



## Pre Plugging Methane Quantification Test Report

Report Prepared By Curtis Shuck

**Start Date:** Mon Jan 29 2024 01:32:24 GMT+0000  
 (Coordinated Universal Time)  
**End Date:** Mon Jan 29 2024 18:57:28 GMT+0000  
 (Coordinated Universal Time)  
**Test Time Subset:** 2024-01-29T01:31:51.328Z -  
 2024-01-29T18:56:11.144Z  
**Device:** VB100-0058  
**Well Licensee:** NMOCD  
**Well Name:** EF King 002  
**UWI:** 30-025-09334  
**Well License Number:** Unknown  
**Surface Location:** Unknown  
**Bottom Hole Location:** Unknown  
**Test Operator:** ces QMS  
**Authorized By:** NMOCD  
**Test Reason:** IJJA PRE PLUGO  
**Scope Of Work:** 1- hour  
**AFE Number:** Lea24.001  
**GPS:** 32.31803,-103.21365  
**Notes:** H2S 200 ppm

### Orphan Well Flow Test Results

Average Flowrate	Average Flow Temperature	Average Flow Pressure	Flow Duration	Methane Concentration	Methane Emissions	Benzene
<b>216.7724</b> scf/hr	<b>47.37</b> °F	<b>0.4537</b> psi	<b>1044.33</b> min	<b>73.75</b> %	<b>3070.17</b> g/hr	<b>N/A</b> ppm

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

#### Methane Calculation:

( $\bar{Q}_{measured}$ ) 216.7724 scf/hr x (Conc $_{measured}$ ) 0.7375 = 159.86962901 scf CH<sub>4</sub>/hr

Methane Flow x ( $p$ ) x .0423 x .454 x 8,760 = 26894.6892 CH<sub>4</sub> kg/yr Emission Rate

#### Where:

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

Conc $_{measured}$  - methane concentration measured

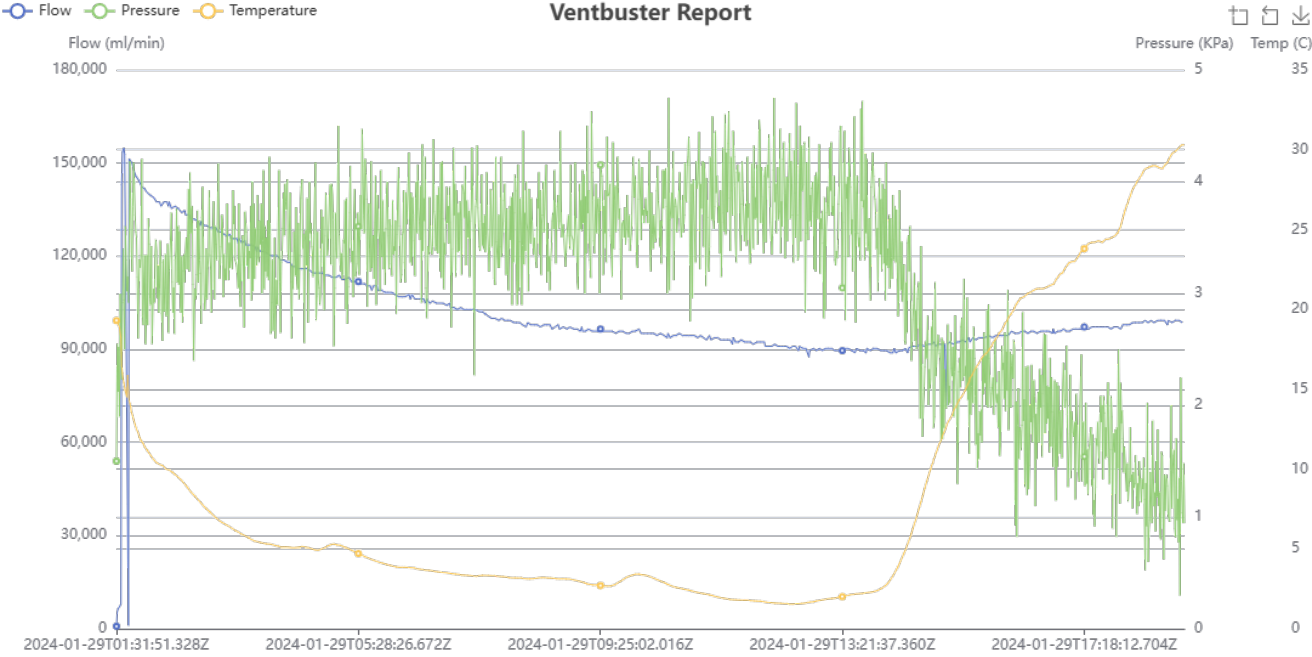
$p$  - 0.0423 methane density at 1 atm; 60° F

