



## Pre Plugging Methane Quantification Test Report

Report Prepared By Curtis Shuck, QMS

**Start Date:** Tue Mar 07 2023 19:50:06 GMT+0000  
 (Coordinated Universal Time)  
**End Date:** Wed Mar 08 2023 18:38:30 GMT+0000  
 (Coordinated Universal Time)  
**Test Time Subset:** 2023-03-07T19:50:06.000Z -  
 2023-03-08T18:37:32.024Z  
**Device:** VB100-0044  
**Well Licensee:** 30-005-60805  
**Well Name:** Kuchemanne 004  
**UWI:** 30-005-60805  
**Well License Number:** 30-005-60805  
**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:** 33.59376,-104.02774  
**Notes:** GTG

### Orphan Well Flow Test Results

Average Flowrate	Average Flow Temperature	Average Flow Pressure	Flow Duration	Methane Concentration	Methane Emissions	Benzene
<b>0.0592</b> scf/hr	<b>51.66</b> °F	<b>0.3678</b> psi	<b>1367.43</b> min	<b>.475</b> %	<b>1.14</b> g/hr	<b>N/A</b> ppm

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

#### Methane Calculation:

( $\bar{x}Q_{measured}$ ) 0.0592 scf/hr x (Conc<sub>measured</sub>) .475= .059 scf CH<sub>4</sub>/hr

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

#### Where:

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

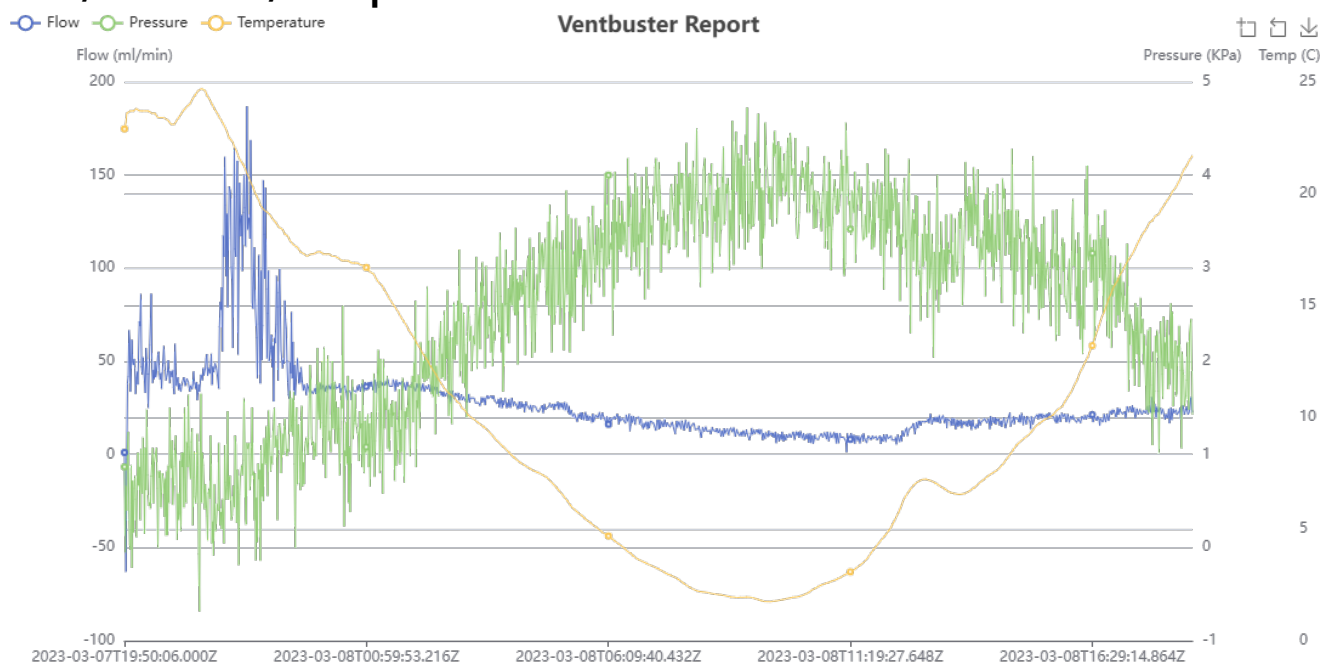
Conc<sub>measured</sub> - methane concentration measured

