



Certificate of Analysis

Number: 6030-22090243-002A

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 2H
Station Location: Chisholm
Sample Point: Meter Run
Type of Sample: Spot-Cylinder
Heat Trace Used: N/A
Sampling Method: Fill and Purge
Sampling Company: SPL
Analyzed: 09/23/2022 08:48:49 by KNF

Sampled By: Arnulfo Herrera
Sample Of: Gas Spot
Sample Date: 09/16/2022
Sample Conditions: 123 psig
Effective Date: 09/16/2022
Method: GPA 2286
Cylinder No: 5030-02380
Instrument: 6030_GC2 (Agilent GC-7890B)
Last Inst. Cal.: 09/12/2022 12:00 PM

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.73 psia		
Nitrogen	0.947	0.95000	1.168		GPM TOTAL C2+	7.293
Methane	73.520	73.78800	51.945		GPM TOTAL C3+	3.641
Carbon Dioxide	0.155	0.15600	0.301		GPM TOTAL iC5+	0.844
Ethane	13.557	13.60600	17.953	3.652		
Propane	6.597	6.62100	12.812	1.831		
Iso-butane	0.899	0.90200	2.301	0.297		
n-Butane	2.106	2.11400	5.392	0.669		
Iso-pentane	0.471	0.47300	1.498	0.173		
n-Pentane	0.553	0.55500	1.757	0.201		
Hexanes Plus	0.832	0.83500	4.873	0.470		
	99.637	100.00000	100.000	7.293		

Calculated Physical Properties

	Total	C6+
Relative Density Real Gas	0.7894	4.5505
Calculated Molecular Weight	22.79	131.79
Compressibility Factor	0.9959	

GPA 2172 Calculation:

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

Real Gas Dry BTU	1360	7142
Water Sat. Gas Base BTU	1337	7018
Ideal, Gross HV - Dry at 14.73 psia	1354.7	7142.4
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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Sampling Company: SPLSampled By: Arnulfo Herrera
Sample Of: Gas Spot
Sample Date: 09/16/2022
Sample Conditions: 123 psig
Method: GPA 2286
Cylinder No: 5030-02380
Analyzed: 09/23/2022 08:47:20 by KNF

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.73 psia
Hydrogen Sulfide	0.000	0.000	
Nitrogen	0.950	1.168	
Methane	73.788	51.945	
Carbon Dioxide	0.156	0.301	
Ethane	13.606	17.953	3.652
Propane	6.621	12.812	1.831
Iso-Butane	0.902	2.301	0.297
n-Butane	2.114	5.392	0.669
Iso-Pentane	0.473	1.498	0.173
n-Pentane	0.555	1.757	0.201
i-Hexanes	0.113	0.416	0.045
n-Hexane	0.078	0.295	0.032
Benzene	0.007	0.021	0.002
Cyclohexane	0.042	0.156	0.014
i-Heptanes	0.094	0.380	0.038
n-Heptane	0.027	0.117	0.012
Toluene	0.009	0.036	0.003
i-Octanes	0.070	0.335	0.032
n-Octane	0.007	0.034	0.003
Ethylbenzene	0.000	0.003	0.000
Xylenes	0.005	0.032	0.002
i-Nonanes	0.014	0.082	0.007
n-Nonane	0.003	0.021	0.002
Decanes Plus	0.366	2.945	0.278
	100.000	100.000	7.293



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Heat Trace Used: N/A
Sampling Method: Fill and Purge
Sampling Company: SPL

Sampled By: Arnulfo Herrera
Sample Of: Gas Spot
Sample Date: 09/16/2022
Sample Conditions: 123 psig
Method: GPA 2286
Cylinder No: 5030-02380
Analyzed: 09/23/2022 08:47:20 by KNF

Calculated Physical Properties	Total	C10+
Calculated Molecular Weight	22.79	182.02
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.73 psia & 60°F		
Real Gas Dry BTU	1360.3	9910.6
Water Sat. Gas Base BTU	1336.6	9698.6
Relative Density Real Gas	0.7894	6.2848
Compressibility Factor	0.9959	
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.

District I
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District II
811 S. First St., Artesia, NM 88210
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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

DEFINITIONS

Action 173338

DEFINITIONS

Operator: Earthstone Operating, LLC 1400 Woodloch Forest; Ste 300 The Woodlands, TX 77380	OGRID: 331165
	Action Number: 173338
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

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: <ul style="list-style-type: none">• 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 173338

QUESTIONS

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	Action Number: 173338
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

QUESTIONS

Prerequisites <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 Operator	[331165] Earthstone Operating, LLC
Incident Type	Flare
Incident Status	Closure Not Approved
Incident Well	Unavailable.
Incident Facility	[fAPP2231963069] Cletus 28-21 Fed Com Facility
<i>Only valid Vent, Flare or Vent with Flaring incidents (selected above in the Application Details section) that are assigned to your current operator can be amended with this C-129A application.</i>	

Determination of Reporting Requirements <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, major 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 withing 300 feet from an occupied permanent residence, school, hospital, institution or church in existence	No

Equipment Involved	
Primary Equipment Involved	Producing Well
Additional details for Equipment Involved. Please specify	"Wells to flare for nitrogen purge"

Representative Compositional Analysis of Vented or Flared Natural Gas <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 (C02) 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 Sufide (H2S) PPM quality requirement	Not answered.
Carbon Dioxide (C02) percentage quality requirement	Not answered.
Oxygen (O2) percentage quality requirement	Not answered.

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QUESTIONS, Page 2

Action 173338

QUESTIONS (continued)

Operator: Earthstone Operating, LLC 1400 Woodloch Forest; Ste 300 The Woodlands, TX 77380	OGRID: 331165
	Action Number: 173338
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	12/24/2022
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: Pipeline Quality Specifications Producing Well Natural Gas Flared Released: 683 Mcf Recovered: 0 Mcf Lost: 683 Mcf.
Other Released Details	Not answered.
Additional details for Measured or Estimated Volume(s). Please specify	Volumes metered at flare
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	
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	Unexpected content from well
Steps taken to limit the duration and magnitude of vent or flare	Well flared until gas met specifications
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	No way to avoid periodic downtime to address unforeseen conditions.

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ACKNOWLEDGMENTS

Action 173338

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	Action Number: 173338
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

ACKNOWLEDGMENTS

<input checked="" type="checkbox"/>	I acknowledge that with this application I will be amending an existing incident file (assigned to this operator) for a vent or flare event, pursuant to 19.15.27 and 19.15.28 NMAC.
<input checked="" type="checkbox"/>	I acknowledge that amending an incident file does not replace original submitted application(s) or information and understand that any C-129 forms submitted to the OCD will be logged and stored as public record.
<input checked="" type="checkbox"/>	I hereby certify the statements in this amending 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 173338

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	Action Number: 173338
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

CONDITIONS

Created By	Condition	Condition Date
kmcbride	If the information provided in this report requires further amendment(s), submit a [C-129] Amend Venting and/or Flaring Incident (C-129A), utilizing your incident number from this event.	1/6/2023