Pre Plugging Methane Quantification Test Report

Report Prepared By Curtis Shuck, QMS

Start Date:	Tue Feb 21 2023 22:37:30 GMT+0000 (Coordinated Universal Time)
End Date:	Wed Feb 22 2023 21:45:06 GMT+0000 (Coordinated Universal Time)
Test Time Subset:	2023-02-21T22:37:30.000Z - 2023-02-22T21:44:07.224Z
Device:	VB100-0020
Well Licensee:	30-005-60567
Well Name:	Kuchemann 001
UWI:	30-005-60567
Well License Number:	30-005-60567
Surface Location:	State of NM
Bottom Hole Location:	Unknown
Test Operator:	Sean O. Jacobson
Authorized By:	State Of NM
Test Reason:	IIJA Pre Plugging
Scope Of Work:	12 Hour
AFE Number:	52100-0000078660
GPS:	33.59556,-104.02976
Notes:	GTG

Orphan Well Flow Test Results

Average Flowrate	Average Flow Temperature	Average Flow Pressure	Flow Duration	Methane Concentration	Methane Emissions	Benzene
0.3583 scf/hr	**56.42** °F	**0.0178** psi	**1386.62** min	**38** %	**2.61** g/hr	**1** ppm

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

Methane Calculation:

($\bar{x}Q_{measured}$) 0.3583 scf/hr x ($Conc_{measured}$) 0.38= 0.13616084 scf CH4/hr

Methane Flow x (***p***) x .0423 x .454 x 8,760 = 22.8636 **CH4 kg/yr Emission Rate**

Where:

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

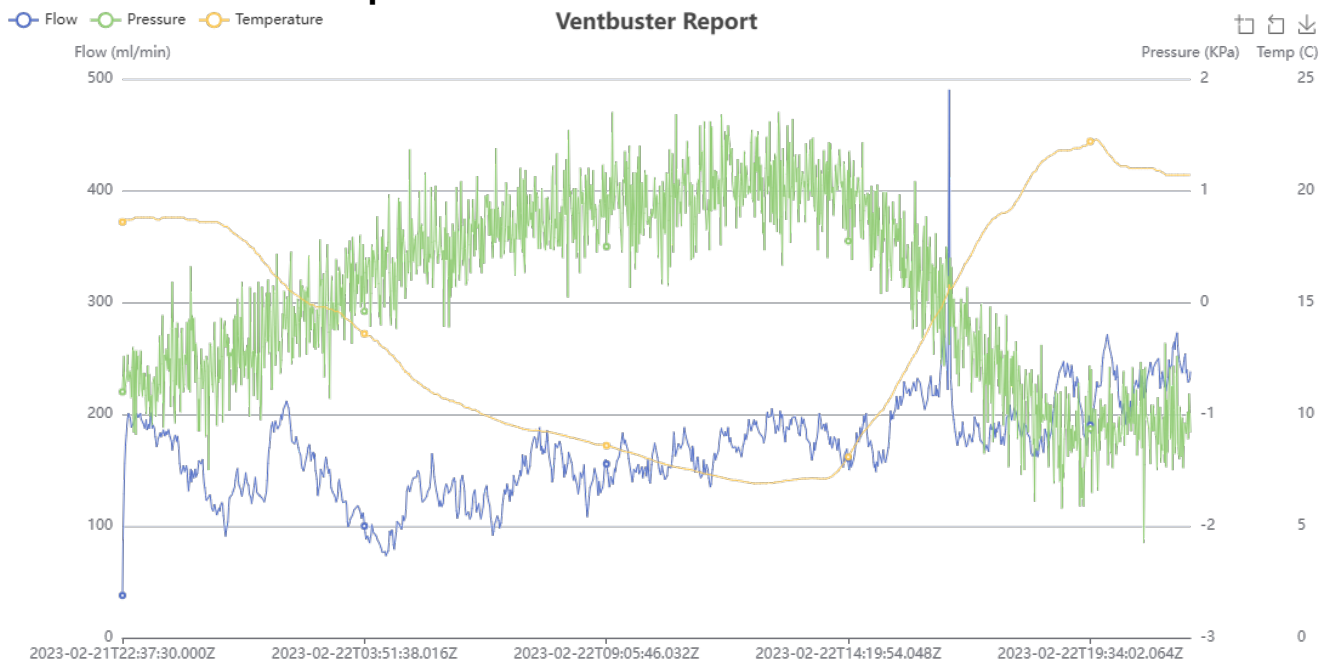
$Conc_{measured}$ - methane concentration measured

