



Pre Plugging Methane Quantification Test Report

Report Prepared By Curtis Shuck

Start Date: Sat Oct 29 2022 00:02:48 GMT+0000
 (Coordinated Universal Time)
End Date: Sat Oct 29 2022 15:53:14 GMT+0000
 (Coordinated Universal Time)
Test Time Subset: 2022-10-29T00:02:48.000Z -
 2022-10-29T15:52:33.839Z
Device: VB100-0024
Well Licensee: NMOCD
Well Name: Marigold #001
UWI: 30-025-32859
Well License Number: 30-025-32859
Surface Location: Lea County - Private
Bottom Hole Location: unknown
Test Operator: Francis Vernwald
Authorized By: NMOCD
Test Reason: IIJA Pre Plug
Scope Of Work: 12 hr
AFE Number: NMOCD038AA / APWS22.001
GPS: 33.30009,-103.13483
Notes: GTG

Orphan Well Flow Test Results

Average Flowrate	Average Flow Temperature	Average Flow Pressure	Flow Duration	Methane Concentration	Methane Emissions	Benzene
0.0824 scf/hr	46.43 °F	0.6263 psi	949.76 min	11 %	0.17 g/hr	1 ppm

Annual Emission Rate = ($\bar{x}Q_{measured}$) x (Conc $_{measured}$) x p x 0.454 x 8,760

Methane Calculation:

($\bar{x}Q_{measured}$) 0.0824 scf/hr x (Conc $_{measured}$) 0.11 = 0.00906714 scf CH₄/hr

Methane Flow x (p) x .0423 x .454 x 8,760 = 1.4892 CH₄ kg/yr Emission Rate

Where:

$Q_{measured}$ - scf/hr total measured flow

Conc $_{measured}$ - methane concentration measured

p - 0.0423 methane density at 1 atm; 60° F

0.454 - Conversion from lb to kg

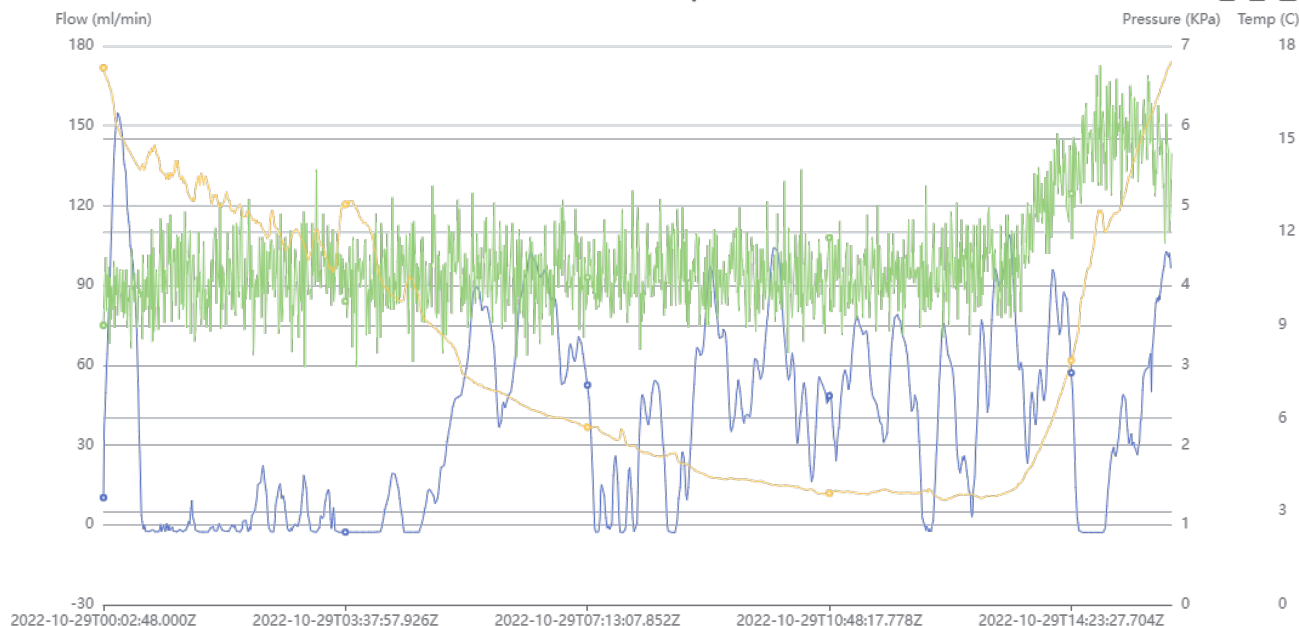
8760 - Conversion from hr to yr

Flow/Pressure/Temperature Timeseries

Flow Pressure Temperature

Ventbuster Report

↑ ↺ ⬇



Site Photos



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575.397.3713 2609 W Marland Hobbs NM 88240

