# Certificate of Analysis

Number: 6030-20110087-001A

**Artesia Laboratory**
200 E Main St.
Artesia, NM 88210
Phone 575-746-3481

Chandler Montgomery
Occidental Petroleum
1502 W Commerce Dr.
Carlsbad, NM 88220

Nov. 17, 2020

| | | | |
|---|---|---|---|
| Field: | NMSW | Sampled By: | Jesus Escobedo |
| Station Name: | Corral Compressor Station 2 South | Sample Of: | Gas Spot |
| Station Number: | N/A | Sample Date: | 11/11/2020 01:09 |
| Sample Point: | N/A | Sample Conditions: | 1265 psig Ambient: 49 °F |
| Meter Number: | | Effective Date: | 11/11/2020 01:09 |
| County: | Eddy | Method: | GPA 2286 |
| Type of Sample: | Spot-Cylinder | Cylinder No: | 1111-001162 |
| Heat Trace Used: | N/A | Instrument: | 6030_GC2 (Agilent GC-7890B) |
| Sampling Method: | Fill and Purge | Last Inst. Cal.: | 08/25/2020 8:12 AM |
| Sampling Company: | OXY | Analyzed: | 11/17/2020 12:40:16 by PGS |

## Analytical Data

| Components | Un-normalized Mol % | Mol. % | Wt. % | GPM at 14.65 psia | | |
|---|---|---|---|---|---|---|
| Hydrogen Sulfide | 0.000 | 0.000 | 0.000 | | GPM TOTAL C2+ | 6.390 |
| Nitrogen | 1.332 | 1.320 | 1.675 | | GPM TOTAL C3+ | 3.359 |
| Methane | 76.899 | 76.201 | 55.381 | | GPM TOTAL iC5+ | 0.805 |
| Carbon Dioxide | 0.171 | 0.169 | 0.337 | | | |
| Ethane | 11.459 | 11.355 | 15.468 | 3.031 | | |
| Propane | 5.781 | 5.728 | 11.443 | 1.575 | | |
| Iso-butane | 0.846 | 0.838 | 2.207 | 0.274 | | |
| n-Butane | 2.259 | 2.238 | 5.893 | 0.705 | | |
| Iso-pentane | 0.642 | 0.636 | 2.079 | 0.232 | | |
| n-Pentane | 0.766 | 0.759 | 2.481 | 0.275 | | |
| Hexanes Plus | 0.763 | 0.756 | 3.036 | 0.298 | | |
| | 100.918 | 100.000 | 100.000 | 6.390 | | |

| Calculated Physical Properties | Total | C6+ |
|---|---|---|
| Relative Density Real Gas | 0.7649 | 3.0584 |
| Calculated Molecular Weight | 22.07 | 88.58 |
| Compressibility Factor | 0.9960 | |
| **GPA 2172 Calculation:** | | |
| **Calculated Gross BTU per ft³ @ 14.65 psia & 60°F** | | |
| Real Gas Dry BTU | 1308 | 4763 |
| Water Sat. Gas Base BTU | 1285 | 4680 |
| Ideal, Gross HV - Dry at 14.65 psia | 1302.9 | 4763.5 |
| Ideal, Gross HV - Wet | 1280.1 | 0.000 |
| Net BTU Dry Gas - real gas | 1188 | |
| Net BTU Wet Gas - real gas | 1167 | |

**Comments:** H2S Field Content 0 ppm

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

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Nov. 17, 2020

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|---|---|---|---|
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| Station Name: | Corral Compressor Station 2 South | Sample Of: | Gas Spot |
| Station Number: | N/A | Sample Date: | 11/11/2020 01:09 |
| Sample Point: | N/A | Sample Conditions: | 1265 psig |
| Meter Number: | | Method: | GPA 2286 |
| County: | Eddy | Cylinder No: | 1111-001162 |
| Type of Sample: | Spot-Cylinder | Analyzed: | 11/17/2020 13:21:28 by PGS |
| Heat Trace Used: | N/A | Sampling Company: | OXY |
| Sampling Method: | Fill and Purge | | |

