



Pre-Plugging Methane Emissions Monitoring Report

James McFarland #001

Prepared by TS-Nano, Inc.

For NM Energy, Minerals and Natural Resources Department, Oil Conservation Division

PO# 52100-0000077175

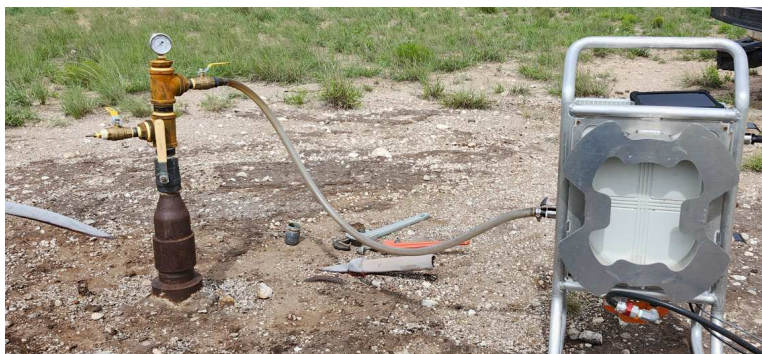
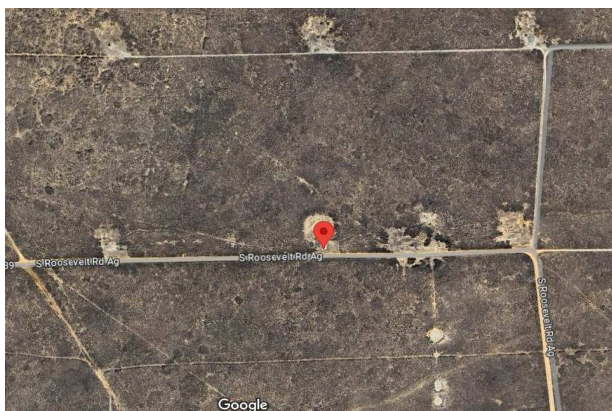
Well information

