

Spill Calculation - On-Pad Surface Pool Spill

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Average Depth (in.)	Estimated <u>Pool</u> Area (sq. ft.)	Estimated volume of each pool area (bbl.)	Penetration allowance (ft.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture (%)	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	72	60	0.5	4320.00	32.04	0.00	32.11	10%	3.21	28.90
Rectangle B				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle C				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle D				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle E				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle F				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle G				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle H				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle I				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle J				0.00	0.00	0.00	0.00		0.00	0.00
Total Volume Release, Soil not impacted:							30.5014		3.0501	27.4513



August 18, 2025

**New Mexico Oil Conservation Division**

New Mexico Energy, Minerals, and Natural Resources Department  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Re: Closure Request**  
**Cave Lion 5 Federal 15 TB**  
**Incident Number nAPP2518342431**  
**Lea County, New Mexico**

To Whom It May Concern:

Marathon Oil Permian, LLC, (MRO), has prepared this *Closure Request* to document the findings of a liner integrity inspection conducted at the Cave Lion 5 Federal 15 TB (Site) following the release of an oil/water mixture within a lined containment. Based on the liner integrity inspection activities, MRO is submitting this Closure Request, describing assessment activities that have occurred and requesting no further action and closure for Incident Number nAPP2518342431.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The site is located in Unit M, Section 05, Township 26 South, Range 35 East, in Lea County, New Mexico (32.06539444, -103.39738056) and is associated with oil and gas exploration and production operations on state land managed by the Bureau of Land Management (BLM).

On June 22, 2025, field personnel discovered that the free water knockout (FWKO) had developed a pin hole causing a release of thirty point five zero one four (30.5014) barrels of an oil/produced water mixture to be released into a lined containment. A vacuum truck was dispatched to the site to recover free-standing fluids and approximately thirty (30) barrels of fluid were recovered. The FWKO was isolated to prevent fluid being further released. MRO reported the release to the New Mexico Oil Conservation Division (NMOCD) and Bureau of Land Management (BLM) on a *Release Notification Form C-141* (Form C-141) on July 2, 2025. The release was assigned Incident Number nAPP2518342431.

## **SITE CHARACTERIZATION AND CLOSURE CRITERIA**

The site is located within a low karst area. Based on a review of the New Mexico Office of State Engineers databases, there is one known water source within a 0.50-mile radius of the location. The closest well is located approximately 0.28 miles Northeast of the Site in Unit Letter N, S05, T26S, R35E and was drilled in 2022. The well has a reported depth to groundwater of 101' feet below ground surface. Per the NMOCD regulatory criteria established in 19.15.29.12 NMAC, the following criteria were utilized in assessing the site.

- Benzene: 10 milligrams per kilogram (mg/kg).
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg.
- TPH: 2,500 mg/kg (GRO + DRO + MRO).
- Chloride: 20,000 mg/kg.

## **LINER INTEGRITY INSPECTION ACTIVITIES**

A 48-hour advance notice of the liner inspection was submitted to the NMOCD on 7/21/2025. Prior to conducting the liner integrity inspection, MRO operations power washed the liner to remove dirt and debris and recover any residual produced water. A liner integrity inspection was conducted by Jacob Laird on 7/23/2025. Upon inspection, no rips, tears, holes, or damage was observed. The liner was determined to be sufficient, and all released fluids have been removed. Refer to photolog for details.

## **CLOSURE REQUEST**

Based on the liner inspection throughout the facility, the liner was determined to be sufficient. The release was contained laterally by the lined containment and the liner was performing as designed. No further actions are required at the site. MRO, LLC respectfully requests that the New Mexico Oil Conservation Division and the Bureau of Land Management grant closure approval for Incident Number nAPP2518342431.

Should you have any questions or concerns please do not hesitate to contact me.

