



Certificate of Analysis

Number: 6030-22080294-003A

Artesia Laboratory

200 E Main St.

Artesia, NM 88210

Phone 575-746-3481

Matt Buckles
Mack Energy
11344 Lovington Hwy
Artesia, NM 88210

Aug. 23, 2022

Station Name: Thunder Bay TB Production

Station Number: 1325029

Station Location: Mack

Sample Point: Meter Run

Instrument: 6030_GC6 (Inficon GC-3000 Micro)

Last Inst. Cal.: 08/22/2022 0:00 AM

Analyzed: 08/23/2022 08:12:41 by KNF

Sampled By: Donovan

Sample Of: Gas Spot

Sample Date: 08/19/2022

Sample Conditions: 83.5 °F Ambient: 70 °F

Effective Date: 08/19/2022

Method: GPA-2261M

Cylinder No: 1111-007282

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.73 psia		
Nitrogen	5.822	5.79037	6.130		GPM TOTAL C2+	8.889
Methane	57.650	57.33417	34.762		GPM TOTAL C3+	4.961
Carbon Dioxide	6.021	5.98749	9.959		GPM TOTAL iC5+	0.947
Ethane	14.699	14.61859	16.613	3.928		
Propane	9.991	9.93571	16.558	2.750		
Iso-butane	1.158	1.15185	2.530	0.379		
n-Butane	2.808	2.79270	6.135	0.885		
Iso-pentane	0.692	0.68781	1.875	0.253		
n-Pentane	0.701	0.69745	1.902	0.254		
Hexanes Plus	1.009	1.00386	3.536	0.440		
	100.551	100.0000	100.000	8.889		

Calculated Physical Properties

Relative Density Real Gas

Total

0.9179

C6+

3.2176

Calculated Molecular Weight

26.46

93.19

Compressibility Factor

0.9950

GPA 2172 Calculation:

Calculated Gross BTU per ft³ @ 14.73 psia & 60°F

Real Gas Dry BTU

1333

5141

Water Sat. Gas Base BTU

1310

5052

Ideal, Gross HV - Dry at 14.73 psia

1326.4

5141.1

Ideal, Gross HV - Wet

1303.3

5051.6

Data reviewed by: Krystle Fitzwater, Laboratory Manager

Quality Assurance:

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

Thunder Bay CTB
Facility ID: fAPP2211039811
Location 32.99666 -104.022018 10 FNL & 1650 FWL Sec. 22-T15S-R29E M

Reference ID	Prod Date	Entry Date	Disposition	Product	UOM	Volume	Calculated Vol*14.73/15.025	Energy Factor	Flow Temp	Gas Gravity	Base Temp	Base Press	Flow Press	Run Hours	Meter Begin	Meter End	Begin Date	End Date	Last Updated
	8/27/2022	8/28/2022	FLARE	GAS	MCF	260	255	1	75	0.6	60	14.73	0	24	0	260	8/27/2022 0:00	8/27/2022 0:00	IVANGUTIERREZ

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

DEFINITIONS

Action 138878

DEFINITIONS

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 138878
	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 138878

QUESTIONS

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	Action Number: 138878
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Prerequisites Any messages presented in this section, will prevent submission of this application. Please resolve these issues before continuing with the rest of the questions.	
Incident Well	Not answered.
Incident Facility	[fAPP2211039811] Thunder Bay CTB

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 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.
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.	
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 Please provide the mole percent for the percentage questions in this group.	
Methane (CH4) percentage	57
Nitrogen (N2) percentage, if greater than one percent	6
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (CO2) percentage, if greater than one percent	6
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.

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QUESTIONS, Page 2

Action 138878

QUESTIONS (continued)

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QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	08/27/2022
Time vent or flare was discovered or commenced	09:00 AM
Time vent or flare was terminated	11:59 PM
Cumulative hours during this event	15

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 Pipeline (Any) Natural Gas Flared Released: 255 Mcf Recovered: 0 Mcf Lost: 255 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	Yes
Downstream OGRID that should have notified this operator	[221115] FRONTIER FIELD SERVICES, LLC
Date notified of downstream activity requiring this vent or flare	08/27/2022
Time notified of downstream activity requiring this vent or flare	08:15 AM

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	Downstream Failure
Steps taken to limit the duration and magnitude of vent or flare	Stay in communication with Durango Midstream
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	Beyond our control

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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
dweaver	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.	8/29/2022