

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

Location of spill: Oxy Goodnight 26 Federal #1 Battery

Date of Spill: 12/5/2018

Site Soil Type: Caliche and lined area

Average Daily Production: NA BBL Oil NA BBL Water

Total Area Calculations

Total Surface Area	width		length		wet soil depth	oil (%)
Rectangle Area #1	50 ft	X	33 ft	X	1 in	100%
Rectangle Area #2	10 ft	X	10 ft	X	1 in	100%
Rectangle Area #3	25 ft	X	12 ft	X	1 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	1650 sq. ft.	cu. ft.	69	cu. ft.
Area #2	100 sq. ft.	cu. ft.	8	cu. ft.
Area #3	300 sq. ft.	cu. ft.	25	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:	2,050 sq. ft.	cu. ft.	102	cu. ft.

Estimated Volumes Spilled

	<u>H2O</u>	<u>OIL</u>	
Liquid in Soil:	0.0 BBL	2.9	BBL
Liquid Recovered :	<u>0.0 BBL</u>	<u>17.0</u>	<u>BBL</u>
Spill Liquid	0.0 BBL	19.9	BBL
Total Spill Liquid:		<u>19.9</u>	

Recovered Volumes

Estimated oil recovered: **17.0 BBL**
 Estimated water recovered: **0.0 BBL**

Soil Type	Porosity
Clay	0.15
Peat	0.40
Glacial Sedimer	0.13
Sandy Clay	0.12
Silt	0.16
Loess	0.25
Fine Sand	0.16
Medium Sand	0.25
Coarse Sand	0.26
Gravely 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	