

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

Location of spill: Lost Tank 3-25 SWD Facility

Date of Spill: 10/6/2019

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	50 ft	X	100 ft	X	1 in	100%
Rectangle Area #2	15 ft	X	270 ft	X	3 in	100%
Rectangle Area #3	5 ft	X	150 ft	X	3 in	100%
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	5000 sq. ft.	cu. ft.	417	cu. ft.
Area #2	4050 sq. ft.	cu. ft.	844	cu. ft.
Area #3	750 sq. ft.	cu. ft.	156	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:	9,800 sq. ft.	cu. ft.	1,417	cu. ft.

Estimated Volumes Spilled

	<u>H2O</u>	<u>OIL</u>	
Liquid in Soil:	0.0 BBL	40.4	BBL
Liquid Recovered :	0.0 BBL	10.0	BBL
Spill Liquid	0.0 BBL	50.4	BBL
Total Spill Liquid:		<u>50.4</u>	

Recovered Volumes

Estimated oil recovered: **10.0 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	

NRM1935055582