Sincerely,

*Jacob Laird*

Jacob Laird  
Environmental Engineer  
jacob.laird@conocophillips.com

Appendices:

Figures- Site Map Overview, Topography Map, Secondary Containment Map

Appendix A: NMOCD Correspondence

Appendix B: Photolog

Appendix C: Site Characterization and Ground Water

Figures: Site Maps



**Overview Map**  
Marathon Oil Permian, LLC  
Cave Lion 5 Federal 15 TB  
Lea County, NM  
32.06539444, -103.39738056

**Legend**  
Site Location

## Overview Map

Marathon Oil Permian, LLC  
Cave Lion 5 Federal 15 TB  
Lea County, New Mexico  
32.06539444, -103.39738056





## Topographical Map

Marathon Oil Permian, LLC  
Cave Lion 5 Federal 15 TB  
Lea County, New Mexico  
32.06539444, -103.39738056



## Secondary Containment Map

Marathon Oil Permian, LLC  
Cave Lion 5 Federal 15 TB  
Lea County, New Mexico  
32.06539444, -103.39738056



Appendix A: NMOCD Correspondence

## Spill Calculation - On-Pad Surface Pool Spill

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Rectangle F				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle G				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle H				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle I				0.00	0.00	0.00	0.00		0.00	0.00
Rectangle J				0.00	0.00	0.00	0.00		0.00	0.00
Total Volume Release, Soil not impacted:							30.5014		3.0501	27.4513

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 485036

QUESTIONS

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 485036
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2518342431
Incident Name	NAPP2518342431 CAVE LION 5 TB FEDERAL 001H @ 0
Incident Type	Release Other
Incident Status	Initial C-141 Received
Incident Facility	[fAPP2125250182] CAVE LION 5 FED 15 TB

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Cave Lion 5 TB Federal 001H
Date Release Discovered	06/22/2025
Surface Owner	Federal

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

Nature and Volume of Release	
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: Normal Operations   Separator   Crude Oil   Released: 3 BBL   Recovered: 3 BBL   Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Normal Operations   Separator   Produced Water   Released: 27 BBL   Recovered: 27 BBL   Lost: 0 BBL.
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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QUESTIONS, Page 2

Action 485036

**QUESTIONS (continued)**

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 485036
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**QUESTIONS**

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

**Initial Response**

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

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

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

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

I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 07/15/2025
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**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
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**Santa Fe, NM 87505**

QUESTIONS, Page 3

Action 485036

**QUESTIONS (continued)**

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 485036
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**QUESTIONS**

<b>Site Characterization</b>	
<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)	Not answered.
What method was used to determine the depth to ground water	Not answered.
Did this release impact groundwater or surface water	Not answered.
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Not answered.
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Not answered.
An occupied permanent residence, school, hospital, institution, or church	Not answered.
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Not answered.
Any other fresh water well or spring	Not answered.
Incorporated municipal boundaries or a defined municipal fresh water well field	Not answered.
A wetland	Not answered.
A subsurface mine	Not answered.
An (non-karst) unstable area	Not answered.
Categorize the risk of this well / site being in a karst geology	Not answered.
A 100-year floodplain	Not answered.
Did the release impact areas not on an exploration, development, production, or storage site	Not answered.

<b>Remediation Plan</b>	
<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	No
<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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CONDITIONS

Action 485036

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 485036
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	None	7/16/2025

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Phone: (505) 476-3441

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

QUESTIONS

Action 495348

**QUESTIONS**

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 495348
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

**QUESTIONS**

Prerequisites	
Incident ID (n#)	nAPP2518342431
Incident Name	NAPP2518342431 CAVE LION 5 TB FEDERAL 001H @ 0
Incident Type	Release Other
Incident Status	Initial C-141 Approved
Incident Facility	[fAPP2125250182] CAVE LION 5 FED 15 TB

Location of Release Source	
Site Name	CAVE LION 5 TB FEDERAL 001H
Date Release Discovered	06/22/2025
Surface Owner	Federal

