LABORATORY SERVICES Natural Gas Analysis
www.permianls.com
575.397.3713 2609 W Marland Hobbs NM 88240

C6+ Gas Analysis Report

Sample Point Code	Sample Point Name	Sample Point Location
11019G	South Hobbs Unit CTB Inlet	South Hobbs Unit CTB Inlet

Source Laboratory	Lab File No	Container Identity	Sampler
Laboratory Services	2020036993	1719	D Armstrong - Spot

District	Area Name	Field Name	Facility Name
USA	USA	USA	New Mexico

Date Sampled	Date Effective	Date Received	Date Reported
Nov 24, 2020 09:58	Nov 24, 2020 09:58	Nov 24, 2020 11:59	Nov 24, 2020

Ambient Temp (°F)	Flow Rate (Mcf)	Analyst	Press PSI @ Temp °F Source Conditions
60.00		Torrance	38 @ 70

Operator	Lab Source Description
Oxy	NG

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.0000	0	
Nitrogen (N2)	0.1080	0.10806	
CO2 (CO2)	85.2310	85.23111	
Methane (C1)	0.6730	0.67276	
Ethane (C2)	0.6140	0.61395	0.1640
Propane (C3)	3.9190	3.91938	1.0790
I-Butane (IC4)	1.7080	1.70793	0.5590
N-Butane (NC4)	4.2350	4.23453	1.3350
I-Pentane (IC5)	1.4540	1.45438	0.5320
N-Pentane (NC5)	0.9800	0.98005	0.3550
Hexanes Plus (C6+)	1.0780	1.07784	0.4680
TOTAL	100.0000	100.0000	4.4920

Method(s): Gas C6+ - GPA 2261, Extended Gas - GPA 2286, Calculations - GPA 2172

Analyzer Information

Device Type:	Gas Chromatograph	Device Make:	Shimadzu
Device Model:	GC-2014	Last Cal Date:	Nov 24, 2020

Gross Heating Values (Real, BTU/ft³)

14.696 PSI @ 60.00 °F		14.73 PSI @ 60.00 °F	
Dry	Saturated	Dry	Saturated
464.3	457.3	465.4	458.4

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
1.5926	1.5805

Molecular Weight
45.7756

C6+ Group Properties

Assumed Composition

C6 - 60.000% C7 - 30.000% C8 - 10.000%

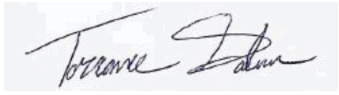
Field H2S
0 PPM

PROTREND STATUS:
Passed By Validator on Nov 24, 2020

DATA SOURCE:
Imported

PASSED BY VALIDATOR REASON:
First sample taken @ this point, composition looks reasonable

VALIDATOR:
Torrance Galvan



VALIDATOR COMMENTS:
OK

EVENT SPECIFIC JUSTIFICATIONS FORM

Facility: South Hobbs Unit CTB

Start Date: 05/29/2021 @ 07:25 PM **End Date:** 05/29/2021 @ 07:45 PM

Cause: Sudden and unexpected compressor malfunction due to high temp alarm

Duration of event: 20 minutes

Method of Flared Gas Measurement: Flare Meter

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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 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. Internal OXY compression equipment failure procedures ensure that upon a compressor unit shutdown, a production tech is promptly notified and is instructed to assess the issue as soon as possible in order to take prompt corrective action and minimize emissions. Upon arrival, production tech must assess whether compressor shutdown is due to damage and repair is needed, or whether there are other reasons. In this case, this emissions event was caused by compressor unit LP4700 malfunctioning due to overheating from extremely high ambient temperatures. This compressor malfunction was caused by the combination of extremely high ambient temperatures and normal engine operating conditions (despite proper design and operation) caused the compressors to overheat, which in turn triggered the engine’s sensor to abruptly shut down the unit to avoid catastrophic damage to the internal engine components. This event was completely out of OXY's control to prevent from occurring but OXY made every effort to control and minimize excess emissions while OXY productions resolved the issues. Notwithstanding compressor design and operation, compressors are inherently dynamic and high external ambient temperatures can cause compressors to malfunction and shutdown with warning or advance notice. High external ambient temperatures can decrease the efficiency of the compressor unit coolers to maintain operability temperatures as well as increase the temperatures of the equipment itself from radiant heat. In addition, external high ambient temperatures can also raise the temperature of the incoming gas to the compressors as the radiant heat hits the flowlines the gas is flowing through; which in turn, this metal flowline shall increase the gas temperature, which causes the internal compressor temperature to rise as well. These gas compressors are engineered to shut down at certain maximum external/internal temperatures in order to avoid catastrophic damage to the compressors.

