



## Orphan Well Pre Plugging Methane Quantification Report

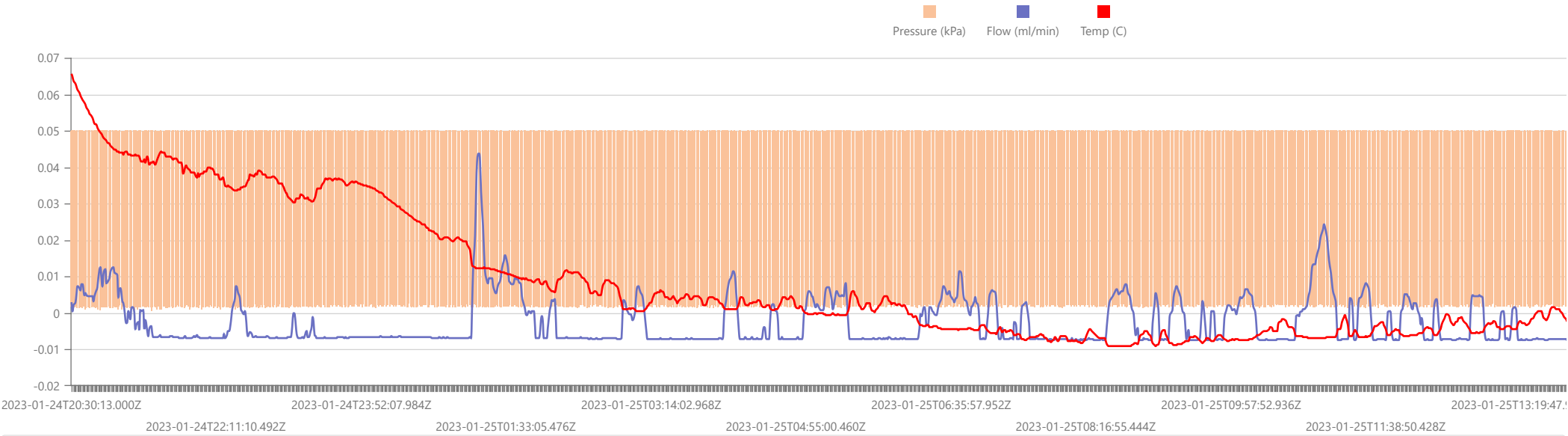
|  |  |
|--|--|
| Start Date: Tue Jan 24 2023 20:30:13 GMT+0000 (Coordinated Universal Time)<br>End Date: Wed Jan 25 2023 18:19:57 GMT+0000 (Coordinated Universal Time)<br>Device: VB100-0039<br>Well Licensee: 30-005-27964<br>Well Name: Cato San Andres Unit 532<br>UWI: 30-005-27964<br>Well License Number: 30-005-27964<br>Surface Location: State of NM<br>Bottom Hole Location: Unknown | Test Operator: Sean O. Jacobson<br>Authorized By: State of NM<br>Test Reason: IJJA Pre Plugging<br>Scope Of Work: 12 Hour<br>AFE Number: 52100-00000073108<br>GPS: 33.63408,-103.85458<br>Notes: GTG<br>Prepared By: Curtis Shuck, QMS |
|--|--|

## Flow / Pressure Test

|  |                                     |                                      |  |  |
|--|-------------------------------------|--------------------------------------|--|--|
| Flow Duration<br>21 hrs 48 minutes<br>Duration | Average Flowrate<br>-0.0015<br>m3/d | Average Pressure<br>-48.0951<br>kPag | Average Flow Temperature<br>2.1301<br>°C | Average CH4 Mass<br>-0.00 g/hr<br>CH4 Concentration<br>2,730 ppm |
|--|-------------------------------------|--------------------------------------|--|--|

**Methane Calculation:** 717 grams CH4 per cubic meter (717 g/m<sup>3</sup> x -0.0015 m<sup>3</sup>/day = -1.08 g/day total /24 = -0.04 g/hour x 0.00273 (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 | 2023-01-25 | Arrived 11:14am January 25th, 2023. Rigged down flow test and secured location.  |
| 2 | 2023-01-24 | Arrived 12:59pm January 24th, 2023. Conducted field gas analysis then collected gas sample. Rigged up ventbuster #39 for flow testing. |

### Weather in Roswell, January 24

Weather Forecast for January 24 in Roswell, New Mexico - temperature, wind, atmospheric pressure, humidity and precipitations. Detailed hourly weather chart.

|            |            |                |            |            |
|------------|------------|----------------|------------|------------|
| January 22 | January 23 | Select date: 📅 | January 25 | January 26 |
|------------|------------|----------------|------------|------------|