Liner Inspection Event Information	
<i>Please answer all the questions in this group.</i>	
What is the liner inspection surface area in square feet	4,408
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	08/18/2025
Time liner inspection will commence	10:00 AM
Please provide any information necessary for observers to liner inspection	jacob.laird@conocophillips.com
Please provide any information necessary for navigation to liner inspection site	32.06539444, -103.39738056

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CONDITIONS

Action 495348

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 495348
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

CONDITIONS

Created By	Condition	Condition Date
jlaire	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.	8/12/2025

## Appendix B: Photolog





**Facility:** Cave Lion 5 Federal 15 TB

**County:** Lea County, New Mexico

**Description:** View facing West/Southwest. Lined area near release point. (Fluid in containment is rainwater from the previous night)



**Facility:** Cave Lion 5 Federal 15 TB

**County:** Lea County, New Mexico

**Description:** View facing East. Lined area near release point. (Fluid in containment is rainwater from the previous night)



**Facility:** Cave Lion 5 Federal 15 TB

**County:** Lea County, New Mexico

**Description:** View facing South Lined area to the West of production equipment. (Fluid in containment is rainwater from the previous night)





**Facility:** Cave Lion 5 Federal 15 TB

**County:** Lea County, New Mexico

**Description:** View facing East. Lined area between production equipment. (Fluid in containment is rainwater from the previous night)

Date & Time: Mon, Aug 18, 2025 at 10:06:20 MDT  
Position: +032.065455° N -103.397402° W 13.21ft  
Altitude: 3274ft ±14.21ft  
Datum: WGS-84  
Azimuth/Bearing: 099° S81E 1750mils True ±0.11°  
Elevation Angle: -21.1°  
Horizon Angle: +00.2°  
Zoom: 0.5X  
Cave Lion 5 Federal 15 TB



**Facility:** Cave Lion 5 Federal 15 TB

**County:** Lea County, New Mexico

**Description:** View facing East. Lined area between production equipment. (Fluid in containment is rainwater from the previous night)

Date & Time: Mon, Aug 18, 2025 at 10:06:29 MDT  
Position: +032.065395° N -103.397409° W 13.11ft  
Altitude: 3274ft ±12.65ft  
Datum: WGS-84  
Azimuth/Bearing: 095° S87E 1658mils True ±0.11°  
Elevation Angle: -10.8°  
Horizon Angle: +00.11°  
Zoom: 0.5X  
Cave Lion 5 Federal 15 TB



**Facility:** Cave Lion 5 Federal 15 TB

**County:** Lea County, New Mexico

**Description:** View facing East. Lined area West of production equipment. (Fluid in containment is rainwater from the previous night)

Date & Time: Mon, Aug 18, 2025 at 10:06:47 MDT  
Position: +032.065440° N -103.397470° W 11.61ft  
Altitude: 3275ft ±10.31ft  
Datum: WGS-84  
Azimuth/Bearing: 111° S69E 1973mils True ±0.11°  
Elevation Angle: -13.3°  
Horizon Angle: -00.4°  
Zoom: 0.5X  
Cave Lion 5 Federal 15 TB





**Facility:** Cave Lion 5 Federal 15 TB

**County:** Lea County, New Mexico

**Description:** View facing East. Lined area West of production equipment. (Fluid in containment is rainwater from the previous night)

Date & Time: Mon, Aug 18, 2025 at 10:06:57 MDT  
 Position: +032.065382° / -103.397468° ±17.9ft  
 Altitude: 3270ft ±15.9ft  
 Datum: WGS-84  
 Azimuth Bearing: 101° 57' 9" E 1796mils True ±11.1°  
 Elevation Angle: -10.4°  
 Horizon Angle: -00.2°  
 Zoom: 0.5X  
 Cave Lion 5 Federal 15 TB



**Facility:** Cave Lion 5 Federal 15 TB

**County:** Lea County, New Mexico

**Description:** View facing South. Lined area near production equipment. (Fluid in containment is rainwater from the previous night)