C6+ Gas Analysis Report

15188G	Marigold #001 Pre Plug	Marigold #001 Pre Plug	
Sample Point Code	Sample Point Name	Sample Point Location	
Laboratory Services	2022059555	Tedlar Bag	Dave F - Spot
Source Laboratory	Lab File No	Container Identity	Sampler
USA	USA	USA	New Mexico
District	Area Name	Field Name	Facility Name
Oct 28, 2022 17:45	Oct 28, 2022 17:45	Nov 1, 2022 06:41	Nov 1, 2022
Date Sampled	Date Effective	Date Received	Date Reported
Luis			
Ambient Temp (°F)	Flow Rate (Mcf)	Analyst	Press PSI @ Temp °F Source Conditions
Well Done Foundation		NG	
Operator		Lab Source Description	

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.0000	0	
Nitrogen (N2)	83.3570	83.35727	
CO2 (CO2)	0.7930	0.79346	
Methane (C1)	11.0120	11.01182	
Ethane (C2)	1.5610	1.56069	0.4170
Propane (C3)	1.1820	1.18167	0.3260
I-Butane (IC4)	0.3900	0.39046	0.1280
N-Butane (NC4)	0.9110	0.91061	0.2870
I-Pentane (IC5)	0.2330	0.23277	0.0850
N-Pentane (NC5)	0.2130	0.21332	0.0770
Hexanes Plus (C6+)	0.3480	0.34793	0.1510
TOTAL	100.0000	100.0000	1.4710

Method(s): Gas C6+ - GPA 2261, Extended Gas - GPA 2286, Calculations - GPA 2172

Analyzer Information			
Device Type:	Gas Chromatograph	Device Make:	Shimadzu
Device Model:	GC-2014	Last Cal Date:	Sep 26, 2022

Gross Heating Values (Real, BTU/ft³)			
14.696 PSI @ 60.00 Å°F		14.73 PSI @ 60.00 Å°F	
Dry	Saturated	Dry	Saturated
247.6	244.3	248.2	244.9

Calculated Total Sample Properties	
GPA2145-16 *Calculated at Contract Conditions	
Relative Density Real	Relative Density Ideal
0.9621	0.9618
Molecular Weight	
27.8596	

C6+ Group Properties		
Assumed Composition		
C6 - 60.000%	C7 - 30.000%	C8 - 10.000%

Field H2S
2.5 PPM

PROTREND STATUS: Passed By Validator on Nov 1, 2022
DATA SOURCE: Imported

PASSED BY VALIDATOR REASON:
Close enough to be considered reasonable.

VALIDATOR:
Luis Cano
VALIDATOR COMMENTS:
OK

Source	Date	Notes
Luis Cano	Nov 1, 2022 3:48 pm	Methane PPM: 110,120

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

DEFINITIONS

Action 495037

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Operator: LEASE HOLDERS ACQUISITIONS, INCORPORATED 705 S Mustang Rd #127 Yukon, OK 73099	OGRID: 372878
	Action Number: 495037
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

DEFINITIONS

The Orphan Well Mitigation Activity (OMA) forms are a subset of the OCD's forms exclusively designed for activities related to State of New Mexico's contracted plugging and reclamation activities. Specifically, these forms are used for orphan wells or associated facilities which are in a "Reclamation Fund Approved" status. This status represents wells or facilities where the OCD has acquired a hearing order allowing the OCD to perform plugging or reclamation on wells and associated facilities that no longer have a viable operator to perform the necessary work. These forms are not to be utilized for any other purpose.

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QUESTIONS

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QUESTIONS

Prerequisites	
[OGRID] Well Operator	[372878] LEASE HOLDERS ACQUISITIONS, INCORPORATED
[API] Well Name and Number	[30-025-32859] MARIGOLD UNIT #001
Well Status	Reclamation Fund Approved

Monitoring Event Information*Please answer all the questions in this group.*

Reason For Filing	Pre-Plug Methane Monitoring
Date of monitoring	10/29/2022
Latitude	33.30019
Longitude	-103.1347885

Monitoring Event Details*Please answer all the questions in this group.*

Flow rate in cubic meters per day (m ³ /day)	0.00
Test duration in hours (hr)	15.8
Average flow temperature in degrees Celsius (°C)	8.0
Average gauge flow pressure in kilopascals (kPag)	4.3
Methane concentration in part per million (ppm)	110,120
Methane emission rate in grams per hour (g/hr)	1.55
Testing Method	Steady State

Monitoring Contractor*Please answer all the questions in this group.*

Name of monitoring contractor	WELL DONE NEW MEXICO LLC
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