Certificate of Analysis

Number: 6030-21080181-009A

Artesia Laboratory
200 E Main St.
Artesia, NM 88210
Phone 575-746-3481

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

Aug. 24, 2021

Field:	Pure Gold	Sampled By:	James Hill
Station Name:	Sterling Silver 33 FC 8H LG	Sample Of:	Gas Spot
Station Number:	17338I	Sample Date:	08/18/2021 09:52
Station Location:	Gas Lift	Sample Conditions:	1272 psia, @ 95 °F Ambient: 71 °F
Sample Point:	Well	Effective Date:	08/18/2021 09:52
Formation:	Quarterly	Method:	GPA-2261M
County:	Eddy	Cylinder No:	1111-001266
Type of Sample: :	Spot-Cylinder	Instrument:	6030_GC6 (Inficon GC-3000 Micro)
Heat Trace Used:	N/A	Last Inst. Cal.:	08/02/2021 0:00 AM
Sampling Method: :	Fill and Purge	Analyzed:	08/24/2021 15:30:21 by KJM
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+	6.276
Nitrogen	2.382	2.392	3.045		GPM TOTAL C3+	3.014
Methane	73.748	74.051	53.979		GPM TOTAL iC5+	0.451
Carbon Dioxide	1.268	1.273	2.546			
Ethane	12.169	12.219	16.695	3.262		
Propane	6.198	6.224	12.471	1.711		
Iso-butane	0.791	0.794	2.097	0.259		
n-Butane	1.875	1.883	4.973	0.593		
Iso-pentane	0.376	0.378	1.239	0.138		
n-Pentane	0.389	0.391	1.282	0.141		
Hexanes Plus	0.393	0.395	1.673	0.172		
	99.589	100.000	100.000	6.276		

Calculated Physical Properties	**Total**	**C6+**
Relative Density Real Gas	0.7624	3.2176
Calculated Molecular Weight	22.01	93.19
Compressibility Factor	0.9962	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	1260	5113
Water Sat. Gas Base BTU	1238	5024
Ideal, Gross HV - Dry at 14.65 psia	1255.1	5113.2
Ideal, Gross HV - Wet	1233.1	5023.7
Net BTU Dry Gas - real gas	1144	
Net BTU Wet Gas - real gas	1124	

Comments: H2S Field Content 0 ppm
Mcf/day 1506

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.

EVENT SPECIFIC JUSTIFICATIONS FORM

Facility: Sterling Silver MDP1 33-4 0008H Well Pad

Start Date: 10/16/2021 **End Date:** 10/16/2021

Cause: Gas Line Damage - Malfunction

Duration of event: 24 hours **MCF Volume Vented:** 74

Method of Vented Gas Measurement: Allocation

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

The leak was caused by a malfunction on the steel piping of the injector gas line which developed a pin sized hole. The type of damage on this type of injector line is not a common occurrence and was not anticipated. We believe the leak was a sudden, unavoidable failure beyond Oxy's reasonable control. While this type of failure is infrequent, Oxy has initiated a root cause analysis to determine why the leak may have occurred and how Oxy can prevent this type of event from happening in the future.

Oxy contracts with third-party aerial survey contractors, and on November 9, 2021 at 5 pm, Oxy became aware of a potential leak detected in the middle of a remote field. Within 2 hours, Oxy's field crew was deployed to the remote area to search for the potential leak and an underground gas leak was discovered on the injector line to the Sterling Silver MDP1 33-4 8H. Upon verification of the leak, Oxy shut-in the well by 7 pm on November 9th, 2021 to stop the leak.

Once the leak was verified and stopped, Oxy's Operations group then transitioned its focus on performing an extensive review to determine how long the leak may have gone on for. The group determined that the leak was isolated to the damaged injector gas line, and also identified a period from October 5, 2021 to October 7, 2021 where oil/water/gas (GOR) well tests dropped slightly. This decrease in the GOR led to a slight drop in gas and oil production, providing insight into the potential timing of when the leak first occurred. While not certain, the group used best engineering and operational estimates to determine that, based on the drop in GOR from well tests between October 5, 2021 to October 7, 2021, the leak potentially started on October 5, 2021 and continued until it was discovered by Oxy and stopped on November 9, 2021 at 7pm. Based on the well tests, historical production and pressure records, it is possible that a total of 2,651.7 mscf of gas may have leaked from the underground injector line. This estimated total covers (daily average released is 74 MSCFD) the timeframe from October 5, 2021 until November 9, 2021 when the leak was stopped.

Upon conclusion of the review, when Oxy had an objectively reasonable basis to determine the total and daily amount of gas that potentially was released, Oxy began reporting to the NMOCD using daily C-129's forms.

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

Oxy became aware of a potential leak detected in the middle of a remote field on November 9, 2021 at 5 pm. Within 2 hours, on November 9, 2021, an Oxy field crew was deployed and detected a leak in an underground injector line to the Sterling Silver MDP1 33-4 8H well. Upon verification of the leak, Oxy immediately shut-in the well to stop the leak.

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

The leak was discovered, verified and stopped on November 9, 2021.

