



# Orphan Well Pre Plugging Methane Quantification Report

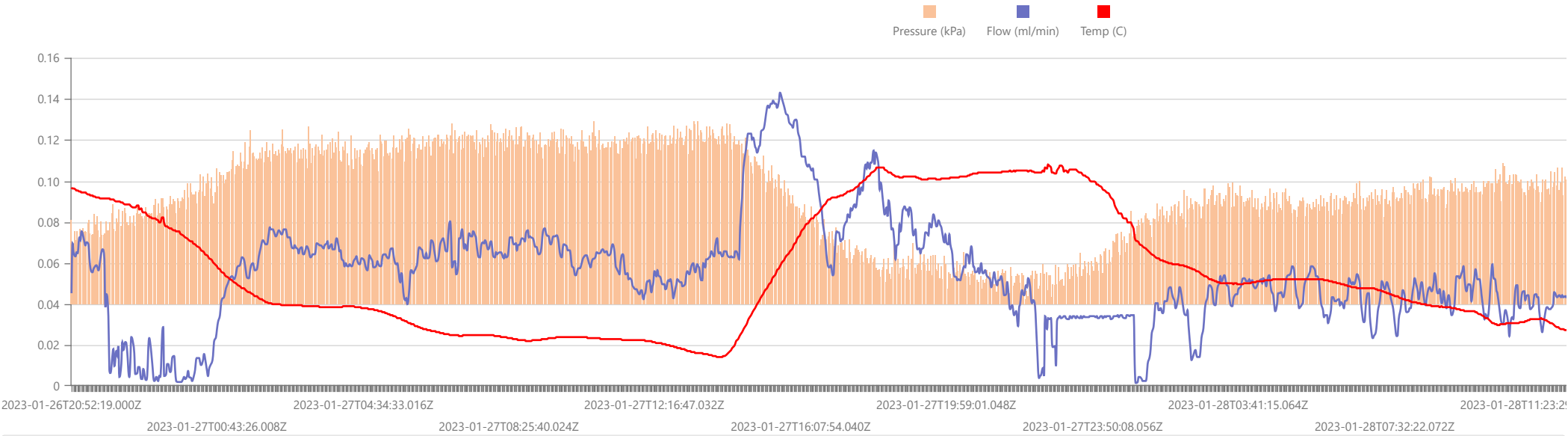
<div>Start Date: Thu Jan 26 2023 20:52:19 GMT+0000 (Coordinated Universal Time)</div> <div>End Date: Sat Jan 28 2023 22:50:36 GMT+0000 (Coordinated Universal Time)</div> <div>Device: VB100-0020</div> <div>Well Licensee: 30-005-27983</div> <div>Well Name: Cato San Andres Unit 535</div> <div>UWI: 30-005-27983</div> <div>Well License Number: 30-005-27983</div> <div>Surface Location: State of NM</div> <div>Bottom Hole Location: Unknown</div>	<div>Test Operator: Sean O. Jacobson</div> <div>Authorized By: State of NM</div> <div>Test Reason: IJA Pre Plugging</div> <div>Scope Of Work: 12 Hour</div> <div>AFE Number: 52100-00000073108</div> <div>GPS: 33.63411,-103.84556</div> <div>Notes: GTG</div> <div>Prepared By: Curtis Shuck, QMS</div>
---	--

## Flow / Pressure Test

<div>Flow Duration</div> <div>49 hrs 56 minutes</div> <div>Duration</div>	<div>Average Flowrate</div> <div>0.0554</div> <div>m3/d</div>	<div>Average Pressure</div> <div>2.2260</div> <div>kPag</div>	<div>Average Flow Temperature</div> <div>6.1808</div> <div>°C</div>	<div>Average CH4 Mass</div> <div>0.00 g/hr</div> <div>CH4 Concentration</div> <div>0.00 ppm</div>
---	---	---	---	---

**Methane Calculation:** 717 grams CH4 per cubic meter (717 g/m<sup>3</sup> x 0.0554 m<sup>3</sup>/day = 39.72 g/day total /24 = 1.66 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<sup>3</sup>; 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<sup>3</sup>], or 0.0004144 *ounce per cubic inch* [oz/inch<sup>3</sup>].

## Flow / Pressure / Temperature Timeseries



#	Date	Note
1	2023-09-23	ces: on location for post plug sampling and quantification.
2	2023-01-28	Rig down VB #20, secure site.
3	2023-01-26	Arrived 1:27pm January 26th, 2023. Conducted field gas analysis then collected gas sample. Rigged up ventbuster #20 for flow testing.

