



## Certificate of Analysis

Number: 6030-23070299-001A

Artesia Laboratory

200 E Main St.

Artesia, NM 88210

Phone 575-746-3481

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

Aug. 01, 2023

Field: PERMIAN\_RESOURCES  
Station Name: Sand Dunes CTB VRU 3 (FMP)  
Station Number: 17019V-3  
Station Location: OP-L0901-BT002  
Sample Point: Meter  
Formation: NEW\_MEXICO  
County:  
Well Name: CTB  
Type of Sample: : Spot-Cylinder  
Heat Trace Used: N/A  
Sampling Method: : Fill and Purge  
Sampling Company: : OXY

Sampled By: JE  
Sample Of: Gas Spot  
Sample Date: 07/25/2023  
Sample Conditions: 82 psig, @ 155 °F Ambient: 82 °F  
Effective Date: 07/25/2023  
Method: GPA-2261M  
Cylinder No: 5030-01081  
Instrument: 70104251 (Inficon GC-MicroFusion)  
Last Inst. Cal.: 07/24/2023 0:00 AM  
Analyzed: 07/31/2023 08:13:13 by EBH  
Flow Rate mcf/d:

## Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia
Hydrogen Sulfide	0.0000	0.0000	0.0000	
Nitrogen	0.2661	0.2631	0.1876	
Carbon Dioxide	1.1394	1.1265	1.2621	
Methane	22.5901	22.3344	9.1217	
Ethane	22.2432	21.9914	16.8346	5.931
Propane	29.9383	29.5993	33.2282	8.223
Iso-Butane	5.2011	5.1422	7.6089	1.697
n-Butane	13.2544	13.1044	19.3905	4.166
Iso-Pentane	2.7386	2.7076	4.9733	0.998
n-Pentane	2.6512	2.6212	4.8146	0.958
Hexanes	0.7892	0.7803	1.7119	0.324
Heptanes	0.2764	0.2733	0.6972	0.127
Octanes	0.0410	0.0405	0.1178	0.021
Nonanes Plus	0.0160	0.0158	0.0516	0.009
	101.1450	100.0000	100.0000	22.454

Calculated Physical Properties	Total	C9+
Calculated Molecular Weight	39.28	128.26
Compressibility Factor	0.9861	
Relative Density Real Gas	1.3749	4.4283
<b>GPA 2172 Calculation:</b>		
<b>Calculated Gross BTU per ft<sup>3</sup> @ 14.65 psia &amp; 60°F</b>		
Real Gas Dry BTU	2247.8	6974.4
Water Sat. Gas Base BTU	2209.6	6852.4
Ideal, Gross HV - Dry at 14.65 psia	2216.5	6974.4
Ideal, Gross HV - Wet	2177.7	6852.4

**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 VENTING EVENT SPECIFIC JUSTIFICATIONS FORM****Facility:** Sand Dunes South Corridor CTB**Venting Date:** 10/08/2023**Duration of Event:** 10 Hours**MCF Vented:** 120**Start Time:** 03:00 AM**End Time:** 01:00 PM**Cause:** Venting > VRU > Malfunction > Suction Transmitter > Faulty Internal Switch Wiring > PLC Communication Failure**Method of Gas Measurement:** Estimated Vent Calculations

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

This event was caused by the sudden, 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 maintenance practices. In this case, the VRU unit had issues with a faulty internal switch wiring connection from the suction transmitter, which in turn caused communication failure to the system's PLC, which then prompted the unit to malfunction and shutdown, which then triggered venting to occur. All facility operations and equipment were working as designed prior to the sudden and without warning malfunction of the VRU. This event was out Oxy's control, yet every effort was made to minimize the emissions.

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

In this case, the VRU unit had issues with a faulty internal switch wiring connection from the suction transmitter, which in turn caused communication failure to the system's PLC, which then prompted the unit to malfunction and shutdown, which then triggered venting to occur. The Oxy production tech, who was on-site, noticed venting occurring, and quickly attempted to restart the VRU, but was unable to do so, which then prompted the tech to reach out to automation personnel. In the early afternoon, automation personnel were able to repair the faulty internal switch wiring, reset the PLC and restart the VRU. Venting ceased once the VRU was restarted and reached its full maximized operation. All facility operations and equipment were working as designed prior to the sudden and without warning shutdown of the VRU. All facility operations and equipment were working as designed prior to the sudden and without warning malfunction of the VRU. This event was out Oxy's control, yet every effort was made to minimize the emissions.

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

Oxy is limited in the corrective actions to eliminate the cause and potential reoccurrence of a VRU malfunction and shutdown. Notwithstanding proper VRU design and operation, various forms of mechanical or technical issues can be sudden, reasonably unforeseeable, and unexpected which can cause VRU unit malfunctions to occur without warning or advance notice. Oxy continually strives to maintain and operate its facility equipment in a manner consistent with good practices for minimizing emissions and reducing the number of emission events. Oxy has a strong and positive equipment preventative maintenance program in place. The only actions that Oxy can take and handle that is within its control, is to keep continue with its VRU equipment preventative maintenance program for this facility.

