

MRO Spill Calculation Tool

Standing Liquid Inputs:

	Length (ft.)	Width (ft.) (Area for Displacement)	Avg. Liquid Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Rectangle Area #1	148	60	5		659.00	659.00	0.00
Rectangle Area #2					0.00	0.00	0.00
Rectangle Area #3					0.00	0.00	0.00
Rectangle Area #4					0.00	0.00	0.00
Rectangle Area #5					0.00	0.00	0.00
Rectangle Area #6					0.00	0.00	0.00
Vessel Displacement		1880	5		139.52	139.52	0.00
Vessel Displacement					0.00	0.00	0.00
Vac truck recovery:					0.00	519.48	0.00

Saturated Soil Inputs:

	Length (ft.)	Width (ft.) / (SQ Ft)	Soil Type: Gravel Loam Avg. Saturated Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Rectangle Area #1					0.00	0.00	0.00
Rectangle Area #2					0.00	0.00	0.00
Rectangle Area #3					0.00	0.00	0.00
Rectangle Area #4					0.00	0.00	0.00
Rectangle Area #5					0.00	0.00	0.00
Rectangle Area #6					0.00	0.00	0.00
SQ FT Calc					0.00	0.00	0.00
Rectangle Area #8					0.00	0.00	0.00
Saturated Volume					0.00	0.00	0.00

	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Total Spill Volume (bbls):	0.00	519.48	0.00
Total Spill Volume (gals):	0.00	21818.18	0.00

Comments:

Color Key:

Required Input
CellsSupplemental
Input CellsNo Input
(Calculations)

No Input

Ground/Vegetation Overspray

Cover Type	Microns	Approximate Depth (in)
Ground		
Dull Color	10	0.00003281
Dark Color	50	0.00016404

Measure Spill Dimensions

- Divide the spill into many rectangles, as needed
- Measure the boundaries of the each rectangle to include the bulk of the spill
- Measure the depth of oil seepage by slowly stripping the top soil until you reach uncontaminated soil and measure the depth of any standing liquid
 - Note: Depth of seepage may vary depending on soil porosity and concentration of oil – may need to measure depth in multiple locations

20 ft. 25 ft. 10 ft. 15 ft. 5 ft. 15 ft.

0.25 in. above surface 0.75 in. 0.25 in. 0.5 in.

Standing Liquid
10 ft. x 10 ft. x 0.25 in.

Marathon Oil

6

1/8"	0.125
1/4"	0.25
1/2"	0.5
3/4"	0.75

Number of Tanks	Area of Displacement (Ft2)
10	1880

Clay Loam	0.16
Gravel or Sand	0.08
Gravel Loam	0.14
Sandy Clay Loam	0.14

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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 371073

QUESTIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 371073
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2421238188
Incident Name	NAPP2421238188 CASS 16 STATE 234 TB @ 0
Incident Type	Produced Water Release
Incident Status	Initial C-141 Received
Incident Facility	[fAPP2125249869] CASS 16 STATE 234 TB

Location of Release Source	
Please answer all the questions in this group.	
Site Name	CASS 16 STATE 234 TB
Date Release Discovered	07/30/2024
Surface Owner	State

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure Pump Produced Water Released: 519 BBL Recovered: 519 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)	The water transfer pump seal failed resulting in a release of produced water into lined secondary containment. All standing fluids were recovered with vacuum trucks. Final spill volumes estimated to be 519 bbl.

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QUESTIONS, Page 2

Action 371073

QUESTIONS (continued)

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QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Cody Swanson Steege Title: Compliance Supervisor Email: swansonste@marathonoil.com Date: 08/07/2024
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QUESTIONS, Page 3

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QUESTIONS (continued)

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QUESTIONS**Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	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.
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	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.

Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	No
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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CONDITIONS

Action 371073

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CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	None	8/7/2024