#### January 24, 2023

|         | Atmospheric conditions and temperature °F | RealFeel °F | Atmospheric pressure inHg | Wind speed mph | Humidity |
|---------|---|-------------|---------------------------|----------------|----------|
| Night   | ☁️ ❄️ +34°                                | +27°        | 26.3                      | ⬆️ NE 8.5      | 81%      |
| Morning | ☁️ ❄️ +28°                                | +21°        | 26.3                      | ⬇️ N 7.6       | 87%      |
| Day     | ☀️ +41°                                   | +39°        | 26.3                      | ➡️ W 5.1       | 50%      |
| Evening | ☁️ +36°                                   | +30°        | 26.3                      | ⬆️ NW 6.5      | 53%      |

### Weather in Roswell, January 25

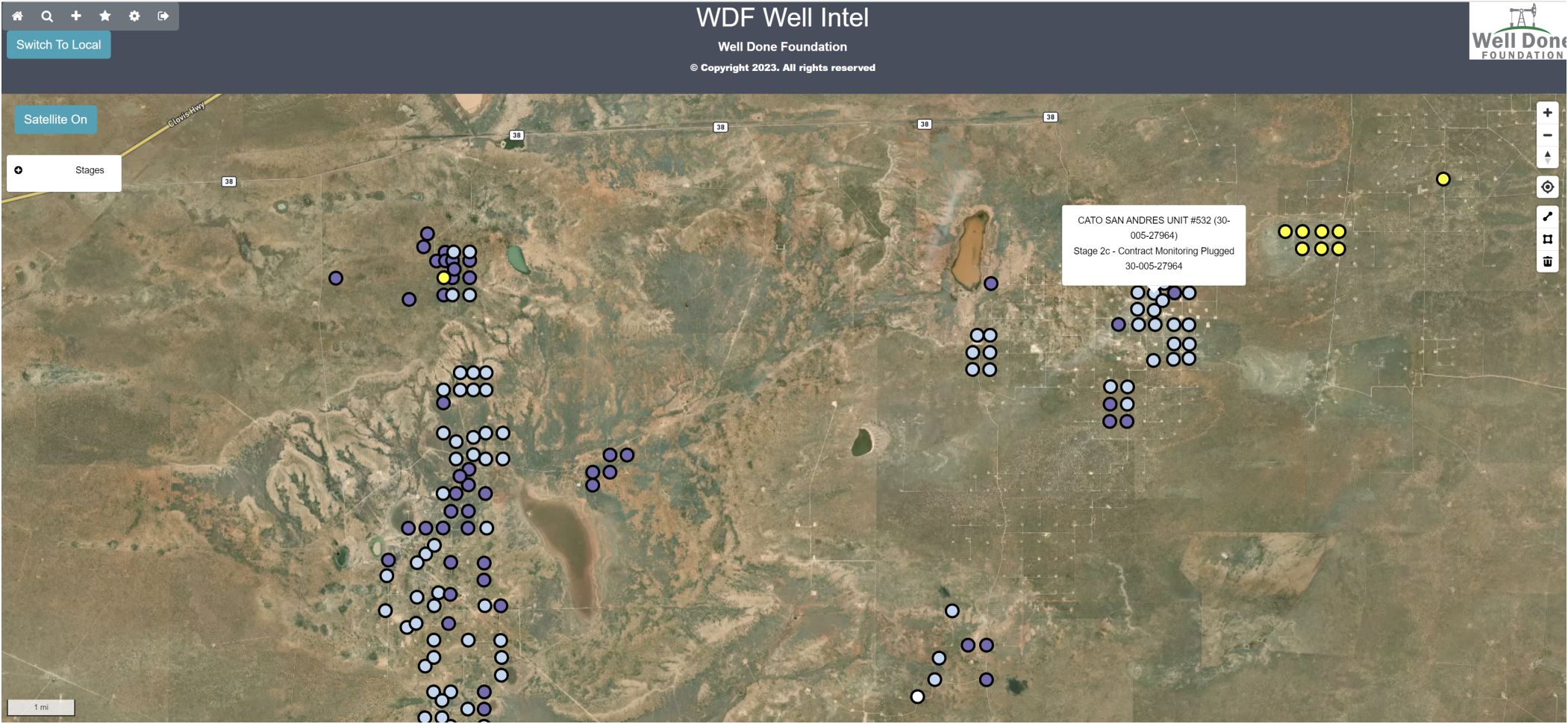
Weather Forecast for January 25 in Roswell, New Mexico - temperature, wind, atmospheric pressure, humidity and precipitations. Detailed hourly weather chart.