## Analytical Data

| Components | Mol. % | Wt. % | GPM at 14.65 psia | | |
|---|---|---|---|---|---|
| Hydrogen Sulfide | NIL | NIL | | GPM TOTAL C2+ | 6.390 |
| Nitrogen | 1.320 | 1.675 | | GPM TOTAL C3+ | 3.359 |
| Methane | 76.201 | 55.381 | | GPM TOTAL iC5+ | 0.805 |
| Carbon Dioxide | 0.169 | 0.337 | | | |
| Ethane | 11.355 | 15.468 | 3.031 | | |
| Propane | 5.728 | 11.443 | 1.575 | | |
| Iso-Butane | 0.838 | 2.207 | 0.274 | | |
| n-Butane | 2.238 | 5.893 | 0.705 | | |
| Iso-Pentane | 0.636 | 2.079 | 0.232 | | |
| n-Pentane | 0.759 | 2.481 | 0.275 | | |
| Hexanes | 0.374 | 1.443 | 0.152 | | |
| Heptanes Plus | 0.382 | 1.593 | 0.146 | | |
| | 100.000 | 100.000 | 6.390 | | |

| Calculated Physical Properties | Total | C7+ |
|---|---|---|
| Relative Density Real Gas | 0.7649 | 3.1738 |
| Calculated Molecular Weight | 22.07 | 91.92 |
| Compressibility Factor | 0.9960 | |
| **GPA 2172 Calculation:** | | |
| **Calculated Gross BTU per ft³ @ 14.65 psia & 60°F** | | |
| Real Gas Dry BTU | 1308 | 4850 |
| Water Sat. Gas Base BTU | 1285 | 4766 |
| Ideal, Gross HV - Dry at 14.65 psia | 1302.9 | 4850.4 |
| Ideal, Gross HV - Wet | 1280.1 | NIL |

**Comments:** H2S Field Content 0 ppm

Hydrocarbon Laboratory Manager

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| County: | Eddy | Cylinder No: | 1111-001162 |
| Type of Sample: | Spot-Cylinder | Analyzed: | 11/17/2020 13:21:28 by PGS |
| Heat Trace Used: | N/A | Sampling Company: | OXY |
| Sampling Method: | Fill and Purge | | |

## Analytical Data

| Components | Mol. % | Wt. % | GPM at 14.65 psia |
|---|---|---|---|
| Hydrogen Sulfide | NIL | NIL | |
| Nitrogen | 1.320 | 1.675 | |
| Methane | 76.201 | 55.381 | |
| Carbon Dioxide | 0.169 | 0.337 | |
| Ethane | 11.355 | 15.468 | 3.031 |
| Propane | 5.728 | 11.443 | 1.575 |
| Iso-Butane | 0.838 | 2.207 | 0.274 |
| n-Butane | 2.238 | 5.893 | 0.705 |
| Iso-Pentane | 0.636 | 2.079 | 0.232 |
| n-Pentane | 0.759 | 2.481 | 0.275 |
| i-Hexanes | 0.229 | 0.880 | 0.092 |
| n-Hexane | 0.145 | 0.563 | 0.060 |
| Benzene | 0.036 | 0.125 | 0.010 |
| Cyclohexane | 0.091 | 0.348 | 0.031 |
| i-Heptanes | 0.135 | 0.566 | 0.054 |
| n-Heptane | 0.027 | 0.125 | 0.013 |
| Toluene | 0.015 | 0.065 | 0.005 |
| i-Octanes | 0.065 | 0.307 | 0.029 |
| n-Octane | 0.003 | 0.015 | 0.001 |
| Ethylbenzene | 0.001 | 0.002 | NIL |
| Xylenes | 0.003 | 0.010 | 0.001 |
| i-Nonanes | 0.005 | 0.025 | 0.002 |
| n-Nonane | 0.001 | 0.003 | NIL |
| i-Decanes | NIL | NIL | NIL |
| n-Decane | NIL | 0.001 | NIL |
| Undecanes | NIL | 0.001 | NIL |
| Dodecanes | NIL | NIL | NIL |
| Tridecanes | NIL | NIL | NIL |
| Tetradecanes Plus | NIL | NIL | NIL |
| | 100.000 | 100.000 | 6.390 |

