05/17/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	96.9 %	70-130		05/16/25	05/17/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV		Batch: 2520120	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/16/25	05/17/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/16/25	05/17/25	
<i>Surrogate: n-Nonane</i>	113 %	61-141		05/16/25	05/17/25	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: RAS		Batch: 2520135	
Chloride	431	20.0	1	05/16/25	05/17/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
5/22/2025 7:55:26AM

FS02-2.5'

E505173-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2520111	
Benzene	ND	0.0250	1	05/16/25	05/17/25	
Ethylbenzene	ND	0.0250	1	05/16/25	05/17/25	
Toluene	ND	0.0250	1	05/16/25	05/17/25	
o-Xylene	ND	0.0250	1	05/16/25	05/17/25	
p,m-Xylene	ND	0.0500	1	05/16/25	05/17/25	
Total Xylenes	ND	0.0250	1	05/16/25	05/17/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	84.1 %	70-130		05/16/25	05/17/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2520111	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/16/25	05/17/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.7 %	70-130		05/16/25	05/17/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2520120	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/16/25	05/17/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/16/25	05/17/25	
<i>Surrogate: n-Nonane</i>						
	110 %	61-141		05/16/25	05/17/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2520135	
Chloride	80.5	20.0	1	05/16/25	05/17/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
5/22/2025 7:55:26AM

FS03-2'

E505173-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2520111
Benzene	ND	0.0250	1	05/16/25	05/17/25	
Ethylbenzene	ND	0.0250	1	05/16/25	05/17/25	
Toluene	ND	0.0250	1	05/16/25	05/17/25	
o-Xylene	ND	0.0250	1	05/16/25	05/17/25	
p,m-Xylene	ND	0.0500	1	05/16/25	05/17/25	
Total Xylenes	ND	0.0250	1	05/16/25	05/17/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	85.7 %	70-130		05/16/25	05/17/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2520111
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/16/25	05/17/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.7 %	70-130		05/16/25	05/17/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: NV		Batch: 2520120
Diesel Range Organics (C10-C28)	ND	25.0	1	05/16/25	05/17/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/16/25	05/17/25	
<i>Surrogate: n-Nonane</i>						
	115 %	61-141		05/16/25	05/17/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2520135
Chloride	410	40.0	2	05/16/25	05/17/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
5/22/2025 7:55:26AM

SW01-0-2.5'

E505173-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2520111	
Benzene	ND	0.0250	1	05/16/25	05/17/25	
Ethylbenzene	0.433	0.0250	1	05/16/25	05/17/25	
Toluene	0.0837	0.0250	1	05/16/25	05/17/25	
o-Xylene	1.11	0.0250	1	05/16/25	05/17/25	
p,m-Xylene	3.36	0.0500	1	05/16/25	05/17/25	
Total Xylenes	4.48	0.0250	1	05/16/25	05/17/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	90.5 %	70-130		05/16/25	05/17/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2520111	
Gasoline Range Organics (C6-C10)	102	20.0	1	05/16/25	05/17/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	116 %	70-130		05/16/25	05/17/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2520120	
Diesel Range Organics (C10-C28)	2030	25.0	1	05/16/25	05/17/25	
Oil Range Organics (C28-C36)	487	50.0	1	05/16/25	05/17/25	
<i>Surrogate: n-Nonane</i>						
	134 %	61-141		05/16/25	05/17/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2520135	
Chloride	345	20.0	1	05/16/25	05/17/25	



Sample Data

Matador Resources, LLC.
5400 LBJ Freeway, Suite 1500
Dallas TX, 75240

Project Name: Zach McCormick 18 TB
Project Number: 23003-0002
Project Manager: Ashley Giovengo

Reported:
5/22/2025 7:55:26AM

SW02-0-2.5'

