



## Orphan Well Pre Plugging Methane Quantification Report

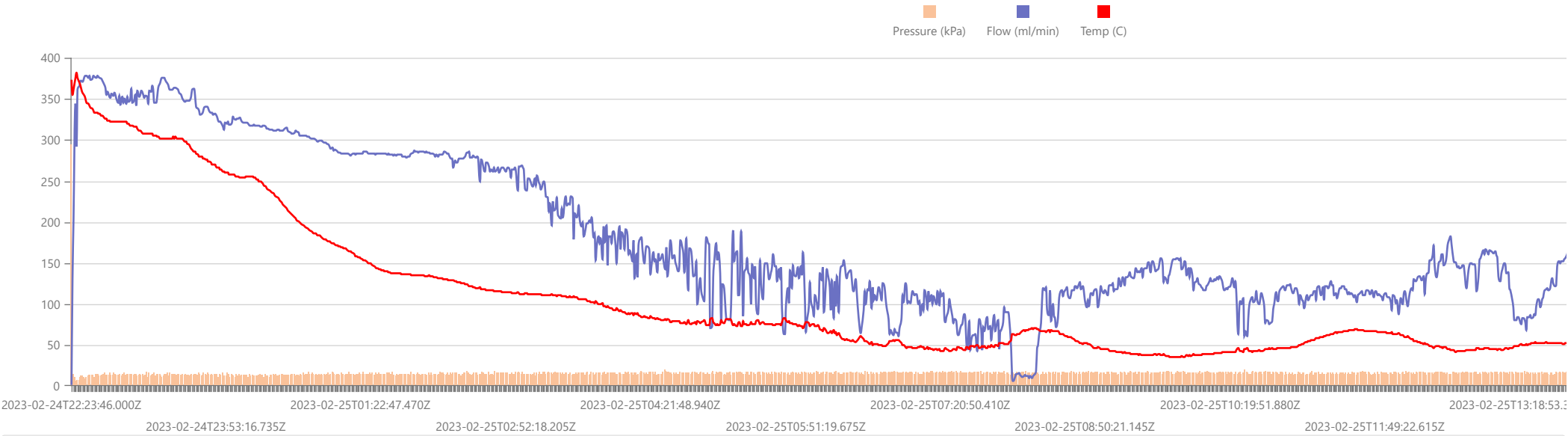
|  |  |
|--|--|
| Start Date: Fri Feb 24 2023 22:23:46 GMT+0000 (Coordinated Universal Time)<br>End Date: Sat Feb 25 2023 17:45:01 GMT+0000 (Coordinated Universal Time)<br>Device: VB100-0044<br>Well Licensee: 30-005-29051<br>Well Name: Cato San Andres 557y<br>UWI: 30-005-29051<br>Well License Number: 30-005-29051<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: 33.62759,-103.86352<br>Notes: GTG<br>Prepared By: Curtis Shuck, QMS |
|--|--|

## Flow / Pressure Test

|  |                                      |                                    |  |   |
|--|--------------------------------------|------------------------------------|--|---|
| Flow Duration<br>19 hrs 20 minutes<br>Duration | Average Flowrate<br>174.9683<br>m3/d | Average Pressure<br>5.8834<br>kPag | Average Flow Temperature<br>3.7972<br>°C | Average CH4 Mass<br>1,132.05 g/hr<br><br>CH4 Concentration<br>216,570 ppm |
|--|--------------------------------------|------------------------------------|--|---|

**Methane Calculation:** 717 grams CH4 per cubic meter (717 g/m³ x 174.9683 m³/day = 125452.27 g/day total /24 = 5227.18 g/hour x 0.21657 (methane concentration) = **1132.05 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/m³; 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/ft³], or 0.0004144 *ounce per cubic inch* [oz/inch³].

## Flow / Pressure / Temperature Timeseries



| # | Date       | Note   |
|---|------------|--|
| 1 | 2023-02-25 | Arrived 10:42am 2/25/2023. Rigged down flow test.                    |
| 2 | 2023-02-24 | Arrived 3:01pm 2/24/2023. Rigged up Ventbuster #44 for flow testing. |

### Weather in Roswell, February 24

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

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

#### February 24, 2023

|         | Atmospheric conditions and temperature °F | RealFeel °F | Atmospheric pressure inHg | Wind speed mph | Humidity |
|---------|---|-------------|---------------------------|----------------|----------|
| Night   | ☁️ +41°                                   | +37°        | 26.4                      | ▲ S 7.6        | 45%      |
| Morning | ☀️ +30°                                   | +25°        | 26.4                      | ◀ E 5.8        | 57%      |
| Day     | ☀️ +57°                                   | +57°        | 26.5                      | ▼ SE 9.8       | 30%      |
| Evening | ☁️ +48°                                   | +46°        | 26.4                      | ▲ S 6          | 35%      |

