Certificate of Analysis

Number: 6030-20110087-001A

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

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

Nov. 17, 2020

Field:	NMSW	Sampled By:	Jesus Escobedo
Station Name:	Corral Compressor Station 2 South	Sample Of:	Gas Spot
Station Number:	N/A	Sample Date:	11/11/2020 01:09
Sample Point:	N/A	Sample Conditions:	1265 psig Ambient: 49 °F
Meter Number:		Effective Date:	11/11/2020 01:09
County:	Eddy	Method:	GPA 2286
Type of Sample:	Spot-Cylinder	Cylinder No:	1111-001162
Heat Trace Used:	N/A	Instrument:	6030_GC2 (Agilent GC-7890B)
Sampling Method:	Fill and Purge	Last Inst. Cal.:	08/25/2020 8:12 AM
Sampling Company:	OXY	Analyzed:	11/17/2020 12:40:16 by PGS

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Hydrogen Sulfide	0.000	0.000	0.000		GPM TOTAL C2+	6.390
Nitrogen	1.332	1.320	1.675		GPM TOTAL C3+	3.359
Methane	76.899	76.201	55.381		GPM TOTAL iC5+	0.805
Carbon Dioxide	0.171	0.169	0.337			
Ethane	11.459	11.355	15.468	3.031		
Propane	5.781	5.728	11.443	1.575		
Iso-butane	0.846	0.838	2.207	0.274		
n-Butane	2.259	2.238	5.893	0.705		
Iso-pentane	0.642	0.636	2.079	0.232		
n-Pentane	0.766	0.759	2.481	0.275		
Hexanes Plus	0.763	0.756	3.036	0.298		
	100.918	100.000	100.000	6.390		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.7649	3.0584
Calculated Molecular Weight	22.07	88.58
Compressibility Factor	0.9960	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	1308	4763
Water Sat. Gas Base BTU	1285	4680
Ideal, Gross HV - Dry at 14.65 psia	1302.9	4763.5
Ideal, Gross HV - Wet	1280.1	0.000
Net BTU Dry Gas - real gas	1188	
Net BTU Wet Gas - real gas	1167	

Comments: H2S Field Content 0 ppm

Hydrocarbon Laboratory Manager

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

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Station Number:	N/A	Sample Date:	11/11/2020 01:09
Sample Point:	N/A	Sample Conditions:	1265 psig
Meter Number:		Method:	GPA 2286
County:	Eddy	Cylinder No:	1111-001162
Type of Sample:	Spot-Cylinder	Analyzed:	11/17/2020 13:21:28 by PGS
Heat Trace Used:	N/A	Sampling Company:	OXY
Sampling Method:	Fill and Purge		

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia		
Hydrogen Sulfide	NIL	NIL		GPM TOTAL C2+	6.390
Nitrogen	1.320	1.675		GPM TOTAL C3+	3.359
Methane	76.201	55.381		GPM TOTAL iC5+	0.805
Carbon Dioxide	0.169	0.337			
Ethane	11.355	15.468	3.031		
Propane	5.728	11.443	1.575		
Iso-Butane	0.838	2.207	0.274		
n-Butane	2.238	5.893	0.705		
Iso-Pentane	0.636	2.079	0.232		
n-Pentane	0.759	2.481	0.275		
Hexanes	0.374	1.443	0.152		
Heptanes Plus	0.382	1.593	0.146		
	100.000	100.000	6.390		

Calculated Physical Properties	Total	C7+
Relative Density Real Gas	0.7649	3.1738
Calculated Molecular Weight	22.07	91.92
Compressibility Factor	0.9960	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F		
Real Gas Dry BTU	1308	4850
Water Sat. Gas Base BTU	1285	4766
Ideal, Gross HV - Dry at 14.65 psia	1302.9	4850.4
Ideal, Gross HV - Wet	1280.1	NIL

Comments: H2S Field Content 0 ppm

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Sample Point:	N/A	Sample Conditions:	1265 psig
Meter Number:		Method:	GPA 2286
County:	Eddy	Cylinder No:	1111-001162
Type of Sample:	Spot-Cylinder	Analyzed:	11/17/2020 13:21:28 by PGS
Heat Trace Used:	N/A	Sampling Company:	OXY
Sampling Method:	Fill and Purge		

