



Pre-Plugging Methane Emissions Monitoring Report

Humble Tucker #004

Prepared by TS-Nano, Inc.

For NM Energy, Minerals and Natural Resources Department, Oil Conservation Division
PO# 52100-0000077175

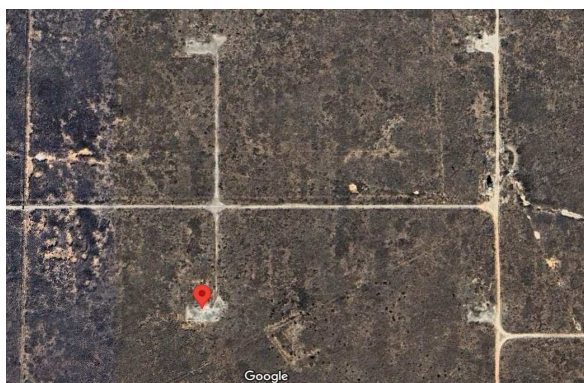
Well information

ID #: 30-041-20096

Coordinates: 33.67316, -103.6292

Name: Humble Tucker #004

Surface Location: Roosevelt County



Measurement notes

Device used: VentMedic #DC9447

Test operator: John Stormont

Gas sample taken from well: 6/19/24 14:45

VentMedic connected to well: 6/21/24 12:54

Continuous monitoring of well flowrate, pressure,
and temperature

Hourly measurement of weather data

VentMedic disconnected from well: 6/22/24 9:44

Notes: Cap on wellhead cross-threaded and unable to be broken loose, subsequently applied tape and sealing polymer to cap to reduce leakage; when shut-in well built some pressure (100kPa or 15 psi) but was leaking at cap.

Gas sample delivered to laboratory: 6/21/24

Laboratory Name/Location: Laboratory Services / Hobbs, NM



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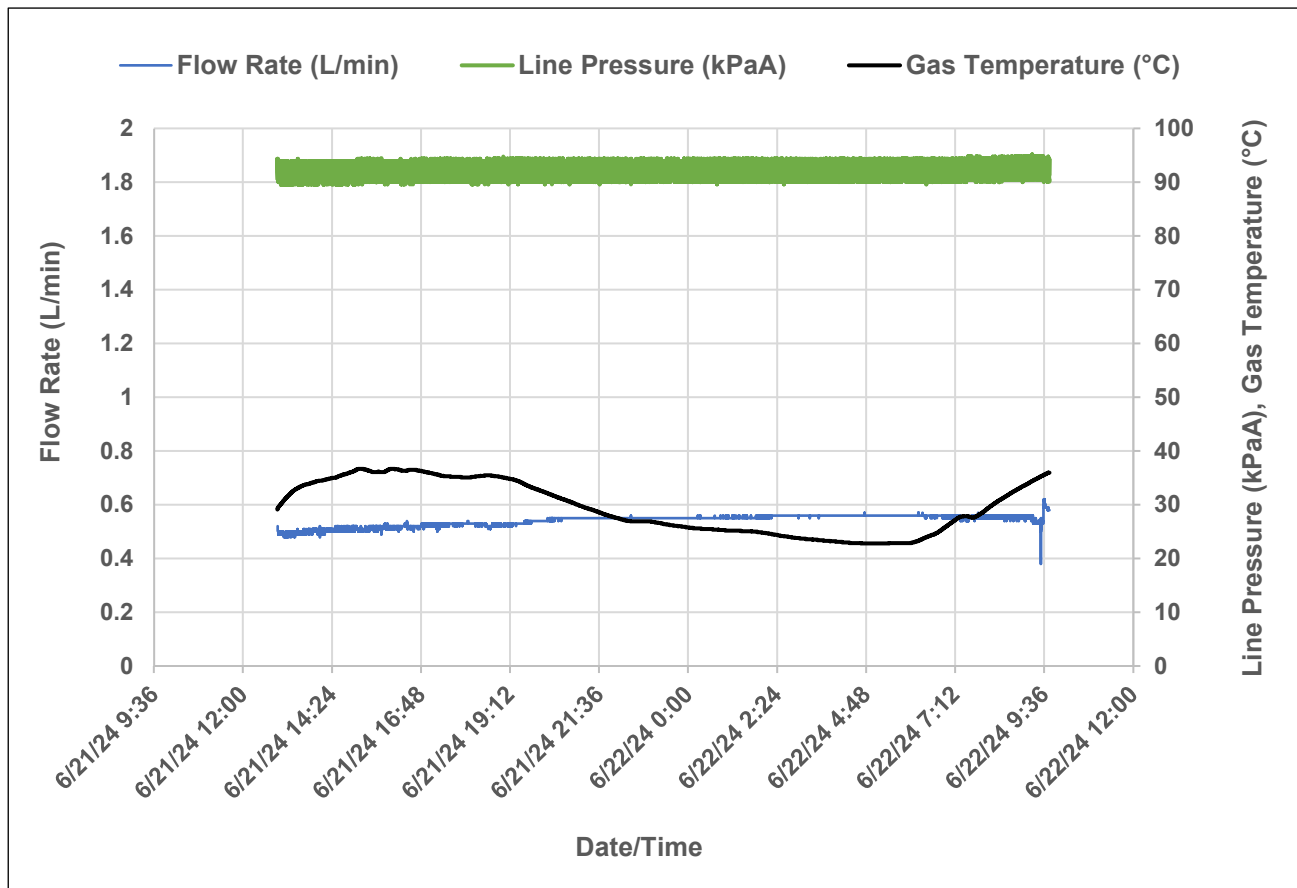
Measurement data

