



Certificate of Analysis

Number: 6030-20090002-003A

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. 02, 2020

Station Name: Cave Lion 5H Production
Station Number: 17736GP
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: 09/02/2020 14:40:40 by PGS

Sampled By: Jonah Reza
Sample Of: Gas Spot
Sample Date: 08/31/2020 10:59
Sample Conditions: 106.24 psig, @ 87.27 °F Ambient: 93 °F
Effective Date: 08/31/2020 10:59
Method: GPA-2261M
Cylinder No: 1111-001218
Instrument: 6030_GC6 (Inficon GC-3000 Micro)
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	0.00100	0.001		GPM TOTAL C2+	7.772
Nitrogen	1.671	1.63557	2.010		GPM TOTAL C3+	3.735
Methane	71.964	70.43409	49.573		GPM TOTAL iC5+	0.454
Carbon Dioxide	0.193	0.18870	0.364			
Ethane	15.445	15.11675	19.941	4.037		
Propane	8.547	8.36490	16.182	2.301		
Iso-butane	0.833	0.81480	2.078	0.266		
n-Butane	2.317	2.26755	5.782	0.714		
Iso-pentane	0.393	0.38425	1.216	0.140		
n-Pentane	0.428	0.41841	1.324	0.151		
Hexanes Plus	0.382	0.37398	1.529	0.163		
	102.173	100.00000	100.000	7.772		

Calculated Physical Properties

	Total	C6+
Relative Density Real Gas	0.7901	3.2176
Calculated Molecular Weight	22.79	93.19
Compressibility Factor	0.9958	

GPA 2172 Calculation:

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

Real Gas Dry BTU	1343	5113
Water Sat. Gas Base BTU	1320	5024
Ideal, Gross HV - Dry at 14.65 psia	1337.0	5113.2
Ideal, Gross HV - Wet	1313.6	5023.7

Comments: H2S Field Content 10 ppm
Mcf/day 687.8723

Hydrocarbon Laboratory Manager

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

Procount Calc for flare	
Well one gas prod	616
Well two gas prod	0
Well three gas prod	
Well four gas prod	
Well one gas lift	448
Well two gas lift	0
Well three gas lift	
Well four gas lift	
Compressor one fuel usage	39.5
Compressor two fuel usage	
Compressor three fuel usage	
Compressor four fuel usage	
Gas sales one	69.68
Gas sales two	
Lease use meter	9
buyback	48
Theoretical Flare	97.82

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

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 30534

QUESTIONS

Operator: MARATHON OIL PERMIAN LLC 5555 San Felipe St. Houston, TX 77056	OGRID: 372098 Action Number: 30534 Action Type: [C-129] Venting and/or Flaring (C-129)
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QUESTIONS**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 or is this venting or flaring caused by an emergency or malfunction	No
Did or will this venting or flaring last eight hours or more cumulatively within any 24-hour period from a single event	Yes
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 19.13.297 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 occurring at a facility that does not have an Facility ID (##) yet.

Facility or Site Name	Not answered.
Facility Type	Not answered.

Equipment Involved

Primary Equipment Involved	Producing Well
Additional details for Equipment Involved. Please specify	high pressure flare

Representative Compositional Analysis of Vented or Flared Natural Gas

Please provide the mole percent for the percentage questions in this group.

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
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 Sulfide (H2S) PPM quality requirement	Not answered.
Carbon Dioxide (CO2) percentage quality requirement	Not answered.
Oxygen (O2) percentage quality requirement	Not answered.

Date(s) and Time(s)

Date venting or flaring was discovered or commenced	06/12/2021
Time venting or flaring was discovered or commenced	03:00 AM
Is the venting or flaring event complete	Yes
Date venting or flaring was terminated	06/12/2021
Time venting or flaring was terminated	09:00 PM
Total duration of venting or flaring in hours, if venting or flaring has terminated	10
Longest duration of cumulative hours within any 24-hour period during this event	10

Measured or Estimated Volume of Vented or Flared Natural Gas

Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Cause: Normal Operations Producing Well Natural Gas Flared Spilled: 98 Mcf Recovered: 0 Mcf Lost: 98 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	Yes
Date notified of downstream activity requiring this venting or flaring	06/22/2021
Time notified of downstream activity requiring this venting or flaring	Not answered.

Steps and Actions to Prevent Waste

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For this event, the operator could not have reasonably anticipated the current event and it was beyond the operator's control.	False
Please explain reason for why this event was beyond your operator's control	Not answered.
Steps taken to limit the duration and magnitude of venting or flaring	Exploring different avenues to react immediately
Corrective actions taken to eliminate the cause and reoccurrence of venting or flaring	Exploring different avenues to react immediately

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CONDITIONS

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Operator: MARATHON OIL PERMIAN LLC 5555 San Felipe St. Houston, TX 77056	OGRID: 372098
	Action Number: 30534
	Action Type: [C-129] Venting and/or Flaring (C-129)

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.	6/25/2021