Pre Plugging Methane Quantification Report

Start Date: Wed Jan 18 2023 21:22:38 GMT+0000 (Coordinated Universal Time)
End Date: Fri Jan 20 2023 23:19:49 GMT+0000 (Coordinated Universal Time)
Device: VB100-0039
Well Licensee: 30-005-10474
Well Name: Cato San Andres Unit 98
UWI: 30-005-10474
Well License Number: 30-005-10474
Surface Location: State of NM
Bottom Hole Location: Unknown

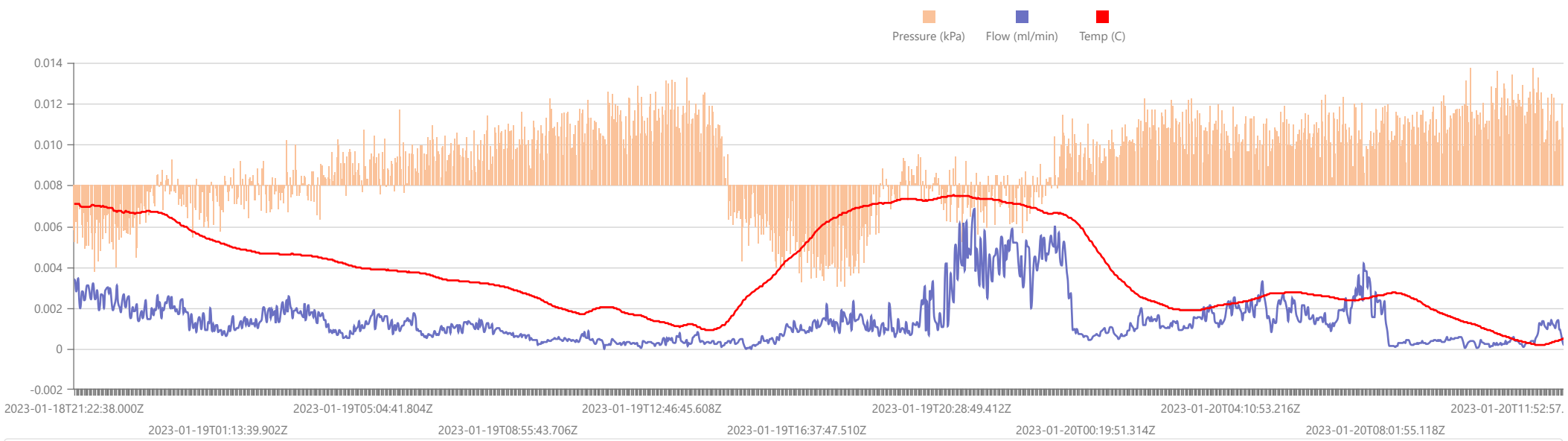
Test Operator: Sean O. Jacobson
Authorized By: State of NM
Test Reason: IIJA Pre Plugging
Scope Of Work: 12 Hour
AFE Number: 52100-00000073108
GPS: 33.62163,-103.90032
Notes: GTG
Prepared By: Curtis Shuck, QMS

Flow / Pressure Test

Flow Duration	Average Flowrate	Average Pressure	Average Flow Temperature	Average CH4 Mass
49 hrs 55 minutes	0.0021	0.0539	5.8716	0.00 g/hr
Duration	m3/d	kPag	°C	**CH4 Concentration** 0.00 ppm

Methane Calculation: 717 grams CH4 per cubic meter (717 g/m^3 x 0.0021 m^3/day = 1.51 g/day total /24 = 0.06 g/hour x 0 (methane concentration) = **0.00 g/hour CH4**). **Methane, gas** weighs 0.000717 *gram per cubic centimeter* or 0.717 *kilgram per cubic meter*, i.e. density of *methane, gas* is equal to 0.717 kg/m^3; at 0°C (32°F or 273.15K) at standard atmospheric pressure. In imperial or US customary measurement system, the density is equal to 0.0448 *pound per cubic foot* [lb/ft^3], or 0.0004144 *ounce per cubic inch* [oz/$inch^3$].

Flow / Pressure / Temperature Timeseries



#	Date	Note
1	2023-01-20	Arrived at 6:00 pm 1/20/23. Rigged down vent buster #39.
2	2023-01-18	Arrived 1:20pm January 18th, 2023. Conducted field gas analysis then collected gas sample. Then rigged up vent buster #39 for flow testing.

