Pre Plugging Methane Quantification Test Report

Report Prepared By Curtis Shuck

Start Date:	Sun Dec 01 2024 23:54:44 GMT+0000 (Coordinated Universal Time)
End Date:	Tue Dec 03 2024 15:31:54 GMT+0000 (Coordinated Universal Time)
Test Time Subset:	2024-12-01T23:54:16.368Z - 2024-12-03T15:29:46.440Z
Device:	VB100-0003
Well Licensee:	NMOCD
Well Name:	Malaga Unit 003
UWI:	30-015-03695
Well License Number:	30-015-03695
Surface Location:	Oxy
Bottom Hole Location:	Unknown
Test Operator:	CES QMS
Authorized By:	NMOCD
Test Reason:	IIJA / BIL PRE PLUG
Scope Of Work:	2- hour normalized flow
AFE Number:	78646
GPS:	32.22962,-104.02697
Notes:	combo rig

Orphan Well Flow Test Results

Average Flowrate	Average Flow Temperature	Average Flow Pressure	Flow Duration	Methane Concentration	Methane Emissions	Benzene
-0.0005 scf/hr	**53.38** °F	**3.1072** psi	**2375.5** min	**null** %	**null** g/hr	**N/A** ppm

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

Methane Calculation:

($\bar{x}Q_{measured}$) -0.0005 scf/hr x ($Conc_{measured}$) null= null scf CH4/hr

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

Where:

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

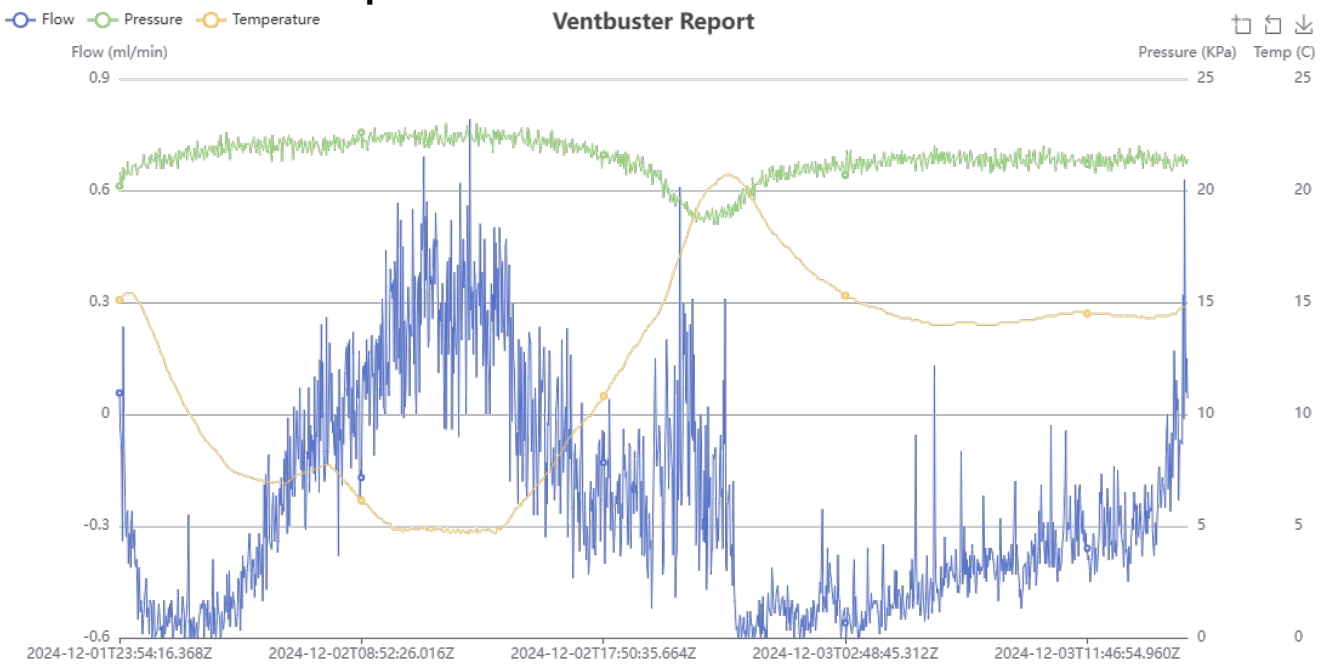
$Conc_{measured}$ - methane concentration measured

