



## Certificate of Analysis

Number: 6030-23020273-001A

Artesia Laboratory

200 E Main St.

Artesia, NM 88210

Phone 575-746-3481

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

Feb. 24, 2023

Field: Sand Dunes  
Station Name: Sand Dunes CTB Check 2  
Station Number: 17025C  
Station Location: CTB  
Sample Point: Meter  
Formation: Monthly  
County: Eddy  
Type of Sample: : Spot-Cylinder  
Heat Trace Used: N/A  
Sampling Method: : Fill and Purge  
Sampling Company: : SPL

Sampled By: Raul Salazar  
Sample Of: Gas Spot  
Sample Date: 02/21/2023  
Sample Conditions: 100 psig, @ 62.1 °F Ambient: 62 °F  
Effective Date: 02/21/2023  
PO/Ref. No: 4501167592  
Method: GPA-2261M  
Cylinder No: 1111-007466  
Instrument: 6030\_GC6 (Inficon GC-3000 Micro)  
Last Inst. Cal.: 02/20/2023 0:00 AM  
Analyzed: 02/24/2023 09:47:34 by EBH

## Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	1.054	1.045	1.334		GPM TOTAL C2+	6.379
Methane	75.892	75.273	55.022		GPM TOTAL C3+	3.114
Carbon Dioxide	1.112	1.103	2.212		GPM TOTAL iC5+	0.512
Ethane	12.332	12.231	16.758	3.265		
Propane	6.406	6.354	12.766	1.747		
Iso-butane	0.806	0.799	2.116	0.261		
n-Butane	1.901	1.886	4.995	0.594		
Iso-pentane	0.390	0.387	1.272	0.141		
n-Pentane	0.410	0.407	1.338	0.147		
Hexanes Plus	0.519	0.515	2.187	0.224		
	100.822	100.000	100.000	6.379		

## Calculated Physical Properties

Relative Density Real Gas	Total	C6+
	0.7604	3.2176
Calculated Molecular Weight	21.95	93.19
Compressibility Factor	0.9961	

## GPA 2172 Calculation:

Calculated Gross BTU per ft<sup>3</sup> @ 14.65 psia & 60°F

Real Gas Dry BTU	1283	5113
Water Sat. Gas Base BTU	1261	5024
Ideal, Gross HV - Dry at 14.65 psia	1278.3	5113.2
Ideal, Gross HV - Wet	1255.9	5023.7
Net BTU Dry Gas - real gas	1165	
Net BTU Wet Gas - real gas	1145	

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**Flare Date:** 06/25/2023**Duration of event:** 45 Minutes**MCF Flared:** 72**Start Time:** 07:30 AM**End Time:** 08:15 AM**Cause:** Emergency Flare > Third Party Downstream Activity > Enterprise > Enterprise Central Station > Equipment Issues > Gas Detection > Emergency Shutdown**Method of Flared Gas Measurement:** Gas Flare Meter

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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 compressor station operator, which impacted Oxy's ability to send gas to them. This interruption, restriction or complete shut-in of the gas pipeline by a third-party pipeline compression station operator is downstream of Oxy's custody transfer point and out of Oxy's control to foresee, 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, Enterprise, third party owned and operated pipeline operator, had equipment issues at their central station causing an emergency shutdown of their facility due to their gas detection alarms, which prompted their ESD valve to close. This flaring event occurred at the Sand Dunes South Corridor CTB because of Enterprise's inability to take Oxy's volume of gas and with no gas takeaway occurring, field psi increased until set psi levels were reached which triggered flaring at Oxy's facility, as a safety measure for operations, facility equipment, and personnel. This event could not have been foreseen, avoided or prevented from happening as this event occurred with no advance notice or warning to Oxy or its field personnel.

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

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. In this case, Enterprise, third party owned and operated pipeline operator, had equipment issues at their central station causing an emergency shutdown of their facility due to their gas detection alarms, which prompted their ESD valve to close. This flaring event occurred at the Sand Dunes South Corridor CTB because of Enterprise's inability to take Oxy's volume of gas and with no gas takeaway occurring, field psi increased until set psi levels were reached which triggered flaring at Oxy's facility, as a safety measure for operations, facility equipment, and personnel. As soon as flaring was triggered, field personnel engaged in Oxy's third party pipeline operation curtailment reactive stratagems and assisted with ensuring field area's mitigation optimizers cut injection rates to wells in the field to reduce injection and sales gas across the area, until flaring ceased. This event is out of OXY's control, yet OXY made every effort to control and minimize emissions as much as possible.