### Weather in Roswell, January 26

Weather Forecast for January 26 in Roswell, New Mexico - temperature, wind, atmospheric pressure, humidity and precipitations. Detailed hourly weather chart.

	January 24	January 25	Select date: 📅	January 27	January 28
January 26, 2023					
Atmospheric conditions and temperature °F					
RealFeel °F					
Atmospheric pressure inHg					
Wind speed mph					
Humidity					
Night	☁️ +28°	+21°			
Morning	☁️ +25°	+19°			
Day	☀️ +41°	+37°			
Evening	🌙 +36°	+28°			

### Weather in Roswell, January 27

Weather Forecast for January 27 in Roswell, New Mexico - temperature, wind, atmospheric pressure, humidity and precipitations. Detailed hourly weather chart.

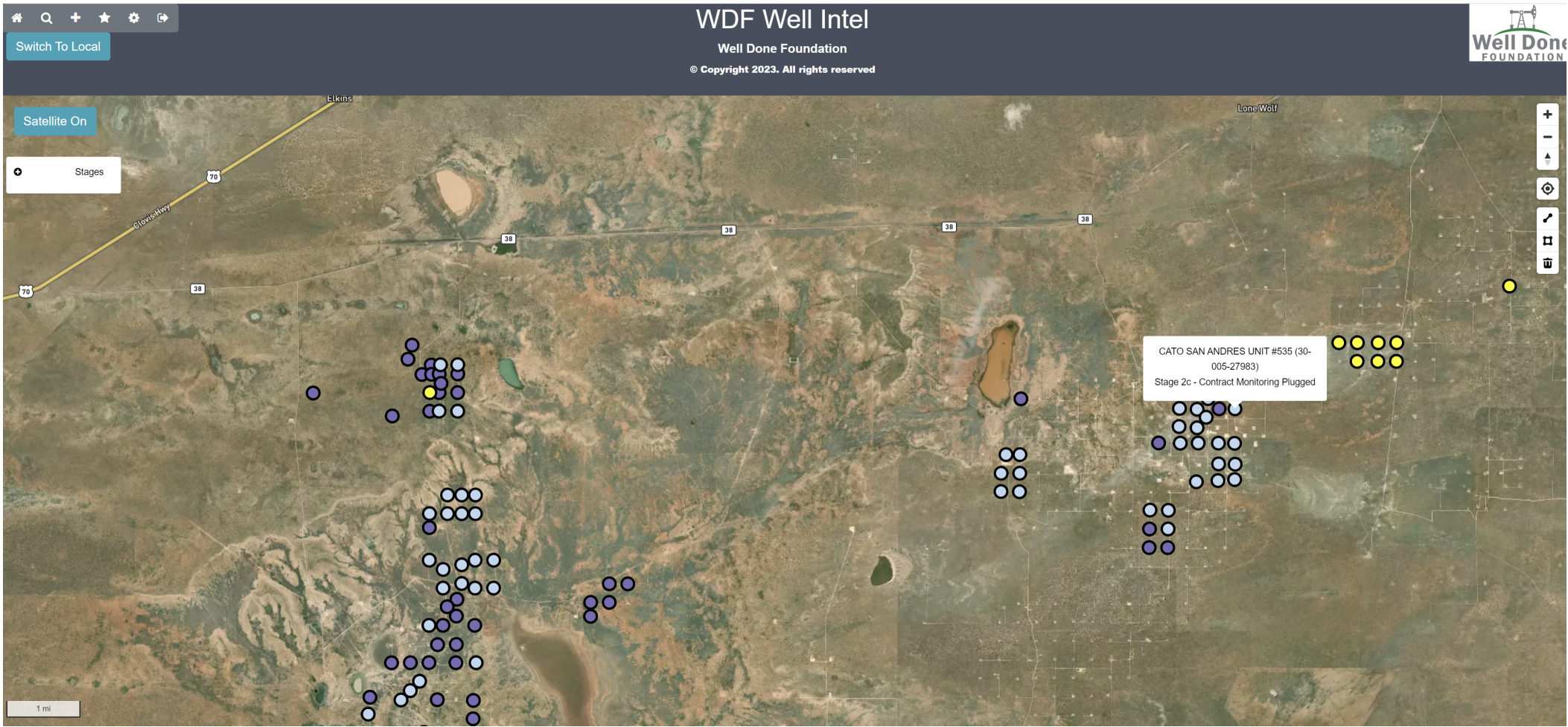
	January 26	January 27	Select date: 📅	January 28	January 29
January 27, 2023					
Atmospheric conditions and temperature °F					
RealFeel °F					
Atmospheric pressure inHg					
Wind speed mph					
Humidity					
Night	🌙 +23°	+18°			
Morning	☀️ +21°	+14°			
Day	☀️ +48°	+46°			
Evening	🌙 +41°	+37°			

