



Certificate of Analysis

Number: 6030-20080273-001A

Artesia Laboratory

200 E Main St.

Artesia, NM 88210

Phone 575-746-3481

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

Sep. 01, 2020

Station Name: Cave Lion 2,6,8,9 Sales Check
Station Number: 21338SC
Station Location: Marathon
Sample Point: RGA
Type of Sample: Spot-Cylinder
Heat Trace Used: N/A
Sampling Method: Fill and Purge
Sampling Company: SPL
Analyzed: 09/01/2020 15:09:38 by PGS

Sampled By: Jonah Reza
Sample Of: Gas Spot
Sample Date: 08/27/2020 12:02
Sample Conditions: 90.07 psig, @ 100.06 °F Ambient: 91 °F
Effective Date: 08/27/2020 12:02
Method: GPA-2261M
Cylinder No: 5030-03483
Instrument: 70104251 (Inficon GC-MicroFusion)
Last Inst. Cal.: 08/31/2020 0:00 AM

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Hydrogen Sulfide	0.000	0.00050	0.001		GPM TOTAL C2+	8.115
Nitrogen	1.607	1.60403	1.937		GPM TOTAL C3+	4.020
Methane	69.494	69.37815	47.983		GPM TOTAL iC5+	0.557
Carbon Dioxide	0.183	0.18299	0.347			
Ethane	15.358	15.33194	19.875	4.095		
Propane	8.840	8.82499	16.776	2.428		
Iso-butane	0.872	0.87025	2.181	0.284		
n-Butane	2.390	2.38632	5.979	0.751		
Iso-pentane	0.416	0.41491	1.291	0.152		
n-Pentane	0.454	0.45344	1.410	0.164		
Hexanes Plus	0.553	0.55248	2.220	0.241		
	100.167	100.00000	100.000	8.115		

Calculated Physical Properties

Relative Density Real Gas	Total	C6+
Calculated Molecular Weight	0.8041	3.2176
Compressibility Factor	23.20	93.19
	0.9956	

GPA 2172 Calculation:

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

Real Gas Dry BTU	1365	5113
Water Sat. Gas Base BTU	1342	5024
Ideal, Gross HV - Dry at 14.65 psia	1359.1	5113.2
Ideal, Gross HV - Wet	1335.3	5023.7

Comments: H2S Field Content 5 ppm
Mcf/day 1240.599

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):	115.66
Flare or vent:	Flare
Date:	8/23/2022
Time discovered:	12:00 AM
Time terminated:	9:10 AM
Total Duration (hrs):	8:50

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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 138472

DEFINITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 138472
	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 138472

QUESTIONS

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	Action Number: 138472
	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	Not answered.
Incident Facility	[fAPP2126037448] CAVE LION 5 FED 2689 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	Yes
Did this vent or flare last eight hours or more cumulatively within any 24-hour period from a single event	Yes
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 withing 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	69
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 138472

QUESTIONS (continued)

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QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	08/23/2022
Time vent or flare was discovered or commenced	12:00 AM
Time vent or flare was terminated	09:10 AM
Cumulative hours during this event	9

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 Dump Valve Natural Gas Flared Released: 116 Mcf Recovered: 0 Mcf Lost: 116 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 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	Equipment Malfunction
Steps taken to limit the duration and magnitude of vent or flare	As soon as flaring due to an equipment failure was identified, repairs were made as soon as practicable.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	As soon as the equipment failure was found, repairs were made.

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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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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.	8/30/2022