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
	99.219	100.00000	100.000	6.934

Calculated Physical Properties	Total	C9+
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.

UPSET FLARING EVENT SPECIFIC JUSTIFICATIONS FORM

Facility: Sand Dunes South Corridor CTB **Flare Date:** 11/03/2021

Duration of event: 40 Minutes **MCF Flared:** 364

Start Time: 12:15 PM **End Time:** 12:55 PM

Cause: Downstream Activity Issue > Enterprise > Facility Emergency Shutdown

Method of Flared Gas Measurement: Gas Flare Meter

Well API Associated with Facility: 30-015-44526 Nimitz MDP1 12 Federal Com #001H

Comments: This upset event was not caused by any wells associated with the facility. 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.

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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.

In this case, third-party pipeline operator, Enterprise, had an emergency shutdown of their downstream Sand Dunes North Corridor station facility, which was caused by their own personnel overrunning the gun barrel tank, which in turn, triggered their gas detection devices to alarm and immediately shutdown their facility. This sudden and unexpected Enterprise facility shutdown greatly impacted the gas flow from Oxy's upstream facility by causing Enterprise's ESD valve to immediately close and shut-in gas pipeline services when gas was detected, and their downstream facility was shutdown. This in turn, triggered a flaring event at Oxy's upstream facility as Oxy was unable to push its gas to Enterprise's gas service pipeline. Until Enterprise 's downstream facility back up and returned to normal working operation and was able to handle the volume of gas sent to them, Oxy was forced to route stranded gas to a flare, as it was not able to push all its gas into Enterprise's gas pipeline. Upon immediate flaring at Oxy's Sand Dunes South Corridor CTB, Oxy personnel immediately contacted Enterprise to determine cause. No advance warning of any kind was provided to Oxy personnel from Enterprise personnel regarding issues with their gas service system pipeline or issues with their downstream facility.

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, in order 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 in order to lessen emissions as much as possible. In this case, third-party pipeline operator, Enterprise, had an emergency shutdown of their downstream Sand Dunes North Corridor station facility, which was caused by their own personnel overrunning the gun barrel tank, which in turn, triggered their

gas detection devices to alarm and immediately shutdown their facility. This sudden and unexpected Enterprise facility shutdown greatly impacted the gas flow from Oxy's upstream facility by causing Enterprise's ESD valve to immediately close and shut-in gas pipeline services when gas was detected, and their downstream facility was shutdown. This in turn, triggered a flaring event at Oxy's upstream facility as Oxy was unable to push its gas to Enterprise's gas service pipeline. Until Enterprise 's downstream facility back up and returned to normal working operation and was able to handle the volume of gas sent to them, Oxy was forced to route stranded gas to a flare, as it was not able to push all its gas into Enterprise's gas pipeline. To significantly minimize emissions during this flaring event, Oxy production techs began to shut-in multiple high GOR wells to minimize gas throughput at the Sand Dunes South Corridor CTB in order to reduce flaring volumes and also offloaded as much gas as possible to secondary offloading third party operators, LUCID and DCP. Oxy personnel immediately contacted Enterprise to determine cause once flaring began. No advance warning of any kind was provided to Oxy personnel from Enterprise personnel regarding issues with their gas service system pipeline or issues with their downstream facility.

Oxy personnel were informed by Enterprise personnel that an Enterprise tech was in route to open their ESD valve, and the tech was able to run a stainless jumper to gas supply to prevent the ESD valve from closing again. Once Enterprise downstream facility resumed normal working operations and began gas sales pipeline service once again, did flaring cease.

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 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

QUESTIONS

Action 63147

QUESTIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 63147
	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	*Not answered.*
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 addional guidance.	
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 venting and/or flaring 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 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

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	74
Nitrogen (N2) percentage, if greater than one percent	2
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (C02) percentage, if greater than one percent	1
Oxygen (02) 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 (02) percentage quality requirement	*Not answered.*

Date(s) and Time(s)	
Date venting and/or flaring was discovered or commenced	11/03/2021
Time venting and/or flaring was discovered or commenced	12:15 PM
Time venting and/or flaring was terminated	12:55 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: 364 Mcf | Recovered: 0 Mcf | Lost: 364 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 or is this venting and/or flaring a result of downstream activity	Yes
Was notification of downstream activity received by you or your operator	No
Downstream OGRID that should have notified you or your operator	[713731] Enterprise Crude Pipeline LLC
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.*

Steps and Actions to Prevent Waste	
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	In this case, third-party pipeline operator, Enterprise, had an emergency shutdown of their downstream Sand Dunes North Corridor station facility, which was caused by their own personnel overrunning the gun barrel tank, which in turn, triggered their gas detection devices to alarm and immediately shutdown their facility. This sudden and unexpected Enterprise facility shutdown greatly impacted the gas flow from Oxy's upstream facility by causing Enterprise's ESD valve to immediately close and shut-in gas pipeline services when gas was detected, and their downstream facility was shutdown. This in turn, triggered a flaring event at Oxy's upstream facility as Oxy was unable to push its gas to Enterprise's gas service pipeline. Until Enterprise 's downstream facility back up and returned to normal working operation and was able to handle the volume of gas sent to them, Oxy was forced to route stranded gas to a flare, as it was not able to push all its gas into Enterprise's gas pipeline. Upon immediate flaring at Oxy's Sand Dunes South Corridor CTB, Oxy personnel immediately contacted Enterprise to determine cause. No advance warning of any kind was provided to Oxy personnel from Enterprise personnel regarding issues with their gas service system pipeline or issues with their downstream facility.
Steps taken to limit the duration and magnitude of venting and/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, in order 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 in order to lessen emissions as much as possible. In this case, third-party pipeline operator, Enterprise, had an emergency shutdown of their downstream Sand Dunes North Corridor station facility, which was caused by their own personnel overrunning the gun barrel tank, which in turn, triggered their gas detection devices to alarm and immediately shutdown their facility. This sudden and unexpected Enterprise facility shutdown greatly impacted the gas flow from Oxy's upstream facility by causing Enterprise's ESD valve to immediately close and shut-in gas pipeline services when gas was detected, and their downstream facility was shutdown. This in turn, triggered a flaring event at Oxy's upstream facility as Oxy was unable to push its gas to Enterprise's gas service pipeline. Until Enterprise 's downstream facility back up and returned to normal working operation and was able to handle the volume of gas sent to them, Oxy was forced to route stranded gas to a flare, as it was not able to push all its gas into Enterprise's gas pipeline. To significantly minimize emissions during this flaring event, Oxy production techs began to shut-in multiple high GOR wells to minimize gas throughput at the Sand Dunes South Corridor CTB in order to reduce flaring volumes and also offloaded as much gas as possible to secondary offloading third party operators, LUCID and DCP. Oxy personnel immediately contacted Enterprise to determine cause once flaring began.
Corrective actions taken to eliminate the cause and reoccurrence of venting and/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 to minimize flaring volumes during this third-party pipeline operator downstream activity restriction and/or shut in.

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CONDITIONS

Action 63147

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Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 63147
	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.	11/23/2021