

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

Location of spill: Treasure Island Federal #001H

Date of Spill: 13-May-2019

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: 0.0 BBL WATER: 0.0 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<br>depth | oil (%)                      | Standing Liquid Area |   | width |   | length  |    | liquid depth | oil (%) |
| Rectangle Area #1       | 30 ft | X     | 65 ft | X      | 0.50 in | 100%              | Rectangle Area #1            | 0 ft                 | X | 0 ft  | X | 0.00 in | 0% |              |         |
| Rectangle Area #2       | 0 ft  | X     | 0 ft  | X      | 0.00 in | 0%                | Rectangle Area #2            | 0 ft                 | X | 0 ft  | X | 0 in    | 0% |              |         |
| Rectangle Area #3       | 0 ft  | X     | 0 ft  | X      | 0.0 in  | 0%                | Rectangle Area #3            | 0 ft                 | X | 0 ft  | X | 0 in    | 0% |              |         |
| Rectangle Area #4       | 0 ft  | X     | 0 ft  | X      | 0.0 in  | 0%                | Rectangle Area #4            | 0 ft                 | X | 0 ft  | X | 0 in    | 0% |              |         |
| Rectangle Area #5       | 0 ft  | X     | 0 ft  | X      | 0.0 in  | 0%                | Rectangle Area #5            | 0 ft                 | X | 0 ft  | X | 0 in    | 0% |              |         |
| Rectangle Area #6       | 0 ft  | X     | 0 ft  | X      | 0 in    | 0%                | Rectangle Area #6            | 0 ft                 | X | 0 ft  | X | 0 in    | 0% |              |         |
| Rectangle Area #7       | 0 ft  | X     | 0 ft  | X      | 0 in    | 0%                | Rectangle Area #7            | 0 ft                 | X | 0 ft  | X | 0 in    | 0% |              |         |
| Rectangle Area #8       | 0 ft  | X     | 0 ft  | X      | 0 in    | 0%                | Rectangle Area #8            | 0 ft                 | X | 0 ft  | X | 0 in    | 0% |              |         |

**0.1**

**production system leak - DAILY PRODUCTION DATA REQUIRED**

Average Daily Production: Oil 0 BBL Water 0 BBL 0 Gas (MCFD)

Total Hydrocarbon Content in gas: 0% (percentage)

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

H2S Content in Produced Gas: 0 PPM

H2S Content in Tank Vapors: 0 PPM

Amount of Free Liquid Recovered: 0.0 BBL okay

Percentage of Oil in Free Liquid Recovered: 0% (percentage)

Liquid holding factor \*: 0.14 gal per gal

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

\* Sand = 0.08 gallon (gal.) liquid per gal. volume of soil.  
\* Gravelly (caliche) loam = 0.14 gal. liquid per gal. volume of soil.  
\* Sandy clay loam soil = 0.14 gal liquid per gal. volume of soil.  
\* Clay loam = 0.16 gal. liquid per gal. 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).  
\* Clay loam = 0.20 gal. liquid per gal. volume of soil.  
\* Gravelly (caliche) loam = 0.25 gal. liquid per gal. volume of soil.  
\* Sandy loam = 0.5 gal. liquid per gal. volume of soil.

Total Solid/Liquid Volume: 1,950 sq. ft. cu. ft. 81 cu. ft. Total Free Liquid Volume: sq. ft. cu. ft. cu. ft.

**Estimated Volumes Spilled**

Liquid in Soil: 0.0 BBL 2.0 BBL  
Free Liquid: 0.0 BBL 0.0 BBL  
Totals: 0.0 BBL 2.0 BBL

Total Liquid Spill Liquid: 0.0 BBL 2.03 BBL

**Recovered Volumes**

Estimated oil recovered: BBL check - okay  
Estimated water recovered: BBL check - okay

**Estimated Production Volumes Lost**

Estimated Production Spilled: H2O 0.0 BBL OIL 0.0 BBL

**Estimated Surface Damage**

Surface Area: 1,950 sq. ft.  
Surface Area: .0448 acre

**Estimated Weights, and Volumes**

Saturated Soil = 9,100 lbs 81 cu. ft. 3 cu. yds.  
Total Liquid = 2 BBL 85 gallon 708 lbs

**Air Emission from flowline leaks:**

Volume of oil spill: - BBL  
Separator gas calculated: - MCF  
Separator gas released: - MCF  
Gas released from oil: - lb  
H2S released: - lb  
Total HC gas released: - lb  
Total HC gas released: - MCF

**Air Emission of Reporting Requirements:**

HC gas release reportable? NO New Mexico Texas  
H2S release reportable? NO NO NO