

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

Location of spill: Cedar Canyon 15-1 SWD Disposal Facility

Date of Spill: 10/13/2019

Site Soil Type: Fine Sand

Average Daily Production: BBL Oil BBL Water

Total Area Calculations						
Total Surface Area	width		length		wet soil depth	oil (%)
Rectangle Area #1	45 ft	X	100 ft	X	1 in	0%
Rectangle Area #2	20 ft	X	200 ft	X	1 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	4500 sq. ft.	188 cu. ft.	cu. ft.
Area #2	4000 sq. ft.	167 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:	8,500 sq. ft.	354 cu. ft.	cu. ft.

Estimated Volumes Spilled

	<u>H2O</u>	<u>OIL</u>
Liquid in Soil:	10.1 BBL	0.0 BBL
Liquid Recovered :	0.0 BBL	0.0 BBL
Spill Liquid	10.1 BBL	0.0 BBL
Total Spill Liquid:	10.1	

Recovered Volumes

Estimated oil recovered: 0.0 BBL
 Estimated water recovered: 0.0 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	

NRM2000244253