### Weather in Roswell, February 25

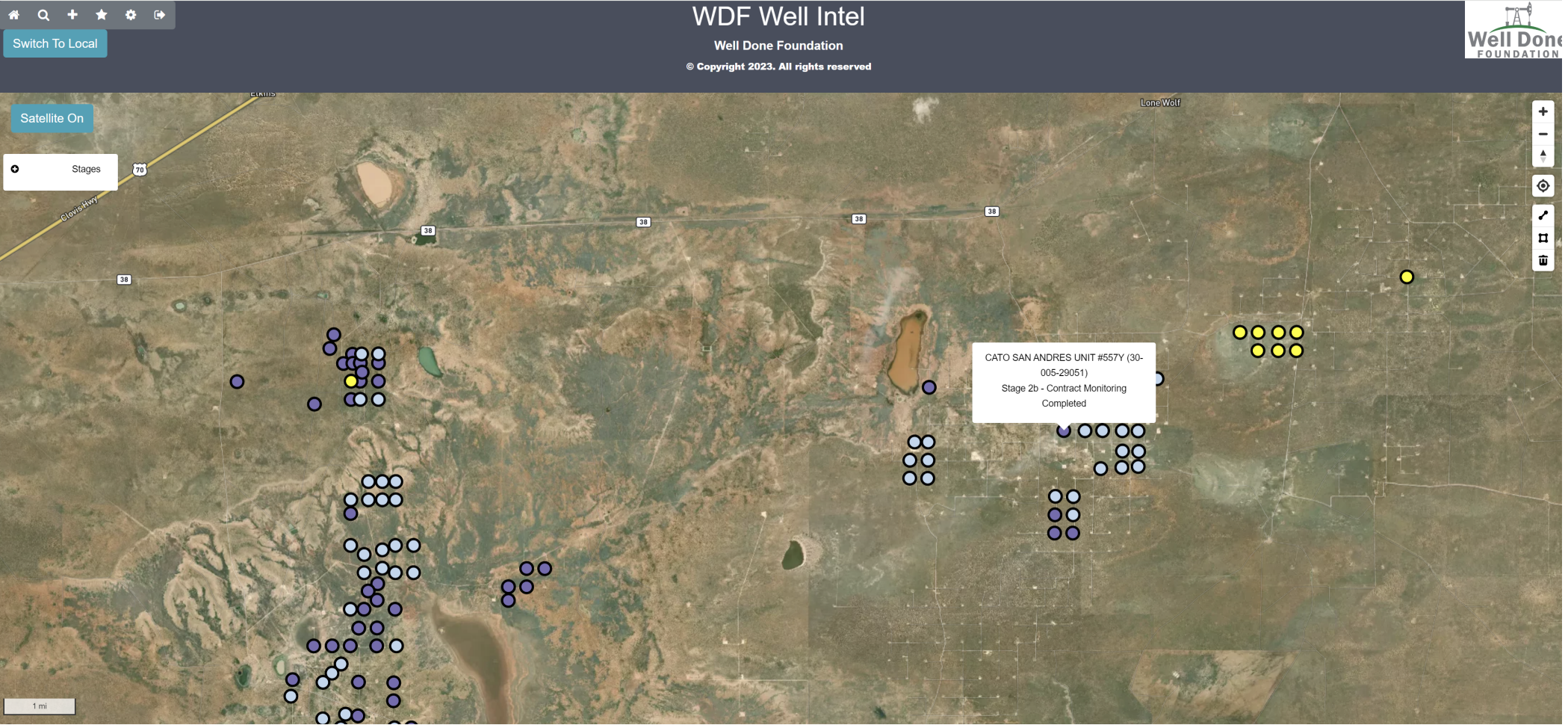
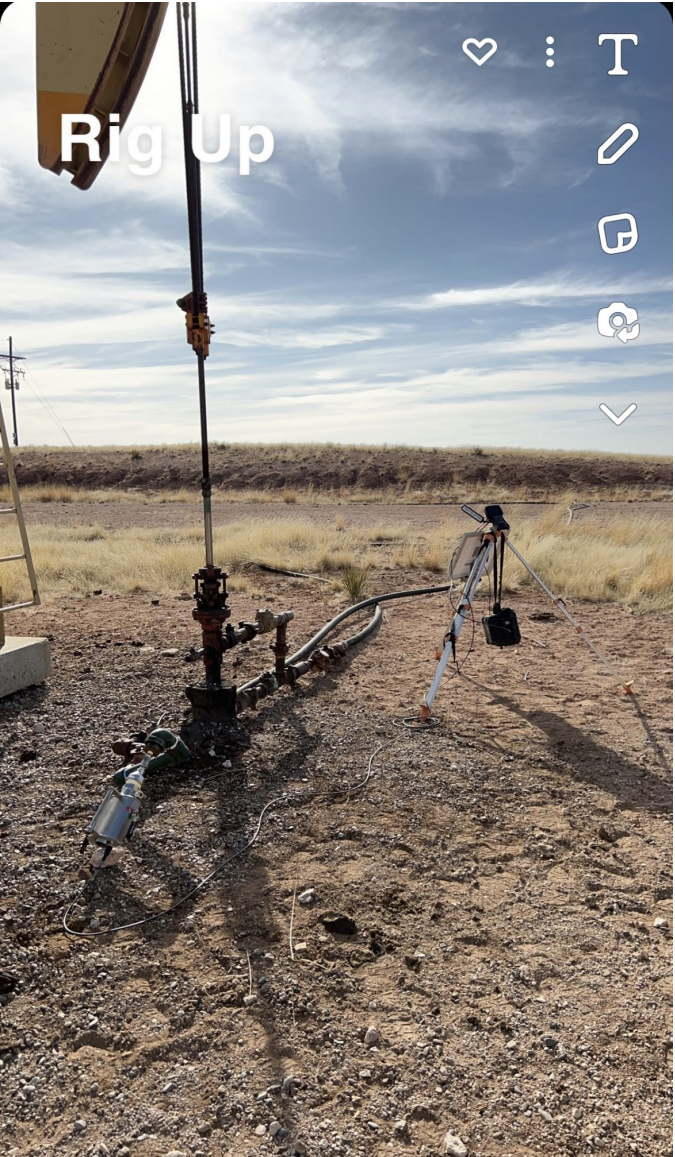
Weather Forecast for February 25 in Roswell, New Mexico - temperature, wind, atmospheric pressure, humidity and precipitations. Detailed hourly weather chart.

