

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

Location of spill:

Prize 27 2 CTB

Date of Spill:

4/18/2019

Site Soil Type: Caliche (silt)

Average Daily Production:

BBL Oil

BBL Water

| Total Area Calculations |       |   |        |   |                |         |
|-------------------------|-------|---|--------|---|----------------|---------|
| Total Surface Area      | width |   | length |   | wet soil depth | oil (%) |
| Rectangle Area #1       | 55 ft | X | 33 ft  | X | 1 in           | 50%     |
| Rectangle Area #2       | 0 ft  | X | 0 ft   | X | 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 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 #7       | 0 ft  | X | 0 ft   | X | 0 in           | 0%      |
| Rectangle Area #8       | 0 ft  | X | 0 ft   | X | 0 in           | 0%      |

Porosity 0.16 gal per gal

**Saturated Soil Volume Calculations:**

|                            |                      | <u>H2O</u>        | <u>OIL</u>        |
|----------------------------|----------------------|-------------------|-------------------|
| Area #1                    | 1815 sq. ft.         | 38 cu. ft.        | 38 cu. ft.        |
| Area #2                    | 0 sq. ft.            | cu. ft.           | cu. ft.           |
| Area #3                    | 0 sq. ft.            | cu. ft.           | cu. ft.           |
| Area #4                    | 0 sq. ft.            | cu. ft.           | cu. ft.           |
| Area #5                    | 0 sq. ft.            | cu. ft.           | cu. ft.           |
| Area #6                    | 0 sq. ft.            | cu. ft.           | cu. ft.           |
| Area #7                    | 0 sq. ft.            | cu. ft.           | cu. ft.           |
| Area #8                    | 0 sq. ft.            | cu. ft.           | cu. ft.           |
| Total Solid/Liquid Volume: | <b>1,815 sq. ft.</b> | <b>38 cu. ft.</b> | <b>38 cu. ft.</b> |

**Estimated Volumes Spilled**

|                     | <u>H2O</u>  | <u>OIL</u> |
|---------------------|-------------|------------|
| Liquid in Soil:     | 1.1 BBL     | 1.1 BBL    |
| Liquid Recovered :  | 4.0 BBL     | 4.0 BBL    |
| Spill Liquid        | 5.1 BBL     | 5.1 BBL    |
| Total Spill Liquid: | <b>10.2</b> |            |

**Recovered Volumes**

Estimated oil recovered: **4.0 BBL**  
 Estimated water recovered: **4.0 BBL**

| Soil Type         | Porosity |
|-------------------|----------|
| Clay              | 0.15     |
| Peat              | 0.40     |
| Glacial Sediments | 0.13     |
| Sandy Clay        | 0.12     |
| Silt              | 0.16     |
| Loess             | 0.25     |
| Fine Sand         | 0.16     |
| Medium Sand       | 0.25     |
| Coarse Sand       | 0.26     |
| Gravelly Sand     | 0.26     |
| Fine Gravel       | 0.26     |
| Medium Gravel     | 0.25     |
| Coarse Gravel     | 0.18     |
| Sandstone         | 0.25     |
| Siltstone         | 0.18     |
| Shale             | 0.05     |
| Limestone         | 0.13     |
| Basalt            | 0.19     |
| Volcanic Tuff     | 0.20     |
| Standing Liquids  |          |