E505173-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2520111	
Benzene	ND	0.0250	1	05/16/25	05/17/25	
Ethylbenzene	ND	0.0250	1	05/16/25	05/17/25	
Toluene	ND	0.0250	1	05/16/25	05/17/25	
o-Xylene	ND	0.0250	1	05/16/25	05/17/25	
p,m-Xylene	ND	0.0500	1	05/16/25	05/17/25	
Total Xylenes	ND	0.0250	1	05/16/25	05/17/25	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	84.1 %	70-130		05/16/25	05/17/25	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2520111	
Gasoline Range Organics (C6-C10)	ND	20.0	1	05/16/25	05/17/25	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.2 %	70-130		05/16/25	05/17/25	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: NV		Batch: 2520120	
Diesel Range Organics (C10-C28)	ND	25.0	1	05/16/25	05/17/25	
Oil Range Organics (C28-C36)	ND	50.0	1	05/16/25	05/17/25	
<i>Surrogate: n-Nonane</i>						
	115 %	61-141		05/16/25	05/17/25	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2520135	
Chloride	295	20.0	1	05/16/25	05/17/25	



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	5/22/2025 7:55:26AM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2520111-BLK1)

Prepared: 05/16/25 Analyzed: 05/17/25

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	6.72		8.00		84.0	70-130			

LCS (2520111-BS1)

Prepared: 05/16/25 Analyzed: 05/19/25

Benzene	5.01	0.0250	5.00		100	70-130			
Ethylbenzene	5.01	0.0250	5.00		100	70-130			
Toluene	5.02	0.0250	5.00		100	70-130			
o-Xylene	4.92	0.0250	5.00		98.3	70-130			
p,m-Xylene	10.1	0.0500	10.0		101	70-130			
Total Xylenes	15.0	0.0250	15.0		99.9	70-130			
Surrogate: 4-Bromochlorobenzene-PID	6.91		8.00		86.4	70-130			

Matrix Spike (2520111-MS1)

Source: E505173-05

Prepared: 05/16/25 Analyzed: 05/17/25

Benzene	5.03	0.0250	5.00	ND	101	70-130			
Ethylbenzene	4.93	0.0250	5.00	ND	98.6	70-130			
Toluene	5.00	0.0250	5.00	ND	100	70-130			
o-Xylene	4.86	0.0250	5.00	ND	97.2	70-130			
p,m-Xylene	9.97	0.0500	10.0	ND	99.7	70-130			
Total Xylenes	14.8	0.0250	15.0	ND	98.9	70-130			
Surrogate: 4-Bromochlorobenzene-PID	6.75		8.00		84.4	70-130			

Matrix Spike Dup (2520111-MSD1)

Source: E505173-05

Prepared: 05/16/25 Analyzed: 05/17/25

Benzene	5.42	0.0250	5.00	ND	108	70-130	7.46	27	
Ethylbenzene	5.33	0.0250	5.00	ND	107	70-130	7.83	26	
Toluene	5.39	0.0250	5.00	ND	108	70-130	7.49	20	
o-Xylene	5.23	0.0250	5.00	ND	105	70-130	7.28	25	
p,m-Xylene	10.8	0.0500	10.0	ND	108	70-130	7.53	23	
Total Xylenes	16.0	0.0250	15.0	ND	107	70-130	7.45	26	
Surrogate: 4-Bromochlorobenzene-PID	6.73		8.00		84.2	70-130			



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	5/22/2025 7:55:26AM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2520111-BLK1) Prepared: 05/16/25 Analyzed: 05/17/25

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.71		8.00		96.3	70-130			

LCS (2520111-BS2) Prepared: 05/16/25 Analyzed: 05/17/25

Gasoline Range Organics (C6-C10)	41.8	20.0	50.0		83.7	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.79		8.00		97.4	70-130			

Matrix Spike (2520111-MS2) Source: E505173-05 Prepared: 05/16/25 Analyzed: 05/17/25

Gasoline Range Organics (C6-C10)	45.9	20.0	50.0	ND	91.9	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.74		8.00		96.8	70-130			

Matrix Spike Dup (2520111-MSD2) Source: E505173-05 Prepared: 05/16/25 Analyzed: 05/20/25

Gasoline Range Organics (C6-C10)	44.6	20.0	50.0	ND	89.2	70-130	2.94	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.79		8.00		97.4	70-130			



QC Summary Data

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	Reported:
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	
Dallas TX, 75240	Project Manager:	Ashley Giovengo	5/22/2025 7:55:26AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2520120-BLK1)					Prepared: 05/16/25 Analyzed: 05/17/25				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	56.3		50.0		113	61-141			