Date & Time: Mon, Aug 18, 2025 at 10:08:15 MDT  
 Position: +032.065382° / -103.397468° ±15.6ft  
 Altitude: 3270ft ±17.3ft  
 Datum: WGS-84  
 Azimuth Bearing: 127° 50' 5" E 152mils True ±11.1°  
 Elevation Angle: -14.2°  
 Horizon Angle: -11.2°  
 Zoom: 0.5X  
 Cave Lion 5 Federal 15 TB



**Facility:** Cave Lion 5 Federal 15 TB

**County:** Lea County, New Mexico

**Description:** View facing West. Lined area near production equipment. (Fluid in containment is rainwater from the previous night)

Date & Time: Mon, Aug 18, 2025 at 10:12:07 MDT  
 Position: +032.065382° / -103.397442° ±9.7ft  
 Altitude: 3272ft ±9.8ft  
 Datum: WGS-84  
 Azimuth Bearing: 265° 58' 5" W 421mils True ±11.1°  
 Elevation Angle: -17.2°  
 Horizon Angle: -00.6°  
 Zoom: 0.5X  
 Cave Lion 5 Federal 15 TB



**Facility:** Cave Lion 5 Federal 15 TB

**County:** Lea County, New Mexico

**Description:** View facing East. Lined area near production equipment. (Fluid in containment is rainwater from the previous night)



## Appendix C: Site Characterization and Ground Water





## Neatest Water Well Map

Marathon Oil Permian, LLC  
Cave Lion 5 Federal 15 TB  
Lea County, New Mexico  
32.06539444, -103.39738056



# New Mexico Office of the State Engineer

## Wells With Well Log Information

(A  
CLW#####  
in the  
POD suffix  
indicates the (R=POD has  
POD has been been  
replaced & replaced,  
no longer O=orphaned,  
serves a water C=the file is  
right file.) closed)  
(quarters are  
1=NW 2=NE  
3=SW 4=SE)  
(quarters are  
smallest to largest)  
(NAD83 UTM in meters) (meters)  
(in feet)

POD Number	Code	Sub basin	County	Source	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Distance	Start Date	Finish Date	Log File Date	Borehole Depth	Depth Water First Encountered	Driller	License Number
C 04601	POD1	CUB	LE		SW	SE	SW	05	26S	35E	651709.8	3548919.7	447	2022-03-31	2022-03-31	2022-04-08			JACKIE ATKINS	1249

Record Count: 1

### Basin/County Search:

County: LE

### UTM Filters (in meters):

Easting: 651277.07

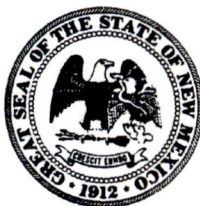
Northing: 3548807.53

Radius: 804

\* UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.





# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

OSE 011 APR 8 2022 PM 3:16

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (TW-1)		WELL TAG ID NO.		OSE FILE NO(S). C-4601			
	WELL OWNER NAME(S) Marathon Oil				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 4111 S Tidwell Rd.				CITY Carlsbad	STATE NM	ZIP 88220	
	WELL LOCATION (FROM GPS)	DEGREES 32	MINUTES 3	SECONDS 58	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
	LATITUDE	103	23	33	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SE SE Sw Sec. 05 T26S R35E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 3/31/2022	DRILLING ENDED 3/31/2022	DEPTH OF COMPLETED WELL (FT) temporary well		BORE HOLE DEPTH (FT) ±100.8	DEPTH WATER FIRST ENCOUNTERED (FT) n/a		
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a	DATE STATIC MEASURED 4/6/2022		
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger					CHECK HERE IF PITLESS ADAPTER IS INSTALLED <input type="checkbox"/>		
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	100.8	±6.5	Boring	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. <b>C-4601-POD 1</b>	POD NO. <b>1</b>	TRN NO. <b>721041</b>
LOCATION <b>26.35.05.343</b>	WELL TAG ID NO. <b>---</b>	PAGE 1 OF 2