ID #: 30-041-10474

Name: James McFarland #001

Coordinates: 33.68766, -103.59007

Surface Location: Roosevelt County



Measurement notes

Device used: VentMedic #DC9447

Test operator: John Stormont

Gas sample taken from well: 6/20/24 14:05

VentMedic connected to well: 6/20/24 15:51

Continuous monitoring of well flowrate, pressure,
and temperature

Hourly measurement of weather data

VentMedic disconnected from well: 6/21/24 10:45

Notes: No remarkable observations

Gas sample delivered to laboratory: 6/21/24

Laboratory Name/Location: Laboratory Services / Hobbs, NM



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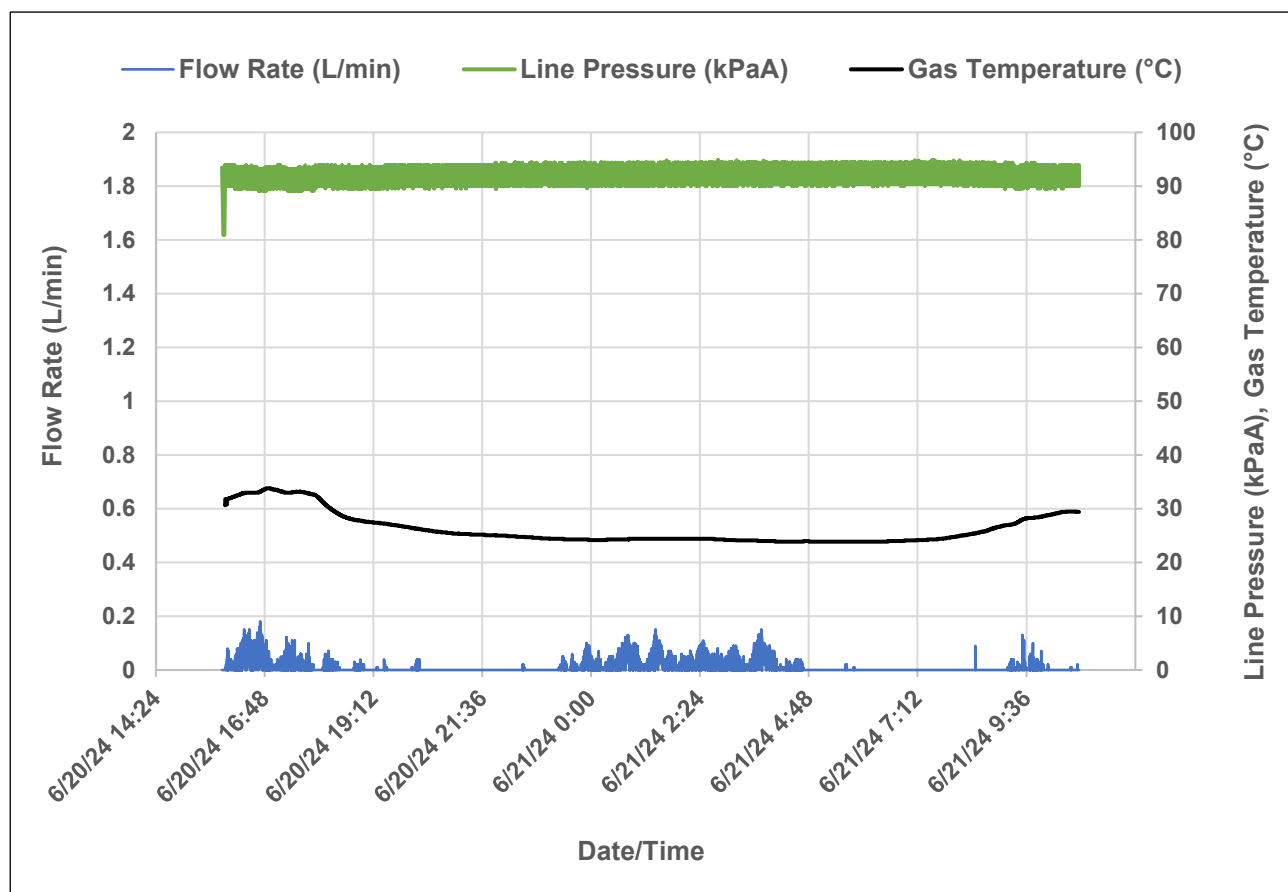
Measurement data

Wellhead pressure (kPa gage)*: less than detection limit (<10 kPa)
 Average flow rate (L/min): 0.010
 Average methane mass flow rate (g/hr)
 using methane % from lab analysis: 0.01

Methane mass flowrate calculation

Variable	Unit	Value
Pressure (P)	kPaA	Measured from the Unit
Volumetric flow (V)	L gas/min	Measured from the Unit
% methane	% (methane/gas)	Measured from Unit or sample
Temperature (T)	Kelvin	Measured from the Unit
Gas constant (R)	Atmosphere·L/(mole·Kelvin)	0.0821
Molecular weight of methane (Mw)	g/mole	16.04

$$\text{Mass flow of methane } \left(\frac{g}{hr} \right) = \frac{\%, \text{methane}}{100\%} * V * P * \frac{Mw}{R T} * \frac{60}{101.3}$$



