

RCF Flare Gas Analysis -

C6+ GAS / VAPOR FRACTIONAL ANALYSIS

SAMPLE ID

Customer	Occidental Permian Ltd.
Meter Number	1013
Meter Name	NHRCF/Plant Inlet
Tester ID	Pantechs/CJC
Witness ID	
Effective Date	12/1/18
Effective Time	8:00:00 AM
Sample Date	12/21/18
Sample Time	11:15:00 AM
Analysis Date	12/27/18
Pressure	296
Temperature	0
Sample Cyl No	PL943

DISTRIBUTION

Occidental Permian Ltd. (email)

- James Capps; Denver City, TX
- Kenley Powell; Denver City, TX
- Jimmy Dobson; Midland, TX
- Judy Rich; Sundown, TX
- John Dorow; Denver City, TX
- Richard Sanders; Sundown, TX
- Chauncia Farayola; Denver City, TX
- Greg Vencil; Sundown, TX
- Christopher Frei; Denver City, TX
- Janell Wilson; Hobbs, NM
- Mario Guerrero; Denver City, TX
- Erica Zuniga; Denver City, TX
- James King; Hobbs, NM
- Chip Mitchell; Denver City, TX
- Casey Morris; Sundown, TX
- Jaime Perez; Denver City, TX

CALCULATIONS / METHODS

Pressure Base, PSIA	14.65
Temp Base, DEG F	60
Ideal/Real Gas	Real

APPLICABLE CURRENT GPA & ASTM METHODS, PROCEDURES, AND CONSTANTS ARE USED

REMARKS / COMMENTS / OTHER

- Erica Zuniga; Denver City, TX

COMPONENT	SYM	MOL %	WT %	GPM
Nitrogen	N2	1.670	1.114	0.183
Carbon Dioxide	CO2	84.677	88.748	14.440
Field Hyd. Sulf.	H2S	1.134	0.920	0.153
Oxygen	O2	-----	-----	-----
Helium	He	-----	-----	-----
Hydrogen	H2	-----	-----	-----
Argon	Ar	-----	-----	-----
Methane	C1	7.566	2.891	1.283
Ethane	C2	1.226	0.878	0.328
Propane	C3	1.582	1.661	0.436
i-Butane	iC4	0.264	0.365	0.086
n-Butane	nC4	0.616	0.853	0.194
i-Pentane	iC5	0.294	0.505	0.108
n-Pentane	nC5	0.268	0.460	0.097
Hexanes+	C6+	0.703	1.605	0.302
Totals:		100.000	100.000	17.610

GASOLINE CONTENT (GPM)

Ethane & Heavier	2.834
Propane & Heavier	1.223
Butanes & Heavier	0.787
Pentanes & Heavier	0.507
26# Gasoline	0.755

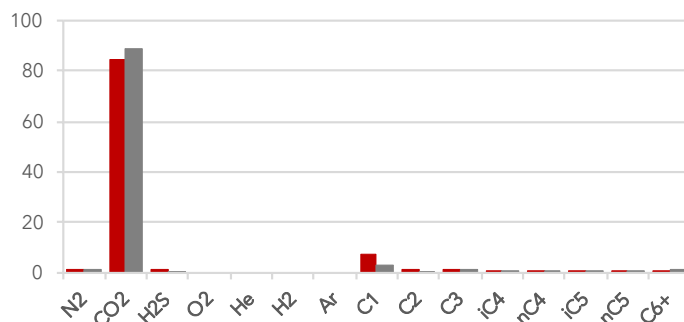
HEATING VALUE (Gross Btu/CF)

Ideal, Dry	232.39
Ideal, WV Saturated	229.20
Real, Dry	233.78
Real, WV Saturated	230.67

CALC. PROPERTIES	SG	Z	MW
Dry	1.458	0.994	41.991
Water Saturated	1.444	0.994	41.571

Wobbe Index, Real	193.61
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RELATIVE CONCENTRATION



