



Certificate of Analysis

Number: 6030-21010126-001A

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

Matt Erickson
 Marathon Oil Corporation
 4111 S. Tidwell
 Carlsbad, NM 88220

Jan. 18, 2021

Station Name:	Cave Lion 1,5 Facility Sales Check	Sampled By:	Jonah Reza
Station Number:	17737SC	Sample Of:	Gas Spot
Station Location:	Marathon	Sample Date:	01/15/2021 01:46
Sample Point:	RGA	Sample Conditions:	105.7 psig, @ 75.27 °F Ambient: 48 °F
Type of Sample:	Spot-Cylinder	Effective Date:	01/15/2021 01:46
Heat Trace Used:	N/A	Method:	GPA-2261M
Sampling Method:	Fill and Purge	Cylinder No:	5030-04785
Sampling Company:	SPL	Instrument:	70104124 (Inficon GC-MicroFusion)
Analyzed:	01/18/2021 15:22:55 by PGS	Last Inst. Cal.:	01/11/2021 0:00 AM

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	1.550	1.54443	1.906		GPM TOTAL C2+	7.878
Methane	70.248	70.00442	49.474		GPM TOTAL C3+	3.597
Carbon Dioxide	0.187	0.18605	0.361		GPM TOTAL iC5+	0.389
Ethane	16.086	16.03065	21.236	4.281		
Propane	8.544	8.51409	16.540	2.342		
Iso-butane	0.750	0.74710	1.913	0.244		
n-Butane	1.982	1.97483	5.057	0.622		
Iso-pentane	0.306	0.30474	0.969	0.111		
n-Pentane	0.329	0.32786	1.042	0.119		
Hexanes Plus	0.367	0.36583	1.502	0.159		
	100.349	100.00000	100.000	7.878		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.7868	3.2176
Calculated Molecular Weight	22.70	93.19
Compressibility Factor	0.9958	

GPA 2172 Calculation:

Calculated Gross BTU per ft³ @ 14.65 psia & 60°F

Real Gas Dry BTU	1339	5113
Water Sat. Gas Base BTU	1316	5024
Ideal, Gross HV - Dry at 14.65 psia	1333.6	5113.2
Ideal, Gross HV - Wet	1310.3	5023.7

Comments: Mcf/day 481.9656

Hydrocarbon Laboratory Manager

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

Flaring/Venting Event Volume (MCF):	74.19
Flare or vent:	Flare
Date:	8/20/2022
Time discovered:	7:55 AM
Time terminated:	8:15 AM
Total Duration (hrs):	0:20

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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

Action 183561

DEFINITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 183561
	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 183561

QUESTIONS

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	Action Number: 183561
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Prerequisites	
<i>Any messages presented in this section, will prevent submission of this application. Please resolve these issues before continuing with the rest of the questions.</i>	
Incident Well	Unavailable.
Incident Facility	[fAPP2125250182] CAVE LION 5 FED 15 TB

Determination of Reporting Requirements	
<i>Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide additional guidance.</i>	
Was this vent or flare caused by an emergency or malfunction	No
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.
<i>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.</i>	
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 within 300 feet from an occupied permanent residence, school, hospital, institution or church in existence	No

Equipment Involved	
Primary Equipment Involved	Not answered.
Additional details for Equipment Involved. Please specify	Not answered.

Representative Compositional Analysis of Vented or Flared Natural Gas	
<i>Please provide the mole percent for the percentage questions in this group.</i>	
Methane (CH4) percentage	70
Nitrogen (N2) percentage, if greater than one percent	2
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (CO2) percentage, if greater than one percent	0
Oxygen (O2) percentage, if greater than one percent	0
<i>If you are venting and/or flaring because of Pipeline Specification, please provide the required specifications for each gas.</i>	
Methane (CH4) percentage quality requirement	Not answered.
Nitrogen (N2) percentage quality requirement	Not answered.
Hydrogen Sulfide (H2S) PPM quality requirement	Not answered.
Carbon Dioxide (CO2) percentage quality requirement	Not answered.
Oxygen (O2) percentage quality requirement	Not answered.

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QUESTIONS, Page 2

Action 183561

QUESTIONS (continued)

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	Action Number: 183561
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	08/20/2022
Time vent or flare was discovered or commenced	07:55 AM
Time vent or flare was terminated	08:15 AM
Cumulative hours during this event	0

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	Cause: Downhole Well Maintenance Well 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	Not answered.
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	WO rig supervisor was trying to reduce wellhead pressure prior to nipping down the production tree and nipping up the BOP. The pressure reduction was conducted for safety reasons.
Steps taken to limit the duration and magnitude of vent or flare	The WO supervisor did not blow the well down to zero psi but rather limited the blow down period.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	No corrective actions. Well blowdown had to be completed for safety reasons and downhole well maintenance.

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ACKNOWLEDGMENTS

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ACKNOWLEDGMENTS

<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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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CONDITIONS

Created By	Condition	Condition Date
icastro	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.	3/6/2023