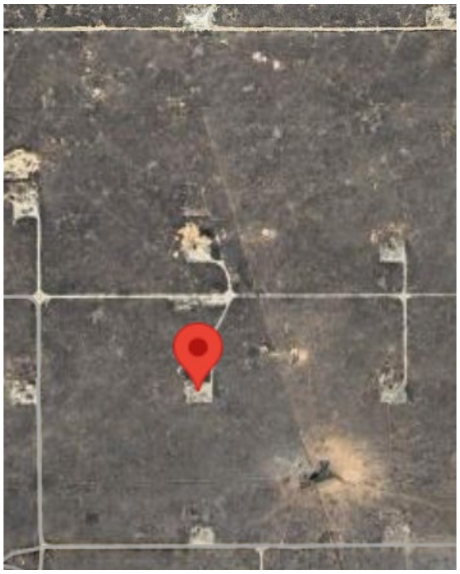
Pre-Plugging Methane Emissions Monitoring Report

Jennifer Chaveroo SA Unit 13

Prepared by TS-Nano, Inc.
For NM Energy, Minerals and Natural Resources Department, Oil Conservation Division
PO# 52100-0000078682

Well information

ID #: 30-041-10596
Coordinates: 33.68818, -103.50356
Name: Jennifer Chaveroo SA Unit 13
Surface Location: Roosevelt County



Measurement notes

Device used: Ventbuster device VB100-0138
Test operator: JR Molina

Gas sample taken from well: 12/4/24 15:00
Ventbuster connected to well: 12/4/24 16:13
Continuous monitoring of well flowrate, pressure, and temperature
Hourly measurement of weather data
Ventbuster disconnected from well: 12/5/24 12:00

Notes: lines and valves not connected to flowmeter are closed with no apparent leakage.

Gas sample delivered to laboratory: 12/6/24
Laboratory Name/Location: Laboratory Services / Hobbs, NM

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Measurement data

Wellhead pressure (kPa gage):* less than detection limit (<10 kPa)