|            |            |                |            |            |
|------------|------------|----------------|------------|------------|
| January 23 | January 24 | Select date: 📅 | January 26 | January 27 |
|------------|------------|----------------|------------|------------|

#### January 25, 2023

|         | Atmospheric conditions and temperature °F | RealFeel °F | Atmospheric pressure inHg | Wind speed mph | Humidity |
|---------|---|-------------|---------------------------|----------------|----------|
| Night   | 🌙 +32°                                    | +27°        | 26.4                      | ⬆️ NW 4.7      | 68%      |
| Morning | ☀️ +30°                                   | +25°        | 26.5                      | ⬇️ N 4         | 65%      |
| Day     | ☀️ +43°                                   | +36°        | 26.5                      | ⬆️ NW 12.8     | 22%      |
| Evening | 🌙 +36°                                    | +30°        | 26.5                      | ⬆️ NE 4.9      | 53%      |









|                      |                    |                        |  |
|----------------------|--------------------|------------------------|--|
| 15880G               | CSAU #532 Pre Plug | CSA #532               |  |
| Sample Point Code    | Sample Point Name  | Sample Point Location  |  |
| Laboratory Services  | 2023063319         | 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 24, 2023 01:07   | Jan 24, 2023 01:07 | Jan 27, 2023 10:37     | Jan 30, 2023                             |
| Date Sampled         | Date Effective     | Date Received          | Date Reported                            |
| Torrance             |                    |                        |  |
| Ambient Temp (°F)    | Flow Rate (Mcf)    | Analyst                | Press PSI @ Temp °F<br>Source Conditions |
| Well Done Foundation |                    | NG                     |  |
| Operator             |                    | Lab Source Description |  |

| Component          | Normalized Mol % | Un-Normalized Mol % | GPM    |
|--------------------|------------------|---------------------|--------|
| H2S (H2S)          | 0.0000           | 0                   |        |
| Nitrogen (N2)      | 96.4430          | 96.44165            |        |
| CO2 (CO2)          | 0.3530           | 0.35318             |        |
| Methane (C1)       | 0.2730           | 0.2734              |        |
| Ethane (C2)        | 0.6210           | 0.62116             | 0.1660 |
| Propane (C3)       | 1.0650           | 1.06544             | 0.2930 |
| I-Butane (IC4)     | 0.1930           | 0.19285             | 0.0630 |
| N-Butane (NC4)     | 0.4060           | 0.40589             | 0.1280 |
| I-Pentane (IC5)    | 0.1150           | 0.11464             | 0.0420 |
| N-Pentane (NC5)    | 0.1050           | 0.10544             | 0.0380 |
| Hexanes Plus (C6+) | 0.4260           | 0.42634             | 0.1850 |
| TOTAL              | 100.0000         | 100.0000            | 0.9150 |

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 9:13 pm | Methane = 2,730 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 |
| 91.00                                | 90.4      | 91.2                  | 90.6      |

| Calculated Total Sample Properties            |                        |
|---|------------------------|
| GPA2145-16 *Calculated at Contract Conditions |                        |
| Relative Density Real                         | Relative Density Ideal |
| 0.9936  | 0.9935                 |
| Molecular Weight                              |                        |
| 28.7763                                       |                        |

| 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:** First sample taken @ this point, composition looks 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 278219

DEFINITIONS

|  |   |
|--|---|
| Operator:<br>CANO PETRO OF NEW MEXICO, INC.<br>801 Cherry Street<br>Fort Worth, TX 76102 | OGRID:<br>248802  |
|  | Action Number:<br>278219  |
|  | Action Type:<br>[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 278219

**QUESTIONS**

|  |   |
|--|---|
| Operator:<br>CANO PETRO OF NEW MEXICO, INC.<br>801 Cherry Street<br>Fort Worth, TX 76102 | OGRID:<br>248802  |
|  | Action Number:<br>278219  |
|  | Action Type:<br>[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 | [30-005-27964] CATO SAN ANDRES UNIT #532 |
| 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 | 01/24/2023                  |
| Latitude           | 33.63408                    |
| Longitude          | -103.85458                  |

**Monitoring Event Details**

Please answer all the questions in this group.

|   |              |
|---|--------------|
| Flow rate in cubic meters per day (m³/day)        | 0.00         |
| Test duration in hours (hr)                       | 21.7         |
| Average flow temperature in degrees Celsius (°C)  | 2.1          |
| Average gauge flow pressure in kilopascals (kPag) | -48.0        |
| Methane concentration in part per million (ppm)   | 2,730        |
| 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 |
|-------------------------------|--------------------------|