



Certificate of Analysis

Number: 6030-21030124-006A

Artesia Laboratory

200 E Main St.

Artesia, NM 88210

Phone 575-746-3481

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

Mar. 12, 2021

Field:	Mesa Verde	Sampled By:	Javier Lazo
Station Name:	Mesa Verde BSU 18H LG	Sample Of:	Gas Spot
Station Number:	15538I	Sample Date:	03/10/2021 09:30
Station Location:	OXY	Sample Conditions:	1185 psia, @ 89 °F Ambient: 67 °F
Sample Point:	Meter Run	Effective Date:	03/10/2021 09:30
Formation:	Quarterly	Method:	GPA-2261M
County:	Lea	Cylinder No:	5030-01186
Type of Sample:	Spot-Cylinder	Instrument:	70104251 (Inficon GC-MicroFusion)
Heat Trace Used:	N/A	Last Inst. Cal.:	03/08/2021 0:00 AM
Sampling Method:	Fill and Purge	Analyzed:	03/12/2021 13:31:22 by EJ R
Sampling Company:	SPL		

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Hydrogen Sulfide	0.000	0.000	0.000		GPM TOTAL C2+	6.195
Nitrogen	1.367	1.362	1.750		GPM TOTAL C3+	2.934
Methane	75.196	74.948	55.148		GPM TOTAL iC5+	0.331
Carbon Dioxide	1.568	1.563	3.155			
Ethane	12.258	12.217	16.849	3.261		
Propane	6.378	6.357	12.857	1.748		
Iso-butane	0.810	0.807	2.151	0.264		
n-Butane	1.884	1.878	5.006	0.591		
Iso-pentane	0.325	0.324	1.072	0.118		
n-Pentane	0.325	0.324	1.072	0.117		
Hexanes Plus	0.221	0.220	0.940	0.096		
	100.332	100.000	100.000	6.195		

Calculated Physical Properties

Relative Density Real Gas	Total	C6+
	0.7553	3.2176
Calculated Molecular Weight	21.80	93.19
Compressibility Factor	0.9963	

GPA 2172 Calculation:

Calculated Gross BTU per ft³ @ 14.65 psia & 60°F

Real Gas Dry BTU	1259	5113
Water Sat. Gas Base BTU	1237	5024
Ideal, Gross HV - Dry at 14.65 psia	1253.9	5113.2
Ideal, Gross HV - Wet	1232.0	5023.7
Net BTU Dry Gas - real gas	1142	
Net BTU Wet Gas - real gas	1123	

Comments: H₂S Field Content 0 ppm
Mcf/day 839

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

EVENT SPECIFIC JUSTIFICATIONS FORM**Facility:** MS Verde 18 CTB**Dates:** 05/28/2021 @ 08:45 PM to 05/31/2021 09:45 PM**Cause:** Weather Related, EnLink pipeline shut-in.**Duration of event:** 56 hrs. and 15 minutes/ Intermittent Flaring**Method of Flared Gas Measurement:** MV Flare Meter 1 F6001

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

The emissions event was caused by the unforeseen, unexpected, sudden, and 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 preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to ensure flame is lit and meeting opacity requirements. In this case, this emissions event was due to an extreme weather storm that knocked down third party pipeline operator, EnLink (LOBO station) and shorted/fried their electronics on their boiler system. This triggered a sudden and unexpected pipeline shut-in by EnLink, which is downstream of OXY's custody point and control, but affected Oxy's upstream facility and its sales gas primary and secondary off-load point capabilities. No advance notification of a pipeline shut-in was provided to OXY. Oxy cannot control, foresee, or estimate when a third-party pipeline operator's repairs or return to service will occur. All OXY compression equipment was working normally and running at maximized optimization prior to this event occurring. A list of wells to shut in if a third-party operator unexpected sales gas interruption occurs exists for this facility and the immediate reaction plan procedure is followed reactively to avoid excess emissions and/or flaring during an unexpected and unavoidable event beyond Oxy's control to prevent. This event lasted a combined total of 2 days, 8 hours, and 15 minutes, (56 hours & 15 min), consisting of intermittent flaring, due to surging with fluctuating and limited export capabilities to both primary and secondary offload points, which were triggered by EnLink's inability to take gas and shutting their pipeline in. EnLink provided potentially expected equipment/pipeline resolution information, however, those timelines provided to Oxy were repeatedly incorrect, and during such preparation measures taken by OXY, flaring would come up slightly, which would then be controlled, and mitigated back down to zero until flaring ceased. Sporadic flaring also occurred when EnLink repaired their equipment and started accepting gas again, and due to an estimated 35 wells being shut-in and subsequently re-opened, the wells surged during return to service, which caused flaring as there was a delay in EnLink matching their compression capacity with Oxy's exported gas.

