

\*\*\*\*\* LIQUID SPILLS - VOLUME CALCULATIONS \*\*\*\*\*

Location of Spill: Emerald Federal Battery Date of Spill: 5/7/2024

If the leak/spill is associated with production equipment, i.e. - wellhead, stuffing box, flowline, tank battery, production vessel, transfer pump, or storage tank place an "X" here: ☒

Input Data:

If spill volumes from measurement, i.e. metering, tank volumes, etc.are known enter the volumes here: OIL: 7.0000 BBL WATER: 38.0000 BBL

If "known" spill volumes are given, input data for the following "Area Calculations" is optional. The above will override the calculated volumes.

| Total Area Calculations |          |             |                |         | Standing Liquid Calculations |         |           |              |         |
|-------------------------|----------|-------------|----------------|---------|------------------------------|---------|-----------|--------------|---------|
| Total Surface Area      | width    | length      | wet soil depth | oil (%) | Standing Liquid Area         | width   | length    | liquid depth | oil (%) |
| Rectangle Area #1       | 45.00 ft | X 130.00 ft | X 4.00 in      | 15.55%  | Rectangle Area #1            | 0.00 ft | X 0.00 ft | X 0.00 in    | 0.00%   |
| Rectangle Area #2       | 35.00 #  | X 100.00 ft | X 4.00 in      | 15.55%  | Rectangle Area #2            | 0.00 ft | X 0.00 ft | X 0.00 in    | 0.00%   |
| Overspray Area          | 0.00 ft  | X 0.00 ft   | X 0.00 in      | 0.00%   | Rectangle Area #3            | 0.00 ft | X 0.00 ft | X 0.00 in    | 0.00%   |
| Rectangle Area #4       | 0.00 ft  | X 0.00 ft   | X 0.00 in      | 0.00%   | Rectangle Area #4            | 0.00 ft | X 0.00 ft | X 0.00 in    | 0.00%   |
| Rectangle Area #5       | 0.00 ft  | X 0.00 ft   | X 4.00 in      | 0.00%   | Rectangle Area #5            | 0.00 ft | X 0.00 ft | X 0.00 in    | 0.00%   |
| Rectangle Area #6       | 0.00 ft  | X 0.00 ft   | X 0.00 in      | 0.00%   | Rectangle Area #6            | 0.00 ft | X 0.00 ft | X 0.00 in    | 0.00%   |
| Rectangle Area #7       | 0.00 ft  | X 0.00 ft   | X 0.00 in      | 0.00%   | Rectangle Area #7            | 0.00 ft | X 0.00 ft | X 0.00 in    | 0.00%   |
| Rectangle Area #8       | 0.00 ft  | X 0.00 ft   | X 0.00 in      | 0.00%   | Rectangle Area #8            | 0.00 ft | X 0.00 ft | X 0.00 in    | 0.00%   |

production system leak - DAILY PRODUCTION DATA REQUIRED

Average Daily Production: Oil BBL Water BBL

Did leak occur before the separator?: ☒ YES ☐ N/A (place an "X")

Amount of Free Liquid Recovered: 30 BBL okay

Percentage of Oil in Free Liquid Recovered: 15.55% (percentage)

Liquid holding factor \*: 0.08 gal per gal

Use the following when the spill wets the grains of the soil.  
\* sand = .08 gallon liquid per gallon volume of soil.  
\* gravelly (caliche) loam = .14 gallon liquid per gallon volume of soil.  
\* sandy clay loam soil = .14 gallon liquid per gallon volume of soil.  
\* clay loam = .16 gallon liquid per gallon volume of soil.