0.454 - Conversion from lb to kg

8760 - Conversion from hr to yr

# Flow/Pressure/Temperature Timeseries

Ventbuster Report



## Site Photos



20070G	EF KING #002 PRE PLUG	EF KING #002 PRE PLUG	
Sample Point Code	Sample Point Name	Sample Point Location	
Laboratory Services	2024084094	BAG	CES - Spot
Source Laboratory	Lab File No	Container Identity	Sampler
USA	USA	USA	New Mexico
District	Area Name	Field Name	Facility Name
Jan 28, 2024 17:40	Jan 1, 2024	Feb 1, 2024 15:11	Feb 5, 2024
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)	0.0200	0.02	
Nitrogen (N2)	2.2770	2.27785	
CO2 (CO2)	0.0660	0.0661	
Methane (C1)	73.7510	73.76567	
Ethane (C2)	13.6670	13.66979	3.6540
Propane (C3)	6.2920	6.29343	1.7330
I-Butane (IC4)	0.7780	0.77791	0.2550
N-Butane (NC4)	1.7320	1.73216	0.5460
I-Pentane (IC5)	0.4890	0.4886	0.1790
N-Pentane (NC5)	0.4160	0.41648	0.1510
Hexanes Plus (C6+)	0.5120	0.51201	0.2220
TOTAL	100.0000	100.0200	6.7400

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:	Jan 29, 2024

Gross Heating Values (Real, BTU/ft³)			
14.696 PSI @ 60.00 Å°F		14.73 PSI @ 60.00 Å°F	
Dry	Saturated	Dry	Saturated
1,294.0000	1,272.9	1,297.0000	1,275.8

Calculated Total Sample Properties	
GPA2145-16 *Calculated at Contract Conditions	
Relative Density Real	Relative Density Ideal
0.7616	0.7589
Molecular Weight	
21.9782	

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

Field H2S
200 PPM

**PROTREND STATUS:** Passed By Validator on Feb 6, 2024  
**DATA SOURCE:** Imported

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

**VALIDATOR:**  
 Ashley Russell

**VALIDATOR COMMENTS:**  
 OK

Source	Date	Notes
Ashley Russell	Feb 6, 2024 8:58 am	METHANE 737,660

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 521227

DEFINITIONS

Operator: Well Done New Mexico LLC (OPG Vendor) 333 Main St Shelby, MT 59474	OGRID: 333567
	Action Number: 521227
	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 521227

QUESTIONS

Operator: Well Done New Mexico LLC (OPG Vendor) 333 Main St Shelby, MT 59474	OGRID: 333567
	Action Number: 521227
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

QUESTIONS

Prerequisites	
[OGRID] Well Operator	[142624] ROCA PRODUCTION INC.
[API] Well Name and Number	[30-025-09334] E F KING #002
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	01/29/2024
Latitude	32.3180199
Longitude	-103.2134552

Monitoring Event Details	
Please answer all the questions in this group.	
Flow rate in cubic meters per day (m³/day)	147.36
Test duration in hours (hr)	17.4
Average flow temperature in degrees Celsius (°C)	8.5
Average gauge flow pressure in kilopascals (kPag)	3.1
Methane concentration in part per million (ppm)	737,660
Methane emission rate in grams per hour (g/hr)	4,161.60
Testing Method	Steady State

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