



Pre Plugging Methane Quantification Test Report

Report Prepared By Curtis Shuck

Start Date: Fri Feb 24 2023 22:23:46 GMT+0000
 (Coordinated Universal Time)
End Date: Sat Feb 25 2023 17:45:01 GMT+0000
 (Coordinated Universal Time)
Test Time Subset: 2023-02-24T22:23:46.000Z -
 2023-02-25T17:44:12.015Z
Device: VB100-0044
Well Licensee: 30-005-29051
Well Name: Cato San Andres 557y
UWI: 30-005-29051
Well License Number: 30-005-29051
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: 52100-00000073108
GPS: 33.62759,-103.86352
Notes: GTG

Orphan Well Flow Test Results

Average Flowrate	Average Flow Temperature	Average Flow Pressure	Flow Duration	Methane Concentration	Methane Emissions	Benzene
257.4563 scf/hr	38.83 °F	0.8533 psi	1160.43 min	22 %	1087.73 g/hr	1 ppm

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

Methane Calculation:

($\bar{x}Q_{measured}$) 257.4563 scf/hr x (Conc $_{measured}$) 0.22= 56.64038721 scf CH₄/hr

Methane Flow x (p) x .0423 x .454 x 8,760 = 9528.5148 CH₄ kg/yr Emission Rate

Where:

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

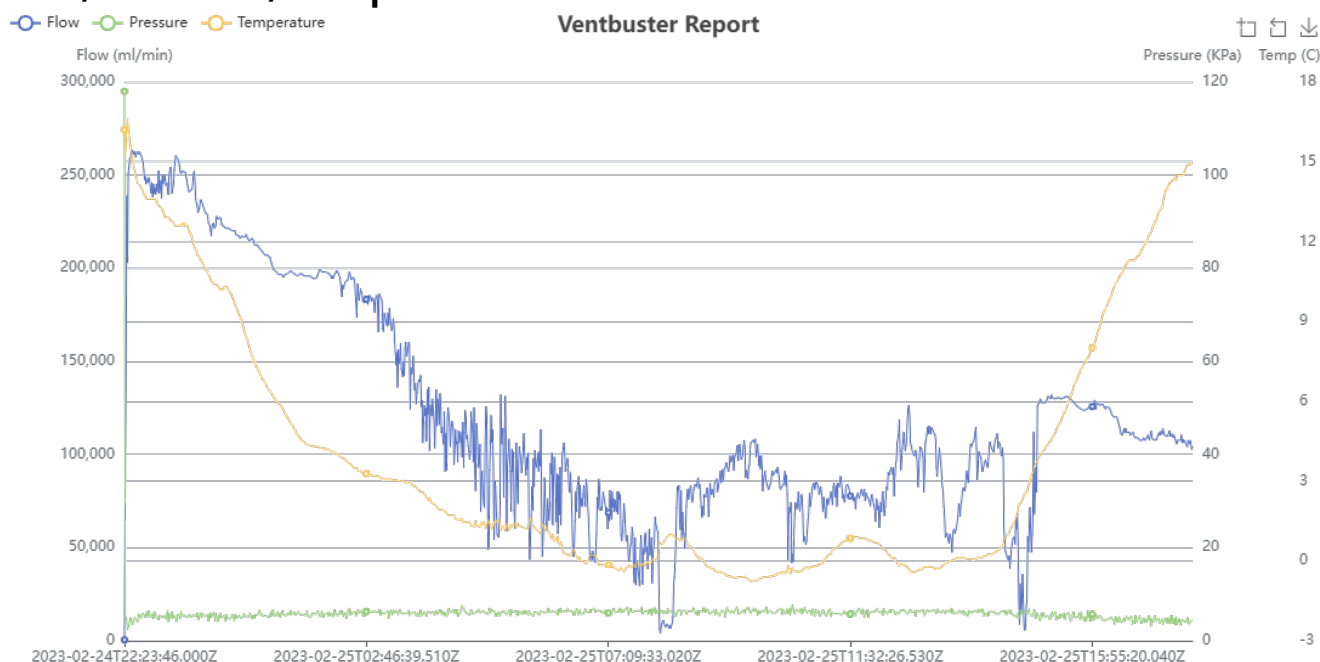
Conc $_{measured}$ - methane concentration measured

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



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

C6+ Gas Analysis Report

16102G	CSA #557	CSA #557	
Sample Point Code	Sample Point Name	Sample Point Location	
Laboratory Services	2023064665	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 24, 2023 15:03	Feb 24, 2023 15:03	Feb 27, 2023 10:59	Mar 1, 2023
Date Sampled	Date Effective	Date Received	Date Reported
Torrance			
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)	60.3300	60.33086	
CO2 (CO2)	1.8290	1.82852	
Methane (C1)	21.6570	21.65676	
Ethane (C2)	6.0060	6.00631	1.6060
Propane (C3)	4.9200	4.92001	1.3550
I-Butane (IC4)	0.8760	0.87558	0.2870
N-Butane (NC4)	1.7900	1.78979	0.5640
I-Pentane (IC5)	0.9120	0.91217	0.3330
N-Pentane (NC5)	0.7280	0.72847	0.2640
Hexanes Plus (C6+)	0.9520	0.95154	0.4130
TOTAL	100.0000	100.0000	4.8220

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
652.5	642.3	654.000	643.8

Calculated Total Sample Properties	
GPA2145-16 *Calculated at Contract Conditions	
Relative Density Real	Relative Density Ideal
0.9951	0.9935
Molecular Weight	
28.7751	

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

Field H2S
2 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 8:03 am	Methane: 216,570 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 494563

DEFINITIONS

Operator: CANO PETRO OF NEW MEXICO, INC. 801 Cherry Street Fort Worth, TX 76102	OGRID: 248802
	Action Number: 494563
	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	[248802] CANO PETRO OF NEW MEXICO, INC.
[API] Well Name and Number	[30-005-29051] CATO SAN ANDRES UNIT #557Y
Well Status	Reclamation Fund Approved

Monitoring Event Information	
<i>Please answer all the questions in this group.</i>	
Reason For Filing	Pre-Plug Methane Monitoring
Date of monitoring	02/25/2023
Latitude	33.627491
Longitude	-103.8635406

Monitoring Event Details	
<i>Please answer all the questions in this group.</i>	
Flow rate in cubic meters per day (m ³ /day)	7.29
Test duration in hours (hr)	19.3
Average flow temperature in degrees Celsius (°C)	3.8
Average gauge flow pressure in kilopascals (kPag)	5.8
Methane concentration in part per million (ppm)	216,570
Methane emission rate in grams per hour (g/hr)	1,087.73
Testing Method	Steady State

Monitoring Contractor	
<i>Please answer all the questions in this group.</i>	
Name of monitoring contractor	Well Done New Mexico LLC