Use the following when the liquid completely fills the pore space of the soil:  
Occurs when the spill soaked soil is contained by barriers, natural (or not).  
\* gravelly (caliche) loam = .25 gallon liquid per gallon volume of soil.  
\* sandy loam = .5 gallon liquid per gallon volume of soil.

| Saturated Soil Volume Calculations: |                   |                   | Free Liquid Volume Calculations:         |                 |              |
|-------------------------------------|-------------------|-------------------|------------------------------------------|-----------------|--------------|
| Total Solid/Liquid Volume:          | H2O 9,350 sq. ft. | OIL 2,632 cu. ft. | Total Free Liquid Volume:                | H2O 485 cu. ft. | OIL cu. ft.  |
| <b>Estimated Volumes Spilled</b>    |                   |                   | <b>Estimated Production Volumes Lost</b> |                 |              |
| Liquid in Soil:                     | H2O 37.5 BBL      | OIL 6.9 BBL       | Estimated Production Spilled:            | H2O 38.0 BBL    | OIL 7.0 BBL  |
| Free Liquid:                        | 0.0 BBL           | 0.0 BBL           | <b>Estimated Surface Damage</b>          |                 |              |
| Totals:                             | 37.5 BBL          | 6.9 BBL           | Surface Area:                            | 9,350 sq. ft.   |              |
| Total Spill Liquid:                 | 38.0 BBL          | 7.0 BBL           | Surface Area:                            | .2146 acre      |              |
| <b>Recovered Volumes</b>            |                   |                   | <b>Estimated Weights, and Volumes</b>    |                 |              |
| Estimated oil recovered:            | 4.7 BBL           | check - okay      | Saturated Soil =                         | 349,067 lbs     | 3,117 cu.ft. |
| Estimated water recovered:          | 25.3 BBL          | check - okay      | Total Liquid =                           | 45 BBL          | 1,890 gallon |
|                                     |                   |                   |                                          |                 | 115 cu.yds.  |
|                                     |                   |                   |                                          |                 | 15,725 lbs   |

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**District IV**  
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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 395806

QUESTIONS

|                                                                                        |                                                         |
|----------------------------------------------------------------------------------------|---------------------------------------------------------|
| Operator:<br>Maverick Permian LLC<br>1000 Main Street, Suite 2900<br>Houston, TX 77002 | OGRID:<br>331199                                        |
|                                                                                        | Action Number:<br>395806                                |
|                                                                                        | Action Type:<br>[C-141] Initial C-141 (C-141-v-Initial) |

QUESTIONS

|                   |                                                    |
|-------------------|----------------------------------------------------|
| Prerequisites     |                                                    |
| Incident ID (n#)  | nAPP2412958102                                     |
| Incident Name     | NAPP2412958102 EMERALD FEDERAL BATTERY RELEASE @ 0 |
| Incident Type     | Produced Water Release                             |
| Incident Status   | Initial C-141 Received                             |
| Incident Facility | [fAPP2212326602] EMERALD FEDERAL BATTERY           |

|                                                |                                 |
|------------------------------------------------|---------------------------------|
| Location of Release Source                     |                                 |
| Please answer all the questions in this group. |                                 |
| Site Name                                      | Emerald Federal Battery Release |
| Date Release Discovered                        | 05/08/2024                      |
| Surface Owner                                  | Federal                         |

|                                                                                                      |                        |
|------------------------------------------------------------------------------------------------------|------------------------|
| 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                                                                                                                                                    | Cause: Overflow - Tank, Pit, Etc.   Tank (Any)   Crude Oil   Released: 7 BBL   Recovered: 5 BBL   Lost: 2 BBL.         |
| Produced Water Released (bbls) Details                                                                                                                                               | Cause: Overflow - Tank, Pit, Etc.   Tank (Any)   Produced Water   Released: 38 BBL   Recovered: 25 BBL   Lost: 13 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 395806

**QUESTIONS (continued)**

|                                                                                        |                                                         |
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**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:<br>(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: Chuck Terhune<br>Title: Program Manager<br>Email: chuck.terhune@tetrattech.com<br>Date: 10/25/2024 |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------|

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QUESTIONS, Page 3

Action 395806

**QUESTIONS (continued)**

|                                                                                        |                                                         |
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**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 395806

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|                                                                                        |                                                         |
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CONDITIONS

| Created By | Condition | Condition Date |
|------------|-----------|----------------|
| scwells    | None      | 10/25/2024     |