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.65 psia
Hydrogen Sulfide	NIL	NIL	
Nitrogen	1.320	1.675	
Methane	76.201	55.381	
Carbon Dioxide	0.169	0.337	
Ethane	11.355	15.468	3.031
Propane	5.728	11.443	1.575
Iso-Butane	0.838	2.207	0.274
n-Butane	2.238	5.893	0.705
Iso-Pentane	0.636	2.079	0.232
n-Pentane	0.759	2.481	0.275
i-Hexanes	0.229	0.880	0.092
n-Hexane	0.145	0.563	0.060
Benzene	0.036	0.125	0.010
Cyclohexane	0.091	0.348	0.031
i-Heptanes	0.135	0.566	0.054
n-Heptane	0.027	0.125	0.013
Toluene	0.015	0.065	0.005
i-Octanes	0.065	0.307	0.029
n-Octane	0.003	0.015	0.001
Ethylbenzene	0.001	0.002	NIL
Xylenes	0.003	0.010	0.001
i-Nonanes	0.005	0.025	0.002
n-Nonane	0.001	0.003	NIL
i-Decanes	NIL	NIL	NIL
n-Decane	NIL	0.001	NIL
Undecanes	NIL	0.001	NIL
Dodecanes	NIL	NIL	NIL
Tridecanes	NIL	NIL	NIL
Tetradecanes Plus	NIL	NIL	NIL
	100.000	100.000	6.390

GPM TOTAL C2+ 6.390

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Sample Point:	N/A	Sample Conditions:	1265 psig
Meter Number:		Method:	GPA 2286
County:	Eddy	Cylinder No:	1111-001162
Type of Sample:	Spot-Cylinder	Analyzed:	11/17/2020 13:21:28 by PGS
Heat Trace Used:	N/A	Sampling Company:	OXY
Sampling Method:	Fill and Purge		

Calculated Physical Properties	**Total**
Calculated Molecular Weight	22.073
GPA 2172 Calculation:	
Calculated Gross BTU per ft³ @ 14.65 psia & 60°F	
Real Gas Dry BTU	1308.0
Water Sat. Gas Base BTU	1285.2
Relative Density Real Gas	0.7649
Compressibility Factor	0.9960

Comments: H2S Field Content 0 ppm

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: Corral 2S CS **Date:** 06/11/2021

Duration of event: 3 Hours 30 Minutes **MCF Flared:** 729

Event Start Time: 03:00 PM **Event End Time:** 06:30 PM

Cause: Compressor Malfunctions > Extreme Ambient Temperatures

Method of Flared Gas Measurement: Gas Flare Meter

Well API Associated with Facility: 30-015-44507 Corral Fly 02 01 State #021H

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. Oxy engages in respectable and good facility operation practices while also maintaining its continuous facility equipment preventative maintenance program.

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. Internal OXY procedures ensure that upon gas compressor unit and/or multiple unit shutdown, 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. Oxy production techs must assess whether compressor unit shutdown is due to damage and repair is needed, or whether there are other reasons for its cause. In this case, all the gas compressors at the Corral 2 North compressor station shut down on high discharge temperature alarms, several times between 03:00 PM to 06:30 PM. As soon as Oxy production techs responded quickly to the first set of malfunction compressor alarms, and arrived on-site to the facility, as they had to travel from another facility, a visible inspection of the compression equipment was done and no issues with the facility's compression equipment was found. Oxy production techs determined that these without warning malfunctions were triggered by the combination of extremely high ambient temperatures, which exceeded 107°, and certain engine operating conditions (despite proper design and operation), that caused the facilities compression equipment to run hotter and overheat, which prompted all the compressor engine's sensors to abruptly shut down each of the units concurrently. The facility's compression equipment was working normally and in good working operation prior to the malfunctions automatically shutting down the compression equipment. During each subsequent episode that Oxy's facility compression equipment automatically shut down without warning, Oxy production techs quickly responded and took steps to resolve the issues. Notwithstanding compressor engine design and operation, compressors are inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which

can cause compression malfunctions to occur. This event is out of OXY's control yet, OXY made every effort to control and minimize emissions as much as possible. During the period of malfunctions and corrective actions, OXY routed all stranded gas to a flare briefly to minimize emissions until the units were brought back to working service. Though sudden and unexpected malfunctioning compressor issues occurred at Corral 2 North compressor station, OXY routed the overflow of stranded gas to flare at the Corral 2S compressor station in an effort to mitigate emissions for this event as the flare at this location can accommodate a higher volume of gas and in an effort to protect equipment, environment, and personnel.