■ MOL % ■ WT %

UPSET FLARING EVENT SPECIFIC JUSTIFICATIONS FORM**Facility:** North Hobbs Unit RCF**Flare Date:** 06/10/2021**Duration of Event:** 45 Minutes**MCF Flared:** 323**Start Time:** 11:30 AM**End Time:** 12:15 PM**Cause:** Emergency Flare > PLC Control Card Malfunction > Compression Equipment Shutdown**Method of Flared Gas Measurement:** Gas Flare Meter**Comments:** Per NMOCD's directive, this incident is being reported with a C-129 form rather than the originally submitted C-141.

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, to minimize emissions as much as possible. In this instance, the flaring incident occurred due to a sudden and unexpected malfunction in automation stemming from a bad PLC control card. The PLC card controls the plant's well train inlet compression machinery and it experienced a communication fault, leading to an automatic and immediate shutdown of the inlet compressors. This automation failure occurred without any previous alerts or indications. All plant operations and its equipment were working normally and as intended prior to the well train compression malfunction occurring. Oxy makes every effort to resolve these types of equipment issues as quickly as possible and to minimize the environmental impact of flaring. This flaring circumstance is beyond the control of OXY to avoid and prevent, yet, Oxy took all possible measures to reduce emissions effectively.

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

OXY's protocol dictates that in the event of an unplanned and unavoidable emergency or malfunction, beyond Oxy's capacity to prevent, anticipate, or control, its stranded gas should be directed towards a flare to reduce emissions to the greatest extent feasible as a measure among others aimed at curtailing the duration and impact of the flare event. The flare at this facility has a 98% combustion efficiency to lessen emissions as much as possible. In this instance, the flaring incident occurred due to a sudden and unexpected malfunction in automation stemming from a bad PLC control card. The PLC card controls the plant's well train inlet compression machinery and it experienced a communication fault, leading to an automatic and immediate shutdown of the inlet compressors. This automation failure occurred without any previous alerts or indications. Oxy plant personnel quickly responded to the flaring incident by taking measures to lessen and control the amount of gas directed to the flare, by drastically cutting the production input to the plant. Automation technicians were promptly requested to diagnose and correct the PLC control card problem. Successfully, the automation technicians were able to identify the fault and replace the bad PLC control card. Once the automation technicians replaced the bad PLC control card, plant personnel were able to clear the alarms and restart the well train compressor equipment. All plant operations and its equipment were working normally and as intended prior to the bad PLC card controller malfunction occurring. Oxy makes every effort to resolve these types of equipment issues as quickly as possible and to minimize the environmental impact of flaring. This flaring circumstance is beyond the control of OXY to avoid and prevent, yet, Oxy took all possible measures to reduce emissions effectively.

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

Oxy faces constraints in the corrective measures they can take to address and prevent malfunctions of bad PLC card controllers because, despite the design and operation of such automated systems, these types of controllers are fundamentally unpredictable. Any minor or major issue can arise abruptly and without warning, making them reasonably sudden, unforeseeable, and unexpected, due to the nature of this type of automation which lacks preemptive malfunction alerts. Oxy is dedicated to the consistent operation and maintenance of its machinery, adhering to best practices aimed at decreasing emissions and minimizing instances of emission-related incidents. Oxy has a preventative maintenance program in place for its equipment.

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
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DEFINITIONS

Action 376349

DEFINITIONS

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 376349
	Action Type: [C-129] Venting and/or Flaring (C-129)

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 376349

QUESTIONS

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 376349
	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	Unavailable.
Incident Facility	[fKJ1517634129] NORTH HOBBS RECOMPRESSION FACILITY & GAS PLANT

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 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, 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 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 > PLC Control Card Malfunction > Compression Equipment 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	8
Nitrogen (N2) percentage, if greater than one percent	2
Hydrogen Sulfide (H2S) PPM, rounded up	11,340
Carbon Dioxide (C02) percentage, if greater than one percent	85
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 Sufide (H2S) PPM quality requirement	Not answered.
Carbon Dioxide (C02) percentage quality requirement	Not answered.
Oxygen (O2) percentage quality requirement	Not answered.

