

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

Location of Spill: MCA Battery 2

Date of Spill: 1/17/2024

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:            BBL      WATER:            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	5.00 ft X	30.00 ft X	6.00 in	100.00%	Rectangle Area #1	5.00 ft X	30.00 ft X	0.50 in	100.00%
Rectangle Area #2	20.00 ft X	15.00 ft X	6.00 in	100.00%	Rectangle Area #2	4.00 ft X	20.00 ft X	0.50 in	100.00%
Rectangle Area #3	3.00 ft X	200.00 ft X	6.00 in	100.00%	Rectangle Area #3	4.00 ft X	175.00 ft X	0.50 in	100.00%
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	0.00 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: 0 BBL

okay

Percentage of Oil in Free Liquid Recovered: 100.00% (percentage)

Liquid holding factor \*: 0.14 gal per gal

*Use the following when the spill wets the grains of the soil.*

*Use the following when the liquid completely fills the pore space of the soil.*

\* sand = .08 gallon liquid per gallon volume of soil.

Occurs when the spill soaked soil is contained by barriers, natural (or not).

\* gravelly (caliche) loam = .14 gallon liquid per gallon volume of soil.

\* gravelly (caliche) loam = .25 gallon liquid per gallon volume of soil.

\* sandy clay loam soil = .14 gallon liquid per gallon volume of soil.

\* sandy loam = .5 gallon liquid per gallon volume of soil.

\* clay loam = .16 gallon liquid per gallon volume of soil.

<b>Saturated Soil Volume Calculations:</b>			<b>Free Liquid Volume Calculations:</b>		
Total Solid/Liquid Volume:	<u>H2O</u> cu. ft.	<u>OIL</u> cu. ft.	Total Free Liquid Volume:	<u>H2O</u> cu. ft.	<u>OIL</u> cu. ft.
<b>1,050 sq. ft.</b>		<b>525 cu. ft.</b>	<b>930 sq. ft.</b>		<b>39 cu. ft.</b>
<b>Estimated Volumes Spilled</b>			<b>Estimated Production Volumes Lost</b>		
Liquid in Soil:	<u>H2O</u> 0.0 BBL	<u>OIL</u> 13.1 BBL	Estimated Production Spilled:	<u>H2O</u> 0.0 BBL	<u>OIL</u> 0.0 BBL
Free Liquid:	<u>H2O</u> 0.0 BBL	<u>OIL</u> 6.9 BBL			
Totals:	<u>H2O</u> 0.0 BBL	<u>OIL</u> 20.0 BBL	<b>Estimated Surface Damage</b>		
			Surface Area: <b>1,050 sq. ft.</b>		
Total Spill Liquid:	<b>0.0 BBL</b>	<b>20.0 BBL</b>	Surface Area: <b>.0241 acre</b>		
<b>Recovered Volumes</b>			<b>Estimated Weights, and Volumes</b>		
Estimated oil recovered:	<b>0.0 BBL</b>	check - okay	Saturated Soil =	<b>58,800 lbs</b>	<b>525 cu.ft.</b>
Estimated water recovered:	<b>0.0 BBL</b>	check - okay	Total Liquid =	<b>20 BBL</b>	<b>840 gallon</b>
					<b>19 cu.yds.</b>
					<b>6,986 lbs</b>