# Certificate of Analysis

Number: 6030-21110261-001A

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

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

Dec. 01, 2021

| | | | |
|---|---|---|---|
| Field: | Sand Dunes | Sampled By: | Scott Beasely |
| Station Name: | Sand Dunes CTB Production 2 | Sample Of: | Gas Spot |
| Station Number: | 17012P | Sample Date: | 11/23/2021 10:21 |
| Station Location: | CTB | Sample Conditions: | 77.7 psig, @ 62.5 °F Ambient: 61 °F |
| Sample Point: | Meter | Effective Date: | 11/23/2021 10:21 |
| Formation: | Monthly | Method: | GPA-2261M |
| County: | Eddy, NM | Cylinder No: | 1111-002678 |
| Type of Sample: : | Spot-Cylinder | Instrument: | 70142339 (Inficon GC-MicroFusion) |
| Heat Trace Used: | No | Last Inst. Cal.: | 11/15/2021 0:00 AM |
| Sampling Method: : | Fill and Purge | Analyzed: | 12/01/2021 14:47:44 by ERG |
| Sampling Company: : | SPL | | |

## Analytical Data

| Components | Un-normalized Mol % | Mol. % | Wt. % | GPM at 14.65 psia |
|---|---|---|---|---|
| Hydrogen Sulfide | NIL | NIL | NIL | |
| Nitrogen | 1.720 | 1.73503 | 2.237 | |
| Carbon Dioxide | 1.746 | 1.76105 | 3.568 | |
| Methane | 75.250 | 75.89815 | 56.047 | |
| Ethane | 11.338 | 11.43562 | 15.828 | 3.052 |
| Propane | 5.503 | 5.55083 | 11.267 | 1.526 |
| Iso-Butane | 0.699 | 0.70513 | 1.887 | 0.230 |
| n-Butane | 1.672 | 1.68661 | 4.512 | 0.531 |
| Iso-Pentane | 0.353 | 0.35584 | 1.182 | 0.130 |
| n-Pentane | 0.377 | 0.38035 | 1.263 | 0.138 |
| Hexanes | 0.214 | 0.21574 | 0.856 | 0.089 |
| Heptanes | 0.170 | 0.17177 | 0.792 | 0.079 |
| Octanes | 0.080 | 0.08109 | 0.426 | 0.041 |
| Nonanes Plus | 0.023 | 0.02279 | 0.135 | 0.013 |
| | 99.145 | 100.00000 | 100.000 | 5.829 |

| Calculated Physical Properties | Total | C9+ |
|---|---|---|
| Calculated Molecular Weight | 21.72 | 128.26 |
| Compressibility Factor | 0.9963 | |
| Relative Density Real Gas | 0.7526 | 4.4283 |
| **GPA 2172 Calculation:** | | |
| **Calculated Gross BTU per ft³ @ 14.65 psia & 60°F** | | |
| Real Gas Dry BTU | 1243.1 | 6974.4 |
| Water Sat. Gas Base BTU | 1221.9 | 6852.4 |
| Ideal, Gross HV - Dry at 14.65 psia | 1238.5 | 6974.4 |
| Ideal, Gross HV - Wet | 1216.9 | 6852.4 |

**Comments:** H2S Field Content 0 ppm
Mcf/day 24561.39

Jesus Escobedo

Hydrocarbon Laboratory Manager

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

## UPSET FLARING EVENT SPECIFIC JUSTIFICATIONS FORM

**Facility:** Sand Dunes South Corridor CTB **Flare Date:** 11/26/2022

**Duration of event:** 1 Hour 10 Minutes **MCF Flared:** 1976

**Start Time:** 06:50 AM **End Time:** 08:00 AM

**Cause:** Emergency Flare > Facility Emergency Shutdown > Power Outage > Recloser Switch

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

**Comments:** This upset event was not caused by any wells associated with the facility. This is a combination of two (2) flaring events within a 24-Hour period, with a combined duration and volume:

(1) 06:50 AM to 07:40 AM – 50 Minutes @ 1158 MCF
(2) 11:30 AM to 11:50 AM – 20 Minutes @ 818 MCF

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

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 by good design, operation, and preventative maintenance practices. Oxy engages in respectable and good facility operation practices while also maintaining its continuous facility equipment preventative maintenance program. In this case, there were two (2) flaring occurrences, which were triggered when the facility had unexpected power outages, when the recloser tripped twice, within a 24-Hour period. The first instance of a sudden and unexpected power outage occurred approximately about 06:50 AM, which prompted flaring to occur. The second instance of flaring occurred a few hours later, approximately about 11:30 AM, again due to the recloser tripping a second time. The Oxy production techs, who received multiple alarms for power fail and compression shutdown, arrived to the facilities, at each instance of flaring and facility shutdown alarms, to determine cause, which was the electrical recloser to the facility. All Oxy's facility equipment were operating as designed prior to the sudden and unexpected flaring event occurring.

