Certificate of Analysis

Number: 6030-24080713-007A

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

Station Name:	Red Hills: Inlet to the dehy	Report Date:	08/29/2024
Station Number:		Sampled By:	Mike A
Station Location:	MPLX	Sample Of:	Gas Spot
Sample Point:	Inlet	Sample Date:	08/23/2024 10:00
Meter Number:		Sample Conditions:	80 psig, @ 70 °F Ambient: 91 °F
Cylinder No:	1111-007966	Received Date:	08/26/2024
Instrument:	6030_GC2 (Agilent GC-7890B)	Login Date:	08/26/2024
Last Inst. Cal.:	08/13/2024 09:55:54	Effective Date:	08/23/2024 10:00
Analyzed:	08/29/2024 07:56:25 by EBH	Flow Rate:	
		Method:	GPA 2286

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.73 psia		
Nitrogen	8.0630	8.4260	10.4740		GPM TOTAL C2+	5.861
Methane	67.6710	70.7180	50.3410		GPM TOTAL C3+	3.040
Carbon Dioxide	0.5020	0.5250	1.0250		GPM TOTAL iC5+	0.741
Ethane	10.0600	10.5130	14.0270	2.821		
Propane	5.0660	5.2940	10.3590	1.463		
Iso-butane	0.7220	0.7550	1.9470	0.248		
n-Butane	1.7790	1.8590	4.7950	0.588		
Iso-pentane	0.4580	0.4790	1.5340	0.175		
n-Pentane	0.4960	0.5180	1.6580	0.188		
Hexanes Plus	0.8740	0.9130	3.8400	0.378		
	95.6910	100.0000	100.0000	5.861		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.7807	3.2847
Calculated Molecular Weight	22.54	95.13
Compressibility Factor	0.9964	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.73 psia & 60°F		
Real Gas Dry BTU	1212	5097
Water Sat. Gas Base BTU	1191	5008
Ideal, Gross HV - Dry at 14.73 psia	1207.8	5096.9
Ideal, Gross HV - Wet	1186.8	0.000

Comments: Note Nitrogen
Low pressure. Not enough for rerun.

Mostafa Ahmadi

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated. The test results apply to the sample as received.

Certificate of Analysis

Number: 6030-24080713-007A

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Artesia, NM 88210
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Station Name:	Red Hills: Inlet to the dehy	Report Date:	08/29/2024
Station Number:		Sampled By:	Mike A
Station Location:	MPLX	Sample Of:	Gas Spot
Sample Point:	Inlet	Sample Date:	08/23/2024 10:00
Meter Number:		Sample Conditions:	80 psig, @ 70 °F
Instrument 1:	6030_GC1, HP7890 Signal 1	Received Date:	08/26/2024
Instrument 2:	6030_GC2, HP7890 Signal 1	Login Date:	08/26/2024
Analyzed:	08/29/2024 07:55:17 by EBH	Method:	GPA 2286
		Cylinder No:	1111-007966

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.73 psia
Hydrogen Sulfide	0.000	0.000	
Nitrogen	8.426	10.474	
Methane	70.718	50.341	
Carbon Dioxide	0.525	1.025	
Ethane	10.513	14.027	2.821
Propane	5.294	10.359	1.463
Iso-Butane	0.755	1.947	0.248
n-Butane	1.859	4.795	0.588
Iso-Pentane	0.479	1.534	0.175
n-Pentane	0.518	1.658	0.188
i-Hexanes	0.191	0.713	0.077
n-Hexane	0.114	0.443	0.048
Benzene	0.052	0.181	0.015
Cyclohexane	0.087	0.325	0.030
i-Heptanes	0.142	0.584	0.058
n-Heptane	0.038	0.168	0.018
Toluene	0.048	0.198	0.016
i-Octanes	0.118	0.551	0.053
n-Octane	0.013	0.066	0.007
Ethylbenzene	0.007	0.031	0.003
Xylenes	0.021	0.098	0.008
i-Nonanes	0.031	0.158	0.015
n-Nonane	0.010	0.054	0.005
Decanes Plus	0.041	0.270	0.025
	100.000	100.000	5.861

Certificate of Analysis

Number: 6030-24080713-007A

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Station Name:	Red Hills: Inlet to the dehy	Report Date:	08/29/2024
Station Number:		Sampled By:	Mike A
Station Location:	MPLX	Sample Of:	Gas Spot
Sample Point:	Inlet	Sample Date:	08/23/2024 10:00
Meter Number:		Sample Conditions:	80 psig, @ 70 °F
Instrument 1:	6030_GC1, HP7890 Signal 1	Received Date:	08/26/2024
Instrument 2:	6030_GC2, HP7890 Signal 1	Login Date:	08/26/2024
Analyzed:	08/29/2024 07:55:17 by EBH	Method:	GPA 2286
		Cylinder No:	1111-007966

Calculated Physical Properties	**Total**	**C10+**
Calculated Molecular Weight	22.54	156.07
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.73 psia & 60°F		
Real Gas Dry BTU	1212.2	8449.7
Water Sat. Gas Base BTU	1191.1	8273.1
Relative Density Real Gas	0.7807	5.3886
Compressibility Factor	0.9964	
Ideal, Gross HV - Wet	1186.8	
Ideal, Gross HV - Dry at 14.73 psia	1207.8	
Net BTU Dry Gas - real gas	1101	
Net BTU Wet Gas - real gas	1082	

Comments: Note Nitrogen
Low pressure. Not enough for rerun.