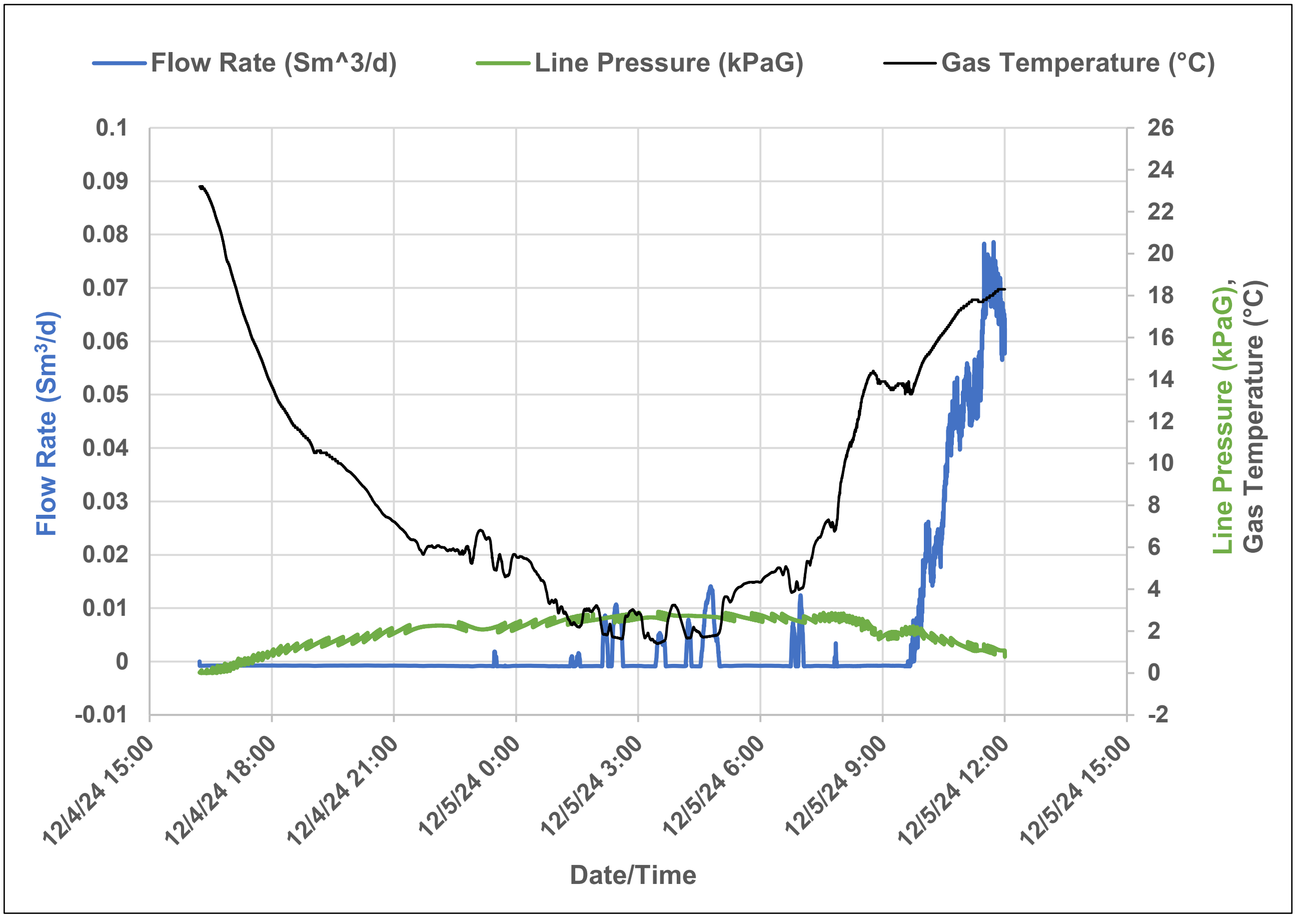
Average flow rate (Sm^3/d): 0.005

Average methane mass flow rate (g/hr)
using methane % from lab analysis: 0.05

Methane mass flowrate calculation

Variable	Unit	Value
Pressure (P)	kPaA	Std pressure, 101.3 KPaA
Volumetric flow (V)	Std m^3/day	Measured from the Unit
% methane	% (methane/gas)	Measured from lab sample
Temperature (T)	Kelvin	Std temperature, 288.13 K
Gas constant (R)	m^3 Pa/(K mol)	8.3144626
Molecular weight of methane (Mw)	g/mole	16.04

$$Mass\ flow\ of\ methane\ \left(\frac{g}{hr}\right) = \frac{\%, methane}{100\%} * V * P * \frac{Mw}{R\,T} * \frac{1000}{24}$$



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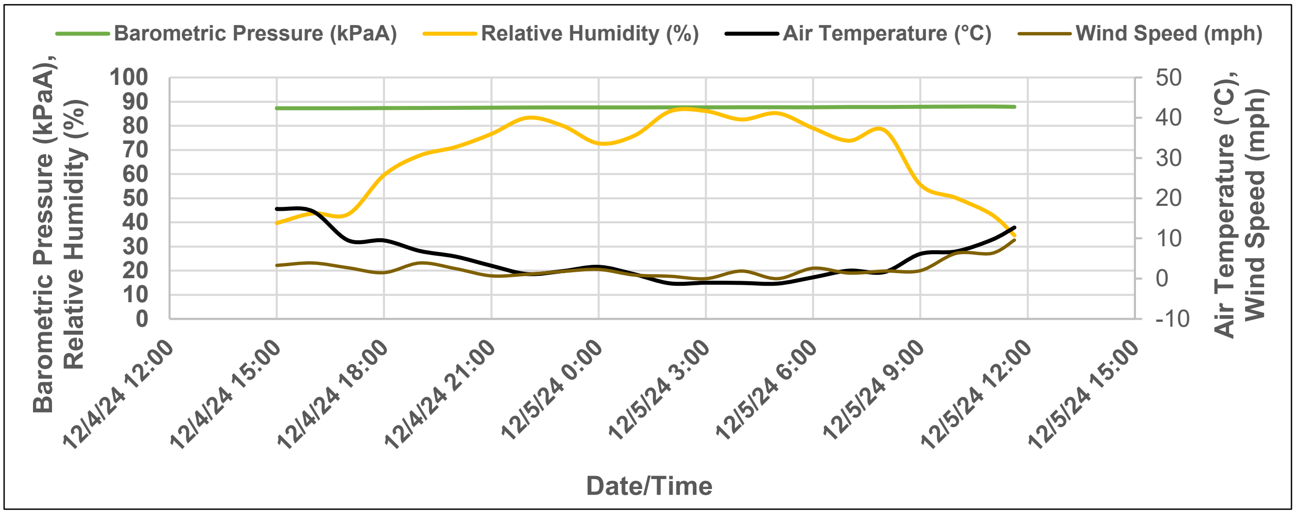
Weather data

