



# Certificate of Analysis

Number: 6030-22090243-001A

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

Paul Martinez  
 Earthstone  
 801 Cherry St, Suite 1200  
 Fort Worth, TX 76102

Oct. 21, 2022

Station Name:	Cletus 28-21 Fed Com 3H	Sampled By:	Arnulfo Herrera
Station Number:	89410042	Sample Of:	Gas Spot
Station Location:	Chisholm	Sample Date:	09/16/2022
Sample Point:	Meter Run	Sample Conditions:	120 psig
Type of Sample:	Spot-Cylinder	Effective Date:	09/16/2022
Heat Trace Used:	N/A	Method:	GPA 2286
Sampling Method:	Fill and Purge	Cylinder No:	1111-001272
Sampling Company:	SPL	Instrument:	6030_GC2 (Agilent GC-7890B)
Analyzed:	09/23/2022 07:51:53 by KNF	Last Inst. Cal.:	09/12/2022 12:00 PM

## Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.73 psia		
Nitrogen	0.957	0.96100	1.181		GPM TOTAL C2+	7.246
Methane	73.681	74.00700	52.094		GPM TOTAL C3+	3.643
Carbon Dioxide	0.167	0.16800	0.324		GPM TOTAL iC5+	0.874
Ethane	13.363	13.42200	17.708	3.603		
Propane	6.502	6.53100	12.636	1.806		
Iso-butane	0.902	0.90600	2.311	0.298		
n-Butane	2.092	2.10100	5.358	0.665		
Iso-pentane	0.481	0.48300	1.529	0.177		
n-Pentane	0.560	0.56200	1.779	0.204		
Hexanes Plus	0.855	0.85900	5.080	0.493		
	<u>99.560</u>	<u>100.00000</u>	<u>100.000</u>	<u>7.246</u>		

<b>Calculated Physical Properties</b>	<b>Total</b>	<b>C6+</b>
Relative Density Real Gas	0.7897	4.6422
Calculated Molecular Weight	22.79	134.45
Compressibility Factor	0.9960	
<b>GPA 2172 Calculation:</b>		
<b>Calculated Gross BTU per ft³ @ 14.73 psia &amp; 60°F</b>		
Real Gas Dry BTU	1360	7283
Water Sat. Gas Base BTU	1337	7157
Ideal, Gross HV - Dry at 14.73 psia	1354.7	7283.4
Ideal, Gross HV - Wet	1331.2	0.000

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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Station Location:	Chisholm	Sample Date:	09/16/2022
Sample Point:	Meter Run	Sample Conditions:	120 psig
Type of Sample:	Spot-Cylinder	Method:	GPA 2286
Heat Trace Used:	N/A	Cylinder No:	1111-001272
Sampling Method:	Fill and Purge	Analyzed:	09/23/2022 07:50:46 by KNF
Sampling Company:	SPL		

**Analytical Data**

Components	Mol. %	Wt. %	GPM at 14.73 psia
Hydrogen Sulfide	0.000	0.000	
Nitrogen	0.961	1.181	
Methane	74.007	52.094	
Carbon Dioxide	0.168	0.324	
Ethane	13.422	17.708	3.603
Propane	6.531	12.636	1.806
Iso-Butane	0.906	2.311	0.298
n-Butane	2.101	5.358	0.665
Iso-Pentane	0.483	1.529	0.177
n-Pentane	0.562	1.779	0.204
i-Hexanes	0.119	0.448	0.048
n-Hexane	0.084	0.317	0.034
Benzene	0.007	0.024	0.002
Cyclohexane	0.044	0.164	0.015
i-Heptanes	0.100	0.402	0.041
n-Heptane	0.029	0.126	0.013
Toluene	0.009	0.038	0.003
i-Octanes	0.075	0.353	0.034
n-Octane	0.007	0.036	0.004
Ethylbenzene	0.001	0.003	0.000
Xylenes	0.006	0.034	0.003
i-Nonanes	0.015	0.086	0.008
n-Nonane	0.003	0.020	0.002
Decanes Plus	0.360	3.029	0.286
	<u>100.000</u>	<u>100.000</u>	<u>7.246</u>



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Sample Point:	Meter Run	Sample Conditions:	120 psig
Type of Sample:	Spot-Cylinder	Method:	GPA 2286
Heat Trace Used:	N/A	Cylinder No:	1111-001272
Sampling Method:	Fill and Purge	Analyzed:	09/23/2022 07:50:46 by KNF
Sampling Company:	SPL		

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Calculated Physical Properties	Total	C10+
Calculated Molecular Weight	22.79	193.43
<b>GPA 2172 Calculation:</b>		
<b>Calculated Gross BTU per ft<sup>3</sup> @ 14.73 psia &amp; 60°F</b>		
Real Gas Dry BTU	1360.2	10529.2
Water Sat. Gas Base BTU	1336.5	10304.3
Relative Density Real Gas	0.7897	6.6786
Compressibility Factor	0.9960	
Ideal, Gross HV - Wet	1331.2	
Ideal, Gross HV - Dry at 14.73 psia	1354.7	
Net BTU Dry Gas - real gas	1237	
Net BTU Wet Gas - real gas	1215	

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.

\*\*\*Calculations for the total Mcf flared\*\*\*  
End Meter Volume – the Begin Meter Volume.

\*\*\*Composition for the gas has been entered into the question portion of the C-129.  
If further back up is needed please let us know and will provide requested data.

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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 180114

**DEFINITIONS**

Operator: Earthstone Operating, LLC 1400 Woodloch Forest; Ste 300 The Woodlands, TX 77380	OGRID: 331165
	Action Number: 180114
	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 180114

**QUESTIONS**

Operator: Earthstone Operating, LLC 1400 Woodloch Forest; Ste 300 The Woodlands, TX 77380	OGRID: 331165
	Action Number: 180114
	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	Unavailable.
Incident Facility	[fAPP2231963069] Cletus 28-21 Fed Com Facility

<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	No
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	Not answered.
Additional details for Equipment Involved. Please specify	Heater Treater

<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	74
Nitrogen (N2) percentage, if greater than one percent	1
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (CO2) percentage, if greater than one percent	1
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, Page 2

Action 180114

**QUESTIONS (continued)**

Operator: Earthstone Operating, LLC 1400 Woodloch Forest; Ste 300 The Woodlands, TX 77380	OGRID: 331165
	Action Number: 180114
	Action Type: [C-129] Venting and/or Flaring (C-129)

**QUESTIONS**

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	01/21/2023
Time vent or flare was discovered or commenced	12:00 AM
Time vent or flare was terminated	11:59 PM
Cumulative hours during this event	24

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Cause: Normal Operations   Producing Well   Natural Gas Flared   Released: 116 Mcf   Recovered: 0 Mcf   Lost: 116 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	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	Heater Treater emissions controlled by flare.
Steps taken to limit the duration and magnitude of vent or flare	Standard emission control of Heater Treater Emissions.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	No way to avoid process equipment emissions controlled by flare.

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ACKNOWLEDGMENTS

Action 180114

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	Action Number: 180114
	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 180114

**CONDITIONS**

Operator: Earthstone Operating, LLC 1400 Woodloch Forest; Ste 300 The Woodlands, TX 77380	OGRID: 331165
	Action Number: 180114
	Action Type: [C-129] Venting and/or Flaring (C-129)

**CONDITIONS**

Created By	Condition	Condition Date
gkirkland	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.	1/26/2023