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

The emissions event was caused by the unforeseen, unexpected, sudden, and 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 preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to ensure flame is lit and meeting opacity requirements. A list of wells to shut in if a third-party operator unexpected sales gas interruption occurs exists for this facility and the immediate reaction plan procedure is followed reactively to avoid excess emissions and/or flaring during an unexpected and unavoidable event beyond Oxy's control to prevent. Active wells not shut-in were also choked back to limit production to match what can be off-loaded with a secondary third-party pipeline operator, which in this case, was DCP. Oxy took steps to reroute its remaining production of sales gas to a secondary offload point, but unfortunately, DCP's downstream pressure rose unexpectedly and limited Oxy's ability to export at the rates that it was producing at the time. OXY took further additional steps to limit excess emissions, by reducing more of its active production in order to stop flaring, when DCP, its secondary off-load point, was unable to take much more of Oxy's gas. Once EnLink was able to take Oxy's gas again, several wells were slowly choked back when they began to surge during return to service, and EnLink's compression equipment was unable to handle the capacity of Oxy's exported gas. Oxy personnel made every effort to mitigate and cease flaring, in every sporadic/intermittent flaring occurrence during the time period of this event.

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

The emissions event was caused by the unforeseen, unexpected, sudden, and 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 preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to ensure flame is lit and meeting opacity requirements. Oxy cannot take any corrective actions to eliminate the cause and reoccurrence of this flaring event as this was a sudden and unexpected pipeline shut-in by EnLink, which is downstream of OXY's custody point and control, but affected Oxy's upstream facility. As previously stated, no advance notification of a pipeline shut-in was provided to OXY, yet, it is Oxy's policy to take immediate action to minimize emissions as much as possible, whenever such occurrence happens, even contacting a second offload capable operator, in an effort to minimize emissions. OXY personnel are always in place and available at this facility location when such an occurrence happens, so that the facility's compression equipment is inspected and returned to working service in a safe and diligent manner, whenever a third party pipeline operator is able to take Oxy's gas again.

District I

1625 N. French Dr., Hobbs, NM 88240
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District II

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Phone:(575) 748-1283 Fax:(575) 748-9720

District III

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Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
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

QUESTIONS

Action 31370

QUESTIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696 Action Number: 31370 Action Type: [C-129] Venting and/or Flaring (C-129)
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QUESTIONS**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 or is this venting or flaring caused by an emergency or malfunction	Yes
Did or will this venting 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 notification of a major venting or flaring	Yes, major venting or flaring of natural gas.
The operator shall file a form C-141 instead of a form C-129 for a release that includes liquid during venting or flaring that is or may be a major or minor release under 19.13.29.7 NMAC	
Was there or will there be at least 50 MCF of natural gas vented or flared during this event	Yes
Did this venting 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

Unregistered Facility Site

Please provide the facility details, if the venting or flaring occurred or is occurring at a facility that does not have an Facility ID (##) yet.

