



## Certificate of Analysis

Number: 6030-21110261-001A

Artesia Laboratory

200 E Main St.  
Artesia, NM 88210  
Phone 575-746-3481Chandler Montgomery  
Occidental Petroleum  
1502 W Commerce Dr.  
Carlsbad, NM 88220

Dec. 01, 2021

Field: Sand Dunes  
 Station Name: Sand Dunes CTB Production 2  
 Station Number: 17012P  
 Station Location: CTB  
 Sample Point: Meter  
 Formation: Monthly  
 County: Eddy, NM  
 Type of Sample: : Spot-Cylinder  
 Heat Trace Used: No  
 Sampling Method: : Fill and Purge  
 Sampling Company: : SPL

Sampled By: Scott Beasley  
 Sample Of: Gas Spot  
 Sample Date: 11/23/2021 10:21  
 Sample Conditions: 77.7 psig, @ 62.5 °F Ambient: 61 °F  
 Effective Date: 11/23/2021 10:21  
 Method: GPA-2261M  
 Cylinder No: 1111-002678  
 Instrument: 70142339 (Inficon GC-MicroFusion)  
 Last Inst. Cal.: 11/15/2021 0:00 AM  
 Analyzed: 12/01/2021 14:47:44 by ERG

## 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

Calculated Molecular Weight	Total	C9+
Compressibility Factor	21.72	128.26
Relative Density Real Gas	0.9963	
	0.7526	4.4283

## GPA 2172 Calculation:

Calculated Gross BTU per ft<sup>3</sup> @ 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

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:** 03/13/2022**Duration of event:** 1 Hour 50 minutes**MCF Flared:** 1163**Start Time:** 02:30 PM**End Time:** 04:20 PM**Cause:** Downstream Activity Issue > Enterprise > Facility Emergency Shutdown**Method of Flared Gas Measurement:** Gas Flare Meter**Comments:** This upset event was not caused by any wells associated with the facility.

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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. Internal Oxy procedures ensure that upon a sudden and unexpected flaring event, production techs are promptly notified, and are instructed to assess the issue as soon as possible to take prompt corrective action and minimize emissions. Oxy production techs must assess and determine cause of flaring at its upstream facility. In this case, third-party pipeline operator, Enterprise, had an unplanned emergency shutdown of their downstream facility, due to a watchdog SCS safety interlock system malfunction on their end, which then triggered their ESD alarm, prompting the immediate shutdown of their facility. This sudden and unexpected Enterprise facility shutdown greatly impacted the gas flow from Oxy's upstream facility and caused an unanticipated and unavoidable flaring event at Oxy's upstream facility as Oxy was unable to push its gas to Enterprise's sales gas service pipeline. Until Enterprise's downstream facility was returned to normal working operations and was able to handle the volume of gas sent to them, Oxy was forced to route its stranded gas to a flare, as it was not able to push all its gas into Enterprise's gas pipeline or offload all its stranded gas to another downstream pipeline operator. Upon immediate flaring at Oxy's facility, Oxy personnel immediately contacted Enterprise personnel to inform them that they had an emergency shutdown of their downstream facility and to determine its cause. No advance warning of any kind was provided to Oxy personnel from Enterprise personnel regarding issues with their sales gas service system pipeline, or the ESD system or valve, and/or issues with their downstream facility for this event. Oxy personnel had to contact Enterprise directly when flaring started at its upstream facility to determine cause, as all Oxy's facility equipment were operating as designed prior to the 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, third-party pipeline operator, Enterprise, had an unplanned emergency shutdown of their downstream facility due to a watchdog SCS safety interlock system malfunction on their end, which then triggered their ESD alarm, prompting the immediate shutdown of their facility. No advance warning of any kind was provided to Oxy personnel from Enterprise personnel regarding issues with their sales gas service system pipeline, or the ESD system or valve, and/or issues with their downstream facility for this event. This sudden and unexpected Enterprise facility shutdown greatly impacted the gas flow from Oxy's upstream facility and caused an unanticipated and unavoidable flaring event at Oxy's upstream facility as Oxy was unable to push its gas to Enterprise's sales gas service pipeline. Upon immediate flaring at Oxy's facility, Oxy personnel, who were on-site, immediately contacted Enterprise personnel to inform them that they had an emergency shutdown of their downstream facility and to determine its cause, as all Oxy's facility equipment were operating as designed prior to the flaring event occurring. Once Enterprise personnel were informed of the issue, and a mechanic was dispatched to troubleshoot their issue on their end, the Oxy production tech and additional field personnel began engaging in secondary alternative offloading procedures to other third-party downstream operators, DCP and LUCID. In addition, Oxy production techs and field personnel began to shut in ten (10) wells, to reduce the rates and have flaring cease. Once flaring ceased at Oxy's facility, field personnel remained on-site to monitor the situation and until Enterprise's downstream facility resumed normal working operations and began gas sales pipeline service once again.

