



Pre-Plugging Methane Emissions Monitoring Report

James McFarland #002

Prepared by TS-Nano, Inc.

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

PO# 52100-0000077175

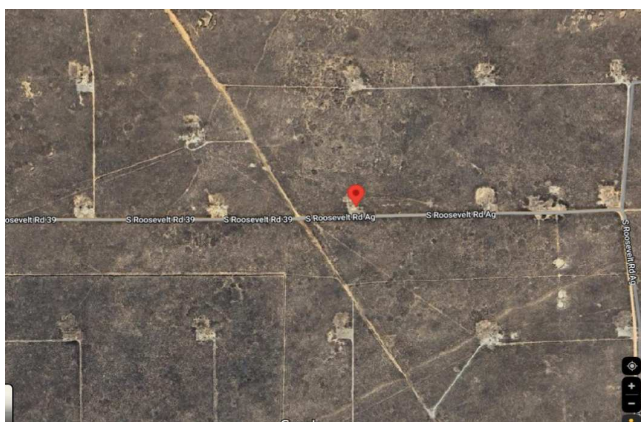
Well information

ID #: 30-041-10407

Name: James McFarland #002

Coordinates: 33.68761, -103.59445

Surface Location: Roosevelt County



Measurement notes

Device used: VentMedic #DC9447

Test operator: Jay Kitowski

Gas sample taken from well: 6/5/24 12:05

VentMedic connected to well: 6/6/24 12:31

Continuous monitoring of well flowrate, pressure,
and temperature

Hourly measurement of weather data

VentMedic disconnected from well: 6/7/24 11:06

Notes: No remarkable observations

Gas sample delivered to laboratory: 6/7/24

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): 0.208

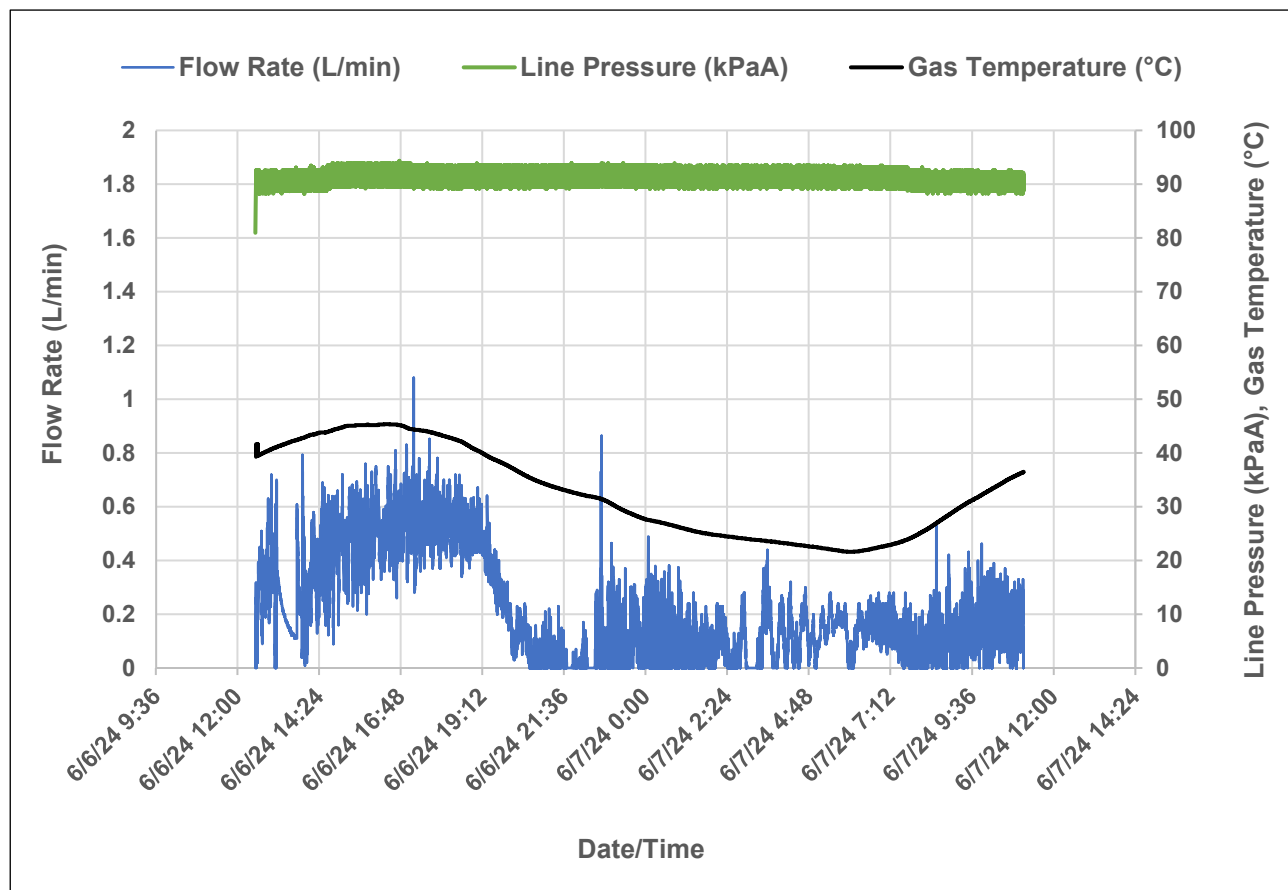
Average methane mass flow rate (g/hr)