### Weather in Roswell, January 28

Weather Forecast for January 28 in Roswell, New Mexico - temperature, wind, atmospheric pressure, humidity and precipitations. Detailed hourly weather chart.

	January 26	January 27	Select date: 📅	January 29	January 30
January 28, 2023					
Atmospheric conditions and temperature °F					
RealFeel °F					
Atmospheric pressure inHg					
Wind speed mph					
Humidity					
Night	🌙 +28°	+23°			
Morning	☁️ +23°	+16°			
Day	☁️ +57°	+57°			
Evening	🌙 +50°	+46°			









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

## C6+ Gas Analysis Report

15889G	CSAU #535 Pre Plug	CSA #535	
Sample Point Code	Sample Point Name	Sample Point Location	
Laboratory Services	2023063328	Tedlar Bag	SOJ - Spot
Source Laboratory	Lab File No	Container Identity	Sampler
USA	USA	USA	New Mexico
District	Area Name	Field Name	Facility Name
Jan 26, 2023 13:35	Jan 26, 2023 13:35	Jan 27, 2023 10:54	Jan 30, 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)	99.0130	99.012	
CO2 (CO2)	0.4810	0.481	
Methane (C1)	0.0000	0	
Ethane (C2)	0.0000	0	0.0000
Propane (C3)	0.0290	0.029	0.0080
I-Butane (IC4)	0.0000	0	0.0000
N-Butane (NC4)	0.0160	0.016	0.0050
I-Pentane (IC5)	0.0000	0	0.0000
N-Pentane (NC5)	0.0000	0	0.0000
Hexanes Plus (C6+)	0.4610	0.461	0.2000
TOTAL	100.0000	99.9990	0.2130

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 23, 2023

Source	Date	Notes
Brooke Rush	Jan 31, 2023 9:06 pm	Methane = 0 PPM

Gross Heating Values (Real, BTU/ft³)			
14.696 PSI @ 60.00 Å°F		14.73 PSI @ 60.00 Å°F	
Dry	Saturated	Dry	Saturated
25.00	25.4	25.1	25.5

Calculated Total Sample Properties	
GPA2145-16 *Calculated at Contract Conditions	
Relative Density Real	Relative Density Ideal
0.9805	0.9805
Molecular Weight	
28.4003	

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 31, 2023

## DATA SOURCE:

Imported

## PASSED BY VALIDATOR REASON:

Close enough to be considered reasonable.

## VALIDATOR:

Brooke Rush

## VALIDATOR COMMENTS:

OK

**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

Action 280507

DEFINITIONS

Operator: CANO PETRO OF NEW MEXICO, INC. 801 Cherry Street Fort Worth, TX 76102	OGRID: 248802
	Action Number: 280507
	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.



**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**

QUESTIONS

Action 280507

**QUESTIONS**

Operator: CANO PETRO OF NEW MEXICO, INC. 801 Cherry Street Fort Worth, TX 76102	OGRID: 248802
	Action Number: 280507
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

**QUESTIONS**

<b>Prerequisites</b>	
[OGRID] Well Operator	[248802] CANO PETRO OF NEW MEXICO, INC.
[API] Well Name and Number	[30-005-27983] CATO SAN ANDRES UNIT #535
Well Status	Plugged (not released)

**Monitoring Event Information**

Please answer all the questions in this group.

Reason For Filing	Pre-Plug Methane Monitoring
Date of monitoring	01/26/2023
Latitude	33.6340218
Longitude	-103.8455734

**Monitoring Event Details**

Please answer all the questions in this group.

Flow rate in cubic meters per day (m³/day)	0.06
Test duration in hours (hr)	49.9
Average flow temperature in degrees Celsius (°C)	6.1
Average gauge flow pressure in kilopascals (kPag)	2.2
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
-------------------------------	--------------------------