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

Oxy is unable to take any corrective actions to eliminate the cause and potential reoccurrence of a downstream third-party owned and operated facility's issues, as this is downstream of Oxy's custody transfer point and out of Oxy's control to foresee, avoid, prevent from happening or reoccur. Enterprises' facilities will have issues which may reoccur from time to time and may trigger a spike in the gas line pressure, which in turn, directly impacts Oxy's ability to send gas to them. When Enterprises' downstream facilities has equipment 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 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 continually communicate with Enterprise personnel, who own and operate the sales gas pipeline, when possible, during these types of circumstances.

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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

DEFINITIONS

Action 238238

DEFINITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 238238
	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 238238

**QUESTIONS**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 238238
	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	No
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 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

<b>Equipment Involved</b>	
Primary Equipment Involved	Other (Specify)
Additional details for Equipment Involved. Please specify	Emergency Flare > Third Party Downstream Activity > Enterprise > Enterprise Central Station > Equipment Issues > Gas Detection > Emergency Shutdown

<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	75
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	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 Sufide (H2S) PPM quality requirement	Not answered.
Carbon Dioxide (C02) percentage quality requirement	Not answered.
Oxygen (O2) percentage quality requirement	Not answered.

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QUESTIONS, Page 2

Action 238238

**QUESTIONS (continued)**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID:
	16696
	Action Number:
	238238
Action Type:	
[C-129] Venting and/or Flaring (C-129)	

**QUESTIONS**

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	06/25/2023
Time vent or flare was discovered or commenced	07:30 AM
Time vent or flare was terminated	08:15 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: Other   Other (Specify)   Natural Gas Flared   Released: 72 Mcf   Recovered: 0 Mcf   Lost: 72 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	Yes
Was notification of downstream activity received by this operator	No
Downstream OGRID that should have notified this operator	[713731] Enterprise Crude Pipeline LLC
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	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 compressor station operator, which impacted Oxy's ability to send gas to them. This interruption, restriction or complete shut-in of the gas pipeline by a third-party pipeline compression station operator is downstream of Oxy's custody transfer point and out of Oxy's control to foresee, 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, Enterprise, third party owned and operated pipeline operator, had equipment issues at their central station causing an emergency shutdown of their facility due to their gas detection alarms, which prompted their ESD valve to close. This flaring event occurred at the Sand Dunes South Corridor CTB because of Enterprise's inability to take Oxy's volume of gas and with no gas takeaway occurring, field psi increased until set psi levels were reached which triggered flaring at Oxy's facility, as a safety measure for operations, facility equipment, and personnel. This event could not have been foreseen, avoided or prevented from happening as this event occurred with no advance notice or warning to Oxy or its field personnel.
	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

Steps taken to limit the duration and magnitude of vent or flare	emissions as much as possible. In this case, Enterprise, third party owned and operated pipeline operator, had equipment issues at their central station causing an emergency shutdown of their facility due to their gas detection alarms, which prompted their ESD valve to close. This flaring event occurred at the Sand Dunes South Corridor CTB because of Enterprise's inability to take Oxy's volume of gas and with no gas takeaway occurring, field psi increased until set psi levels were reached which triggered flaring at Oxy's facility, as a safety measure for operations, facility equipment, and personnel. As soon as flaring was triggered, field personnel engaged in Oxy's third party pipeline operation curtailment reactive stratagems and assisted with ensuring field area's mitigation optimizers cut injection rates to wells in the field to reduce injection and sales gas across the area, until flaring ceased. This event is out of OXY's control, yet OXY made every effort to control and minimize emissions as much as possible.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	Oxy is unable to take any corrective actions to eliminate the cause and potential reoccurrence of a downstream third-party owned and operated facility's issues, as this is downstream of Oxy's custody transfer point and out of Oxy's control to foresee, avoid, prevent from happening or reoccur. Enterprises' facilities will have issues which may reoccur from time to time and may trigger a spike in the gas line pressure, which in turn, directly impacts Oxy's ability to send gas to them. When Enterprises' downstream facilities has equipment 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 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 continually communicate with Enterprise personnel, who own and operate the sales gas pipeline, when possible, during these types of circumstances.

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ACKNOWLEDGMENTS  
  
Action 238238

ACKNOWLEDGMENTS

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	Action Number:
	238238
Action Type:	
[C-129] Venting and/or Flaring (C-129)	

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 238238

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	Action Type: [C-129] Venting and/or Flaring (C-129)

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.	7/10/2023