



## Certificate of Analysis

Number: 6030-20040134-003A

Artesia Laboratory

200 E Main St.

Artesia, NM 88210

Phone 575-746-3481

Teresa Edwards  
Marathon Oil Corporation  
4111 S. Tidwell  
Carlsbad, NM 88220

Apr. 21, 2020

Station Name:	Black River 3, 7 Facility Gas Sales Allocation	Sampled By:	Chris Myers
Station Number:	18045GSA2	Sample Of:	Gas Spot
Station Location:	Marathon	Sample Date:	04/20/2020 11:05
Sample Point:	Meter Run	Sample Conditions:	77.3 psig, @ 98.41 °F Ambient: 74 °F
Type of Sample:	Spot-Cylinder	Effective Date:	04/20/2020 11:05
Heat Trace Used:	N/A	Method:	GPA-2261M
Sampling Method:	Fill and Purge	Cylinder No:	1111-002511
Sampling Company:	SPL	Instrument:	6030_GC2 (Agilent 7890B)
Analyzed:	04/21/2020 08:45:59 by User1	Last Inst. Cal.:	03/02/2020 9:09 AM

## Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Nitrogen	1.423	1.42664	1.843		GPM TOTAL C2+	6.112
Methane	76.992	77.18883	57.107		GPM TOTAL C3+	3.051
Carbon Dioxide	0.070	0.07018	0.142		GPM TOTAL iC5+	0.750
Ethane	11.437	11.46624	15.900	3.061		
Propane	5.363	5.37671	10.934	1.479		
Iso-butane	0.777	0.77899	2.088	0.254		
n-Butane	1.801	1.80560	4.840	0.568		
Iso-pentane	0.467	0.46819	1.558	0.171		
n-Pentane	0.523	0.52434	1.745	0.190		
Hexanes Plus	0.892	0.89428	3.843	0.389		
	99.745	100.0000	100.000	6.112		

## Calculated Physical Properties

	<b>Total</b>	<b>C6+</b>
Relative Density Real Gas	0.7513	3.2176
Calculated Molecular Weight	21.68	93.19
Compressibility Factor	0.9962	

## GPA 2172 Calculation:

Calculated Gross BTU per ft<sup>3</sup> @ 14.65 psia & 60°F

Real Gas Dry BTU	1289	5113
Water Sat. Gas Base BTU	1267	5024
Ideal, Gross HV - Dry at 14.65 psia	1283.6	5113.2
Ideal, Gross HV - Wet	1261.2	5023.7

**Comments:** H2S Field Content 0 ppm  
Mcf/day 2076.47

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):	925.66
Flare or vent:	Flare
Date discovered:	7/7/2021
Time discovered:	6:26 AM
Date terminated:	7/8/2021
Time terminated:	3:44 AM
Total Duration (hrs):	21.28

**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 35662

**QUESTIONS**

Operator: MARATHON OIL PERMIAN LLC 5555 San Felipe St. Houston, TX 77056	OGRID: 372098
	Action Number: 35662
	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 additional 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	Yes
Is this considered a submission for a notification of a major venting or flaring	Yes, major 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 19.13.29.7 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 occurring at a facility that does not have an Facility ID (##) yet.

Facility or Site Name	Black River 15 10 State Com 3H 7H CTB
Facility Type	Tank Battery - (TB)

**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**

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

Methane (CH4) percentage	57
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	07/07/2021
Time venting or flaring was discovered or commenced	06:26 AM
Is the venting or flaring event complete	Yes
Date venting or flaring was terminated	07/08/2021
Time venting or flaring was terminated	03:44 AM
Total duration of venting or flaring in hours, if venting or flaring has terminated	21
Longest duration of cumulative hours within any 24-hour period during this event	13

**Measured or Estimated Volume of Vented or Flared Natural Gas**

Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Cause: Midstream Emergency Maintenance   Unknown   Natural Gas Flared   Spilled: 926 Mcf   Recovered: 0 Mcf   Lost: 926 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	Not answered.
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	The third party gathering company had an incident where they were unable to accept our gas takeaway. Although we were notified of the incident and were actively monitoring and shutting in a large amount of wells in the area - we were not to know that the third party's shut down would also impact the Black River 15 10 3H 7H CTB.
Steps taken to limit the duration and magnitude of venting or flaring	As soon as we were aware the facility was flaring due to a third party's emergency the facility was shut in
Corrective actions taken to eliminate the cause and reoccurrence of venting or flaring	Our operations team is actively working with our third party gathering companies to increase the level of detail as much as possible in future emergencies such as this

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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: 35662
	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.	7/8/2021