



Pre Plugging Test Report

Start Date: March 30, 2023

End Date: March 30, 2023

Device: VB100

Well Licensee: EMNRD - OCD Well

Name: O'Brien Fee 18 #003

UWI: 30-005-60725

Well License Number: 30-005-60725

Surface Location: State of NM

Bottom Hole Location: Unknown

Test Operator: Sean O. Jacobson

Authorized By: State of NM

Test Reason: IJJA Pre Plugging

Scope Of Work: 12 Hour Minimum

AFE Number: 52100-0000072995

GPS: 33.613728,-104.0263519

Notes: GTG

Report Prepared By: CES March 30, 2023

Orphan Well Flow Test

Average Flowrate

0.61

m3/d

Average Flow
Temperature

15.9

°C

Average Flow
Pressure

1.4

kPag

Flow Duration

12.0

hours

Methane Concentration

91,741.25

PPM

Methane Emissions

1.67

g/hour

Methane Calculations

- ¹ Methane Calculation: 717 grams CH₄ per cubic meter (717 x 0.6088 m3/day = 436.51 g/day total /24 = 18.19 g/hour x 0.091741 (methane concentration) = **1.67 g/hour CH₄**). **Methane, gas** weighs 0.000717 gram per cubic centimeter or 0.717 kilogram per cubic meter, i.e. density of *methane, gas* is equal to 0.717 kg/m³; at 0°C (32°F or 273.15K) at standard atmospheric pressure. In Imperial or US customary measurement system, the density is equal to 0.044 pound per cubic foot [lb/ft³].

O' Brien Field Methane Emission Averaging Analysis

O'Brien Orphan Well CH₄ Averaging - Applied to the 10 Wells Outside Sample Set - CES

Prepared: 3.30.2023

Well Name	Well #	API #	County	Purchase Order	Gas Sample	CH ₄ /PPM	Total LELs/PPM	CH ₄ Flow @ m3/day	Methane Emission @ g/hour	Post Plug CH ₄
O'Brien Deming 13	1	30-005-60922	Chaves	52100-72995	19-Feb	1,380	8,390	0.02	0.001	0
O'Brien Deming 6	1	30-005-60634	Chaves	52100-72995	18-Dec	0	5,800	0.000	0.000	0
O'Brien Fee 18	2	30-005-60730	Chaves	52100-72995	18-Dec	0	3,110	0.000	0.000	0
O'Brien Fee 18	1	30-005-60619	Chaves	52100-72995		91,741.25	132,849	0.6088	1.668	0
O'Brien Fee 18	2	30-005-60640	Chaves	52100-72995	21-Feb	493,430	764,050	2.400	35.378	0
O'Brien Fee 18	3	30-005-60725	Chaves	52100-72995		91,741.25	132,849	0.6088	1.668	0
O'Brien Fee 18	4	30-005-60902	Chaves	52100-72995	19-Feb	0	4,100	0.000	0.000	0
O'Brien Fee 18	6	30-005-61246	Chaves	52100-72995		91,741.25	132,849	0.6088	1.668	0
O'Brien Fee 19	1	30-005-60528	Chaves	52100-72995		91,741.25	132,849	0.6088	1.668	0
O'Brien Fee 19	2	30-005-60565	Chaves	52100-72995		91,741.25	132,849	0.6088	1.668	0
O'Brien Fee 19	3	30-005-60566	Chaves	52100-72995		91,741.25	132,849	0.6088	1.668	0
O'Brien Fee 19	4	30-005-60654	Chaves	52100-72995		91,741.25	132,849	0.6088	1.668	0
O'Brien Fee 19	5	30-005-60716	Chaves	52100-72995		91,741.25	132,849	0.6088	1.668	0
O'Brien Fee 19	6	30-005-60804	Chaves	52100-72995		91,741.25	132,849	0.6088	1.668	0
O'Brien Fee 19	7	30-005-60905	Chaves	52100-72995	21-Feb	8,610	11,520	0.04	0.01	0
O'Brien Fee 19	8	30-005-61021	Chaves	52100-72995		91,741.25	132,849	0.6088	1.668	0
O'Brien Fee 24	1	30-005-60803	Chaves	52100-72995	19-Feb	160,400	252,660	0	0	0
O'Brien Fee 24	2	30-005-60923	Chaves	52100-72995	21-Feb	8,360	8,891	0.14	0.035	0
O'Brien Fee 25	5	30-005-60655	Chaves	52100-72995	23-Feb	44,050	133,860	0.01	0.013	0
O'Brien Lightcap 7	1	30-005-60815	Chaves	52100-72998	18-Dec	0	3,680	0	0 Not Plugged	0
O'Brien Lightcap 7	2	30-005-60816	Chaves	52100-72998	19-Dec	0	3,230	0	0	0
O'Brien LLL	1	30-005-62194	Chaves	52100-72998	20-Dec	510	2,128	0	0	0
O'Brien P	1	30-005-62192	Chaves	52100-72998	21-Dec	0	9,070	0	0 Not Plugged	0
O'Brien P	2	30-005-62247	Chaves	52100-72998	21-Dec	141,550	202,980	0	0	0
O'Brien P	3	30-005-62267	Chaves	52100-72998	21-Dec	609,570	709,530	7.13	129.843	0
O'Brien R	1	30-005-62190	Chaves	52100-72998	20-Dec	0	2,580	0	0	0
Total O'Brien Wells	26	O'Brien Well Sample Set Applied 16	% of Total O'Brien Wells Tested 61.54	% of Total O'Brien Wells Averaged 38.46	Sample Total CH₄ PPM 1,467,860	Sample Total Explosive Gas PPM 2,125,579	Sample Total Flow m3/day 9.7400	Sample Total CH₄ Emission g/hour 165.2800	Total O'Brien CH₄ Emission g/hour 181.960	
					Sample Avg CH₄ PPM 91,741.25	Sample Avg Explosive Gas PPM 132,849	Sample Average Flow m3/day 0.6088	Sample Avg CH₄ Emission g/hour 1.6680		