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QUESTIONS, Page 2

Action 376349

QUESTIONS (continued)

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	Action Number: 376349
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	06/10/2021
Time vent or flare was discovered or commenced	11:30 AM
Time vent or flare was terminated	12:15 PM
Cumulative hours during this event	1

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: 323 Mcf Recovered: 0 Mcf Lost: 323 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	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, to minimize emissions as much as possible. In this instance, the flaring incident occurred due to a sudden and unexpected malfunction in automation stemming from a bad PLC control card. The PLC card controls the plant's well train inlet compression machinery and it experienced a communication fault, leading to an automatic and immediate shutdown of the inlet compressors. This automation failure occurred without any previous alerts or indications. All plant operations and its equipment were working normally and as intended prior to the well train compression malfunction occurring. Oxy makes every effort to resolve these types of equipment issues as quickly as possible and to minimize the environmental impact of flaring. This flaring circumstance is beyond the control of OXY to avoid and prevent, yet, Oxy took all possible measures to reduce emissions effectively. OXY's protocol dictates that in the event of an unplanned and unavoidable emergency or malfunction, beyond Oxy's capacity to prevent, anticipate, or control, its stranded gas should be directed towards a flare to reduce emissions to the greatest extent feasible as a measure among others aimed at curtailing the duration and impact of the flare event. The flare at this facility has a 98% combustion efficiency to lessen emissions as much as possible. In this

Steps taken to limit the duration and magnitude of vent or flare	instance, the flaring incident occurred due to a sudden and unexpected malfunction in automation stemming from a bad PLC control card. The PLC card controls the plant's well train inlet compression machinery and it experienced a communication fault, leading to an automatic and immediate shutdown of the inlet compressors. This automation failure occurred without any previous alerts or indications. Oxy plant personnel quickly responded to the flaring incident by taking measures to lessen and control the amount of gas directed to the flare, by drastically cutting the production input to the plant. Automation technicians were promptly requested to diagnose and correct the PLC control card problem. Successfully, the automation technicians were able to identify the fault and replace the bad PLC control card. Once the automation technicians replaced the bad PLC control card, plant personnel were able to clear the alarms and restart the well train compressor equipment. All plant operations and its equipment were working normally and as intended prior to the bad PLC card controller malfunction occurring. Oxy makes every effort to resolve these types of equipment issues as quickly as possible and to minimize the environmental impact of flaring. This flaring circumstance is beyond the control of OXY to avoid and prevent, yet, Oxy took all possible measures to reduce emissions effectively.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	Oxy faces constraints in the corrective measures they can take to address and prevent malfunctions of bad PLC card controllers because, despite the design and operation of such automated systems, these types of controllers are fundamentally unpredictable. Any minor or major issue can arise abruptly and without warning, making them reasonably sudden, unforeseeable, and unexpected, due to the nature of this type of automation which lacks preemptive malfunction alerts. Oxy is dedicated to the consistent operation and maintenance of its machinery, adhering to best practices aimed at decreasing emissions and minimizing instances of emission-related incidents. Oxy has a preventative maintenance program in place for its equipment.

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ACKNOWLEDGMENTS

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ACKNOWLEDGMENTS

☒	I acknowledge that I am authorized to submit a <i>Venting and/or Flaring</i> (C-129) report on behalf of this operator and understand that this report can be a complete C-129 submission per 19.15.27.8 and 19.15.28.8 NMAC.
☒	I acknowledge that upon submitting this application, I will be creating a new incident file (assigned to this operator) to track any C-129 forms, pursuant to 19.15.27.7 and 19.15.28.8 NMAC and understand that this submission meets the notification requirements of Paragraph (1) of Subsection G and F respectively.
☒	I hereby certify the statements in this 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

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	Action Number: 376349
	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.	8/21/2024