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



Site Photos

LABORATORY SERVICES Natural Gas Analysis
www.permianls.com
575.397.3713 2609 W Marland Hobbs NM 88240

C6+ Gas Analysis Report

Sample Point Code	Sample Point Name	Sample Point Location
23015G	Malaga Unit 3 Pre Plug	Malaga Unit 3 Pre Plug

Source Laboratory	Lab File No	Container Identity	Sampler
Laboratory Services	2024102453	BAG	CES - Spot

District	Area Name	Field Name	Facility Name
USA	USA	USA	New Mexico

Date Sampled	Date Effective	Date Received	Date Reported
Dec 1, 2024 16:35	Dec 1, 2024	Dec 5, 2024 15:46	Dec 6, 2024

Ambient Temp (°F)	Flow Rate (Mcf)	Analyst	Press PSI @ Temp °F Source Conditions
		System Administrator	

Operator	Lab Source Description
Well Done Montana	NG

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.0000	0	
Nitrogen (N2)	92.0920	92.093	
CO2 (CO2)	0.1070	0.107	
Methane (C1)	6.6100	6.61	
Ethane (C2)	0.1410	0.141	0.0380
Propane (C3)	0.2400	0.24	0.0660
I-Butane (IC4)	0.0570	0.057	0.0190
N-Butane (NC4)	0.1150	0.115	0.0360
I-Pentane (IC5)	0.0940	0.094	0.0340
N-Pentane (NC5)	0.1340	0.134	0.0490
Hexanes Plus (C6+)	0.4100	0.41	0.1780
TOTAL	100.0000	100.0010	0.4200

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 9, 2024

Gross Heating Values (Real, BTU/ft³)

14.696 PSI @ 60.00 Â°F		14.73 PSI @ 60.00 Â°F	
Dry	Saturated	Dry	Saturated
111.5	110.4	111.8	110.7

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
0.9564	0.9563

Molecular Weight
27.7004

C6+ Group Properties

Assumed Composition

C6 - 60.000% C7 - 30.000% C8 - 10.000%

PROTREND STATUS:
Passed By Validator on Dec 9, 2024

DATA SOURCE:
Imported

PASSED BY VALIDATOR REASON:
First sample taken @ this point, composition looks reasonable

VALIDATOR:
Ashley Russell

VALIDATOR COMMENTS:
OK

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

Operator: Well Done New Mexico LLC (OPG Vendor) 333 Main St Shelby, MT 59474	OGRID: 333567
	Action Number: 522482
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

DEFINITIONS

The OCD Mitigation Activity (OMA) forms are a subset of the OCD's forms exclusively designed for activities related to State of New Mexico's contracted evaluation, plugging, decommissioning, remediation, salvage and reclamation activities. Specifically, these forms are typically used where the OCD has acquired a hearing order allowing the OCD to perform mitigation activities on wells and associated facilities that no longer have an authorized or viable operator to perform the necessary work. These forms are not to be utilized for any other purpose.

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

QUESTIONS

Action 522482

QUESTIONS

Operator: Well Done New Mexico LLC (OPG Vendor) 333 Main St Shelby, MT 59474	OGRID: 333567
	Action Number: 522482
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

QUESTIONS

Prerequisites	
[OGRID] Well Operator	**[271769] GIANT OPERATING LLC**
[API] Well Name and Number	**[30-015-03695] MALAGA UNIT #003**
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	12/01/2024
Latitude	32.229557
Longitude	-104.0269318

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)	39.6
Average flow temperature in degrees Celsius (°C)	11.8
Average gauge flow pressure in kilopascals (kPag)	21.4
Methane concentration in part per million (ppm)	66,100
Methane emission rate in grams per hour (g/hr)	0.00
Testing Method	Steady State

Monitoring Contractor *Please answer all the questions in this group.*	
Name of monitoring contractor	WELL DONE NEW MEXICO LLC