LCS (2520120-BS1)					Prepared: 05/16/25 Analyzed: 05/17/25				
Diesel Range Organics (C10-C28)	301	25.0	250		121	66-144			
Surrogate: n-Nonane	56.6		50.0		113	61-141			

Matrix Spike (2520120-MS1)					Source: E505166-14		Prepared: 05/16/25 Analyzed: 05/17/25		
Diesel Range Organics (C10-C28)	298	25.0	250	ND	119	56-156			
Surrogate: n-Nonane	56.2		50.0		112	61-141			

Matrix Spike Dup (2520120-MSD1)					Source: E505166-14		Prepared: 05/16/25 Analyzed: 05/17/25		
Diesel Range Organics (C10-C28)	299	25.0	250	ND	120	56-156	0.246	20	
Surrogate: n-Nonane	55.7		50.0		111	61-141			



QC Summary Data

Matador Resources, LLC. 5400 LBJ Freeway, Suite 1500 Dallas TX, 75240	Project Name: Zach McCormick 18 TB Project Number: 23003-0002 Project Manager: Ashley Giovengo	Reported: 5/22/2025 7:55:26AM
-----------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------	--------------------------------------

Anions by EPA 300.0/9056A

Analyst: RAS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2520135-BLK1)					Prepared: 05/16/25 Analyzed: 05/17/25				
Chloride	ND	20.0							
LCS (2520135-BS1)					Prepared: 05/16/25 Analyzed: 05/17/25				
Chloride	257	20.0	250		103	90-110			
Matrix Spike (2520135-MS1)					Source: E505173-03		Prepared: 05/16/25 Analyzed: 05/17/25		
Chloride	673	40.0	250	410	105	80-120			
Matrix Spike Dup (2520135-MSD1)					Source: E505173-03		Prepared: 05/16/25 Analyzed: 05/17/25		
Chloride	668	40.0	250	410	103	80-120	0.639	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Matador Resources, LLC.	Project Name:	Zach McCormick 18 TB	
5400 LBJ Freeway, Suite 1500	Project Number:	23003-0002	Reported:
Dallas TX, 75240	Project Manager:	Ashley Giovengo	05/22/25 07:55

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client Information				Invoice Information				Lab Use Only				TAT				State			
Client: Matador Production Company				Company: Ensolum LLC				Lab WO#		Job Number		1D		2D		3D		Std	
Project Name: Zack McCormick 18 TB				Address: 3122 National Parks Hwy				E505173		23003-0002								x	
Project Manager: Ashley Giovengo				City, State, Zip: Carlsbad NM, 88220														NM	
Address: 3122 National Parks Hwy				Phone: 575-988-0055														CO	
City, State, Zip: Carlsbad NM, 88220				Email: agiovengo@ensolum.com														UT	
Phone: 575-988-0055				Miscellaneous:														TX	
Email: agiovengo@ensolum.com																			
Sample Information																EPA Program			
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	TCEQ 1005 - TX	RCRA 8 Metals	BGDOC - NM	BGDOC - TX	SDWA	CWA	RCRA	
10:02	5/14/2025	S	1	FS01 - 1.5'		1													
17:50	5/14/2025	Sd	1	FS02 - 2.5'		2													
16:28	5/14/2025	S	1	FS03 - 2'		3													
14:22	5/14/2025	S	1	SW01 - 0 - 2.5'		4													
14:23	5/14/2025	S	1	SW02 - 0 - 2.5'		5													
Additional Instructions: Please CC: cburton@ensolum.com, agiovengo@ensolum.com, iestrella@ensolum.com, chamilton@ensolum.com, oaderinto@ensolum.com, bmoir@ensolum.com																			
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.																			
Sampled by: Oluwale Aderinto																			
Relinquished by: (Signature)				Date		Time		Received by: (Signature)				Date		Time		Samples requiring thermal preservation must be received on ice the day they are sampled or received packed on ice at a temp above 0 but less than 6°C on subsequent days.			
Oluwale Aderinto				5/15/25		08:15		Michelle Gonzales				5-15-25		0815					
Relinquished by: (Signature)				Date		Time		Received by: (Signature)				Date		Time					
Michelle Gonzales				5-15-25		1600		J. H.				5-15-25		1600					
Relinquished by: (Signature)				Date		Time		Received by: (Signature)				Date		Time		Lab Use Only			
J. H.				5-15-25		2215		Christina Maus				5-10-25		830					
Relinquished by: (Signature)				Date		Time		Received by: (Signature)				Date		Time		Received on ice:			
Relinquished by: (Signature)				Date		Time		Received by: (Signature)				Date		Time		(Y) N			
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other																			
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																			
Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																			