Weather in Roswell, January 18

Weather Forecast for January 18 in Roswell, New Mexico - temperature, wind, atmospheric pressure, humidity and precipitations. Detailed hourly weather chart.

January 16 | January 17 | Select date: | January 19 | January 20

January 18, 2023

	Atmospheric conditions and temperature °F	RealFeel °F	Atmospheric pressure inHg	Wind speed mph	Humidity
Night	+43°	+37°	26.1	SW 8.7	41%
Morning	+36°	+30°	26.1	SW 5.6	45%
Day	+54°	+54°	26.2	W 24.2	16%
Evening	+45°	+41°	26.2	NW 7.2	25%

Weather in Roswell, January 19

Weather Forecast for January 19 in Roswell, New Mexico - temperature, wind, atmospheric pressure, humidity and precipitations. Detailed hourly weather chart.

January 17 | January 18 | Select date: | January 20 | January 21

January 19, 2023

	Atmospheric conditions and temperature °F	RealFeel °F	Atmospheric pressure inHg	Wind speed mph	Humidity
Night	+36°	+28°	26.3	W 7.6	37%
Morning	+30°	+21°	26.3	NW 9.8	46%
Day	+54°	+54°	26.4	SW 9.4	12%
Evening	+41°	+36°	26.3	SE 8.3	24%

Weather in Roswell, January 20

Weather Forecast for January 20 in Roswell, New Mexico - temperature, wind, atmospheric pressure, humidity and precipitations. Detailed hourly weather chart.

