



Certificate of Analysis

Number: 6030-22020354-001A

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

Redwood
Redwood Operating
4910 N. Midkiff Rd.
Midland, TX 79705

Feb. 25, 2022

Station Name: Higgins Cahoon Battery
Station Number: 5420024
Station Location: Redwood
Sample Point: Meter Run
Instrument: 70142339 (Inficon GC-MicroFusion)
Last Inst. Cal.: 02/21/2022 0:00 AM
Analyzed: 02/25/2022 10:58:55 by ERG

Sampled By: Alonso Estrada
Sample Of: Gas Spot
Sample Date: 02/18/2022 01:02
Sample Conditions: 54 psig Ambient: 57 °F
Effective Date: 02/18/2022 01:02
Method: GPA-2261M
Cylinder No: 1111-001216

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.696 psia	
Hydrogen Sulfide	0.000	15.00000	21.459		GPM TOTAL C2+ 5.015
Nitrogen	1.772	1.51559	1.782		GPM TOTAL C3+ 2.347
Methane	75.638	64.67860	43.556		GPM TOTAL iC5+ 0.780
Carbon Dioxide	1.798	1.53765	2.841		
Ethane	11.643	9.95590	12.566	2.668	
Propane	4.756	4.06714	7.528	1.123	
Iso-butane	0.510	0.43602	1.064	0.143	
n-Butane	1.115	0.95378	2.327	0.301	
Iso-pentane	0.246	0.21027	0.637	0.077	
n-Pentane	0.258	0.22053	0.668	0.080	
Hexanes Plus	1.666	1.42452	5.572	0.623	
	99.402	100.00000	100.000	5.015	

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.8259	3.2176
Calculated Molecular Weight	23.82	93.19
Compressibility Factor	0.9956	

GPA 2172 Calculation:

Calculated Gross BTU per ft³ @ 14.696 psia & 60°F

Real Gas Dry BTU	1168	5129
Water Sat. Gas Base BTU	1147	5040
Ideal, Gross HV - Dry at 14.696 psia	1163.0	5129.2
Ideal, Gross HV - Wet	1141.0	5039.7

Comments: H2S Field Content 15 %
Mcf/day 53

Hydrocarbon Laboratory Manager

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



Daily Gas Entry Detail Listing

Date	MCF	Calc MCF/Day	Energy	BTU Factor	Flow Press	Flow Temp	Base Press	Remarks
GasMtr	GM000004	Higgins Cahoon Flare Mtr						
10/14/2022	64.00	64.00	64.00	1.0000	0.000	67.00	15.025	
Report Totals:	64.00	64.00						

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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 151748

DEFINITIONS

Operator: Redwood Operating LLC PO Box 1370 Artesia, NM 88210	OGRID: 330211
	Action Number: 151748
	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 151748

QUESTIONS

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	Action Number: 151748
	Action Type: [C-129] Venting and/or Flaring (C-129)

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 Well	Not answered.
Incident Facility	[fAPP2205641333] Higgins Cahoon 12D CTB

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, 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

Equipment Involved	
Primary Equipment Involved	Not answered.
Additional details for Equipment Involved. Please specify	Not answered.

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	65
Nitrogen (N2) percentage, if greater than one percent	2
Hydrogen Sulfide (H2S) PPM, rounded up	15
Carbon Dioxide (CO2) percentage, if greater than one percent	2
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 151748

QUESTIONS (continued)

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QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	10/15/2022
Time vent or flare was discovered or commenced	12:01 AM
Time vent or flare was terminated	12:00 PM
Cumulative hours during this event	12

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Cause: Midstream Emergency Maintenance Pipeline (Any) Natural Gas Flared Released: 64 Mcf Recovered: 0 Mcf Lost: 64 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	Yes
Was notification of downstream activity received by this operator	Yes
Downstream OGRID that should have notified this operator	[270047] DCP MIDSTREAM
Date notified of downstream activity requiring this vent or flare	10/14/2022
Time notified of downstream activity requiring this vent or flare	09:45 PM

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	DCP gave us an emergency notification with an estimated time frame of 12hrs. Redwood flared for 12 hours and DCP was unable to fix the emergency situation with the 12hr time frame. Redwood Shut in Production
Steps taken to limit the duration and magnitude of vent or flare	beyond our control
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	shut in production

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ACKNOWLEDGMENTS

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ACKNOWLEDGMENTS

☒	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 complete C-129 submission per 19.15.27.8 and 19.15.28.8 NMAC.
☒	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.
☒	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.
☒	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.
☒	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

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CONDITIONS

Created By	Condition	Condition Date
dweaver	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.	10/19/2022