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

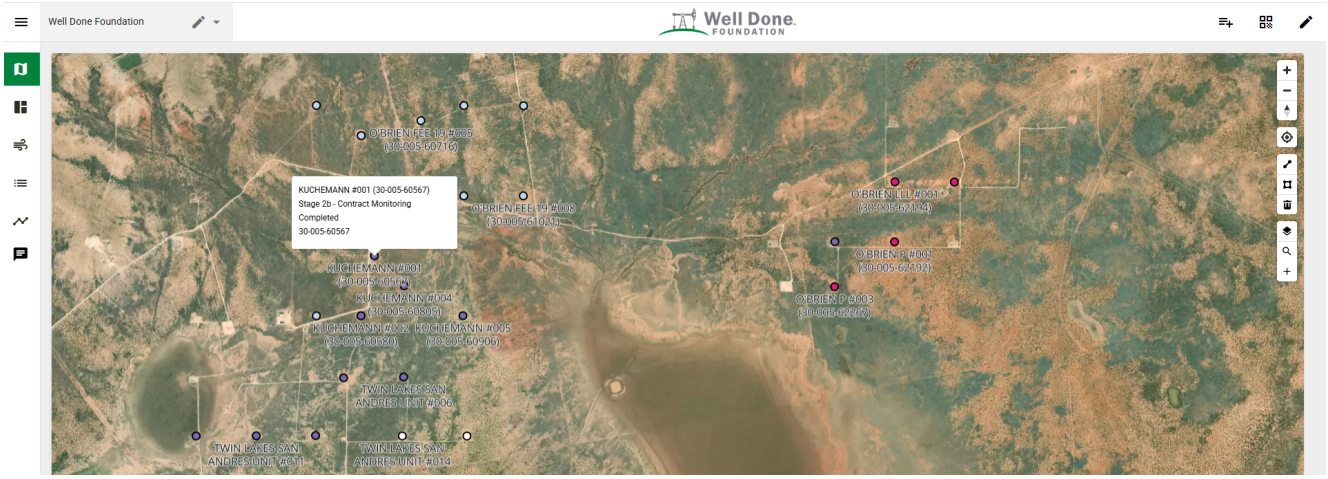
0.454 - Conversion from lb to kg

8760 - Conversion from hr to yr

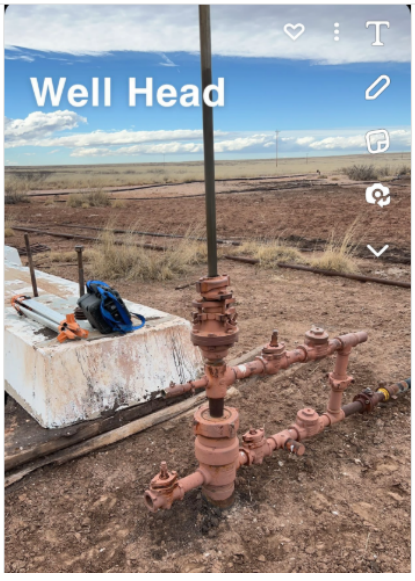
Flow/Pressure/Temperature Timeseries



Site Photos



Well Media Gallery View



Well Media Gallery View

Well Media Gallery View

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

C6+ Gas Analysis Report

16094G	Kucherman #001	Kucherman #001
Sample Point Code	Sample Point Name	Sample Point Location

Laboratory Services	2023064657	Tedlar Bag	S.O. Jacobson - Spot
Source Laboratory	Lab File No	Container Identity	Sampler

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

Feb 21, 2023 15:14	Feb 21, 2023 15:14	Feb 27, 2023 10:34	Mar 1, 2023
Date Sampled	Date Effective	Date Received	Date Reported

		System Administrator	
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)	90.5710	90.572	
CO2 (CO2)	0.1380	0.138	
Methane (C1)	0.2750	0.275	
Ethane (C2)	0.0450	0.045	0.0120
Propane (C3)	0.0300	0.03	0.0080
I-Butane (IC4)	0.0150	0.015	0.0050
N-Butane (NC4)	0.0810	0.081	0.0260
I-Pentane (IC5)	0.3570	0.357	0.1310
N-Pentane (NC5)	0.7640	0.764	0.2770
Hexanes Plus (C6+)	7.7240	7.724	3.3510
TOTAL	100.0000	100.0010	3.8100

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

Gross Heating Values (Real, BTU/ft³)

14.696 PSI @ 60.00 Â°F		14.73 PSI @ 60.00 Â°F	
Dry	Saturated	Dry	Saturated
450.1	443.3	451.1	444.3

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
1.1606	1.1589

Molecular Weight: 33.5661

C6+ Group Properties

Assumed Composition

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

Field H2S: 0 PPM

PROTREND STATUS:
Passed By Validator on Mar 3, 2023

DATA SOURCE:
Imported

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

VALIDATOR:
Luis Cano

VALIDATOR COMMENTS:
OK

Analyzer Information

Device Type:	Gas Chromatograph	Device Make:	Shimadzu
Device Model:	GC-2014	Last Cal Date:	Feb 13, 2023

Source	Date	Notes
Luis Cano	Mar 3, 2023 7:44 am	Methane: 2,750 PPM

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: CANYON E & P COMPANY 251 O'Connor Ridge Blvd. Irving, TX 75038	OGRID: 269864
	Action Number: 494854
	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.

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 494854

QUESTIONS

Operator: CANYON E & P COMPANY 251 O'Connor Ridge Blvd. Irving, TX 75038	OGRID: 269864
	Action Number: 494854
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

QUESTIONS

Prerequisites	
[OGRID] Well Operator	**[269864] CANYON E & P COMPANY**
[API] Well Name and Number	**[30-005-60567] KUCHEMANN #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	03/06/2023
Latitude	33.5956001
Longitude	-104.0297394

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)	44.0
Average flow temperature in degrees Celsius (°C)	14.7
Average gauge flow pressure in kilopascals (kPag)	2.5
Methane concentration in part per million (ppm)	2,750
Methane emission rate in grams per hour (g/hr)	2.58
Testing Method	Steady State

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