$p$  - 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





www.permianls.com  
575.397.3713 2609 W Marland Hobbs NM 88240

## C6+ Gas Analysis Report

<b>16097G</b>	<b>Kucherman #004</b>	<b>Kucherman #004</b>	
Sample Point Code	Sample Point Name	Sample Point Location	
<b>Laboratory Services</b>	<b>2023064660</b>	<b>Tedlar Bag</b>	<b>SO Jacobson - Spot</b>
Source Laboratory	Lab File No	Container Identity	Sampler
<b>USA</b>	<b>USA</b>	<b>USA</b>	<b>New Mexico</b>
District	Area Name	Field Name	Facility Name
<b>Feb 22, 2023 15:49</b>	<b>Feb 22, 2023 15:49</b>	<b>Feb 27, 2023 10:51</b>	<b>Mar 1, 2023</b>
Date Sampled	Date Effective	Date Received	Date Reported
<b>Torrance</b>			
<b>Ambient Temp (°F)</b>	<b>Flow Rate (Mcf)</b>	<b>Analyst</b>	<b>Press PSI @ Temp °F</b>
			Source Conditions
<b>Well Done Foundation</b>		<b>NG</b>	
Operator		Lab Source Description	

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.0000	0	
Nitrogen (N2)	98.0200	98.021	
CO2 (CO2)	0.3580	0.35792	
Methane (C1)	0.4750	0.47527	
Ethane (C2)	0.3100	0.30963	0.0830
Propane (C3)	0.3100	0.31026	0.0850
I-Butane (IC4)	0.0390	0.03931	0.0130
N-Butane (NC4)	0.0940	0.09351	0.0300
I-Pentane (IC5)	0.0320	0.03164	0.0120
N-Pentane (NC5)	0.0250	0.0247	0.0090
Hexanes Plus (C6+)	0.3370	0.33676	0.1460
TOTAL	100.0000	100.0000	0.3780

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:	Feb 13, 2023

Gross Heating Values (Real, BTU/ft³)			
14.696 PSI @ 60.00 Å°F		14.73 PSI @ 60.00 Å°F	
Dry	Saturated	Dry	Saturated
42.1	42.3	42.2	42.4

Calculated Total Sample Properties	
GPA2145-16 *Calculated at Contract Conditions	
Relative Density Real	Relative Density Ideal
0.9788	0.9788
Molecular Weight	
28.3549	

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

Source	Date	Notes
Luis Cano	Mar 3, 2023 7:47 am	Methane: 4,750 PPM
Luis Cano	Mar 3, 2023 7:48 am	Methane: 4,750 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

Action 494954

DEFINITIONS

Operator:  CANYON E & P COMPANY 251 O'Connor Ridge Blvd. Irving, TX 75038	OGRID:  269864
	Action Number:  494954
	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 494954

**QUESTIONS**

Operator: CANYON E & P COMPANY 251 O'Connor Ridge Blvd. Irving, TX 75038	OGRID: 269864
	Action Number: 494954
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

**QUESTIONS**

<b>Prerequisites</b>	
[OGRID] Well Operator	[269864] CANYON E & P COMPANY
[API] Well Name and Number	[30-005-60805] KUCHEMANN #004
Well Status	Reclamation Fund Approved

<b>Monitoring Event Information</b>	
<i>Please answer all the questions in this group.</i>	
Reason For Filing	Pre-Plug Methane Monitoring
Date of monitoring	03/07/2023
Latitude	33.5937843
Longitude	-104.0275803

<b>Monitoring Event Details</b>	
<i>Please answer all the questions in this group.</i>	
Flow rate in cubic meters per day (m <sup>3</sup> /day)	0.00
Test duration in hours (hr)	22.8
Average flow temperature in degrees Celsius (°C)	10.9
Average gauge flow pressure in kilopascals (kPag)	2.5
Methane concentration in part per million (ppm)	4,750
Methane emission rate in grams per hour (g/hr)	1.14
Testing Method	Steady State

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