# Certificate of Analysis

Number: 6030-20090208-001A

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

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

Sep. 25, 2020

| | | | |
|---|---|---|---|
| Field: | N/A | Sampled By: | Javier Lazo |
| Station Name: | Amoco 21 Fed 1 Prod | Sample Of: | Gas Spot |
| Station Number: | 14637P | Sample Date: | 09/24/2020 09:10 |
| Station Location: | OXY | Sample Conditions: | 84.77 psia, @ 74.35 °F Ambient: 68 °F |
| Sample Point: | Meter Run | Effective Date: | 09/24/2020 09:10 |
| Formation: | Annual | Method: | GPA-2261M |
| County: | Lea | Cylinder No: | 5030-03274 |
| Type of Sample: : | Spot-Cylinder | Instrument: | 70104124 (Inficon GC-MicroFusion) |
| Heat Trace Used: | N/A | Last Inst. Cal.: | 09/15/2020 0:00 AM |
| Sampling Method: : | Fill and Purge | Analyzed: | 09/25/2020 12:41:50 by PGS |
| Sampling Company: : | SPL | | |

## Analytical Data

| Components | Un-normalized Mol % | Mol. % | Wt. % | GPM at 14.65 psia |
|---|---|---|---|---|
| Nitrogen | 4.113 | 4.10956 | 4.902 | |
| Carbon Dioxide | 0.162 | 0.16228 | 0.304 | |
| Methane | 68.542 | 68.49131 | 46.783 | |
| Ethane | 13.402 | 13.39189 | 17.146 | 3.577 |
| Propane | 8.284 | 8.27807 | 15.542 | 2.277 |
| Iso-Butane | 1.078 | 1.07760 | 2.667 | 0.352 |
| n-Butane | 2.776 | 2.77385 | 6.865 | 0.873 |
| Iso-Pentane | 0.573 | 0.57218 | 1.758 | 0.209 |
| n-Pentane | 0.546 | 0.54520 | 1.675 | 0.197 |
| Hexanes | 0.279 | 0.27899 | 1.024 | 0.115 |
| Heptanes | 0.221 | 0.22074 | 0.942 | 0.102 |
| Octanes | 0.081 | 0.08054 | 0.392 | 0.041 |
| Nonanes Plus | 0.018 | 0.01779 | NIL | NIL |
| | 100.075 | 100.00000 | 100.000 | 7.743 |

| Calculated Physical Properties | Total | C9+ |
|---|---|---|
| Calculated Molecular Weight | 23.49 | NIL |
| Compressibility Factor | 0.9957 | |
| Relative Density Real Gas | 0.8141 | NIL |
| **GPA 2172 Calculation:** | | |
| **Calculated Gross BTU per ft³ @ 14.65 psia & 60°F** | | |
| Real Gas Dry BTU | 1339.4 | NIL |
| Water Sat. Gas Base BTU | 1316.5 | NIL |
| Ideal, Gross HV - Dry at 14.65 psia | 1333.6 | NIL |
| Ideal, Gross HV - Wet | 1310.2 | NIL |

**Comments:** H2S Field Content 0 ppm
Mcf/day 156.60

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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Scott Beasley

# EVENT SPECIFIC JUSTIFICATIONS FORM

**Facility:** Amoco 21 Fed 1H CTB

**Start Date:** 06/09/2021 @ 1:00 PM **End Date:** 06/09/2021 @ 4:00 PM

**Cause:** Downstream Activity Issue > Enterprise Chaparral Plant high line pressure issues

**Duration of event:** 3 hours

**Method of Flared Gas Measurement:** Flare Meter 6881701

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## 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. It is Oxy's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare at this facility has a 98% combustion efficiency in order to lessen emissions as much as possible. The flare is regularly monitored to the ensure flame is lit and meeting opacity requirements.

In this case, this sudden and unexpected flaring event occurred due to third party pipeline operator, Enterprise, whose Enterprise Chaparral Plant, was having downstream facility issues that greatly impacted the gas flow from Oxy's upstream facility to them. As a result of Enterprise's downstream facility incapability of handling the volume of gas being sent to them, a spike in their line pressure occurred. The high line pressure spike in Enterprise's pipeline impacted Oxy's ability to send gas to their plant, as their downstream facility compression equipment was unable to handle the gas loads sent to them. Until Enterprise's Chaparral plant facility equipment was able to handle the volume of gas sent to them, the spike in line pressure 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 Enterprise's gas pipeline. The flare at this facility has a 98% combustion efficiency in order to lessen emissions as much as possible. During this sudden and unexpected flaring event, OXY personnel continually monitored the Enterprise line pressure in order to make necessary adjustments to its own compression equipment, when warranted, until Enterprise's Chaparral plant was able to begin taking all the gas Oxy sent their way, and their line pressure was back to normal. In addition, in effort to reduce flaring, production techs started choking back wells with the pressure control valve on the flowlines. Prior to the spike in Enterprise's pipeline pressure, which impacted Oxy's ability to send all its gas to them, Oxy's compression equipment was running and operating at maximized optimization. Flaring did not occur until Enterprise's downstream

facility was unable to handle the volume of loads sent to them. This incident was completely out of Oxy's control to prevent from happening. OXY made every effort to control and minimize emissions as much as possible during this event.