Precipitation during measurement period (in): 0.000



Date and Time	Air Temperature (°C)	Relative Humidity (%)	Barometric Pressure (kPaA)	Wind Speed (mph)
12/4/2024 15:00	17.3	39.7	87.27	3.3
12/4/2024 16:00	16.8	43.7	87.27	3.9
12/4/2024 17:00	9.5	43.4	87.27	2.7
12/4/2024 18:00	9.5	59.6	87.33	1.5
12/4/2024 19:00	6.9	67.7	87.37	3.9
12/4/2024 20:00	5.5	71.2	87.44	2.5
12/4/2024 21:00	3.2	76.6	87.50	0.7
12/4/2024 22:00	1.2	83.3	87.57	1.1
12/4/2024 23:00	1.9	80.0	87.61	1.8
12/5/2024 0:00	2.9	72.7	87.61	2.3
12/5/2024 1:00	1.1	75.9	87.61	0.9
12/5/2024 2:00	-1.2	86.0	87.64	0.6
12/5/2024 3:00	-1.0	86.1	87.64	0.0
12/5/2024 4:00	-1.1	82.6	87.67	1.9
12/5/2024 5:00	-1.2	85.2	87.67	0.0
12/5/2024 6:00	0.3	79.0	87.67	2.6
12/5/2024 7:00	2.0	73.8	87.78	1.4
12/5/2024 8:00	1.7	78.1	87.78	1.9
12/5/2024 9:00	6.2	55.6	87.88	2.0
12/5/2024 10:00	6.8	50.1	87.94	6.3
12/5/2024 11:00	9.7	43.2	87.98	6.3
12/5/2024 11:37	12.7	34.6	87.84	9.6

LABORATORY SERVICES
Natural Gas Analysis

www.permianls.com
575.397.3713 2609 W Marland Hobbs NM 88240

C6+ Gas Analysis Report

23026G	Jennifer Chaveroo SA Unit #13	Jennifer Chaveroo SA Unit #13
Sample Point Code	Sample Point Name	Sample Point Location

Laboratory Services	2024102516	BAG	JR Molina - Spot
Source Laboratory	Lab File No	Container Identity	Sampler
USA	USA	USA	New Mexico
District	Area Name	Field Name	Facility Name
Dec 2, 2024	Dec 1, 2024	Dec 6, 2024 11:21	Dec 9, 2024
Date Sampled	Date Effective	Date Received	Date Reported
		Luis	
Ambient Temp (°F)	Flow Rate (Mcf)	Analyst	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)	7.8950	7.89456	
CO2 (CO2)	9.6870	9.68704	
Methane (C1)	38.5040	38.5052	
Ethane (C2)	12.6160	12.6158	3.3730
Propane (C3)	14.2860	14.2857	3.9350
I-Butane (IC4)	2.7400	2.73961	0.8960
N-Butane (NC4)	6.2830	6.2831	1.9800
I-Pentane (IC5)	2.2240	2.22356	0.8130
N-Pentane (NC5)	2.0130	2.01291	0.7300
Hexanes Plus (C6+)	3.7520	3.75246	1.6280
TOTAL	100.0000	100.0000	13.3550

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:	Sep 9, 2024

Gross Heating Values (Real, BTU/ft^3)