Wellhead pressure (kPa gage)*: 103 kPa (15 psi)
 Average flow rate (L/min): 0.541
 Average methane mass flow rate (g/hr)
 using methane % from lab analysis: 6.81

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

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



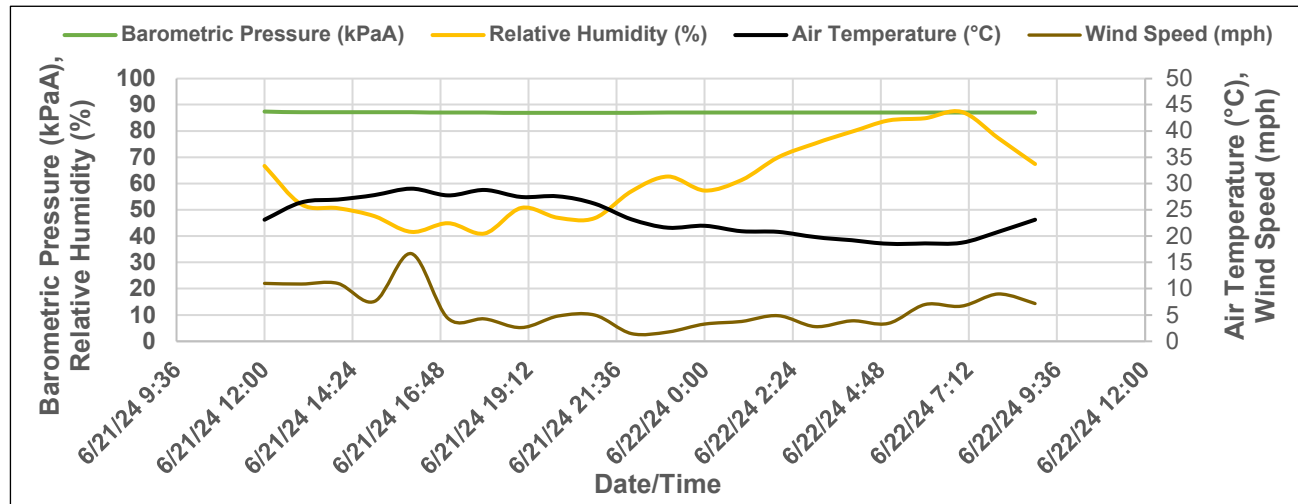


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Weather data

Precipitation during measurement period (in): 0



Date and Time	Air Temperature (°C)	Relative Humidity (%)	Barometric Pressure (kPaA)	Wind Speed (mph)
6/21/2024 12:00	23.2	66.7	87.37	11.0
6/21/2024 13:00	26.4	52.1	87.20	10.9
6/21/2024 14:00	27.0	50.7	87.17	11.0
6/21/2024 15:00	27.8	47.6	87.17	7.6
6/21/2024 16:00	29.1	41.6	87.13	16.7
6/21/2024 17:00	27.8	45.0	87.06	4.4
6/21/2024 18:00	28.8	41.1	87.00	4.3
6/21/2024 19:00	27.4	50.8	86.93	2.6
6/21/2024 20:00	27.6	47.0	86.93	4.8
6/21/2024 21:00	26.2	46.9	86.93	5.0
6/21/2024 22:00	23.2	57.1	86.96	1.5
6/21/2024 23:00	21.6	62.7	87.03	1.8
6/22/2024 0:00	22.0	57.4	87.06	3.3
6/22/2024 1:00	20.9	61.4	87.10	3.8
6/22/2024 2:00	20.8	70.0	87.10	4.9
6/22/2024 3:00	19.8	75.3	87.06	2.8
6/22/2024 4:00	19.2	79.7	87.03	3.9
6/22/2024 5:00	18.6	84.0	87.00	3.4
6/22/2024 6:00	18.6	84.9	87.03	7.0
6/22/2024 7:00	18.8	87.3	87.03	6.7
6/22/2024 8:00	20.8	77.3	87.03	9.0
6/22/2024 9:00	23.2	67.4	87.03	7.2



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575.397.3713 2609 W Marland Hobbs NM 88240

C6+ Gas Analysis Report

21496G		API #30-041-20096		Humble Tucker #004	
Sample Point Code		Sample Point Name		Sample Point Location	
Laboratory Services		2024092972		Jay Kitiwski - Spot	
Source Laboratory		Lab File No		Sampler	
USA		USA		New Mexico	
District		Area Name		Facility Name	
Jun 19, 2024 14:45		Jun 1, 2024		Jun 21, 2024 12:09	
Date Sampled		Date Effective		Date Reported	
Admin					
Ambient Temp (°F)		Flow Rate (Mcf)		Press PSI @ Temp °F	
		Analyst		Source Conditions	
TS-Nano				NG	
Operator				Lab Source Description	

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.0000	0	
Nitrogen (N2)	50.5560	50.55615	
CO2 (CO2)	4.6640	4.66418	