Mostafa Ahmadi

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated. The test results apply to the sample as received.

Breakdown of Red Hills Compressor Station

Compressor Packages

Tag #	Manufacturer	Engine Size	Initial Mass (lb)	Emissions (scf)	Volume (ft^3)
5CM101	AG	3608	343	212	312
5CM102	AG	3516	192		174
5CM103	AG	3516	192	118	174
5CM104	Exterran	3516	194	105	154
5CM105	Archrock	3516	213	114	168
5CM106	Archrock	3516	213	114	168
5CM107	Archrock	3516	213		168
5CM108	Exterran	3516	194	105	154
5CM109	Toromont	3516	207	3,233	173
5CM110	Universal	3516	182	2,829	164
5CM111	Hanover	3516	182	2,828	164
		Total	**2,324**	**9,657**	**1,972**

Lines and Equipment

Description	Initial Mass (lb)	Emissions (scf)	Volume (ft^3)
Piping	5,629	60,563	3,288
Equipment	18,517	83,649	2,253
Total	**24,146**	**144,212**	**5,541**

Station Volume Total	**7,513**	ft^3
Station Initial Mass Total	**26,470**	lb
Station Emission Total	**153,870**	scf

Comments and Assumptions

1) For compressor packages: connection line volumes to and from the suction and discharge headers were inlcuded. This is due to the main isolation valves being located next to the main header

2) Equipment volumes were determined from dimensions from the P&IDs and/or Equipment Drawings

3) Piping lengths and schedules were pulled from the as-built 3D models of the compressor station.

4) Initial Hydrocarbon Mass was calculated from using the simulated mass density in VMG.

5) Emissions for single phase vapor streams are calculated by using Equation W-14A of 40 CFR Part 98, Section 233, Paragraph (i) and the station is not assumed to purged.

6) Emissions for two phase or liquid streams are calculated by flash calculations in VMG.

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

DEFINITIONS

Operator:	OGRID:
MarkWest Energy West Texas Gas Company, L.L.C 1515 Arapahoe Street Denver, CO 80202	329252
	Action Number: 428599
	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

Operator: MarkWest Energy West Texas Gas Company, L.L.C 1515 Arapahoe Street Denver, CO 80202	OGRID: 329252
	Action Number: 428599
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Prerequisites	
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	*Unavailable.*
Incident Facility	**[fAPP2125136221] Permian Natural Gas Gathering System**

Determination of Reporting Requirements	
Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide addional guidance.	
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	No
Is this considered a submission for a vent or flare 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 **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	Gas Compressor Station
Additional details for Equipment Involved. Please specify	*Not answered.*

Representative Compositional Analysis of Vented or Flared Natural Gas	
Please provide the mole percent for the percentage questions in this group.	
Methane (CH4) percentage	70
Nitrogen (N2) percentage, if greater than one percent	8
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (C02) percentage, if greater than one percent	5
Oxygen (02) percentage, if greater than one percent	1
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 Sufide (H2S) PPM quality requirement	*Not answered.*
Carbon Dioxide (C02) percentage quality requirement	*Not answered.*
Oxygen (02) percentage quality requirement	*Not answered.*

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QUESTIONS (continued)

Operator: MarkWest Energy West Texas Gas Company, L.L.C 1515 Arapahoe Street Denver, CO 80202	OGRID: 329252
	Action Number: 428599
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	01/22/2025
Time vent or flare was discovered or commenced	06:15 AM
Time vent or flare was terminated	06:35 AM
Cumulative hours during this event	0

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	Cause: Other | Gas Compressor Station | Natural Gas Vented | Released: 154 Mcf | Recovered: 0 Mcf | Lost: 154 Mcf.
Natural Gas Flared (Mcf) Details	*Not answered.*
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	Cold temperatures caused a sensing line on a pilot operated PSV to freeze causing the PSV to lift and release gas
Steps taken to limit the duration and magnitude of vent or flare	Proper notifications were made and immediate fixes were implemented
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	The company responsible for the PSV came out and tested the PSV to verify the issue was corrected and to put it back in service

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ACKNOWLEDGMENTS

Operator: MarkWest Energy West Texas Gas Company, L.L.C 1515 Arapahoe Street Denver, CO 80202	OGRID: 329252
	Action Number: 428599
	Action Type: [C-129] Venting and/or Flaring (C-129)

ACKNOWLEDGMENTS

☑	I acknowledge that I am authorized to submit a *Venting and/or Flaring* (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

Operator:	OGRID:
MarkWest Energy West Texas Gas Company, L.L.C 1515 Arapahoe Street Denver, CO 80202	329252
	Action Number: 428599
	Action Type: [C-129] Venting and/or Flaring (C-129)

CONDITIONS

Created By	Condition	Condition Date
mtyler	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.	2/5/2025