GPM TOTAL C2+ 6.390

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| Meter Number: | | Method: | GPA 2286 |
| County: | Eddy | Cylinder No: | 1111-001162 |
| Type of Sample: | Spot-Cylinder | Analyzed: | 11/17/2020 13:21:28 by PGS |
| Heat Trace Used: | N/A | Sampling Company: | OXY |
| Sampling Method: | Fill and Purge | | |

| **Calculated Physical Properties** | **Total** |
|---|---|
| Calculated Molecular Weight | 22.073 |
| **GPA 2172 Calculation:** | |
| **Calculated Gross BTU per ft³ @ 14.65 psia & 60°F** | |
| Real Gas Dry BTU | 1308.0 |
| Water Sat. Gas Base BTU | 1285.2 |
| Relative Density Real Gas | 0.7649 |
| Compressibility Factor | 0.9960 |

**Comments:** H2S Field Content 0 ppm

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

# UPSET EVENT SPECIFIC JUSTIFICATIONS FORM

**Facility:** Corral 2S CS **Date:** 08/17/2021

**Duration of event:** 3 Hours 20 minutes **MCF Flared:** 347

**Start Time:** 06:40 PM **End Time:** 10:00 PM

**Cause:** Downstream Activity > Enterprise

**Method of Flared Gas Measurement:** Gas Flare Meter

**Well API Associated with Facility:** 30-015-44507 Corral Fly 02 01 State #021H

**Comments:** This upset event was not caused by any wells associated with the facility. This emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable breakdown of equipment or process that was beyond the owner/operator's control, and did not stem from activity that could have been foreseen and avoided, and could not have been avoided or prevented by good design, operation, and preventative maintenance practices.

---

## 1. Reason why this event was beyond Operator's control:

The emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable interruption, restriction or complete shut-in of a gas pipeline by a third-party pipeline operator, which impacted Oxy's ability to send gas to a third-party gas pipeline. This interruption, restriction or complete shut-in of the gas pipeline by a third-party pipeline operator is downstream of Oxy's custody transfer point and out of Oxy's control to avoid or prevent from happening and did not stem from any of Oxy's upstream facility activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices.

In this case, this sudden and unexpected flaring event occurred due to third party pipeline operator, Enterprise's associating sales purchaser had compression issues at their booster station, which in turn caused the line psi to spike extremely high, which then instigated sales takeaway issues by having to restrict the volume of gas allowed to be pushed into the Enterprise pipeline. In addition, the line psi spike also generated a rise in the field psi triggering a flaring event at the Corral 2S compressor station, which was completely out of Oxy's control to avoid, foresee or prevent from happening. Enterprise was able to bring their line psi down so that our sales gas could get into their sales pipeline, which then in turn, lowered our field psi. This interruption, restriction or complete shut-in of the gas pipeline by Enterprise is downstream of Oxy's custody transfer point and out of Oxy's control to avoid or prevent from happening and did not stem from any of Oxy's upstream facility activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. This event is out of OXY's control yet, OXY made every effort to control and minimize emissions as much as possible.

## 2. Steps Taken to limit duration and magnitude of venting or flaring:

The emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable interruption, restriction or complete shut-in of a gas pipeline by a third-party pipeline operator, which impacted Oxy's ability to send gas to a third-party gas pipeline. This interruption, restriction or complete shut-in of the gas pipeline

by a third-party pipeline operator is downstream of Oxy's custody transfer point and out of Oxy's control to avoid or prevent from happening and did not stem from any of Oxy's upstream facility activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices.