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 the ensure flame is lit and meeting opacity requirements. In this case, the steps taken to limit duration and magnitude of flaring was for Oxy production techs to quickly respond to the compressor alarm, diagnose the issue, and make the necessary adjustments to restart the unit back to normal working service. This event and the steps taken to limit the duration of the flaring lasted no more than twenty (20) minutes.

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 the ensure flame is lit and meeting opacity requirements. Oxy cannot take any corrective actions to eliminate the cause and potential reoccurrence of this flaring event as this event was caused by compressor unit LP4700 malfunctioning due to overheating from extremely high ambient temperatures. High ambient temperatures can have a drastic effect on compression equipment, and therefore malfunctions resulting from such are not foreseeable. Oxy makes every effort to perform weather preparations to its facility and its equipment to ensure safe and efficient working operations.

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District IV
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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 32441

QUESTIONS

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 32441
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

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 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, minor 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 19.15.29.7 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 occuring at a facility that does not have an Facility ID (f#) yet.	
Facility or Site Name	*Not answered.*
Facility Type	*Not answered.*

Equipment Involved	
Primary Equipment Involved	Other (Specify)
Additional details for Equipment Involved. Please specify	Emergency Flare due to sudden and unexpected compressor malfunction due to high temp alarm

Representative Compositional Analysis of Vented or Flared Natural Gas	
Please provide the mole percent for the percentage questions in this group.	
Methane (CH4) percentage	1
Nitrogen (N2) percentage, if greater than one percent	0
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (C02) percentage, if greater than one percent	85
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 or flaring was discovered or commenced	05/29/2021
Time venting or flaring was discovered or commenced	07:25 PM
Is the venting or flaring event complete	Yes
Date venting or flaring was terminated	05/29/2021
Time venting or flaring was terminated	07:45 PM
Total duration of venting or flaring in hours, if venting or flaring has terminated	0
Longest duration of cumulative hours within any 24-hour period during this event	0

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	Cause: Equipment Failure | Other (Specify) | Natural Gas Flared | Spilled: 117 Mcf | Recovered: 0 Mcf | Lost: 117 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	No
Date notified of downstream activity requiring this venting or flaring	*Not answered.*
Time notified of downstream activity requiring this venting 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, this emissions event was caused by compressor unit LP4700 malfunctioning due to overheating from extremely high ambient temperatures. This compressor malfunction was caused by the combination of extremely high ambient temperatures and normal engine operating conditions (despite proper design and operation) caused the compressors to overheat, which in turn triggered the engine's sensor to abruptly shut down the unit to avoid catastrophic damage to the internal engine components. This event was completely out of OXY's control to prevent from occurring but OXY made every effort to control and minimize excess emissions while OXY productions resolved the issues.
Steps taken to limit the 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 the ensure flame is lit and meeting opacity requirements. In this case, the steps taken to limit duration and magnitude of flaring was for Oxy production techs to quickly respond to the compressor alarm, diagnose the issue, and make the necessary adjustments to restart the unit back to normal working service. This event and the steps taken to limit the duration of the flaring lasted no more than twenty (20) minutes.
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 potential reoccurrence of this flaring event as this event was caused by compressor unit LP4700 malfunctioning due to overheating from extremely high ambient temperatures. High ambient temperatures can have a drastic effect on compression equipment, and therefore malfunctions resulting from such are not foreseeable. Oxy makes every effort to perform weather preparations to its facility and its equipment to ensure safe and efficient working operations.

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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.	6/17/2021