14.696 PSI @ 60.00 Â°F		14.73 PSI @ 60.00 Â°F	
Dry	Saturated	Dry	Saturated
1,633.5	1,606.7	1,637.3	1,610.4

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
1.2029	1.1927

Molecular Weight
34.5426

C6+ Group Properties

Assumed Composition

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

PROTREND STATUS:
Passed By Validator on Dec 10, 2024

DATA SOURCE:
Imported

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

VALIDATOR:
Ashley Russell

VALIDATOR COMMENTS:
hexanes at 3%

LABORATORY SERVICES
Natural Gas Analysis

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

www.permianls.com
575.397.3713 2609 W Marland Hobbs, NM 88240

Company Name: TS- Nano, Inc.
Project Manager: John Stormont
Address: 5901 Indian School Rd. NE
City: Albuquerque State: NM Zip: 87110
Phone #: 505-907-4095 Email: jstormont@ts-nano.com
Project #: Project Owner:
Project Name:
Project Location:
Sampler Name:

BILL TO
PO #:
Company: TS- Nano, Inc.
Attn: Jay Kitowski
Address: Same
City:
State: Zip:
Phone #: 505-464-4836
Email: jkitowski@ts-nano.com

				Matrix						Preserve			Sampling		Analysis Request												
Lab I.D.	Sample I.D.	(S)POT or (C)OMP	# Container	Groundwater	Wastewater	GAS	Oil	Solid	Other	Acid/Base	Ice/Cool	Other	Date	Time	C-6+ RGA	C-10+ Ext											
	J.C. SA Unit #9	S	1 Tedlar			X							12.6.24	10:00AM	X												
	J.C. SA Unit #10	S	1 Tedlar			X							12.6.24	10:00AM	X												
	J.C. SA Unit #12	S	1 Tedlar			X							12.6.24	10:00AM	X												
	J.C. SA Unit #13	S	1 Tedlar			X							12.6.24	10:00AM	X												
	J.C. SA Unit #14	S	1 Tedlar			X							12.6.24	10:00AM	X												
	J.C. SA Unit #15	S	1 Tedlar			X							12.6.24	10:00AM	X												
	J.C. SA Unit #17	S	1 Tedlar			X							12.6.24	10:00AM	X												

Relinquished by JR Molina Date: Dec 6, 2024
Time: 10:00 am
Received by:

Relinquished by Date:
Time:
Received by:

Phone Result: ☐ Yes ☐ No Add'l Phone:
Email Result: ☐ Yes ☐ No
REMARKS:

Deliver by: (circle one)
Sampler - UPS - Bus - other:

Sample Condition
Cool: Yes ☐ No ☐
Intact: Yes ☐ No ☐

Checked by (Initials)

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

Action 418677

DEFINITIONS

Operator: RIDGEWAY ARIZONA OIL CORP. 575 N. Dairy Ashford Houston, TX 77079	OGRID: 164557
	Action Number: 418677
	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.

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

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Santa Fe, NM 87505

QUESTIONS

Action 418677

QUESTIONS

Operator: RIDGEWAY ARIZONA OIL CORP. 575 N. Dairy Ashford Houston, TX 77079	OGRID: 164557
	Action Number: 418677
	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	**[30-041-10596] JENNIFER CHAVEROO SA UNIT #013**
Well Status	**Active**

Monitoring Event Information

Please answer all the questions in this group.

Reason For Filing	**Pre-Plug Methane Monitoring**
Date of monitoring	12/04/2024
Latitude	33.68818
Longitude	-103.50360

Monitoring Event Details

Please answer all the questions in this group.

Flow rate in cubic meters per day (m^3/day)	0.01
Test duration in hours (hr)	19.8
Average flow temperature in degrees Celsius (°C)	8.7
Average gauge flow pressure in kilopascals (kPag)	2.0
Methane concentration in part per million (ppm)	385,040
Methane emission rate in grams per hour (g/hr)	0.05
Testing Method	Steady State

Monitoring Contractor

Please answer all the questions in this group.

Name of monitoring contractor	TS-Nano, Inc.