Certificate of Analysis

Number: 6030-22020121-001A

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

Feb. 09, 2022

Field:	Mesa Verde	Sampled By:	Scott Beasley
Station Name:	Mesa Verde BS 23H	Sample Of:	Gas Spot
Station Number:	15505t	Sample Date:	02/04/2022 11:02
Station Location:	CTB	Sample Conditions:	106 psig, @ 55.7 °F Ambient: 29 °F
Sample Point:	Meter run	Effective Date:	02/04/2022 11:02
Formation:	Spot	Method:	GPA-2261M
County:	Lea	Cylinder No:	1111-002464
Type of Sample: :	Spot-Cylinder	Instrument:	6030_GC6 (Inficon GC-3000 Micro)
Heat Trace Used:	No	Last Inst. Cal.:	02/07/2022 0:00 AM
Sampling Method: :	Fill and Purge	Analyzed:	02/09/2022 09:22:49 by ERG
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+	6.035
Nitrogen	1.435	1.452	1.880		GPM TOTAL C3+	2.792
Methane	74.507	75.388	55.894		GPM TOTAL iC5+	0.330
Carbon Dioxide	1.558	1.576	3.205			
Ethane	12.009	12.151	16.886	3.243		
Propane	6.155	6.228	12.692	1.712		
Iso-butane	0.725	0.734	1.972	0.240		
n-Butane	1.603	1.622	4.357	0.510		
Iso-pentane	0.274	0.277	0.924	0.101		
n-Pentane	0.278	0.281	0.937	0.102		
Hexanes Plus	0.288	0.291	1.253	0.127		
	98.832	100.000	100.000	6.035		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.7496	3.2176
Calculated Molecular Weight	21.64	93.19
Compressibility Factor	0.9963	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	1248	5113
Water Sat. Gas Base BTU	1227	5024
Ideal, Gross HV - Dry at 14.65 psia	1243.3	5113.2
Ideal, Gross HV - Wet	1221.6	5023.7
Net BTU Dry Gas - real gas	1132	
Net BTU Wet Gas - real gas	1113	

Comments: H2S Field Content 0 ppm
Mcf/day 2044

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: Mesa Verde 18 CTB **Date:** 05/28/2022

Duration of event: 5 Hours 51 minutes **MCF Flared:** 1014

Start Time: 04:00 PM **End Time:** 09:51 PM

Cause: Compression Equipment Malfunction > Leaking PRV > Emergency Facility Shutdown

Method of Flared Gas Measurement: Gas Flare Meter

Comments: This upset event was not caused by any wells associated with the facility. This 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 or prevented by good design, operation, and preventative maintenance practices.

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

This 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 or prevented by good design, operation, and preventative maintenance practices. Internal OXY procedures ensure that upon air compressor unit and/or multiple unit shutdown, due to malfunction and/or alarms, production techs are promptly notified, and are instructed to assess the issue as soon as possible in order to take prompt corrective action and minimize emissions. In this case, the facility production tech received compressor alarms notifications indicating a malfunction over at Mesa Verde 18 CTB, which automatically shut the compression equipment down, which then triggered a flaring event. Upon arrival at the facility, and after inspecting the compression equipment, it was determined that a leaking pressure relief valve was causing the compression equipment to overheat, prompting the equipment's temperature sensor to rise to a level triggering a malfunction alarm and automatic shutdown. The facility's air compressors are designed to automatically shut down due to high internal/external temperature readings as an effective safety precaution in order to maintain a safe level of operation to avoid catastrophic damage to the equipment itself and when those temperature levels are above a designated safe zone level, the equipment's operating sensor will automatically shut the equipment down, which then affects other equipment at the facility. This event could not have been foreseen, avoided or planned for as typical air compressor operating equipment design and operations are inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which can cause malfunctions to occur, cease equipment operations and impact additional process equipment, prompting unforeseeable or unpredicted shutdowns of a facility. This event is out of OXY's control yet, OXY made every effort to control and minimize emissions as much as possible.

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

This facility is unmanned, except when Oxy production techs are gathering data daily or conducting daily walk-throughs to ensure that there are no problems, circumstances and/or assist other personnel on-site for maintenance purposes. It is OXY's policy to route all stranded gas to a flare during an unforeseen and unavoidable emergency or malfunction, as the part of the overall process or steps to take to limit duration and magnitude of

flaring. Oxy personnel are in the field 24/7 and can physically see when we are flaring, which in turn, are communicated to additional Oxy field personnel. Internal OXY procedures ensure that upon gas compressor unit and/or multiple unit shutdown, increased sensor pressure/level alarms, other process equipment issues, etc., field production technician personnel are promptly notified, and are instructed to assess the issue as soon as possible in order to take prompt corrective action and minimize emissions. Oxy production technicians must assess whether the issue or circumstance is due to damage and repair is needed, or whether there are other reasons for its cause. The flare at this facility has a 98% combustion efficiency in order to lessen emissions as much as possible.