This facility is unmanned, except when Oxy production techs are gathering data daily or conducting daily walk-throughs to ensure that there are no problems, circumstances and/or assist other personnel on-site for maintenance purposes. In this case, the spike in both line pressure and field psi forced Oxy's upstream facility to route all its stranded gas to a flare, as it was not able to push all its gas into Enterprises' gas pipeline due to the restrictions of gas flow placed on the pipeline, caused by their downstream sales purchaser's compression issues. Oxy production techs, immediately upon receiving high pressure line alarms, arrived at the facility and began inspecting the equipment and contacting Enterprise personnel to determine cause of high line pressure. Oxy production techs monitored the line pressure and stayed on location until flaring ceased when Enterprise was able to bring their line psi down so that our sales gas could get into their sales pipeline, which then in turn, lowered our field psi and Oxy ceased flaring. Each of the compressor units were working as designed and operated normally prior to the sudden and without warning malfunction which occurred that were beyond Oxy's control to foresee, avoid or prevent from happening.

**3. Corrective Actions taken to eliminate the cause and reoccurrence of venting or flaring:**

Oxy cannot take any corrective actions to eliminate the cause and potential reoccurrence of an Enterprise gas flow pipeline restriction or shut-in, as this control issue is downstream of Oxy's custody transfer point and out of Oxy's control to avoid, prevent from happening or reoccurring. Enterprise's downstream facilities and associated facilities issues will reoccur from time to time and may trigger a spike in their gas line pressure, which in turn, directly impacts Oxy's ability to send gas to them. When Enterprise has downstream activity issues or greatly struggles to handle the volume of gas being sent to them by Oxy, Enterprise then restricts Oxy's ability to send gas, which then prompts Oxy to route all of its stranded gas not pushed into the Enterprise gas pipeline, to flare. OXY makes every effort to control and minimize emissions as much as possible. The only actions that Oxy can take and handle that is within its control, is to keep continually communicate with Enterprise personnel during these types of situations.

**District I**
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**District II**
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**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 43467

## QUESTIONS

| | |
|---|---|
| Operator:<br>OXY USA INC<br>P.O. Box 4294<br>Houston, TX 772104294 | OGRID:<br>16696 |
| | Action Number:<br>43467 |
| | Action Type:<br>[C-129] Venting and/or Flaring (C-129) |

**QUESTIONS**

| **Prerequisites** | |
|---|---|
| *Any messages presented in this section, will prevent submission of this application. Please resolve these issues before continuing with the rest of the questions.* | |
| Incident Well | **[30-015-44507] CORRAL FLY 02 01 STATE #021H** |
| Incident Facility | *Not answered.* |

| **Determination of Reporting Requirements** | |
|---|---|
| *Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide addional guidance.* | |
| Was or is this venting and/or flaring caused by an emergency or malfunction | Yes |
| Did or will this venting and/or flaring last eight hours or more cumulatively within any 24-hour period from a single event | No |
| Is this considered a submission for a notification of a major venting and/or flaring | **Yes, minor venting and/or flaring of natural gas.** |
| *An operator shall file a form C-141 instead of a form C-129 for a release that, includes liquid during venting and/or flaring that is or may be a major or minor release under 19.15.29.7 NMAC.* | |
| Was there or will there be **at least 50 MCF** of natural gas vented and/or flared during this event | Yes |
| Did this venting and/or flaring result in the release of **ANY** liquids (not fully and/or completely flared) that reached (or has a chance of reaching) the ground, a surface, a watercourse, or otherwise, with reasonable probability, endanger public health, the environment or fresh water | No |
| Was the venting and/or flaring within an incorporated municipal boundary or withing 300 feet from an occupied permanent residence, school, hospital, institution or church in existence | No |

| **Equipment Involved** | |
|---|---|
| Primary Equipment Involved | Other (Specify) |
| Additional details for Equipment Involved. Please specify | Emergency Flare > Downstream Activity > Enterprise |

| **Representative Compositional Analysis of Vented or Flared Natural Gas** | |
|---|---|
| *Please provide the mole percent for the percentage questions in this group.* | |
| Methane (CH4) percentage | 76 |
| Nitrogen (N2) percentage, if greater than one percent | 1 |
| Hydrogen Sulfide (H2S) PPM, rounded up | 0 |
| Carbon Dioxide (C02) percentage, if greater than one percent | 0 |
| Oxygen (02) percentage, if greater than one percent | 0 |
| *If you are venting and/or flaring because of Pipeline Specification, please provide the required specifications for each gas.* | |
| Methane (CH4) percentage quality requirement | *Not answered.* |
| Nitrogen (N2) percentage quality requirement | *Not answered.* |
| Hydrogen Sufide (H2S) PPM quality requirement | *Not answered.* |
| Carbon Dioxide (C02) percentage quality requirement | *Not answered.* |
| Oxygen (02) percentage quality requirement | *Not answered.* |