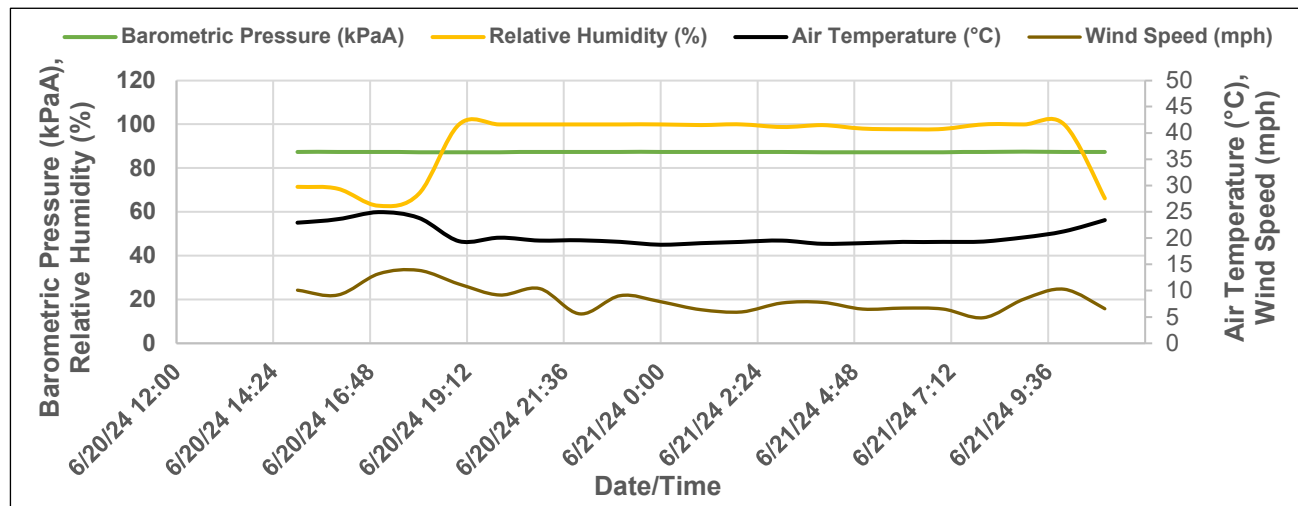


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Weather data

Precipitation during measurement period (in): 0.002



Date and Time	Air Temperature (°C)	Relative Humidity (%)	Barometric Pressure (kPaA)	Wind Speed (mph)
6/20/2024 15:00	22.9	71.5	87.44	10.1
6/20/2024 16:00	23.6	70.6	87.44	9.2
6/20/2024 17:00	24.9	62.8	87.33	13.2
6/20/2024 18:00	23.9	68.2	87.30	13.9
6/20/2024 19:00	19.4	100.0	87.20	11.3
6/20/2024 20:00	20.1	100.0	87.30	9.2
6/20/2024 21:00	19.6	100.0	87.33	10.4
6/20/2024 22:00	19.6	100.0	87.33	5.6
6/20/2024 23:00	19.3	100.0	87.44	9.1
6/21/2024 0:00	18.8	100.0	87.44	7.9
6/21/2024 1:00	19.1	99.7	87.40	6.4
6/21/2024 2:00	19.3	100.0	87.33	6.0
6/21/2024 3:00	19.6	98.7	87.33	7.7
6/21/2024 4:00	18.9	99.6	87.27	7.8
6/21/2024 5:00	19.1	98.0	87.23	6.5
6/21/2024 6:00	19.3	97.7	87.23	6.7
6/21/2024 7:00	19.3	97.9	87.30	6.5
6/21/2024 8:00	19.4	100.0	87.40	4.9
6/21/2024 9:00	20.2	100.0	87.54	8.4
6/21/2024 10:00	21.3	100.0	87.40	10.3
6/21/2024 11:00	23.4	66.2	87.37	6.6



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575.397.3713 2609 W Marland Hobbs NM 88240

C6+ Gas Analysis Report

21497G		API#30-041-10474		JAMES MCFARLAND #001	
Sample Point Code		Sample Point Name		Sample Point Location	
Laboratory Services		2024092973		Tedlar Bag	
Source Laboratory		Lab File No		Container Identity	
USA		USA		USA	
District		Area Name		Field Name	
Jun 20, 2024 14:05		Jun 1, 2024		Jun 21, 2024 12:11	
Date Sampled		Date Effective		Date Received	
		Luis			
Ambient Temp (°F)		Flow Rate (Mcf)		Press PSI @ Temp °F	
				Source Conditions	
TS-Nano				ng	
Operator				Lab Source Description	

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.0000	0	
Nitrogen (N2)	95.4550	95.45403	
CO2 (CO2)	0.2400	0.24029	
Methane (C1)	3.4240	3.42445	
Ethane (C2)	0.2190	0.21919	0.0580
Propane (C3)	0.2590	0.25911	0.0710
I-Butane (IC4)	0.0590	0.05905	0.0190
N-Butane (NC4)	0.1290	0.12884	0.0400
I-Pentane (IC5)	0.0670	0.06672	0.0240
N-Pentane (NC5)	0.0280	0.0281	0.0100
Hexanes Plus (C6+)	0.1200	0.12022	0.0520
TOTAL	100.0000	100.0000	0.2740

