



# Certificate of Analysis

Number: 6030-20110198-001A

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

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

Nov. 25, 2020

Station Name:	Gramma Ridge 2,3,5 Sales Check	Sampled By:	Jonah Reza
Station Number:	20253SC	Sample Of:	Gas Spot
Station Location:	Marathon	Sample Date:	11/24/2020 09:43
Sample Point:	RGA	Sample Conditions:	74.89 psig, @ 73.26 °F Ambient: 63 °F
Type of Sample:	Spot-Cylinder	Effective Date:	11/24/2020 09:43
Heat Trace Used:	N/A	Method:	GPA-2261M
Sampling Method:	Fill and Purge	Cylinder No:	1111-003910
Sampling Company:	SPL	Instrument:	6030_GC6 (Inficon GC-3000 Micro)
Analyzed:	11/25/2020 10:59:19 by KNF	Last Inst. Cal.:	11/16/2020 0:00 AM

## Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia		
Hydrogen Sulfide	0.000	0.00000	0.000		GPM TOTAL C2+	5.703
Nitrogen	3.203	3.27403	4.254		GPM TOTAL C3+	2.828
Methane	74.711	76.36772	56.823		GPM TOTAL iC5+	0.615
Carbon Dioxide	0.356	0.36400	0.743			
Ethane	10.540	10.77362	15.025	2.875		
Propane	5.212	5.32758	10.896	1.465		
Iso-butane	0.672	0.68639	1.850	0.224		
n-Butane	1.629	1.66502	4.489	0.524		
Iso-pentane	0.374	0.38209	1.279	0.139		
n-Pentane	0.372	0.37994	1.271	0.137		
Hexanes Plus	0.763	0.77961	3.370	0.339		
	97.832	100.00000	100.000	5.703		

<b>Calculated Physical Properties</b>	<b>Total</b>	<b>C6+</b>
Relative Density Real Gas	0.7468	3.2176
Calculated Molecular Weight	21.56	93.19
Compressibility Factor	0.9964	

**GPA 2172 Calculation:**

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

Real Gas Dry BTU	1244	5113
Water Sat. Gas Base BTU	1222	5024
Ideal, Gross HV - Dry at 14.65 psia	1239.3	5113.2
Ideal, Gross HV - Wet	1217.6	5023.7

**Comments:** H2S Field Content 0 ppm  
 Mcf/day 411.0395

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):	136.06
Flare or vent:	Flare
Date:	9/11/2022
Time discovered:	12:00 AM
Time terminated:	7:26 AM
Total Duration (hrs):	7:26

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**District III**  
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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 142437

**DEFINITIONS**

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 142437
	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 142437

**QUESTIONS**

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 142437
	Action Type: [C-129] Venting and/or Flaring (C-129)

**QUESTIONS**

<b>Prerequisites</b>	
<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	[fAPP2126038584] GRAMA RIDGE 8 STATE 235 TB

<b>Determination of Reporting Requirements</b>	
<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	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

<b>Equipment Involved</b>	
Primary Equipment Involved	Not answered.
Additional details for Equipment Involved. Please specify	Not answered.

<b>Representative Compositional Analysis of Vented or Flared Natural Gas</b>	
<i>Please provide the mole percent for the percentage questions in this group.</i>	
Methane (CH4) percentage	75
Nitrogen (N2) percentage, if greater than one percent	3
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 (continued)**

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 142437
	Action Type: [C-129] Venting and/or Flaring (C-129)

**QUESTIONS**

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	09/11/2022
Time vent or flare was discovered or commenced	12:00 AM
Time vent or flare was terminated	07:26 AM
Cumulative hours during this event	7

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Cause: High Line Pressure   Producing Well   Natural Gas Flared   Released: 136 Mcf   Recovered: 0 Mcf   Lost: 136 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	Yes
Was notification of downstream activity received by this operator	No
Downstream OGRID that should have notified this operator	[372422] LUCID ENERGY DELAWARE, LLC
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	High Line Pressure - No Notification Received
Steps taken to limit the duration and magnitude of vent or flare	no notification was provided as required per NMAC 19.15.28.8 (D). As soon as flaring was identified, immediate actions were taken to limit magnitude of flaring/venting.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	Alarms set for maximum allowable working pressures for notification of flaring events and limit flaring.

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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 <b>complete</b> 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.	9/20/2022