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

It is OXY's policy to route all stranded gas to a flare during an unforeseen and unavoidable emergency or malfunction, that is beyond Oxy's control to avoid, prevent or foresee, to minimize emissions as much as possible as part of the overall steps taken to limit duration and magnitude of flaring. The flare at this facility has a 98% combustion efficiency to lessen emissions as much as possible. In this case, there were two (2) flaring occurrences, which were triggered when the facility had unexpected power outages, when the recloser tripped twice, within a 24-Hour period. The first instance of a sudden and unexpected power outage occurred approximately about 06:50 AM, which prompted flaring to occur. The second instance of flaring occurred a few hours later, approximately about 11:30 AM, again due to the recloser tripping a second time. The Oxy production techs shut-in multiple high GOR wells to curtail gas throughput at the Sand Dunes South Corridor CTB To significantly minimize emissions enough to cease flaring in both instances, until they were able to determine cause of power outage. After determining the cause of the power outage,

they reset the facility panels and recloser to restart the facility's equipment. All Oxy's facility equipment were operating as designed prior to the sudden and unexpected flaring event occurring. In addition, the Oxy production techs requested an electrician examine the facility's recloser switch. The Oxy production techs remained on-site to ensure no additional issues occurred with the recloser switch.

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

OXY made every effort to control and minimize emissions as much as possible during this sudden and unexpected flaring event. It is OXY's policy to route its stranded gas to a flare during an unforeseen and unavoidable emergency or malfunction, that is beyond Oxy's control to avoid, prevent or foresee, to minimize emissions as much as possible as part of the overall steps taken to limit duration and magnitude of flaring. The flare at this facility has a 98% combustion efficiency to lessen emissions as much as possible. The corrective measures taken during both of these flaring events was for the Oxy production techs to reset the facility panels and recloser switch and request an electrician come out to examine the recloser switch in an effort to avoid potential issues again, which could affect the facility and its equipment.

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**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

| | |
|---|---|
| Operator:<br>OXY USA INC<br>P.O. Box 4294<br>Houston, TX 772104294 | OGRID:<br>16696 |
| | Action Number:<br>167961 |
| | Action Type:<br>[C-129] Amend Venting and/or Flaring (C-129A) |

**DEFINITIONS**

For the sake of brevity and completeness, please allow for the following in all groups of questions and for the rest of this application:

- this application's operator, hereinafter "this operator";
- venting and/or flaring, hereinafter "vent or flare";
- any notification or report(s) of the C-129 form family, hereinafter "any C-129 forms";
- the statements in (and/or attached to) this, hereinafter "the statements in this";
- and the past tense will be used in lieu of mixed past/present tense questions and statements.

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# State of New Mexico
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QUESTIONS

Action 167961

## QUESTIONS

| | |
|---|---|
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**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 Operator | **[16696] OXY USA INC** |
| Incident Type | **Flare** |
| Incident Status | **Closure Not Approved** |
| Incident Well | *Unavailable.* |
| Incident Facility | **[fAPP2127048458] Sand Dunes South Corridor CTB** |
| *Only valid Vent, Flare or Vent with Flaring incidents (selected above in the Application Details section) that are assigned to your current operator can be amended with this C-129A application.* | |

| **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 this vent or flare caused by an emergency or malfunction | Yes |
| Did this vent or flare last eight hours or more cumulatively within any 24-hour period from a single event | No |
| Is this considered a submission for a vent or flare event | **Yes, major 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 **at least 50 MCF** of natural gas vented and/or flared during this event | Yes |
| Did this vent or flare 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 vent or flare 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 > Facility Emergency Shutdown > Power Outage > Recloser Switch |

| **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 | 2 |
| Hydrogen Sulfide (H2S) PPM, rounded up | 0 |
| Carbon Dioxide (C02) percentage, if greater than one percent | 2 |
| 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.* |

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## QUESTIONS (continued)

