



# Certificate of Analysis

Number: 6030-21060066-002A

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

Alex Batista  
 Taprock  
 602 Park Point Drive  
 Ste. 200  
 Golden, CO 80401

June 08, 2021

Station Name:	Mulva 114	Sampled By:	Michael Mirabal
Station Number:	N/A	Sample Of:	Gas Spot
Sample Point:	Flowback Trailer	Sample Date:	06/06/2021 08:10
Formation:	Callout	Sample Conditions:	310 psia Ambient: 72 °F
County:	Lea	Effective Date:	06/06/2021 08:10
Type of Sample:	Spot-Cylinder	Method:	GPA-2261M
Heat Trace Used:	N/A	Cylinder No:	1111-001281
Sampling Method:	Fill and Purge	Instrument:	70104124 (Inficon GC-MicroFusion)
Sampling Company:	SPL	Last Inst. Cal.:	05/18/2021 0:00 AM
		Analyzed:	06/08/2021 06:15:46 by KNF

## Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.73 psia
Hydrogen Sulfide	NIL	1.10000	1.540	
Nitrogen	1.220	1.22109	1.405	
Carbon Dioxide	12.568	12.57903	22.745	
Methane	68.279	68.34012	45.046	
Ethane	8.763	8.77073	10.835	2.354
Propane	4.307	4.31055	7.809	1.192
Iso-Butane	0.650	0.65068	1.554	0.214
n-Butane	1.397	1.39865	3.340	0.443
Iso-Pentane	0.463	0.46361	1.374	0.170
n-Pentane	0.399	0.39946	1.184	0.145
Hexanes	0.326	0.32589	1.154	0.135
Heptanes	0.186	0.18587	0.765	0.086
Octanes	0.158	0.15854	0.744	0.082
Nonanes Plus	0.096	0.09578	0.505	0.054
	98.812	100.00000	100.000	4.875

<b>Calculated Physical Properties</b>	<b>Total</b>	<b>C9+</b>
Calculated Molecular Weight	24.34	128.26
Compressibility Factor	0.9960	
Relative Density Real Gas	0.8434	4.4283

**GPA 2172 Calculation:**

**Calculated Gross BTU per ft<sup>3</sup> @ 14.73 psia & 60°F**

Real Gas Dry BTU	1111.6	7012.5
Water Sat. Gas Base BTU	1092.6	6890.4
Ideal, Gross HV - Dry at 14.73 psia	1107.2	7012.5
Ideal, Gross HV - Wet	1087.8	6890.4

**Comments:** H2S Field Content 1.1 %  
 Co2 11%

Report generated by: Krystle Fitzwater

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

Flaring Summary

(Column Names) » date

Data table:  
flare\_report\_data (2)  
Colors:  
All values

battery	Sum(TOTAL F...
Mulva Man Hands CTB B	439.00
Grand total	439.00

battery

Sum(TOTAL FLARE (HP + LP))

**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 31076

**QUESTIONS**

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 31076
	Action Type: [C-129] Venting and/or Flaring (C-129)

**QUESTIONS**

<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 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	No
Is this considered a submission for a notification of a major venting or flaring	Yes, minor venting or flaring of natural gas.
<b>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 19-1-29, NMAC.</b>	
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

<b>Unregistered Facility Site</b>	
<i>Please provide the facility details, if the venting or flaring occurred or is occurring at a facility that does not have an Facility ID (F#) yet.</i>	
Facility or Site Name	Mulva/Man Hands CTB B
Facility Type	Tank Battery - (TB)

<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	68
Nitrogen (N2) percentage, if greater than one percent	1
Hydrogen Sulfide (H2S) PPM, rounded up	1
Carbon Dioxide (CO2) percentage, if greater than one percent	13
Oxygen (O2) percentage, if greater than one percent	0
<b>If you are venting and/or flaring because of Pipeline Specification, please provide the required specifications for each gas.</b>	
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.

<b>Date(s) and Time(s)</b>	
Date venting or flaring was discovered or commenced	05/25/2021
Time venting or flaring was discovered or commenced	06:00 AM
Is the venting or flaring event complete	Yes
Date venting or flaring was terminated	05/25/2021
Time venting or flaring was terminated	10:00 PM
Total duration of venting or flaring in hours, if venting or flaring has terminated	16
Longest duration of cumulative hours within any 24-hour period during this event	7

<b>Measured or Estimated Volume of Vented or Flared Natural Gas</b>	
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Cause: Normal Operations   Other (Specify)   Natural Gas Flared   Spilled: 439 Mcf   Recovered: 0 Mcf   Lost: 439 Mcf ]
Other Released Details	Not answered.
Additional details for Measured or Estimated Volume(s). Please specify	439 MCF flared during normal operations at the Mulva/Mad Hands CTB B. H2S present and flaring necessary.
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.

<b>Venting or Flaring Resulting from Downstream Activity</b>	
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.

<b>Steps and Actions to Prevent Waste</b>	
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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.	True
Please explain reason for why this event was beyond your operator's control	larger amounts of H2S
Steps taken to limit the duration and magnitude of venting or flaring	N/A
Corrective actions taken to eliminate the cause and reoccurrence of venting or flaring	N/A

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CONDITIONS  
 Action 31076

**CONDITIONS**

Operator: TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401	OGRID: 372043
	Action Number: 31076
	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.	6/9/2021