- ¹ Methane Calculation: 717 grams CH₄ per cubic meter (717 x 0.6088 m3/day = 436.51 g/day total /24 = 18.19 g/hour x 0.091741 (methane concentration) = **1.67 g/hour CH₄**). **Methane, gas** weighs 0.000717 gram per cubic centimeter or 0.717 kilogram per cubic meter, i.e. density of *methane, gas* is equal to 0.717 kg/m³; at 0°C (32°F or 273.15K) at standard atmospheric pressure. In Imperial or US customary measurement system, the density is equal to 0.044 pound per cubic foot [lb/ft³].



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

C6+ Gas Analysis Report

16401G	OBrien Fee 18 #3	OBrien Fee 18 #3	
Sample Point Code	Sample Point Name	Sample Point Location	
Laboratory Services	2023066035	Tedlar Bag	CES - Spot
Source Laboratory	Lab File No	Container Identity	Sampler
USA	USA	USA	New Mexico
District	Area Name	Field Name	Facility Name
Mar 18, 2023 14:05	Mar 18, 2023 14:05	Mar 24, 2023 08:41	Mar 24, 2023
Date Sampled	Date Effective	Date Received	Date Reported
	Luis		
Ambient Temp (°F)	Flow Rate (Mcf)	Analyst	Press PSI @ Temp °F Source Conditions
Well Done Foundation			NG
Operator			Lab Source Description

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.0000	0	
Nitrogen (N2)	97.3990	97.40055	
CO2 (CO2)	0.0540	0.05433	
Methane (C1)	0.0000	0	
Ethane (C2)	0.4670	0.46682	0.1250
Propane (C3)	0.3580	0.35753	0.0990
I-Butane (IC4)	0.0670	0.06663	0.0220
N-Butane (NC4)	0.2120	0.2119	0.0670
I-Pentane (IC5)	0.1010	0.10054	0.0370
N-Pentane (NC5)	0.1580	0.15782	0.0570
Hexanes Plus (C6+)	1.1840	1.18387	0.5140
TOTAL	100.0000	100.0000	0.9210

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:	Feb 13, 2023

Source	Date	Notes
Brooke Rush	Mar 27, 2023 2:43 pm	Methane = 0 PPM

Gross Heating Values (Real, BTU/ft³)			
14.696 PSI @ 60.00 Å°F		14.73 PSI @ 60.00 Å°F	
Dry	Saturated	Dry	Saturated
97.8	97.1	98.00	97.3

Calculated Total Sample Properties	
GPA2145-16 *Calculated at Contract Conditions	
Relative Density Real	Relative Density Ideal
1.0033	1.0032
Molecular Weight	
29.0592	

C6+ Group Properties		
Assumed Composition		
C6 - 60.000%	C7 - 30.000%	C8 - 10.000%

Field H2S
0 PPM

PROTREND STATUS:

Passed By Validator on Mar 27, 2023

DATA SOURCE:

Imported

PASSED BY VALIDATOR REASON:

First sample taken @ this point, composition looks reasonable

VALIDATOR:

Brooke Rush

VALIDATOR COMMENTS:

OK

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 211291

DEFINITIONS

Operator: CANYON E & P COMPANY 251 O'Connor Ridge Blvd. Irving, TX 75038	OGRID: 269864
	Action Number: 211291
	Action Type: [UF-OMA] Post-Plug Methane Monitoring (UF-OMA-MMB)

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
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1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 211291

QUESTIONS

Operator: CANYON E & P COMPANY 251 O'Connor Ridge Blvd. Irving, TX 75038	OGRID: 269864
	Action Number: 211291
	Action Type: [UF-OMA] Post-Plug Methane Monitoring (UF-OMA-MMB)

QUESTIONS

Prerequisites	
[OGRID] Well Operator	[269864] CANYON E & P COMPANY
[API] Well Name and Number	[30-005-60654] O'BRIEN FEE 19 #004
Well Status	Plugged (not released)

Monitoring Event Information*Please answer all the questions in this group.*

Reason For Filing	Post-Plug Methane Monitoring
Date of monitoring	03/18/2023
Latitude	33.602856
Longitude	-104.0306778

Monitoring Event Details*Please answer all the questions in this group.*

Flow rate in cubic meters per day (m³/day)	0.00
Test duration in hours (hr)	1.0
Average flow temperature in degrees Celsius (°C)	10.0
Average gauge flow pressure in kilopascals (kPag)	0.0
Methane concentration in part per million (ppm)	0
Methane emission rate in grams per hour (g/hr)	0.00
Testing Method	Steady State

Monitoring Contractor*Please answer all the questions in this group.*

Name of monitoring contractor	Well Done New Mexico LLC
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