



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	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

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:** 12/19/2022**Duration of event:** 50 Minutes**MCF Flared:** 200**Start Time:** 02:10 PM**End Time:** 03:00 PM**Cause:** Emergency Flare > Downstream Activity Issue > Enterprise > Enterprise Sand Dunes North Station > 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.

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 emergency shutdown (ESD) of their downstream Sand Dunes North Station facility, which was, instigated by a bad analog card on their PLC. This sudden and unexpected Enterprise downstream facility shutdown greatly impacted the gas flow from Oxy's upstream facility when Enterprise's ESD valve immediately closed and shut-in gas pipeline services to Oxy. This ESD of Enterprise's Sand Dunes North Station facility triggered a 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 facility was back up and returned to normal working operation and was able to handle the volume of gas sent to them, Oxy's operations automatically prompted its stranded gas to a flare, which was triggered upon Enterprise's facility ESD. Upon immediate flaring at Oxy's Sand Dunes South Corridor CTB, Oxy field personnel received flaring alarms and immediately contacted Enterprise personnel to inform them that Oxy's facility was flaring and was making arrangements to offload to alternative offload operators. No advance warning of any kind was provided to Oxy personnel from Enterprise personnel regarding potential issues with their sales gas service system pipeline, their ESD system or valve, and/or issues with their downstream 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, third-party pipeline operator, Enterprise, had an emergency shutdown (ESD) of their downstream Sand Dunes North Station facility, which was, instigated by a bad analog card on

their PLC. This sudden and unexpected Enterprise downstream facility shutdown greatly impacted the gas flow from Oxy's upstream facility when Enterprise's ESD valve immediately closed and shut-in gas pipeline services to Oxy. This ESD of Enterprise's Sand Dunes North Station facility triggered a 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 facility was back up and returned to normal working operation and was able to handle the volume of gas sent to them, Oxy's operations automatically prompted its stranded gas to a flare, which was triggered upon Enterprise's facility ESD. Upon immediate flaring at Oxy's Sand Dunes South Corridor CTB, Oxy field personnel received flaring alarms and immediately contacted Enterprise personnel to inform them that Oxy's facility was flaring and was making arrangements to offload to alternative offload operators. No advance warning of any kind was provided to Oxy personnel from Enterprise personnel regarding potential issues with their sales gas service system pipeline, their ESD system or valve, and/or issues with their downstream facility. All Oxy's facility equipment were operating as designed prior to the sudden and unexpected flaring event occurring. To significantly minimize emissions during this flaring event, Oxy production techs began to shut-in multiple high GOR wells and stored gas in several wells to curtail gas throughput at the Sand Dunes South Corridor CTB to reduce flaring volumes as well as engaged in alternative offloading procedures by routing gas to DCP until Enterprise was able to begin taking gas 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 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 restriction and/or shut in.

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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 177787

DEFINITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 177787
	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: • 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 177787

QUESTIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 177787
	Action Type: [C-129] Venting and/or Flaring (C-129)

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 Well	Unavailable.
Incident Facility	[fAPP2127048458] Sand Dunes South Corridor CTB

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, 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 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 > Enterprise Sand Dunes North Station > 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 177787

QUESTIONS (continued)

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	Action Number: 177787
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	12/19/2022
Time vent or flare was discovered or commenced	02:10 PM
Time vent or flare was terminated	03:00 PM
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: 200 Mcf Recovered: 0 Mcf Lost: 200 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	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 emergency shutdown (ESD) of their downstream Sand Dunes North Station facility, which was, instigated by a bad analog card on their PLC. This sudden and unexpected Enterprise downstream facility shutdown greatly impacted the gas flow from Oxy's upstream facility when Enterprise's ESD valve immediately closed and shut-in gas pipeline services to Oxy. This ESD of Enterprise's Sand Dunes North Station facility triggered a 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 facility was back up and returned to normal working operation and was able to handle the volume of gas sent to them, Oxy's operations automatically prompted its stranded gas to a flare, which was triggered upon Enterprise's facility ESD. Upon immediate flaring at Oxy's Sand Dunes South Corridor CTB, Oxy field personnel received flaring alarms and immediately contacted Enterprise personnel to inform them that Oxy's facility was flaring and was making arrangements to offload to alternative offload operators.
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. In this case, third-party pipeline operator, Enterprise, had an emergency shutdown (ESD) of their downstream Sand Dunes North Station facility, which was, instigated by a bad analog card on their PLC. This sudden and unexpected Enterprise downstream facility shutdown greatly impacted the gas flow from Oxy's upstream facility when Enterprise's ESD valve immediately closed and shut-in gas pipeline services to Oxy. This ESD of Enterprise's Sand Dunes North Station facility triggered a 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 facility was back up and returned to normal working operation and was able to handle the volume of gas sent to them, Oxy's operations automatically prompted its stranded gas to a flare, which was triggered upon Enterprise's facility ESD. Upon immediate flaring at Oxy's Sand Dunes South Corridor CTB, Oxy field personnel received flaring alarms and immediately contacted Enterprise personnel to inform them that Oxy's facility was flaring and was making arrangements to offload to alternative offload operators. No advance warning of any kind was provided to Oxy personnel from Enterprise personnel regarding potential issues with their sales gas service system pipeline, their ESD system or valve, and/or issues with their downstream facility. All Oxy's facility equipment were operating as designed prior to the sudden and unexpected flaring event occurring. To significantly minimize emissions during this flaring event, Oxy production techs began to shut-in multiple high GOR wells and stored gas in several wells to curtail gas throughput.
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 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 restriction and/or shut in.

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ACKNOWLEDGMENTS

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	Action Number: 177787
	Action Type: [C-129] Venting and/or Flaring (C-129)

ACKNOWLEDGMENTS

☒	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 complete C-129 submission per 19.15.27.8 and 19.15.28.8 NMAC.
☒	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.
☒	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.
☒	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

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	Action Number: 177787
	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.	1/20/2023