using methane % from lab analysis: 0.21

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

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



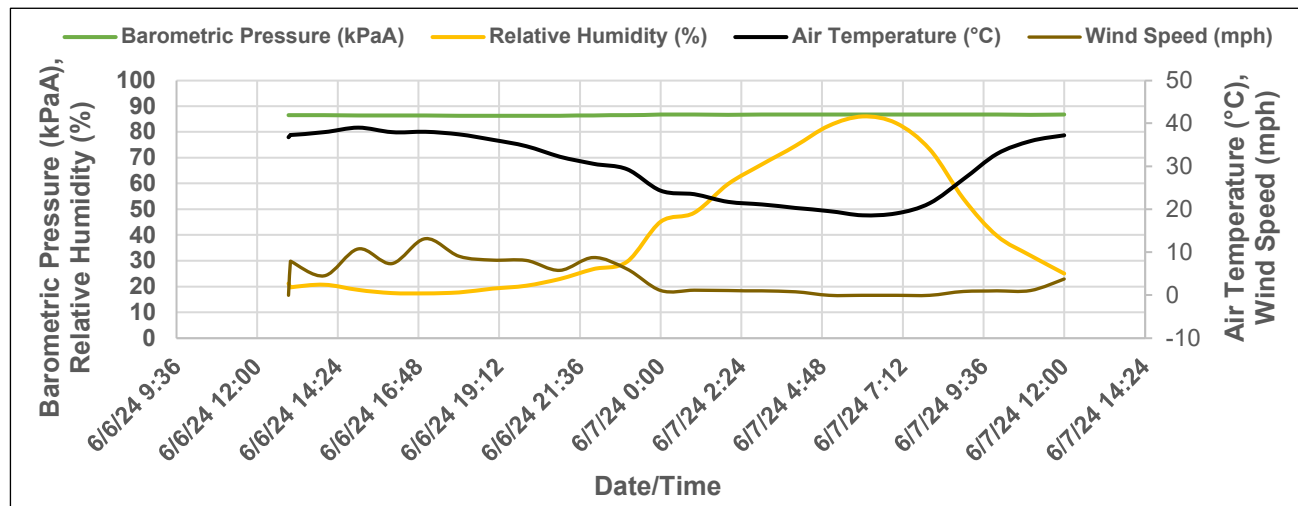


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Weather data

Precipitation during measurement period (in): 0.0



Date and Time	Air Temperature (°C)	Relative Humidity (%)	Barometric Pressure (kPaA)	Wind Speed (mph)
6/6/2024 12:56	36.8	21.3	86.56	0.0
6/6/2024 12:59	37.3	19.8	86.56	7.9
6/6/2024 13:00	37.3	19.8	86.56	7.9
6/6/2024 14:00	37.9	20.8	86.52	4.5
6/6/2024 15:00	39.1	18.7	86.45	10.8
6/6/2024 16:00	37.9	17.5	86.45	7.4
6/6/2024 17:00	38.1	17.4	86.39	13.2
6/6/2024 18:00	37.4	17.8	86.32	9.1
6/6/2024 19:00	36.2	19.2	86.29	8.2
6/6/2024 20:00	34.7	20.4	86.32	8.1
6/6/2024 21:00	32.3	23.0	86.35	5.8
6/6/2024 22:00	30.6	26.8	86.45	8.8
6/6/2024 23:00	29.3	29.7	86.56	6.1
6/7/2024 0:00	24.3	45.2	86.76	1.1
6/7/2024 1:00	23.5	48.7	86.76	1.2
6/7/2024 2:00	21.7	59.9	86.73	1.1
6/7/2024 3:00	21.2	67.4	86.76	1.0
6/7/2024 4:00	20.3	74.6	86.76	0.8
6/7/2024 5:00	19.6	82.5	86.76	0.0
6/7/2024 6:00	18.6	86.0	86.76	0.0
6/7/2024 7:00	19.1	83.4	86.76	0.0
6/7/2024 8:00	21.4	73.3	86.76	0.0
6/7/2024 9:00	27.0	54.2	86.76	0.9
6/7/2024 10:00	32.9	39.7	86.76	1.0
6/7/2024 11:00	35.9	32.1	86.73	1.1

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 370125

DEFINITIONS

Operator: RIDGEWAY ARIZONA OIL CORP. 575 N. Dairy Ashford Houston, TX 77079	OGRID: 164557
	Action Number: 370125
	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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QUESTIONS

Action 370125

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Operator: RIDGEWAY ARIZONA OIL CORP. 575 N. Dairy Ashford Houston, TX 77079	OGRID: 164557
	Action Number: 370125
	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	[30-041-10407] JAMES MCFARLAND #002
Well Status	Active

Monitoring Event Information	
Please answer all the questions in this group.	
Reason For Filing	Pre-Plug Methane Monitoring
Date of monitoring	06/06/2024
Latitude	33.68761
Longitude	-103.59445

Monitoring Event Details	
Please answer all the questions in this group.	
Flow rate in cubic meters per day (m³/day)	0.30
Test duration in hours (hr)	22.6
Average flow temperature in degrees Celsius (°C)	32.6
Average gauge flow pressure in kilopascals (kPag)	4.8
Methane concentration in part per million (ppm)	29,880
Methane emission rate in grams per hour (g/hr)	0.21
Testing Method	Steady State

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