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

Oxy is limited in its corrective actions to eliminate the cause and potential reoccurrence of an Enterprise gas flow pipeline emergency shutdown, restriction or shut in, as this control 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 downstream facility issues will re-occur from time to time, which in turn, directly impacts Oxy's ability to send gas to them. When Enterprise downstream facility and/or its facility equipment has issues or greatly struggles to handle the volume of gas being sent to them by Oxy, Enterprise then restricts or cuts off Oxy's ability to send gas, which then prompts Oxy to route 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 during these circumstances. The limited actions that Oxy can do in this circumstance is to shut in multiple high GOR wells and engage in secondary third-party operator offload alternative routes, when possible, to minimize flaring volumes during this third-party pipeline operator downstream activity shutdown, restriction and/or shut in.

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**District II**  
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**District III**  
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**District IV**  
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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 93735

DEFINITIONS

Operator:  OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID:
	16696
	Action Number:
	93735
Action Type:	
[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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QUESTIONS

Action 93735

**QUESTIONS**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 93735
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

**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	Not answered.
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 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, 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 <b>at least 50 MCF</b> 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

**Equipment Involved**

Primary Equipment Involved	Other (Specify)
Additional details for Equipment Involved. Please specify	Emergency Flare > Downstream Activity Issue > Enterprise > Facility Emergency Shutdown

**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 (CO2) percentage, if greater than one percent	2
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 93735

QUESTIONS (continued)

Operator:  OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID:  16696
	Action Number:  93735
	Action Type:  [C-129] Amend Venting and/or Flaring (C-129A)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	03/13/2022
Time vent or flare was discovered or commenced	02:30 PM
Time vent or flare was terminated	04:20 PM
Cumulative hours during this event	2

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: 1,163 Mcf   Recovered: 0 Mcf   Lost: 1,163 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 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. Internal Oxy procedures ensure that upon a sudden and unexpected flaring event, production techs are promptly notified, and are instructed to assess the issue as soon as possible to take prompt corrective action and minimize emissions. Oxy production techs must assess and determine cause of flaring at its upstream facility. In this case, third-party pipeline operator, Enterprise, had an unplanned emergency shutdown of their downstream facility, due to a watchdog SCS safety interlock system malfunction on their end, which then triggered their ESD alarm, prompting the immediate shutdown of their facility. This sudden and unexpected Enterprise facility shutdown greatly impacted the gas flow from Oxy's upstream facility and caused an unanticipated and unavoidable flaring event at Oxy's upstream facility as Oxy was unable to push its gas to Enterprise's sales gas service pipeline. Until Enterprise's downstream facility was returned to returned to normal working operations and was able to handle the volume of gas sent to them, Oxy was forced to route its stranded gas to a flare, as it was not able to push all its gas into Enterprise's gas pipeline or offload all its stranded gas to another downstream pipeline operator.
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, third-party pipeline operator, Enterprise, had an unplanned emergency shutdown of their downstream facility due to a watchdog SCS safety interlock system malfunction on their end, which then triggered their ESD alarm, prompting the immediate shutdown of their facility. No advance warning of any kind was provided to Oxy personnel from Enterprise personnel regarding issues with their sales gas service system pipeline, or the ESD system or valve, and/or issues with their downstream facility for this event. This sudden and unexpected Enterprise facility shutdown greatly impacted the gas flow from Oxy's upstream facility and caused an unanticipated and unavoidable flaring event at Oxy's upstream facility as Oxy was unable to push its gas to Enterprise's sales gas service pipeline. Upon immediate flaring at Oxy's facility, Oxy personnel, who were on-site, immediately contacted Enterprise personnel to inform them that they had an emergency shutdown of their downstream facility and to determine its cause, as all Oxy's facility equipment were operating as designed prior to the flaring event occurring. Once Enterprise personnel were informed of the issue, and a mechanic was dispatched to troubleshoot their issue on their end, the Oxy production tech and additional field personnel began engaging in secondary alternative offloading procedures to other third-party downstream operators, DCP and LUCID. In addition, Oxy production techs and field personnel began to shut in ten (10) wells, to reduce the rates and have flaring cease.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	Oxy is limited in its corrective actions to eliminate the cause and potential reoccurrence of an Enterprise gas flow pipeline emergency shutdown, restriction or shut in, as this control 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 downstream facility issues will re-occur from time to time, which in turn, directly impacts Oxy's ability to send gas to them. When Enterprise downstream facility and/or its facility equipment has issues or greatly struggles to handle the volume of gas being sent to them by Oxy, Enterprise then restricts or cuts off Oxy's ability to send gas, which then prompts Oxy to route 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 during these circumstances. The limited actions that Oxy can do in this circumstance is to shut in multiple high GOR wells and engage in secondary third-party operator offload alternative routes, when possible, to minimize flaring volumes during this third-party pipeline operator downstream activity shutdown, restriction and/or shut in.

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ACKNOWLEDGMENTS

Action 93735

**ACKNOWLEDGMENTS**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 93735
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

**ACKNOWLEDGMENTS**

<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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.
<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  
  
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	Action Number: 93735
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

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.	3/28/2022