Facility or Site Name	Mesa Verde 18 CTB
Facility Type	Tank Battery - (TB)

Equipment Involved

Primary Equipment Involved	Other (Specify)
Additional details for Equipment Involved. Please specify	Emergency Flare. 3rd Party Pipeline Operator Shut-In to Oxy

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	1
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.

Date(s) and Time(s)

Date venting or flaring was discovered or commenced	05/28/2021
Time venting or flaring was discovered or commenced	08:45 PM
Is the venting or flaring event complete	Yes
Date venting or flaring was terminated	05/31/2021
Time venting or flaring was terminated	05:00 AM
Total duration of venting or flaring in hours, if venting or flaring has terminated	56
Longest duration of cumulative hours within any 24-hour period 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: Midstream Emergency Maintenance Other (Specify) Natural Gas Flared Spilled: 3,580 Mcf Recovered: 0 Mcf Lost: 3,580 Mcf]
Other Released Details	Not answered.
Additional details for Measured or Estimated Volume(s). Please specify	Not answered.
Is this a gas only submission (i.e. only 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 or flaring a result of downstream activity	Yes
Date notified of downstream activity requiring this venting or flaring	05/28/2021
Time notified of downstream activity requiring this venting or flaring	Not answered.

Steps and Actions to Prevent Waste

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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	The emissions event was caused by the unforeseen, unexpected, sudden, and 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 preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to the ensure flame is lit and meeting opacity requirements. See attached document.
Steps taken to limit the duration and magnitude of venting or flaring	A list of wells to shut in if a third-party operator unexpected sales gas interruption occurs exists for this facility and the immediate reaction plan procedure is followed reactively to avoid excess emissions and/or flaring during an unexpected and unavoidable event beyond Oxy's control to prevent. Active wells not shut-in were also choked back to limit production to match what can be off-loaded with a secondary third-party pipeline operator, which in this case, was DCP. Oxy took steps to reroute its remaining production of sales gas to a secondary offload point, but unfortunately, DCP's downstream pressure rose unexpectedly and limited Oxy's ability to export at the rates that it was producing at the time. OXY took further additional steps to limit excess emissions, by reducing more of its active production in order to stop flaring, when DCP, its secondary off-load point, was unable to take much more our Oxy's gas. Once EnLink was able to take Oxy's gas again, several wells were slowly choked back whey they began to surge during return to service, and EnLink's compression equipment was unable to handle the capacity of Oxy's exported gas. Oxy personnel made every effort to mitigate and cease flaring, in every sporadic/intermittent flaring occurrence during the time period of this event. See attached document.
Corrective actions taken to eliminate the cause and reoccurrence of venting or flaring	The emissions event was caused by the unforeseen, unexpected, sudden, and 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 preventative maintenance practices. It is OXY's policy to route all stranded sales gas to a flare during an unforeseen and unavoidable emergency or malfunction, in order to minimize emissions as much as possible. The flare is regularly monitored to the ensure flame is lit and meeting opacity requirements. Oxy cannot take any corrective actions to eliminate the cause and reoccurrence of this flaring event as this was a sudden and unexpected pipeline shut-in by EnLink, which is downstream of OXY's custody point and control, but affected Oxy's upstream facility. As previously stated, no advance notification of a pipeline shut-in was provided to OXY, yet, it is Oxy's policy to take immediate action to minimize emissions as much as possible, whenever such occurrence happens, even contacting a second offload capable operator, in an effort to minimize emissions. OXY personnel all always in place and available at this facility location when such an occurrence happens, so that the facility's compression equipment is inspected and returned to working service in a safe and diligent manner, whenever a third party pipeline operator is able to take Oxy's gas again.

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CONDITIONS

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	Action Number: 31370
	Action Type: [C-129] Venting and/or Flaring (C-129)

CONDITIONS

Created By	Condition	Condition Date
system	If the information provided in this report requires an amendment, submit a [C-129] Request to Amend Venting and/or Flaring Incident, utilizing your incident number from this event.	6/16/2021