



# Certificate of Analysis

Number: 6030-21060266-003A

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

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

June 28, 2021

Field:	Sand Dunes	Sampled By:	Javier Lazo
Station Name:	Sand Dunes CTB Train 3 Production	Sample Of:	Gas Spot
Station Number:	17009P	Sample Date:	06/24/2021 12:27
Station Location:	CTB	Sample Conditions:	90 psia, @ 105 °F Ambient: 100 °F
Sample Point:	Meter	Effective Date:	06/24/2021 12:27
Formation:	Monthly	Method:	GPA-2261M
County:	Eddy	Cylinder No:	1111-002295
Type of Sample:	Spot-Cylinder	Instrument:	70104124 (Inficon GC-MicroFusion)
Heat Trace Used:	N/A	Last Inst. Cal.:	05/18/2021 0:00 AM
Sampling Method:	Fill and Purge	Analyzed:	06/25/2021 13:45:45 by KNF
Sampling Company:	SPL		

## Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia
Hydrogen Sulfide	NIL	NIL	NIL	
Nitrogen	1.770	1.78383	2.131	
Carbon Dioxide	1.321	1.33170	2.500	
Methane	72.953	73.52731	50.313	
Ethane	11.168	11.25608	14.436	3.007
Propane	6.184	6.23236	11.722	1.715
Iso-Butane	0.769	0.77545	1.922	0.253
n-Butane	1.954	1.96948	4.882	0.620
Iso-Pentane	0.551	0.55564	1.710	0.203
n-Pentane	0.641	0.64574	1.987	0.234
Hexanes	0.546	0.55030	2.023	0.226
Heptanes	0.675	0.68001	2.906	0.313
Octanes	0.527	0.53084	2.586	0.272
Nonanes Plus	0.160	0.16126	0.882	0.091
	<u>99.219</u>	<u>100.00000</u>	<u>100.000</u>	<u>6.934</u>

<b>Calculated Physical Properties</b>	<b>Total</b>	<b>C9+</b>
Calculated Molecular Weight	23.45	128.26
Compressibility Factor	0.9955	
Relative Density Real Gas	0.8129	4.4283

**GPA 2172 Calculation:**

**Calculated Gross BTU per ft³ @ 14.65 psia & 60°F**

Real Gas Dry BTU	1346.1	6974.4
Water Sat. Gas Base BTU	1323.2	6852.4
Ideal, Gross HV - Dry at 14.65 psia	1340.1	6974.4
Ideal, Gross HV - Wet	1316.6	6852.4

**Comments:** H2S Field Content 0 ppm  
 Mcf/day 3116

Data reviewed by: Eric Ramirez, Analyst

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

## EVENT SPECIFIC JUSTIFICATIONS FORM

**Facility:** Sand Dunes SC CTB

**Start Date:** 07/03/2021

**End Date:** 07/03/2021

**Cause:** Third Party Malfunction

**Duration of event:** 10 minutes

**MCF Volume Flared:** 382

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

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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 or prevented by good design, operation, and preventative maintenance practices. Internal OXY procedures ensure that upon gas compressor unit and/or multiple unit shutdown, due to malfunction and/or alarms, production techs are promptly notified, and are instructed to assess the issue as soon as possible in order to take prompt corrective action and minimize emissions.

In this case, the flaring event occurred when 2 compressor stations belonging to a third-party gas gatherer, Enterprise malfunctioned. A reason for the malfunction was not provided by Enterprise. Once the third-party gas gatherer was able to restore service, Oxy immediately resumed gas sales to the third-party system. During the event, OXY routed all the stranded sales gas to a flare with a 98% combustion efficiency in order to minimize emissions as much as possible.

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

Oxy resumed gas sales to the third-party system as soon as it came back online. During the shut-in OXY routed all the stranded sales gas to a flare with a 98% combustion efficiency in order to minimize emissions as much as possible.

### 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 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.

**District I**  
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**District II**  
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**District III**  
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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 42366

**QUESTIONS**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 42366
	Action Type: [C-129] Venting and/or Flaring (C-129)

**QUESTIONS**

<b>Prerequisites</b>	
<i>Any messages presented in this section, will prevent submission of this application. Please resolve these issues before continuing with the rest of the questions.</i>	
Incident Well	[30-015-44526] NIMITZ MDP1 12 FEDERAL COM #001H
Incident Facility	Not answered.

<b>Determination of Reporting Requirements</b>	
<i>Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide additional guidance.</i>	
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.
<i>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.</i>	
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

<b>Equipment Involved</b>	
Primary Equipment Involved	Other (Specify)
Additional details for Equipment Involved. Please specify	emergency flare due to third party malfunction

<b>Representative Compositional Analysis of Vented or Flared Natural Gas</b>	
<i>Please provide the mole percent for the percentage questions in this group.</i>	
Methane (CH4) percentage	74
Nitrogen (N2) percentage, if greater than one percent	2
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (CO2) percentage, if greater than one percent	1
Oxygen (O2) percentage, if greater than one percent	0
<i>If you are venting and/or flaring because of Pipeline Specification, please provide the required specifications for each gas.</i>	
Methane (CH4) percentage quality requirement	Not answered.
Nitrogen (N2) percentage quality requirement	Not answered.
Hydrogen Sulfide (H2S) PPM quality requirement	Not answered.
Carbon Dioxide (CO2) percentage quality requirement	Not answered.
Oxygen (O2) percentage quality requirement	Not answered.

<b>Date(s) and Time(s)</b>	
Date venting and/or flaring was discovered or commenced	07/03/2021
Time venting and/or flaring was discovered or commenced	12:00 AM
Time venting and/or flaring was terminated	12:10 AM
Cumulative hours during this event	0

<b>Measured or Estimated Volume of Vented or Flared Natural Gas</b>	
Natural Gas Vented (Mcf) Details	Not answered.

Natural Gas Flared (Mcf) Details	Cause: Other   Other (Specify)   Natural Gas Flared   Released: 382 Mcf   Recovered: 0 Mcf   Lost: 382 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 significant Mcf values reported)	Yes, according to supplied volumes this appears to be a "gas only" report.

<b>Venting or Flaring Resulting from Downstream Activity</b>	
Was or is this venting and/or flaring a result of downstream activity	Not answered.
Date notified of downstream activity requiring this venting and/or flaring	Not answered.
Time notified of downstream activity requiring this venting and/or flaring	Not answered.

<b>Steps and Actions to Prevent Waste</b>	
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	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. Internal OXY procedures ensure that upon gas compressor unit and/or multiple unit shutdown, due to malfunction and/or alarms, production techs are promptly notified, and are instructed to assess the issue as soon as possible in order to take prompt corrective action and minimize emissions. In this case, the flaring event occurred when 2 compressor stations belonging to a third-party gas gatherer, Enterprise malfunctioned. A reason for the malfunction was not provided by Enterprise. Once the third-party gas gatherer was able to restore service, Oxy immediately resumed gas sales to the third-party system. During the event, OXY routed all the stranded sales gas to a flare with a 98% combustion efficiency in order to minimize emissions as much as possible.
Steps taken to limit the duration and magnitude of venting and/or flaring	Oxy resumed gas sales to the third-party system as soon as it came back online. During the shut-in OXY routed all the stranded sales gas to a flare with a 98% combustion efficiency in order to minimize emissions as much as possible.
Corrective actions taken to eliminate the cause and reoccurrence of venting and/or flaring	The 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.

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CONDITIONS  
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Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 42366
	Action Type: [C-129] Venting and/or Flaring (C-129)

**CONDITIONS**

Created By	Condition	Condition Date
shelbyschoepf	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.	8/16/2021