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

In this case, Oxy production techs determined that the cause of the without warning malfunctions were triggered by the combination of extremely high ambient temperatures and certain engine operating conditions (despite proper design and operation), that caused the facilities compression equipment to overheat, which prompted all of the compressor engine's sensors to abruptly shut down each of the units concurrently to avoid catastrophic damage to the internal engine components. The extreme scorching ambient temperatures affected the facility's compression equipment so much that they automatically shut down several times between 03:00 PM to 06:30 PM. Oxy production techs responded quickly to the malfunction alarms, and arrived on-site to the facility, as this facility is unmanned and the techs had to travel from another facility. Upon arrival to the facility, an immediate visible inspection of the compression equipment did not provide any additional causes for the compression equipment to have malfunctioned, other than all the units were engaging in high discharge temperature alarms, brought on by the extreme scorching heat of the day temperatures affecting the units, causing them to run hotter and overheat. After immediately resetting the compression equipment's alarm, all the compressors were restarted and returned to normal working operations. Soon after, the compression equipment again, malfunctioned again, on the same high discharge temperature malfunction alarms, and the production techs quickly reset the panels and attempted a restart of the facility's compression equipment. The units had a bit a trouble re-starting due to the units being overheated. Additional attempts were made to restart, and the units all restarted, and flaring ceased. Oxy production techs remained on-site until they were assured that no further issues would occur with the compression equipment. All the compression equipment was working normally and in good working operation prior to the malfunctions automatically shutting down the compression equipment. Though sudden and unexpected malfunctioning compressor issues occurred at Corral 2 North compressor station, OXY routed the overflow of stranded gas to flare at Corral 2S compressor station in an effort to mitigate emissions for this event as the flare at this location can accommodate a higher volume of gas and as a safety measure effort to protect equipment, environment, and personnel.

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

Notwithstanding compressor engine design and operation, compressors are inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which can cause compression malfunctions to occur. In this case, during each episode that Oxy's facility compression equipment automatically shut down without warning, the corrective measures taken by Oxy production techs, was to quickly resolve the issues by performing visible inspections of the facility compression equipment and ensuring that no other causes were found for the malfunctions. During each episode that the facility's compression equipment automatically shut down from malfunction alarms, that were beyond Oxy's control to avoid or prevent, regardless of the equipment being part of a very good preventative maintenance program, Oxy production techs immediately reset the compression equipment's alarms, then all of the compressors were restarted and returned to normal working operations. Oxy production techs remained on-site until they were assured that no further issues would occur with the facility's compression equipment.

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1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
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District III
1000 Rio Brazos Rd., Aztec, NM 87410
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 48876

QUESTIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 48876
	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	**[30-015-44507] CORRAL FLY 02 01 STATE #021H**
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	No
Is this considered a submission for a venting and/or flaring 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 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 > Compressor Malfunctions > Extreme Ambient Temperatures

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 (C02) percentage, if greater than one percent	0
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	06/11/2021
Time venting and/or flaring was discovered or commenced	03:00 PM
Time venting and/or flaring was terminated	06:30 PM
Cumulative hours during this event	4

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: 729 Mcf | Recovered: 0 Mcf | Lost: 729 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	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	See Justification Form > 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. Oxy engages in respectable and good facility operation practices while also maintaining its continuous facility equipment preventative maintenance program.
Steps taken to limit the duration and magnitude of venting and/or flaring	See Justification Form > In this case, Oxy production techs determined that the cause of the without warning malfunctions were triggered by the combination of extremely high ambient temperatures and certain engine operating conditions (despite proper design and operation), that caused the facilities compression equipment to overheat, which prompted all of the compressor engine's sensors to abruptly shut down each of the units concurrently to avoid catastrophic damage to the internal engine components. The extreme scorching ambient temperatures affected the facility's compression equipment so much that they automatically shut down several times between 03:00 PM to 06:30 PM. Oxy production techs responded quickly to the malfunction alarms, and arrived on-site to the facility, as this facility is unmanned and the techs had to travel from another facility. Upon arrival to the facility, an immediate visible inspection of the compression equipment did not provide any additional causes for the compression equipment to have malfunctioned, other than all the units were engaging in high discharge temperature alarms, brought on by the extreme scorching heat of the day temperatures affecting the units, causing them to run hotter and overheat. After immediately resetting the compression equipment's alarm, all the compressors were restarted and returned to normal working operations.
Corrective actions taken to eliminate the cause and reoccurrence of venting and/or flaring	See Justification Form > Notwithstanding compressor engine design and operation, compressors are inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which can cause compression malfunctions to occur. In this case, during each episode that Oxy's facility compression equipment automatically shut down without warning, the corrective measures taken by Oxy production techs, was to quickly resolve the issues by performing visible inspections of the facility compression equipment and ensuring that no other causes were found for the malfunctions. During each episode that the facility's compression equipment automatically shut down from malfunction alarms, that were beyond Oxy's control to avoid or prevent, regardless of the equipment being part of a very good preventative maintenance program, Oxy production techs immediately reset the compression equipment's alarms, then all of the compressors were restarted and returned to normal working operations. Oxy production techs remained on-site until they were assured that no further issues would occur with the facility's compression equipment.

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CONDITIONS

Action 48876

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 48876
	Action Type: [C-129] Venting and/or Flaring (C-129)

CONDITIONS

Created By	Condition	Condition Date
marialuna	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.	9/15/2021