



## Certificate of Analysis

Number: 6030-21100279-018A

Artesia Laboratory

200 E Main St.

Artesia, NM 88210

Phone 575-746-3481

Zach LaCount  
Mewbourne Oil Company  
4801 Business Park Blvd  
Hobbs, NM 88240

Nov. 01, 2021

Station Name: Starship 28/21 W00B 1H Battery VRU  
Station Number: N/A  
Station Location: Mewbourne  
Sample Point: VRU  
Instrument: 6030\_GC2 (Agilent GC-7890B)  
Last Inst. Cal.: 09/13/2021 15:05 PM  
Analyzed: 10/29/2021 07:23:04 by EJR

Sampled By: Michael Mirabal  
Sample Of: Gas Spot  
Sample Date: 10/26/2021 10:44  
Sample Conditions: 160 psig Ambient: 79 °F  
Effective Date: 10/26/2021 10:44  
Method: GPA 2286  
Cylinder No: 1111-002544

## Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.696 psia	
Hydrogen Sulfide	0.000	0.00000	0.000		GPM TOTAL C2+ 16.627
Nitrogen	0.466	0.45600	0.386		GPM TOTAL C3+ 11.403
Methane	44.042	43.09500	20.911		GPM TOTAL iC5+ 2.412
Carbon Dioxide	0.173	0.16900	0.225		
Ethane	19.819	19.39200	17.636	5.224	
Propane	19.630	19.20700	25.617	5.330	
Iso-butane	3.208	3.13900	5.518	1.035	
n-Butane	8.452	8.27000	14.538	2.626	
Iso-pentane	1.857	1.81700	3.965	0.669	
n-Pentane	2.193	2.14600	4.683	0.784	
Hexanes Plus	2.360	2.30900	6.521	0.959	
	102.200	100.0000	100.000	16.627	

## Calculated Physical Properties

	Total	C6+
Relative Density Real Gas	1.1523	3.2188
Calculated Molecular Weight	33.06	93.23
Compressibility Factor	0.9902	

## GPA 2172 Calculation:

Calculated Gross BTU per ft<sup>3</sup> @ 14.696 psia & 60°F

Real Gas Dry BTU	1927	5035
Water Sat. Gas Base BTU	1894	4948
Ideal, Gross HV - Dry at 14.696 psia	1908.6	5035.4
Ideal, Gross HV - Wet	1875.3	0.000

Comments: H2S Field Content 2.5 ppm

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.



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Nov. 01, 2021

Station Name: Starship 28/21 W00B 1H Battery VRU  
Station Number: N/A  
Station Location: Mewbourne  
Sample Point: VRU  
Analyzed: 11/01/2021 07:39:38 by EJRSampled By: Michael Mirabal  
Sample Of: Gas Spot  
Sample Date: 10/26/2021 10:44  
Sample Conditions: 160 psig  
Method: GPA 2286  
Cylinder No: 1111-002544

## Analytical Data

Components	Mol. %	Wt. %	GPM at 14.696 psia
Hydrogen Sulfide	0.000	0.000	
Nitrogen	0.456	0.386	
Methane	43.095	20.911	
Carbon Dioxide	0.169	0.225	
Ethane	19.392	17.636	5.224
Propane	19.207	25.617	5.330
Iso-Butane	3.139	5.518	1.035
n-Butane	8.270	14.538	2.626
Iso-Pentane	1.817	3.965	0.669
n-Pentane	2.146	4.683	0.784
i-Hexanes	0.497	1.269	0.200
n-Hexane	0.361	0.932	0.148
Benzene	0.026	0.060	0.007
Cyclohexane	0.220	0.562	0.075
i-Heptanes	0.488	1.382	0.201
n-Heptane	0.151	0.455	0.070
Toluene	0.034	0.095	0.012
i-Octanes	0.399	1.272	0.179
n-Octane	0.037	0.124	0.019
Ethylbenzene	0.002	0.005	0.001
Xylenes	0.022	0.062	0.008
i-Nonanes	0.059	0.230	0.031
n-Nonane	0.009	0.033	0.005
Decanes Plus	0.004	0.040	0.003
	100.000	100.000	16.627



