

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

Location of spill: Canyon 23 Federal #001

Date of Spill: 12/30/2018

Site Soil Type: Fine Sand & Caliche

Average Daily Production: NA BBL Oil NA BBL Water

Total Area Calculations						
Total Surface Area	width		length		wet soil depth	oil (%)
Rectangle Area #1	3 ft	X	5,080 ft	X	5 in	50%
Rectangle Area #2	0 ft	X	0 ft	X	1 in	0%
Rectangle Area #3	0 ft	X	0 ft	X	1 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	12700 sq. ft.	2,646 cu. ft.	2,646 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:	12,700 sq. ft.	2,646 cu. ft.	2,646 cu. ft.

Estimated Volumes Spilled

	<u>H2O</u>	<u>OIL</u>
Liquid in Soil:	75.4 BBL	75.4 BBL
Liquid Recovered :	<u>0.0 BBL</u>	<u>0.0 BBL</u>
Spill Liquid	75.4 BBL	75.4 BBL
Total Spill Liquid:	150.8	

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
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	