| **Date(s) and Time(s)** | |
|---|---|
| Date venting and/or flaring was discovered or commenced | 08/18/2021 |
| Time venting and/or flaring was discovered or commenced | 10:50 PM |
| Time venting and/or flaring was terminated | 11:30 PM |
| Cumulative hours during this event | 1 |

| **Measured or Estimated Volume of Vented or Flared Natural Gas** | |
|---|---|
| Natural Gas Vented (Mcf) Details | *Not answered.* |

| | |
|---|---|
| Natural Gas Flared (Mcf) Details | Cause: Other \| Other (Specify) \| Natural Gas Flared \| Released: 126 Mcf \| Recovered: 0 Mcf \| Lost: 126 Mcf ] |
| Other Released Details | *Not answered.* |
| Additional details for Measured or Estimated Volume(s). Please specify | Gas Flare Meter |
| Is this a gas only submission (i.e. only significant Mcf values reported) | **Yes, according to supplied volumes this appears to be a "gas only" report.** |

| **Venting or Flaring Resulting from Downstream Activity** | |
|---|---|
| Was or is this venting and/or flaring a result of downstream activity | Yes |
| Date notified of downstream activity requiring this venting and/or flaring | 08/18/2021 |
| Time notified of downstream activity requiring this venting and/or flaring | 10:55 PM |

| **Steps and Actions to Prevent Waste** | |
|---|---|
| For this event, the operator could not have reasonably anticipated the current event and it was beyond the operator's control. | True |
| Please explain reason for why this event was beyond your operator's control | See Justification Form > The emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable interruption, restriction or complete shut-in of a gas pipeline by a third-party pipeline operator, which impacted Oxy's ability to send gas to a third-party gas pipeline. This interruption, restriction or complete shut-in of the gas pipeline by a third-party pipeline operator is downstream of Oxy's custody transfer point and out of Oxy's control to avoid or prevent from happening and did not stem from any of Oxy's upstream facility activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. |
| Steps taken to limit the duration and magnitude of venting and/or flaring | See Justification Form > The emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable interruption, restriction or complete shut-in of a gas pipeline by a third-party pipeline operator, which impacted Oxy's ability to send gas to a third-party gas pipeline. This interruption, restriction or complete shut-in of the gas pipeline by a third-party pipeline operator is downstream of Oxy's custody transfer point and out of Oxy's control to avoid or prevent from happening and did not stem from any of Oxy's upstream facility activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. |
| Corrective actions taken to eliminate the cause and reoccurrence of venting and/or flaring | See Justification Form > Oxy cannot take any corrective actions to eliminate the cause and potential reoccurrence of an Enterprise gas flow pipeline restriction or shut-in, as this control issue is downstream of Oxy's custody transfer point and out of Oxy's control to avoid, prevent from happening or reoccurring. Enterprise's downstream facilities and associated facilities issues will reoccur from time to time and may trigger a spike in their gas line pressure, which in turn, directly impacts Oxy's ability to send gas to them. When Enterprise has downstream activity issues or greatly struggles to handle the volume of gas being sent to them by Oxy, Enterprise then restricts Oxy's ability to send gas, which then prompts Oxy to route all of its stranded gas not pushed into the Enterprise gas pipeline, to flare. OXY makes every effort to control and minimize emissions as much as possible. The only actions that Oxy can take and handle that is within its control, is to keep continually communicate with Enterprise personnel during these types of situations. |

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CONDITIONS

Action 43467

## CONDITIONS

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| | Action Type:<br>[C-129] Venting and/or Flaring (C-129) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| marialuna | If the information provided in this report requires an amendment, submit a [C-129] Amend Venting and/or Flaring Incident (C-129A), utilizing your incident number from this event. | 9/2/2021 |