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Station Location: Mewbourne  
Sample Point: VRU  
Analyzed: 11/01/2021 07:39:38 by EJRSampled By: Michael Mirabal  
Sample Of: Gas Spot  
Sample Date: 10/26/2021 10:44  
Sample Conditions: 160 psig  
Method: GPA 2286  
Cylinder No: 1111-002544

Calculated Physical Properties	Total	C10+
Calculated Molecular Weight	33.06	149.30
<b>GPA 2172 Calculation:</b>		
<b>Calculated Gross BTU per ft<sup>3</sup> @ 14.696 psia &amp; 60°F</b>		
Real Gas Dry BTU	1927.4	8196.0
Water Sat. Gas Base BTU	1893.8	7974.3
Relative Density Real Gas	1.1523	5.1548
Compressibility Factor	0.9902	
Ideal, Gross HV - Wet	1875.3	
Ideal, Gross HV - Dry at 14.696 psia	1908.6	
Net BTU Dry Gas - real gas	1766	
Net BTU Wet Gas - real gas	1735	

**Comments:** H2S Field Content 2.5 ppm

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.

Mewbourne Oil Company

Natural Gas Flared Calculation Methodology

Metering low-pressure gas diverted from the Vapor Recovery Unit ("VRU") to backup flare is not technologically feasible. Gas volumes for VRU downtime events will be calculated using an average metered VRU gas to oil production ratio. This GOR is derived from available relevant data.

Average Metered VRU Gas to Oil Production GOR = 0.18 Mcf/BBL

Flared gas volume = GOR \* Oil Production Volume (BBL)

**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 65504

**QUESTIONS**

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID:	14744
	Action Number:	65504
	Action Type:	[C-129] Venting and/or Flaring (C-129)

**QUESTIONS**

<b>Prerequisites</b>	
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	[fAPP2130936991] LAYLA 35/26 W0MD FEE #1H BATTERY

<b>Determination of Reporting Requirements</b>	
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 and/or flaring caused by an emergency or malfunction	Yes
Did or will this venting and/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 venting and/or flaring 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 or will there be at least 50 MCF of natural gas vented and/or flared during this event	Yes
Did this venting and/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
Was the venting and/or flaring within an incorporated municipal boundary or withing 300 feet from an occupied permanent residence, school, hospital, institution or church in existence	No

<b>Equipment Involved</b>	
Primary Equipment Involved	Other (Specify)
Additional details for Equipment Involved. Please specify	VRU

<b>Representative Compositional Analysis of Vented or Flared Natural Gas</b>	
Please provide the mole percent for the percentage questions in this group.	
Methane (CH4) percentage	44
Nitrogen (N2) percentage, if greater than one percent	0
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.

<b>Date(s) and Time(s)</b>	
Date venting and/or flaring was discovered or commenced	11/20/2021
Time venting and/or flaring was discovered or commenced	12:30 AM
Time venting and/or flaring was terminated	11:45 AM
Cumulative hours during this event	11

<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: Equipment Failure   Other (Specify)   Natural Gas Flared   Released: 343 Mcf   Recovered: 0 Mcf   Lost: 343 Mcf
Other Released Details	Not answered.
Additional details for Measured or Estimated Volume(s). Please specify	Volume calculated
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 or is this venting and/or flaring a result of downstream activity	Not answered.
Was notification of downstream activity received by you or your operator	Not answered.
Downstream OGRID that should have notified you or your operator	Not answered.
Date notified of downstream activity requiring this venting and/or flaring	Not answered.
Time notified of downstream activity requiring this venting and/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	VRU malfunctioned
Steps taken to limit the duration and magnitude of venting and/or flaring	Repaired VRU
Corrective actions taken to eliminate the cause and reoccurrence of venting and/or flaring	Continued routine preventive maintenance and daily operational inspections

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CONDITIONS  
  
Action 65504

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Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 65504
	Action Type: [C-129] Venting and/or Flaring (C-129)

CONDITIONS

Created By	Condition	Condition Date
zlacount	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.	12/7/2021