	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
4. HYDROGEOLOGIC LOG OF WELL	0	4	4	Sand, medium/ fine grained poorly graded, Red	Y    ✓ N	
	4	19	15	Sand, medium/ fine grained poorly graded, Tan	Y    ✓ N	
	19	101	82	Sand, medium/ fine grained poorly graded, Reddish Brown	Y    ✓ N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
	METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER – SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm):            0.00

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
	<div style="text-align: right; color: blue; font-style: italic;">USE OIT APR 8 2022 PM 3:15</div>	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge, Carmelo Trevino, Cameron Pruitt		

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	
	<div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;">             SIGNATURE OF DRILLER / PRINT SIGNEE NAME         </div> <div style="text-align: center;">           Jackie D. Atkins            _____            DATE         </div> <div style="text-align: center;">           4/7/2022            _____         </div> </div>	

FOR USE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 01/28/2022)

FILE NO. <b>C-4601-POD 1</b>	POD NO. <b>1</b>	TRN NO. <b>721041</b>
LOCATION <b>26-35-05-343</b>	WELL TAG ID NO. <b>_____</b>	PAGE 2 OF 2



Mike A. Hamman, P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 721041  
File Nbr: C 04601  
Well File Nbr: C 04601 POD1

Apr. 08, 2022

MELODIE SANJARI  
MARATHON OIL  
4111 S TIDWELL RD  
CARLSBAD, NM 88220

Greetings:

The above numbered permit was issued in your name on 03/10/2022.

The Well Record was received in this office on 04/08/2022, stating that it had been completed on 03/31/2022, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 03/10/2023.

If you have any questions, please feel free to contact us.

Sincerely,

A handwritten signature in blue ink, appearing to read "Maret Amaral".

Maret Amaral  
(575) 622-6521

drywell





2904 W 2nd St.  
Roswell, NM 88201  
voice: 575.624.2420  
fax: 575.624.2421  
www.atkinseng.com

08/016/2021

DII-NMOSE  
1900 W 2<sup>nd</sup> Street  
Roswell, NM 88201

*Hand Delivered to the DII Office of the State Engineer*

Re: Well Record C-4601 Pod1

To whom it may concern:

Attached please find a well log & record and a plugging record, in duplicate, for a one (1) soil borings, C-4601 Pod1.

If you have any questions, please contact me at 575.499.9244 or [lucas@atkinseng.com](mailto:lucas@atkinseng.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Lucas Middleton".

Lucas Middleton

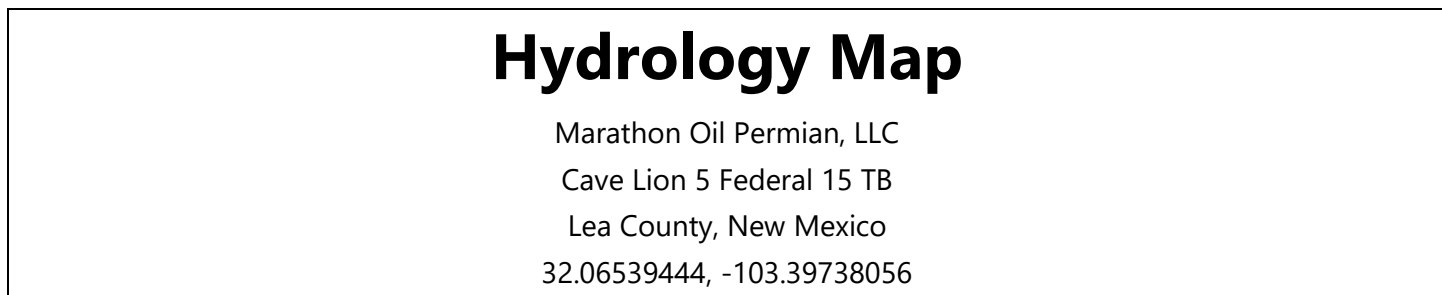
Enclosures: as noted above

OSE DII APR 8 2022 PM3:15



## Karst Map

Marathon Oil Permian, LLC  
Cave Lion 5 Federal 15 TB  
Lea County, New Mexico  
32.06539444, -103.39738056