Envirotech Analytical Laboratory

Printed: 5/16/2025 1:23:23PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Matador Resources, LLC.	Date Received:	05/16/25 08:30	Work Order ID:	E505173
Phone:	(972) 371-5200	Date Logged In:	05/15/25 14:28	Logged In By:	Caitlin Mars
Email:	agiovento@ensolum.com	Due Date:	05/22/25 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? Yes

Note: Thermal preservation is not required, if samples are received within 15 minutes of sampling

13. See COC for individual sample temps. Samples outside of 0°C-6°C will be recorded in comments.

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.



APPENDIX F

NMOCD Correspondence

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS

Action 452434

QUESTIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 452434
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2509331052
Incident Name	NAPP2509331052 ZACH MCCORMICK 18 TB @ 0
Incident Type	Oil Release
Incident Status	Initial C-141 Approved

Location of Release Source	
Site Name	Zach McCormick 18 TB
Date Release Discovered	04/02/2025
Surface Owner	Private

Liner Inspection Event Information	
Please answer all the questions in this group.	
What is the liner inspection surface area in square feet	1,373
Have all the impacted materials been removed from the liner	Yes
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	04/18/2025
Time liner inspection will commence	09:00 AM
Please provide any information necessary for observers to liner inspection	Tank Containment
Please provide any information necessary for navigation to liner inspection site	32.22239,-104.03194

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Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

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

CONDITIONS

Action 452434

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 452434
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

CONDITIONS

Created By	Condition	Condition Date
j_touchet	Failure to notify the OCD of liner inspections including any changes in date/time per the requirements of 19.15.29.11.A(5)(a)(ii) NMAC, may result in the inspection not being accepted.	4/15/2025

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

QUESTIONS

Action 458181

QUESTIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 458181
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2509331052
Incident Name	NAPP2509331052 ZACH MCCORMICK 18 TB @ 0
Incident Type	Oil Release
Incident Status	Initial C-141 Approved

Location of Release Source	
Site Name	Zach McCormick 18 TB
Date Release Discovered	04/02/2025
Surface Owner	Private

Sampling Event General Information	
Please answer all the questions in this group.	
What is the sampling surface area in square feet	498
What is the estimated number of samples that will be gathered	3
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	05/12/2025
Time sampling will commence	09:00 AM
Please provide any information necessary for observers to contact samplers	Oluwale Aderinto (505) 617-1363
Please provide any information necessary for navigation to sampling site	32.22239,-104.03194

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CONDITIONS

Action 458181

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 458181
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
j_touchet	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	5/2/2025

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QUESTIONS

Action 458182

QUESTIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 458182
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2509331052
Incident Name	NAPP2509331052 ZACH MCCORMICK 18 TB @ 0
Incident Type	Oil Release
Incident Status	Initial C-141 Approved

Location of Release Source	
Site Name	Zach McCormick 18 TB
Date Release Discovered	04/02/2025
Surface Owner	Private

Sampling Event General Information	
Please answer all the questions in this group.	
What is the sampling surface area in square feet	498
What is the estimated number of samples that will be gathered	3
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	05/13/2025
Time sampling will commence	09:00 AM
Please provide any information necessary for observers to contact samplers	Oluwale Aderinto (505) 617-1363
Please provide any information necessary for navigation to sampling site	32.22239,-104.03194

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1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 458182

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 458182
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
j_touchet	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	5/2/2025

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Oil Conservation Division
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Santa Fe, NM 87505

QUESTIONS

Action 460808

QUESTIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 460808
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2509331052
Incident Name	NAPP2509331052 ZACH MCCORMICK 18 TB @ 0
Incident Type	Oil Release
Incident Status	Initial C-141 Approved

Location of Release Source

Site Name	Zach McCormick 18 TB
Date Release Discovered	04/02/2025
Surface Owner	Private

Sampling Event General Information*Please answer all the questions in this group.*

What is the sampling surface area in square feet	498
What is the estimated number of samples that will be gathered	3
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	05/14/2024
Time sampling will commence	09:00 AM

Warning: Notification can not be less than two business days prior to conducting final sampling.

