



# 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	Sampled By: Michael Mirabal
Station Number: N/A	Sample Of: Gas Spot
Station Location: Mewbourne	Sample Date: 10/26/2021 10:44
Sample Point: VRU	Sample Conditions: 160 psig Ambient: 79 °F
Instrument: 6030_GC2 (Agilent GC-7890B)	Effective Date: 10/26/2021 10:44
Last Inst. Cal.: 09/13/2021 15:05 PM	Method: GPA 2286
Analyzed: 10/29/2021 07:23:04 by EJР	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	100.00000	100.000	16.627	

<b>Calculated Physical Properties</b>	<b>Total</b>	<b>C6+</b>
Relative Density Real Gas	1.1523	3.2188
Calculated Molecular Weight	33.06	93.23
Compressibility Factor	0.9902	
<b>GPA 2172 Calculation:</b>		
<b>Calculated Gross BTU per ft³ @ 14.696 psia &amp; 60°F</b>		
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 EJR

Sampled 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
	<u>100.000</u>	<u>100.000</u>	<u>16.627</u>



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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 EJR

Sampled 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)

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**District IV**  
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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 72778

**DEFINITIONS**

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 72778
	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 72778

**QUESTIONS**

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 72778
	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	[fAPP2125233606] STARSHIP 28/21 W00B FEE 1H BATTERY

<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	Yes
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	Other (Specify)
Additional details for Equipment Involved. Please specify	VRU

<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	43
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
<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: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 72778
	Action Type: [C-129] Venting and/or Flaring (C-129)

**QUESTIONS**

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	01/09/2022
Time vent or flare was discovered or commenced	01:00 PM
Time vent or flare was terminated	11:59 PM
Cumulative hours during this event	11

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Cause: Equipment Failure   Other (Specify)   Natural Gas Flared   Released: 58 Mcf   Recovered: 0 Mcf   Lost: 58 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 this vent or flare a result of downstream activity	No
Was notification of downstream activity received by this operator	Not answered.
Downstream OGRID that should have notified this operator	Not answered.
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	VRU malfunctioned
Steps taken to limit the duration and magnitude of vent or flare	Repaired VRU
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	Continued routine preventive maintenance and daily operational inspections

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ACKNOWLEDGMENTS

Action 72778

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Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 72778
	Action Type: [C-129] Venting and/or Flaring (C-129)

**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

Action 72778

**CONDITIONS**

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 72778
	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.	1/17/2022