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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**

DEFINITIONS

Action 278599

DEFINITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 278599
	Action Type: [C-129] Venting and/or Flaring (C-129)

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: <ul style="list-style-type: none"><li>• this application's operator, hereinafter "this operator";</li><li>• venting and/or flaring, hereinafter "vent or flare";</li><li>• any notification or report(s) of the C-129 form family, hereinafter "any C-129 forms";</li><li>• the statements in (and/or attached to) this, hereinafter "the statements in this";</li><li>• and the past tense will be used in lieu of mixed past/present tense questions and statements.</li></ul>
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QUESTIONS

Action 278599

**QUESTIONS**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID:	16696
	Action Number:	278599
	Action Type:	[C-129] Venting and/or Flaring (C-129)

**QUESTIONS**

<b>Prerequisites</b>	
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	Unavailable.
Incident Facility	[fAPP2127048458] Sand Dunes South Corridor CTB

<b>Determination of Reporting Requirements</b>	
Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide additional 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	Yes
Is this considered a submission for a vent or flare event	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 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 <b>ANY</b> 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 within 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	Venting > VRU > Malfunction > Suction Transmitter > Faulty Internal Switch Wiring > PLC Communication Failure

<b>Representative Compositional Analysis of Vented or Flared Natural Gas</b>	
Please provide the mole percent for the percentage questions in this group.	
Methane (CH4) percentage	22
Nitrogen (N2) percentage, if greater than one percent	0
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
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 Sulfide (H2S) PPM quality requirement	Not answered.
Carbon Dioxide (CO2) percentage quality requirement	Not answered.
Oxygen (O2) percentage quality requirement	Not answered.

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QUESTIONS, Page 2

Action 278599

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID:
	16696
	Action Number:
	278599
Action Type:	
[C-129] Venting and/or Flaring (C-129)	

**QUESTIONS**

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	10/08/2023
Time vent or flare was discovered or commenced	03:00 AM
Time vent or flare was terminated	01:00 PM
Cumulative hours during this event	10

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	Cause: Other   Other (Specify)   Natural Gas Vented   Released: 120 Mcf   Recovered: 0 Mcf   Lost: 120 Mcf.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Additional details for Measured or Estimated Volume(s). Please specify	Estimated Vent Calculations
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	Not answered.
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 event was caused by the sudden, 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 maintenance practices. In this case, the VRU unit had issues with a faulty internal switch wiring connection from the suction transmitter, which in turn caused communication failure to the system's PLC, which then prompted the unit to malfunction and shutdown, which then triggered venting to occur. All facility operations and equipment were working as designed prior to the sudden and without warning malfunction of the VRU. This event was out Oxy's control, yet every effort was made to minimize the emissions.
Steps taken to limit the duration and magnitude of vent or flare	In this case, the VRU unit had issues with a faulty internal switch wiring connection from the suction transmitter, which in turn caused communication failure to the system's PLC, which then prompted the unit to malfunction and shutdown, which then triggered venting to occur. The Oxy production tech, who was on-site, noticed venting occurring, and quickly attempted to restart the VRU, but was unable to do so, which then prompted the tech to reach out to automation personnel. In the early afternoon, automation personnel were able to repair the faulty internal switch wiring, reset the PLC and restart the VRU. Venting ceased once the VRU was restarted and reached its full maximized operation. All facility operations and equipment were working as designed prior to the sudden and without warning shutdown of the VRU. All facility operations and equipment were working as designed prior to the sudden and without warning malfunction of the VRU. This event was out Oxy's control, yet every effort was made

Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	<p>to minimize the emissions.</p> <p>Oxy is limited in the corrective actions to eliminate the cause and potential reoccurrence of a VRU malfunction and shutdown. Notwithstanding proper VRU design and operation, various forms of mechanical or technical issues can be sudden, reasonably unforeseeable, and unexpected which can cause VRU unit malfunctions to occur without warning or advance notice. Oxy continually strives to maintain and operate its facility equipment in a manner consistent with good practices for minimizing emissions and reducing the number of emission events. Oxy has a strong and positive equipment preventative maintenance program in place. The only actions that Oxy can take and handle that is within its control, is to keep continue with its VRU equipment preventative maintenance program for this facility.</p>
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ACKNOWLEDGMENTS

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	Action Number: 278599
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**ACKNOWLEDGMENTS**

<input checked="" type="checkbox"/>	I acknowledge that I am authorized to submit a <i>Venting and/or Flaring</i> (C-129) report on behalf of this operator and understand that this report can be a <b>complete</b> C-129 submission per 19.15.27.8 and 19.15.28.8 NMAC.
<input checked="" type="checkbox"/>	I acknowledge that upon submitting this application, I will be creating a new incident file (assigned to this operator) to track any C-129 forms, pursuant to 19.15.27.7 and 19.15.28.8 NMAC and understand that this submission meets the notification requirements of Paragraph (1) of Subsection G and F respectively.
<input checked="" type="checkbox"/>	I hereby certify the statements in this 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.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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 278599

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Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 278599
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CONDITIONS

Created By	Condition	Condition Date
marialuna2	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.	10/23/2023