The leak was caused by a pin sized hole in the steel piping of an underground injector line. The type of damage on this type of gas line is not a common occurrence and was not anticipated. We believe the leak was a sudden, unavoidable failure beyond Oxy's reasonable control. While this type of failure on this type of line is infrequent, Oxy has initiated a root cause analysis to determine why the leak may have occurred and how Oxy can prevent this type of event from happening in the future.

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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 63783

QUESTIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 63783
	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	**[30-015-45387] STERLING SILVER MDP1 33 4 FEDERAL COM #008H**
Incident Facility	*Not answered.*

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	Yes
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	Flow Line - Injection
Additional details for Equipment Involved. Please specify	The leak was caused by a malfunction on the steel piping of the injector gas line which developed a pin sized hole. The type of damage on this type of injector line is not a common occurrence and was not anticipated. We believe the leak was a sudden, unavoidable failure beyond Oxy's reasonable control. While this type of failure is infrequent, Oxy has initiated a root cause analysis to determine why the leak may have occurred and how Oxy can prevent this type of event from happening in the future.

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	3
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (C02) percentage, if greater than one percent	2
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	10/16/2021
Time venting and/or flaring was discovered or commenced	12:00 AM
Time venting and/or flaring was terminated	11:59 PM
Cumulative hours during this event	24

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	Cause: Equipment Failure | Flow Line - Injection | Natural Gas Vented | Released: 74 Mcf | Recovered: 0 Mcf | Lost: 74 Mcf]
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Additional details for Measured or Estimated Volume(s). Please specify	Oxy contracts with third-party aerial survey contractors, and on November 9, 2021 at 5 pm, Oxy became aware of a potential leak detected in the middle of a remote field. Within 2 hours, Oxy's field crew was deployed to the remote area to search for the potential leak and an underground gas leak was discovered on the injector line to the Sterling Silver MDP1 33-4 8H. Upon verification of the leak, Oxy shut-in the well by 7 pm on November 9th, 2021 to stop the leak. Once the leak was verified and stopped, Oxy's Operations group then transitioned its focus on performing an extensive review to determine how long the leak may have gone on for. The group determined that the leak was isolated to the damaged injector gas line, and also identified a period from October 5, 2021 to October 7, 2021 where oil/water/gas (GOR) well tests dropped slightly. This decrease in the GOR led to a slight drop in gas and oil production, providing insight into the potential timing of when the leak first occurred. While not certain, the group used best engineering and operational estimates to determine that, based on the drop in GOR from well tests between October 5, 2021 to October 7, 2021, the leak potentially started on October 5, 2021 and continued until it was discovered by Oxy and stopped on November 9, 2021 at 7pm. Based on the well tests, historical production and pressure records, it is possible that a total of 2,651.7 mscf of gas may have leaked from the underground injector line. This estimated total covers (daily average released is 74 MSCFD) the timeframe from October 5, 2021 until November 9, 2021 when the leak was stopped.
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	No
Was notification of downstream activity received by you or your operator	*Not answered.*
Downstream OGRID that should have notified you or your operator	*Not answered.*
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	The leak was caused by a malfunction on the steel piping of the injector gas line which developed a pin sized hole. The type of damage on this type of injector line is not a common occurrence and was not anticipated. We believe the leak was a sudden, unavoidable failure beyond Oxy's reasonable control. While this type of failure is infrequent, Oxy has initiated a root cause analysis to determine why the leak may have occurred and how Oxy can prevent this type of event from happening in the future. Oxy contracts with third-party aerial survey contractors, and on November 9, 2021 at 5 pm, Oxy became aware of a potential leak detected in the middle of a remote field. Within 2 hours, Oxy's field crew was deployed to the remote area to search for the potential leak and an underground gas leak was discovered on the injector line to the Sterling Silver MDP1 33-4 8H. Upon verification of the leak, Oxy shut-in the well by 7 pm on November 9th, 2021 to stop the leak.
Steps taken to limit the duration and magnitude of venting and/or flaring	Oxy became aware of a potential leak detected in the middle of a remote field on November 9, 2021 at 5 pm. Within 2 hours, on November 9, 2021, an Oxy field crew was deployed and detected a leak in an underground injector line to the Sterling Silver MDP1 33-4 8H well. Upon verification of the leak, Oxy immediately shut-in the well to stop the leak.
Corrective actions taken to eliminate the cause and reoccurrence of venting and/or flaring	The leak was discovered, verified and stopped on November 9, 2021. The leak was caused by a pin sized hole in the steel piping of an underground injector line. The type of damage on this type of gas line is not a common occurrence and was not anticipated. We believe the leak was a sudden, unavoidable failure beyond Oxy's reasonable control. While this type of failure on this type of line is infrequent, Oxy has initiated a root cause analysis to determine why the leak may have occurred and how Oxy can prevent this type of event from happening in the future.

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CONDITIONS

Action 63783

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 63783
	Action Type: [C-129] Venting and/or Flaring (C-129)

CONDITIONS

Created By	Condition	Condition Date
shelbyschoepf	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.	11/28/2021