Method(s): Gas C6+ - GPA 2261, Extended Gas - GPA 2286, Calculations - GPA 2172

Analyzer Information			
Device Type:	Gas Chromatograph	Device Make:	Shimadzu
Device Model:	GC-2014	Last Cal Date:	Jun 3, 2024

Gross Heating Values (Real, BTU/ft³)

14.696 PSI @ 60.00 Å°F	14.63 PSI @ 60.00 Å°F
Dry	Saturated
61.3	61.1
Dry	Saturated
61.00	60.8

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
0.9621	0.9621
Molecular Weight	
27.8648	

C6+ Group Properties

Assumed Composition

C6 - 60.000%	C7 - 30.000%	C8 - 10.000%
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Field H2S

0 PPM

PROTREND STATUS:
Passed By Validator on Jun 25, 2024

DATA SOURCE:
Imported

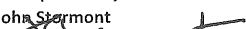
PASSED BY VALIDATOR REASON:
First sample taken @ this point, composition looks reasonable

VALIDATOR:
Ashley Russell

VALIDATOR COMMENTS:
OK



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Relinquished by John Stormont 	Date: 6/21/24 Time: 12:11	Received by: Jess Shepker	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone: Email Result: X Yes <input type="checkbox"/> No jstormont@ts-nano.com
Relinquished by Time:	Date: Time:	Received by:	REMARKS:
Deliver by: (circle one) <div> <div>Sampler</div> <div>- UPS - Bus - other:</div> </div>	<div>Sample Condition</div> <div> <div>Cool</div> <div>Intact</div> </div> <div> <div>Yes <input type="checkbox"/></div> <div>Yes <input type="checkbox"/></div> <div>No <input type="checkbox"/></div> <div>No <input type="checkbox"/></div> </div>	Checked by (Initials)	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
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 370128

DEFINITIONS

Operator: RIDGEWAY ARIZONA OIL CORP. 575 N. Dairy Ashford Houston, TX 77079	OGRID: 164557
	Action Number: 370128
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

DEFINITIONS

The Orphan Well Mitigation Activity (OMA) forms are a subset of the OCD's forms exclusively designed for activities related to State of New Mexico's contracted plugging and reclamation activities. Specifically, these forms are used for orphan wells or associated facilities which are in a "Reclamation Fund Approved" status. This status represents wells or facilities where the OCD has acquired a hearing order allowing the OCD to perform plugging or reclamation on wells and associated facilities that no longer have a viable operator to perform the necessary work. These forms are not to be utilized for any other purpose.

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
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Santa Fe, NM 87505

QUESTIONS

Action 370128

QUESTIONS

Operator: RIDGEWAY ARIZONA OIL CORP. 575 N. Dairy Ashford Houston, TX 77079	OGRID: 164557
	Action Number: 370128
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

QUESTIONS

Prerequisites	
[OGRID] Well Operator	[164557] RIDGEWAY ARIZONA OIL CORP.
[API] Well Name and Number	[30-041-10474] JAMES MCFARLAND #001
Well Status	Active

Monitoring Event Information	
Please answer all the questions in this group.	
Reason For Filing	Pre-Plug Methane Monitoring
Date of monitoring	06/20/2024
Latitude	33.68766
Longitude	-103.59007

Monitoring Event Details	
Please answer all the questions in this group.	
Flow rate in cubic meters per day (m³/day)	0.01
Test duration in hours (hr)	18.9
Average flow temperature in degrees Celsius (°C)	26.2
Average gauge flow pressure in kilopascals (kPag)	4.9
Methane concentration in part per million (ppm)	34,240
Methane emission rate in grams per hour (g/hr)	0.01
Testing Method	Steady State

Monitoring Contractor	
Please answer all the questions in this group.	
Name of monitoring contractor	TS-Nano, Inc.