Please provide any information necessary for observers to contact samplers	Oluwale Aderinto (505) 617-1363
Please provide any information necessary for navigation to sampling site	32.22239,-104.03194

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Santa Fe, NM 87505

CONDITIONS

Action 460808

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 460808
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
j_touchet	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	5/12/2025

From: [Velez, Nelson, EMNRD](#)
To: [Ashley Giovengo](#)
Cc: [Jason Touchet](#); [Chad Hamilton](#); [Enviro, OCD, EMNRD](#)
Subject: Re: [EXTERNAL] FW: Sampling Notice - Zach McCormick 18 TB - nAPP2509331052
Date: Thursday, August 14, 2025 3:12:55 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[Outlook-fdl2vakh.png](#)

[**EXTERNAL EMAIL**]

Hi Ashley,

Thanks for the correspondence. I did speak with Jason yesterday regarding the typo. It was an honest mistake and one which communication solved. OCD accepts the error and allow Matador to utilize the lab report(s) from the sampling notification for the May 14, 2025 event.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

The OCD requires a copy of all correspondence related to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

Regards,

Nelson Velez • Environmental Specialist - Adv
Environmental Bureau | EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87410
(505) 469-6146 | nelson.velez@emnrd.nm.gov
<http://www.emnrd.nm.gov/oed>



From: Ashley Giovengo <agiovengo@ensolum.com>
Sent: Thursday, August 14, 2025 2:10 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Enviro, OCD, EMNRD
<OCD.Enviro@emnrd.nm.gov>

Cc: Jason Touchet <jason.touchet@matadorresources.com>; Chad Hamilton <chamilton@ensolum.com>

Subject: [EXTERNAL] FW: Sampling Notice - Zach McCormick 18 TB - nAPP2509331052

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

Good afternoon, Nelson,

Please see the forwarded correspondence below.

Thanks,



Ashley Giovengo

Associate Principal

575-988-0055

Ensolum, LLC

in f X

“Your authenticity is your superpower.” – Unknown

From: Chad Hamilton <chamilton@ensolum.com>

Sent: Monday, August 11, 2025 3:17 PM

To: Velez, Nelson, EMNRD <nelson.velez@emnrd.nm.gov>

Cc: Jason Touchet <jason.touchet@matadorresources.com>; Ashley Giovengo <agiovengo@ensolum.com>

Subject: Sampling Notice - Zach McCormick 18 TB - nAPP2509331052

Good afternoon, Nelson,


During the remediation of Incident Number nAPP2509331052 excavation activities at the Zach McCormick 18 TB (Site) took longer than expected. An additional day of sampling was needed to complete sampling activities at the Site. Jason Touchet of Matador Production Company submitted an additional 48-hour sampling notification via the New Mexico Oil Conservation Division (NMOCD) Portal on May 12, 2025. Unfortunately, when this notification was submitted the wrong year was entered for the date, mistakenly requested as May 14, 2024, instead of the correct date of May 14, 2025. Due to this mistake the NMOCD Portal does not match the date of the final sampling activities at the Site. Please, excuse the mistake if you have any questions let me know.

Thanks,

Chad Hamilton

Project Geologist



940-923-0072
Ensolum, LLC
in f 

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State of New Mexico

Energy, Minerals and Natural Resources

Oil Conservation Division

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Santa Fe, NM 87505

QUESTIONS

Action 496574

QUESTIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 496574
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2509331052
Incident Name	NAPP2509331052 ZACH MCCORMICK 18 TB @ L-18-24S-29E
Incident Type	Oil Release
Incident Status	Deferral Request Received

Location of Release Source	
Please answer all the questions in this group.	
Site Name	ZACH MCCORMICK 18 TB
Date Release Discovered	04/02/2025
Surface Owner	Private