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

QUESTIONS

Action 505585

**QUESTIONS**

Operator: MARATHON OIL PERMAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 505585
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Prerequisites	
Incident ID (n#)	nAPP2518342431
Incident Name	NAPP2518342431 CAVE LION 5 TB FEDERAL 001H @ FAPP2125250182
Incident Type	Release Other
Incident Status	Remediation Closure Report Received
Incident Facility	[fAPP2125250182] CAVE LION 5 FED 15 TB

**Location of Release Source**

Please answer all the questions in this group.

Site Name	CAVE LION 5 TB FEDERAL 001H
Date Release Discovered	06/22/2025
Surface Owner	Federal

**Incident Details**

Please answer all the questions in this group.

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

**Nature and Volume of Release**

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: Normal Operations   Separator   Crude Oil   Released: 3 BBL   Recovered: 3 BBL   Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Normal Operations   Separator   Produced Water   Released: 27 BBL   Recovered: 27 BBL   Lost: 0 BBL.
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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QUESTIONS, Page 2

Action 505585

**QUESTIONS (continued)**

Operator: MARATHON OIL PERMAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 505585
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

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

**Initial Response**

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

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

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

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

I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 09/12/2025
--	---

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QUESTIONS, Page 3

Action 505585

**QUESTIONS (continued)**

Operator: MARATHON OIL PERMAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 505585
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Site Characterization</b>	
<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 100 and 500 (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
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between ½ and 1 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

<b>Remediation Plan</b>	
<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	Yes
<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	08/18/2025
On what date will (or did) the final sampling or liner inspection occur	08/18/2025
On what date will (or was) the remediation complete(d)	08/18/2025
What is the estimated surface area (in square feet) that will be remediated	4408
What is the estimated volume (in cubic yards) that will be remediated	0
<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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QUESTIONS, Page 4

Action 505585

**QUESTIONS (continued)**

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 505585
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<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>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
(Select all answers below that apply.)	
Is (or was) there affected material present needing to be removed	Yes
Is (or was) there a power wash of the lined containment area (to be) performed	Yes
OTHER (Non-listed remedial process)	Not answered.
<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: Brittany Esparza Title: Environmental Technician Email: <a href="mailto:brittany.Esparza@ConocoPhillips.com">brittany.Esparza@ConocoPhillips.com</a> Date: 09/12/2025
<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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QUESTIONS, Page 6

Action 505585

**QUESTIONS (continued)**

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 505585
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Liner Inspection Information</b>	
Last liner inspection notification (C-141L) recorded	<b>495348</b>
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	<b>08/18/2025</b>
Was all the impacted materials removed from the liner	<b>Yes</b>
What was the liner inspection surface area in square feet	<b>4408</b>

**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	<b>Yes</b>
Have the lateral and vertical extents of contamination been fully delineated	<b>Yes</b>
Was this release entirely contained within a lined containment area	<b>Yes</b>
What was the total surface area (in square feet) remediated	<b>4408</b>
What was the total volume (cubic yards) remediated	<b>0</b>
Summarize any additional remediation activities not included by answers (above)	Liner integrity inspection activities were conducted following a release of oil/water mixture within a lined containment at the Site. Upon inspection, no rips, tears, holes, or damage was observed, and the liner was determined to be sufficient. The release was contained laterally by the lined containment and the liner was performing as designed.

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

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

I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: <a href="mailto:brittany.Esparza@ConocoPhillips.com">brittany.Esparza@ConocoPhillips.com</a> Date: 09/12/2025
--	--

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CONDITIONS

Action 505585

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 372098
	Action Number: 505585
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Liner inspection and closure is approved for App ID: 505585	9/22/2025