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**QUESTIONS**

| **Date(s) and Time(s)** | |
|---|---|
| Date vent or flare was discovered or commenced | 11/26/2022 |
| Time vent or flare was discovered or commenced | 06:50 AM |
| Time vent or flare was terminated | 08:00 AM |
| 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: Power Failure \| Other (Specify) \| Natural Gas Flared \| Released: 1,976 Mcf \| Recovered: 0 Mcf \| Lost: 1,976 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 this vent or flare a result of downstream activity | No |
| Was notification of downstream activity received by this operator | *Not answered.* |
| Downstream OGRID that should have notified this operator | *Not answered.* |
| Date notified of downstream activity requiring this vent or flare | |
| Time notified of downstream activity requiring this vent or flare | *Not answered.* |

| **Steps and Actions to Prevent Waste** | |
|---|---|
| For this event, this operator could not have reasonably anticipated the current event and it was beyond this operator's control | True |
| Please explain reason for why this event was beyond this operator's control | 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 by good design, operation, and preventative maintenance practices. Oxy engages in respectable and good facility operation practices while also maintaining its continuous facility equipment preventative maintenance program. In this case, there were two (2) flaring occurrences, which were triggered when the facility had unexpected power outages, when the recloser tripped twice, within a 24-Hour period. The first instance of a sudden and unexpected power outage occurred approximately about 06:50 AM, which prompted flaring to occur. The second instance of flaring occurred a few hours later, approximately about 11:30 AM, again due to the recloser tripping a second time. The Oxy production techs, who received multiple alarms for power fail and compression shutdown, arrived to the facilities, at each instance of flaring and facility shutdown alarms, to determine cause, which was the electrical recloser to the facility. All Oxy's facility equipment were operating as designed prior to the sudden and unexpected flaring event occurring. |
| Steps taken to limit the duration and magnitude of vent or flare | It is OXY's policy to route all stranded gas to a flare during an unforeseen and unavoidable emergency or malfunction, that is beyond Oxy's control to avoid, prevent or foresee, to minimize emissions as much as possible as part of the overall steps taken to limit duration and magnitude of flaring. The flare at this facility has a 98% combustion efficiency to lessen emissions as much as possible. In this case, there were two (2) flaring occurrences, which were triggered when the facility had unexpected power outages, when the recloser tripped twice, within a 24-Hour period. The first instance of a sudden and unexpected power outage occurred approximately about 06:50 AM, which prompted flaring to occur. The second instance of flaring occurred a few hours later, approximately about 11:30 AM, again due to the recloser tripping a second time. The Oxy production techs shut-in multiple high GOR wells to curtail gas throughput at the Sand Dunes South Corridor CTB To significantly minimize emissions enough to cease flaring in both instances, until they were able to determine cause of power outage. After determining the cause of the power outage, they reset the facility panels and recloser to restart the facility's equipment. All Oxy's facility equipment were operating as designed prior to the sudden and unexpected flaring event occurring. In addition, the Oxy production techs requested an electrician examine the facility's recloser switch. The Oxy production techs remained on-site to ensure no additional issues occurred with the recloser switch. |
| Corrective actions taken to eliminate the cause and reoccurrence of vent or flare | OXY made every effort to control and minimize emissions as much as possible during this sudden and unexpected flaring event. It is OXY's policy to route its stranded gas to a flare during an unforeseen and unavoidable emergency or malfunction, that is beyond Oxy's control to avoid, prevent or foresee, to minimize emissions as much as possible as part of the overall steps taken to limit duration and magnitude of flaring. The flare at this facility has a 98% combustion efficiency to lessen emissions as much as possible. The corrective measures taken during both of these flaring events was for the Oxy production techs to reset the facility panels and recloser switch and request an electrician come out to examine the recloser switch in an effort to avoid potential issues again, which could affect the facility and its equipment. |

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## ACKNOWLEDGMENTS

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**ACKNOWLEDGMENTS**

| | |
|---|---|
| ☑ | I acknowledge that with this application I will be amending an existing incident file (assigned to this operator) for a vent or flare event, pursuant to 19.15.27 and 19.15.28 NMAC. |
| ☑ | I acknowledge that amending an incident file does not replace original submitted application(s) or information and understand that any C-129 forms submitted to the OCD will be logged and stored as public record. |
| ☑ | I hereby certify the statements in this amending report are true and correct to the best of my knowledge and acknowledge that any false statement may be subject to civil and criminal penalties under the Oil and Gas Act. |
| ☑ | I acknowledge that the acceptance of any C-129 forms by the OCD does not relieve this operator of liability should their operations have failed to adequately investigate, report, and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment. |
| ☑ | I acknowledge that OCD acceptance of any C-129 forms does not relieve this operator of responsibility for compliance with any other applicable federal, state, or local laws and/or regulations. |

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CONDITIONS

Action 167961

## CONDITIONS

| | |
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**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| marialuna2 | If the information provided in this report requires further amendment(s), submit a [C-129] Amend Venting and/or Flaring Incident (C-129A), utilizing your incident number from this event. | 12/17/2022 |