In this case, the facility production tech received compressor alarms notifications indicating a malfunction over at Mesa Verde 18 CTB, which automatically shut the compression equipment down, which then triggered a flaring event. Upon arrival at the facility, and after inspecting the compression equipment, it was determined that a leaking pressure relief valve was causing the compression equipment to overheat, prompting the equipment's temperature sensor to rise to a level triggering a malfunction alarm and automatic shutdown. The facility's air compressors are designed to automatically shut down due to high internal/external temperature readings as an effective safety precaution in order to maintain a safe level of operation to avoid catastrophic damage to the equipment itself and when those temperature levels are above a designated safe zone level, the equipment's operating sensor will automatically shut the equipment down, which then affects other equipment at the facility. Once the leak was identified, the Oxy production tech quickly called for an Oxy mechanic to resolve the issue. Once the Oxy mechanic arrived, the production tech assisted the mechanic with repairing the pressure relief valve. After the repair was completed, the Oxy mechanic and the Oxy production tech were able to clear all the alarms on the facility's PLC and restart all the air compressor's back to normal working service and operation, which then prompted flaring to cease. This event could not have been foreseen, avoided or planned for as typical operating equipment design and operations are inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which can cause malfunctions to occur, cease equipment operations and impact additional process equipment, prompting unforeseeable or unpredicted shutdowns of a facility. This event is out of OXY's control yet, OXY made every effort to control and minimize emissions as much as possible.

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

Oxy is limited in the corrective actions available to them to eliminate the cause and potential reoccurrence of this type of equipment malfunction as notwithstanding gas compression design and operations, this type of compression equipment is inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which can cause malfunctions to occur, cease equipment operations and impact additional process equipment, which can in turn, prompt unforeseeable or unpredicted shutdowns of a facility, without warning or advance notice. The only action that Oxy can take is to continue with the equipment preventative maintenance program for this facility. This event is out of OXY's control yet, OXY made every effort to control and minimize emissions as much as possible.

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District IV
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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

DEFINITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 119737
	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 119737

QUESTIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 119737
	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	**[fAPP2126659618] MESA VERDE 18 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 addional 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 **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 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 > Compression Equipment Malfunction > Leaking PRV > Emergency Facility 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	75
Nitrogen (N2) percentage, if greater than one percent	1
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.*

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QUESTIONS (continued)

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 119737
	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	05/28/2022
Time vent or flare was discovered or commenced	04:00 PM
Time vent or flare was terminated	09:51 PM
Cumulative hours during this event	6

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: 1,014 Mcf | Recovered: 0 Mcf | Lost: 1,014 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	No
Was notification of downstream activity received by this operator	*Not answered.*
Downstream OGRID that should have notified this operator	*Not answered.*
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	In this case, the facility production tech received compressor alarms notifications indicating a malfunction over at Mesa Verde 18 CTB, which automatically shut the compression equipment down, which then triggered a flaring event. Upon arrival at the facility, and after inspecting the compression equipment, it was determined that a leaking pressure relief valve was causing the compression equipment to overheat, prompting the equipment’s temperature sensor to rise to a level triggering a malfunction alarm and automatic shutdown. The facility’s air compressors are designed to automatically shut down due to high internal/external temperature readings as an effective safety precaution in order to maintain a safe level of operation to avoid catastrophic damage to the equipment itself and when those temperature levels are above a designated safe zone level, the equipment’s operating sensor will automatically shut the equipment down, which then affects other equipment at the facility. This event could not have been foreseen, avoided or planned for as typical air compressor operating equipment design and operations are inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which can cause malfunctions to occur, cease equipment operations and impact additional process equipment, prompting unforeseeable or unpredicted shutdowns of a facility. This event is out of OXY's control yet, OXY made every effort to control and minimize emissions as much as possible.
Steps taken to limit the duration and magnitude of vent or flare	In this case, the facility production tech received compressor alarms notifications indicating a malfunction over at Mesa Verde 18 CTB, which automatically shut the compression equipment down, which then triggered a flaring event. Upon arrival at the facility, and after inspecting the compression equipment, it was determined that a leaking pressure relief valve was causing the compression equipment to overheat, prompting the equipment’s temperature sensor to rise to a level triggering a malfunction alarm and automatic shutdown. The facility’s air compressors are designed to automatically shut down due to high internal/external temperature readings as an effective safety precaution in order to maintain a safe level of operation to avoid catastrophic damage to the equipment itself and when those temperature levels are above a designated safe zone level, the equipment’s operating sensor will automatically shut the equipment down, which then affects other equipment at the facility. Once the leak was identified, the Oxy production tech quickly called for an Oxy mechanic to resolve the issue. Once the Oxy mechanic arrived, the production tech assisted the mechanic with repairing the pressure relief valve. After the repair was completed, the Oxy mechanic and the Oxy production tech were able to clear all the alarms on the facility’s PLC and restart all the air compressor’s back to normal working service and operation, which then prompted flaring to cease. This event could not have been foreseen, avoided or planned for as typical operating equipment design and operations are inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which can cause malfunctions to occur, cease equipment operations and impact additional process equipment, prompting unforeseeable or unpredicted shutdowns of a facility.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	Oxy is limited in the corrective actions available to them to eliminate the cause and potential reoccurrence of this type of equipment malfunction as notwithstanding gas compression design and operations, this type of compression equipment is inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which can cause malfunctions to occur, cease equipment operations and impact additional process equipment, which can in turn, prompt unforeseeable or unpredicted shutdowns of a facility, without warning or advance notice. The only action that Oxy can take is to continue with the equipment preventative maintenance program for this facility. This event is out of OXY's control yet, OXY made every effort to control and minimize emissions as much as possible.

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ACKNOWLEDGMENTS

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	Action Number: 119737
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

ACKNOWLEDGMENTS

☑	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.
☑	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.
☑	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.
☑	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

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 119737
	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.	6/23/2022