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

Location of spill: COG Mas Federal Com 34 CTB **Date of Spill:** 8-Oct-2018

If the leak/spill is associated with production equipment, i.e. - wellhead, stuffing box, flowline, tank battery, production vessel, transfer pump, or storage tank **place an "X" here:** X

Input Data:

	OIL:	WATER:
If spill volumes from measurement, i.e. metering, tank volumes, etc. are known enter the volumes here:	0.0 BBL	0.0 BBL

If "known" spill volumes are given, input data for the following "Area Calculations" is optional. The above will override the calculated volumes.

Total Area Calculations

Total Surface Area	width		length		wet soil depth	oil (%)
Rectangle Area #1	20 ft	X	20 ft	X	0.10 in	0%
Rectangle Area #2	0 ft	X	0 ft	X	0 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%

Standing Liquid Calculations

Standing Liquid Area	width		length		liquid depth	oil (%)
Rectangle Area #1	55 ft	X	100 ft	X	3.50 in	0%
Rectangle Area #2	0 ft	X	0 ft	X	0 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%

production system leak - DAILY PRODUCTION DATA REQUIRED

Average Daily Production: Oil 0 BBL Water 0 BBL 0 Gas (MCFD)

Total Hydrocarbon Content in gas: 0% (percentage)

Did leak occur before the separator?: YES N/A *(place an "X")*

H2S Content in Produced Gas: 0 PPM

H2S Content in Tank Vapors: 0 PPM

Amount of Free Liquid Recovered: 280 BBL

Percentage of Oil in Free Liquid Recovered: 0% (percentage)

Liquid holding factor *: 0.14 gal per gal

Use the following when the spill wets the grains of the soil.
* Sand = **0.08** gallon (gal.) liquid per gal. volume of soil.
* Gravelly (caliche) loam = **0.14** gal. liquid per gal. volume of soil.
* Sandy clay loam soil = **0.14** gal liquid per gal. volume of soil.
* Clay loam = **0.16** gal. liquid per gal. volume of soil.

Use the following when the liquid completely fills the pore space of the soil:
Occurs when the spill soaked soil is contained by barriers, natural (or not).
* Clay loam = **0.20** gal. liquid per gal. volume of soil.
* Gravelly (caliche) loam = **0.25** gal. liquid per gal. volume of soil.
* Sandy loam = **0.5** gal. liquid per gal. volume of soil.

Total Solid/Liquid Volume: **400 sq. ft.** **3 cu. ft.** **cu. ft.**

Total Free Liquid Volume: **5,500 sq. ft.** **1,604 cu. ft.** **cu. ft.**

Estimated Volumes Spilled

	H2O	OIL
Liquid in Soil:	0.1 BBL	0.0 BBL
Free Liquid:	285.7 BBL	0.0 BBL
Totals:	**285.8 BBL**	**0.0 BBL**
Total Liquid Spill Liquid:	**285.8 BBL**	**0.0 BBL**

Estimated Production Volumes Lost

	H2O	OIL
Estimated Production Spilled:	**0.0** BBL	**0.0** BBL

Estimated Surface Damage

Surface Area: 5,500 sq. ft.

Surface Area: .1263 acre

Recovered Volumes

Estimated oil recovered: **BBL** check - okay

Estimated water recovered: **BBL** check - okay

Estimated Weights, and Volumes

Saturated Soil = 373 lbs 3 cu. ft. cu. yds.

Total Liquid = 286 BBL 12,003 gallon 99,862 lbs

Air Emission from flowline leaks:

Volume of oil spill:	-	BBL
Separator gas calculated:	-	MCF
Separator gas released:	-	MCF
Gas released from oil:	-	lb
H2S released:	-	lb
Total HC gas released:	-	lb
Total HC gas released:	-	MCF

Air Emission of Reporting Requirements:

	New Mexico	Texas
HC gas release reportable?	NO	NO
H2S release reportable?	NO	NO