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

#### February 25, 2023

|         | Atmospheric conditions and temperature °F | RealFeel °F | Atmospheric pressure inHg | Wind speed mph | Humidity |
|---------|---|-------------|---------------------------|----------------|----------|
| Night   | ☁️ +39°                                   | +36°        | 26.5                      | ▲ S 4.9        | 58%      |
| Morning | ☀️ +34°                                   | +30°        | 26.5                      | ► W 4          | 64%      |
| Day     | ☁️ +59°                                   | +59°        | 26.5                      | ▼ SE 8.1       | 54%      |
| Evening | ☁️ +54°                                   | +54°        | 26.4                      | ▲ S 6.5        | 53%      |









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## C6+ Gas Analysis Report

|                             |                           |                           |  |
|-----------------------------|---------------------------|---------------------------|--|
| <b>16102G</b>               | <b>CSAU #557 Pre Plug</b> | <b>CSA #557</b>           |  |
| Sample Point Code           | Sample Point Name         | Sample Point Location     |  |
| <b>Laboratory Services</b>  | <b>2023064665</b>         | <b>Tedlar Bag</b>         | <b>S.O. 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 24, 2023 15:03</b>   | <b>Feb 24, 2023 15:03</b> | <b>Feb 27, 2023 10:59</b> | <b>Mar 1, 2023</b>                       |
| Date Sampled                | Date Effective            | Date Received             | Date Reported                            |
| <b>Torrance</b>             |                           |                           |  |
| Ambient Temp (°F)           | Flow Rate (Mcf)           | Analyst                   | Press PSI @ Temp °F<br>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)      | 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 |

| 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

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 |

| Source    | Date                | Notes                |
|-----------|---------------------|----------------------|
| Luis Cano | Mar 3, 2023 8:03 am | Methane: 216,570 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

Action 278373

DEFINITIONS

|  |   |
|--|---|
| Operator:<br>CANO PETRO OF NEW MEXICO, INC.<br>801 Cherry Street<br>Fort Worth, TX 76102 | OGRID:<br>248802  |
|  | Action Number:<br>278373  |
|  | 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.



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QUESTIONS

Action 278373

**QUESTIONS**

|  |   |
|--|---|
| Operator:<br>CANO PETRO OF NEW MEXICO, INC.<br>801 Cherry Street<br>Fort Worth, TX 76102 | OGRID:<br>248802  |
|  | Action Number:<br>278373  |
|  | 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 | [30-005-29051] CATO SAN ANDRES UNIT #557Y |
| 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 | 02/24/2023                  |
| Latitude           | 33.62759                    |
| Longitude          | -103.86352                  |

**Monitoring Event Details**

Please answer all the questions in this group.

|   |              |
|---|--------------|
| Flow rate in cubic meters per day (m³/day)        | 174.96       |
| Test duration in hours (hr)                       | 19.2         |
| Average flow temperature in degrees Celsius (°C)  | 3.7          |
| 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)    | 1,132.05     |
| Testing Method                                    | Steady State |

**Monitoring Contractor**

Please answer all the questions in this group.

|                               |                          |
|-------------------------------|--------------------------|
| Name of monitoring contractor | Well Done New Mexico LLC |
|-------------------------------|--------------------------|