**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. It is Oxy's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare at this facility has a 98% combustion efficiency in order to lessen emissions as much as possible. The flare is regularly monitored to the ensure flame is lit and meeting opacity requirements.

In this case, the steps taken to limit duration and magnitude of flaring was for Oxy production techs to quickly start choking back wells with the pressure control valves on the flowlines until flaring was reduced and enough gas would be able to pushed into the Enterprise gas pipeline. In addition, OXY personnel continually monitored the Enterprise line pressure in order to make necessary adjustments to its own compression equipment, when warranted, until Enterprise's Chaparral plant was able to begin taking all the gas Oxy sent their way, and their gas line pressure was back to normal. Once the Enterprise gas line pressure was back to normal and Enterprise was taking all the gas Oxy sent them, production techs ensured flaring had ceased and gradually re-opened wells and adjusted their compression equipment to maximized optimization in a safe and diligent manner.

**3. Corrective Actions taken to eliminate the cause and reoccurrence 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. It is Oxy's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare at this facility has a 98% combustion efficiency in order to lessen emissions as much as possible. The flare is regularly monitored to the ensure flame is lit and meeting opacity requirements.

Oxy cannot take any corrective actions to eliminate the cause and potential reoccurrence of an Enterprise Chaparral plant high gas line pressure issue, as this issue is downstream of Oxy's custody transfer point and out of Oxy's control to avoid or prevent from happening or reoccurring. Enterprise's Chaparral plant's downstream issues will re-occur 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's downstream facility equipment has 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 initiates 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 circumstances.

**District I**
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**District II**
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**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
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**District IV**
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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 36084

## QUESTIONS

| | |
|---|---|
| Operator:<br>OXY USA INC<br>P.O. Box 4294<br>Houston, TX 772104294 | OGRID:<br>16696 |
| | Action Number:<br>36084 |
| | Action Type:<br>[C-129] Venting and/or Flaring (C-129) |

**QUESTIONS**

| **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 or flaring caused by an emergency or malfunction | Yes |
| Did or will this venting 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 or flaring | **Yes, minor venting or flaring of natural gas.** |
| ***The operator shall file a form C-141 instead of a form C-129 for a release that includes liquid during venting 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 or flared during this event | Yes |
| Did this venting 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 |

| **Unregistered Facility Site** | |
|---|---|
| *Please provide the facility details, if the venting or flaring occurred or is occuring at a facility that does not have an Facility ID (f#) yet.* | |
| Facility or Site Name | Amoco 21 Fed 1H CTB |
| Facility Type | Tank Battery - (TB) |

| **Equipment Involved** | |
|---|---|
| Primary Equipment Involved | Other (Specify) |
| Additional details for Equipment Involved. Please specify | Emergency Flare>Downstream Activity Issue > Enterprise Chaparral Plant high line pressure issues |

| **Representative Compositional Analysis of Vented or Flared Natural Gas** | |
|---|---|
| *Please provide the mole percent for the percentage questions in this group.* | |
| Methane (CH4) percentage | 68 |
| Nitrogen (N2) percentage, if greater than one percent | 4 |
| 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 or flaring was discovered or commenced | 06/09/2021 |
| Time venting or flaring was discovered or commenced | 01:00 PM |
| Is the venting or flaring event complete | Yes |
| Date venting or flaring was terminated | 06/09/2021 |
| Time venting or flaring was terminated | 04:00 PM |
| Total duration of venting or flaring in hours, if venting or flaring has terminated | 4 |
| Longest duration of cumulative hours within any 24-hour period during this event | 4 |

| **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 \| Spilled: 70 Mcf \| Recovered: 0 Mcf \| Lost: 70 Mcf ] |
| Other Released Details | *Not answered.* |
| Additional details for Measured or Estimated Volume(s). Please specify | Flare Meter |
| Is this a gas only submission (i.e. only 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 or flaring a result of downstream activity | Yes |
| Date notified of downstream activity requiring this venting or flaring | *Not answered.* |
| Time notified of downstream activity requiring this venting or flaring | *Not answered.* |

| **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. |
| Steps taken to limit the duration and magnitude of venting or flaring | See Justification Form >In this case, the steps taken to limit duration and magnitude of flaring was for Oxy production techs to quickly start choking back wells with the pressure control valves on the flowlines until flaring was reduced and enough gas would be able to pushed into the Enterprise gas pipeline. In addition, OXY personnel continually monitored the Enterprise line pressure in order to make necessary adjustments to its own compression equipment, when warranted, until Enterprise's Chaparral plant was able to begin taking all the gas Oxy sent their way, and their gas line pressure was back to normal. Once the Enterprise gas line pressure was back to normal and Enterprise was taking all the gas Oxy sent them, production techs ensured flaring had ceased and gradually re-opened wells and adjusted their compression equipment to maximized optimization in a safe and diligent manner. |
| Corrective actions taken to eliminate the cause and reoccurrence of venting 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. |

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**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| system | If the information provided in this report requires an amendment, submit a [C-129] Request to Amend Venting and/or Flaring Incident, utilizing your incident number from this event. | 7/12/2021 |