Methane (C1)	38.6120	38.61224	
Ethane (C2)	3.8310	3.83078	1.0170
Propane (C3)	1.6930	1.69297	0.4630
I-Butane (IC4)	0.1760	0.17629	0.0570
N-Butane (NC4)	0.3120	0.31155	0.0980
I-Pentane (IC5)	0.0700	0.07011	0.0250
N-Pentane (NC5)	0.0450	0.04506	0.0160
Hexanes Plus (C6+)	0.0410	0.04068	0.0180
TOTAL	100.0000	100.0000	1.6940

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	Dry	Saturated
524.8	516.9	522.4	514.6

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
0.8541	0.8533
Molecular Weight	
24.7127	

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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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

Relinquished by John Stormont	Date: 6/21/24 Time: 12:09	Received by: Jess Shepker	Phone Result: ☐ Yes ☐ No Add'l Phone: ☒ Yes ☐ No jstormont@ts-nano.com
Relinquished by	Date: Time:	Received by:	REMARKS:
Deliver by: (circle one) Sampler - UPS - Bus - other:		Sample Condition Cool Intact Yes ☐ Yes ☐ No ☐ No ☐	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 370121

DEFINITIONS

Operator: RIDGEWAY ARIZONA OIL CORP. 575 N. Dairy Ashford Houston, TX 77079	OGRID: 164557
	Action Number: 370121
	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

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	Action Number: 370121
	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	[30-041-20096] HUMBLE TUCKER #004
Well Status	Active

Monitoring Event Information	
Please answer all the questions in this group.	
Reason For Filing	Pre-Plug Methane Monitoring
Date of monitoring	06/21/2024
Latitude	33.67316
Longitude	-103.62920

Monitoring Event Details	
Please answer all the questions in this group.	
Flow rate in cubic meters per day (m³/day)	0.78
Test duration in hours (hr)	20.8
Average flow temperature in degrees Celsius (°C)	29.5
Average gauge flow pressure in kilopascals (kPag)	5.3
Methane concentration in part per million (ppm)	386,120
Methane emission rate in grams per hour (g/hr)	6.81
Testing Method	Steady State

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