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

Location of spill: COG - Canvasback 13 Federal 2H   **Date of Spill:** 22-Oct-2019

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					wet soil		Standing Liquid Calculations				
Total Surface Area	width		length		depth	oil (%)	Standing Liquid Area	width	length	liquid depth	oil (%)
Rectangle Area #1	90 ft		30 ft	X	0.70 in	0%	Rectangle Area #1	0 ft X	0 ft X	0 in	0%
Rectangle Area #2	0 ft	X	0 ft	X	0 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 #3	0 ft X	0 ft X	0 in	0%
Rectangle Area #4	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 #5	0 ft X	0 ft X	0 in	0%
Rectangle Area #6	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 #7	0 ft X	0 ft X	0 in	0%
Rectangle Area #8	0 ft	X	0 ft	X	0 in	0%	Rectangle Area #8	0 ft X	0 ft X	0 in	0%

okay

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: [0] BBL   okay

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: 2,700 **sq. ft.**   158 **cu. ft.**   **cu. ft.**   **Total Free Liquid Volume:**   **sq. ft.**   **cu. ft.**   **cu. ft.**

Estimated Volumes Spilled			**Estimated Production Volumes Lost**		
	H2O	OIL		H2O	OIL
Liquid in Soil:	3.9 BBL	0.0 BBL	Estimated Production Spilled:	0.0 BBL	0.0 BBL
Free Liquid:	0.0 BBL	0.0 BBL			
Totals:	3.9 BBL	0.0 BBL			

Total Liquid Spill Liquid: 3.9 **BBL**   0.00 **BBL**

Estimated Surface Damage
Surface Area: 2,700 sq. ft.
Surface Area: .0620 acre

Recovered Volumes			**Estimated Weights, and Volumes**			
Estimated oil recovered:	**BBL**	check - okay	Saturated Soil =	17,640 lbs	158 cu. ft.	6 cu. yds.
Estimated water recovered:	**BBL**	check - okay	Total Liquid =	4 BBL	165 gallon	1,372 lbs

Air Emission from flowline leaks:			**Air Emission of Reporting Requirements:**		
Volume of oil spill:	-	BBL		New Mexico	Texas
Separator gas calculated:	-	MCF	HC gas release reportable?	NO	NO
Separator gas released:	-	MCF	H2S release reportable?	NO	NO
Gas released from oil:	-	lb			
H2S released:	-	lb			
Total HC gas released:	-	lb			
Total HC gas released:	-	MCF			

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