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Equipment Failure Tank (Any) Crude Oil Released: 17 BBL Recovered: 17 BBL Lost: 0 BBL.
Produced Water Released (bbls) Details	Not answered.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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

QUESTIONS, Page 2

Action 496574

QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 496574
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

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

Initial Response

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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

I hereby agree and sign off to the above statement	Name: Jason Touchet Title: EHS Field Rep Email: jason.touchet@matadorresources.com Date: 08/18/2025
----------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------

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QUESTIONS, Page 3

Action 496574

QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 496574
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Site Characterization	
<i>Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 100 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between ½ and 1 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1000 (ft.) and ½ (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between 1 and 100 (ft.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Between 500 and 1000 (ft.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 500 and 1000 (ft.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	1840
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	42280
GRO+DRO (EPA SW-846 Method 8015M)	32590
BTEX (EPA SW-846 Method 8021B or 8260B)	131
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	05/12/2025
On what date will (or did) the final sampling or liner inspection occur	04/18/2025
On what date will (or was) the remediation complete(d)	05/14/2025
What is the estimated surface area (in square feet) that will be reclaimed	465
What is the estimated volume (in cubic yards) that will be reclaimed	60
What is the estimated surface area (in square feet) that will be remediated	465
What is the estimated volume (in cubic yards) that will be remediated	60
<i>These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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Energy, Minerals and Natural Resources
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1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS, Page 4

Action 496574

QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 496574
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	<i>Not answered.</i>
OR which OCD approved well (API) will be used for off-site disposal	<i>Not answered.</i>
OR is the off-site disposal site, to be used, out-of-state	<i>Not answered.</i>
OR is the off-site disposal site, to be used, an NMED facility	Yes
What is the name of the NMED facility	R360
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	<i>Not answered.</i>
(In Situ) Soil Vapor Extraction	<i>Not answered.</i>
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	<i>Not answered.</i>
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	<i>Not answered.</i>
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	<i>Not answered.</i>
Ground Water Abatement pursuant to 19.15.30 NMAC	<i>Not answered.</i>
OTHER (Non-listed remedial process)	<i>Not answered.</i>
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Jason Touchet Title: EHS Field Rep Email: jason.touchet@matadorresources.com Date: 08/18/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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

QUESTIONS, Page 5

Action 496574

QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 496574
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Deferral Requests Only	
<i>Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Is the remaining contamination in areas immediately under or around production equipment where remediation could cause a major facility deconstruction	Yes
Please list or describe the production equipment and how (re)moving the equipment would cause major facility deconstruction	Remaining impacts are directly beneath a lined containment area.
What is the remaining surface area (in square feet) that will still need to be remediated if a deferral is granted	1373
What is the remaining volume (in cubic yards) that will still need to be remediated if a deferral is granted	207
<i>Per Paragraph (2) of Subsection C of 19.15.29.12 NMAC if contamination is located in areas immediately under or around production equipment such as production tanks, wellheads and pipelines where remediation could cause a major facility deconstruction, the remediation, restoration and reclamation may be deferred with division written approval until the equipment is removed during other operations, or when the well or facility is plugged or abandoned, whichever comes first.</i>	
Enter the facility ID (f#) on which this deferral should be granted	Not answered.
Enter the well API (30-) on which this deferral should be granted	30-015-43654 ZACH MCCORMICK FEDERAL COM 18 24S 29E #001
Contamination does not cause an imminent risk to human health, the environment, or groundwater	True
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Jason Touchet Title: EHS Field Rep Email: jason.touchet@matadorresources.com Date: 08/18/2025

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

General Information
Phone: (505) 629-6116

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

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
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QUESTIONS, Page 6

Action 496574

QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 496574
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	458182
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	05/13/2025
What was the (estimated) number of samples that were to be gathered	3
What was the sampling surface area in square feet	498

Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	No
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CONDITIONS

Action 496574

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 496574
	Action Type: [C-141] Deferral Request C-141 (C-141-v-Deferral)

CONDITIONS

Created By	Condition	Condition Date
nvez	Deferral is approved. Remediation Due date will be left open until the site has been plugged and abandoned or a major facility deconstruction takes place.	9/5/2025