

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

Location of spill: Red Tank 30 31 34H

Date of Spill: 8/22/2019

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	75 ft	X	34 ft	X	1 in	60%
Rectangle Area #2	6 ft	X	35 ft	X	1 in	60%
Rectangle Area #3	12 ft	X	15 ft	X	1 in	60%
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	2550 sq. ft.	85 cu. ft.	128 cu. ft.	
Area #2	210 sq. ft.	7 cu. ft.	11 cu. ft.	
Area #3	180 sq. ft.	6 cu. ft.	9 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:	2,940 sq. ft.	98 cu. ft.	147 cu. ft.	

Estimated Volumes Spilled

	<u>H2O</u>	<u>OIL</u>	
Liquid in Soil:	2.8 BBL	4.2 BBL	
Liquid Recovered :	0.0 BBL	0.0 BBL	
Spill Liquid	2.8 BBL	4.2 BBL	
Total Spill Liquid:	7.0		

Recovered Volumes

Estimated oil recovered: **0.0 BBL**
 Estimated water recovered: **0.0 BBL**

<u>Soil Type</u>	<u>Porosity</u>
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	