January 18 | January 19 | Select date: | January 21 | January 22

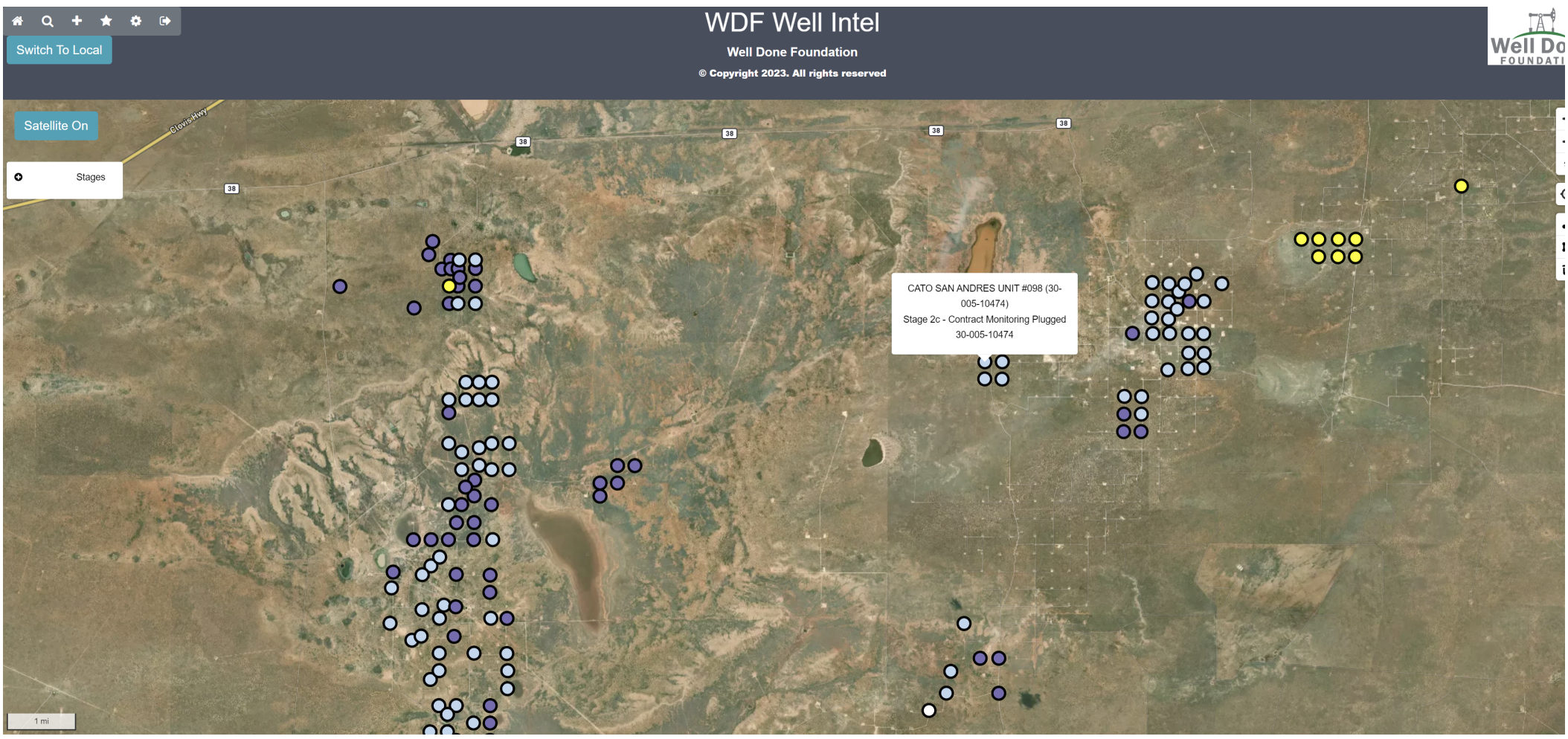
January 20, 2023

	Atmospheric conditions and temperature °F	RealFeel °F	Atmospheric pressure inHg	Wind speed mph	Humidity
Night	+32°	+25°	26.3	SW 6.3	40%
Morning	+21°	+16°	26.3	NW 3.6	60%
Day	+54°	+54°	26.3	S 11.4	19%
Evening	+52°	+52°	26.3	W 14.5	25%


Well Head


Gas Sample
CLOSE
OPEN
ONE FULL TURN ONLY
TEDLAR® BAG
SAMPLING DATE: 1/19/23
SAMPLE ID: CSA Unit #68
BATCH ID: 28220206
ENVIRONMENTAL SAMPLING SUPPLY


Rig Up


WDF Well Intel
Well Done Foundation
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Switch To Local
Satellite On
Stages
Glorieta Hwy
38
CATO SAN ANDRES UNIT #098 (30-005-10474)
Stage 2c - Contract Monitoring Plugged 30-005-10474
1 mi

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

C6+ Gas Analysis Report

15811G	CSAU #98 Pre Plug	CSA #98
Sample Point Code	Sample Point Name	Sample Point Location

Laboratory Services	2023062998	Tedlar Bag	SJ - Spot
Source Laboratory	Lab File No	Container Identity	Sampler

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

Jan 18, 2023 12:15	Jan 18, 2023 12:15	Jan 23, 2023 08:36	Jan 23, 2023
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)	0.0000	0	
Nitrogen (N2)	99.3530	99.35342	
CO2 (CO2)	0.0620	0.06166	
Methane (C1)	0.0000	0	
Ethane (C2)	0.0370	0.03733	0.0100
Propane (C3)	0.0220	0.02155	0.0060
I-Butane (IC4)	0.0000	0	0.0000
N-Butane (NC4)	0.0000	0	0.0000
I-Pentane (IC5)	0.0000	0	0.0000
N-Pentane (NC5)	0.0000	0	0.0000
Hexanes Plus (C6+)	0.5260	0.52604	0.2280
TOTAL	100.0000	100.0000	0.2440

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
28.3	28.7	28.4	28.8

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
0.9793	0.9794

Molecular Weight: 28.3704

C6+ Group Properties

Assumed Composition

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

Field H2S: 0 PPM

PROTREND STATUS:
Passed By Validator on Jan 23, 2023

DATA SOURCE:
Imported

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

VALIDATOR:
Brooke Rush

VALIDATOR COMMENTS:
OK

Analyzer Information

Device Type:	Gas Chromatograph	Device Make:	Shimadzu
Device Model:	GC-2014	Last Cal Date:	Jan 3, 2023

Source	Date	Notes
Brooke Rush	Jan 23, 2023 6:02 pm	Methane = 0 PPM

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

DEFINITIONS

Operator: CANO PETRO OF NEW MEXICO, INC. 801 Cherry Street Fort Worth, TX 76102	OGRID: 248802
	Action Number: 278228
	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

Action 278228

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	Action Number: 278228
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

QUESTIONS

Prerequisites	
[OGRID] Well Operator	**[248802] CANO PETRO OF NEW MEXICO, INC.**
[API] Well Name and Number	**[30-005-10474] CATO SAN ANDRES UNIT #098**
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	01/18/2023
Latitude	33.62163
Longitude	-103.90032

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)	49.9
Average flow temperature in degrees Celsius (°C)	5.8
Average gauge flow pressure in kilopascals (kPag)	0.0
Methane concentration in part per million (ppm)	0
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