



## Pre Plugging Methane Quantification Test Report

Report Prepared By Curtis Shuck

**Start Date:** Fri Dec 20 2024 20:21:30 GMT+0000  
 (Coordinated Universal Time)

**End Date:** Sat Dec 21 2024 20:50:44 GMT+0000  
 (Coordinated Universal Time)

**Test Time Subset:** 2024-12-20T20:20:36.276Z -  
 2024-12-21T20:49:50.196Z

**Device:** VB100-0054

**Well Licensee:** NMOCD

**Well Name:** CSAU 137

**UWI:** 30-005-20117

**Well License Number:** 30-005-20117

**Surface Location:** Southard Trust

**Bottom Hole Location:** Unknown

**Test Operator:** CES

**Authorized By:** NMOCD

**Test Reason:** IIJA POST PLUG

**Scope Of Work:** 12-hour

**AFE Number:** 78656

**GPS:** 33.60717,-103.87013

**Notes:** Gas at CASING vent

### Orphan Well Flow Test Results

Average Flowrate 0.0023 scf/hr	Average Flow Temperature 48.72 °F	Average Flow Pressure 0.4121 psi	Flow Duration 1469.23 min	Methane Concentration 99.74 %	Methane Emissions 0.04 g/hr	Benzene N/A ppm
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Annual Emission Rate = ( $\bar{Q} \text{measured}$ ) x (Conc $\text{measured}$ ) x  $p$  x 0.454 x 8,760

#### Methane Calculation:

$(\bar{Q} \text{measured}) 0.0023 \text{ scf/hr} \times (\text{Conc}\text{measured}) 0.9974 = 0.00229212 \text{ scf CH}_4/\text{hr}$   
 Methane Flow x ( $p$ ) x 0.423 x .454 x 8,760 = 0.3504 CH<sub>4</sub> kg/yr Emission Rate

#### Where:

$Q\text{measured}$  - scf/hr total measured flow

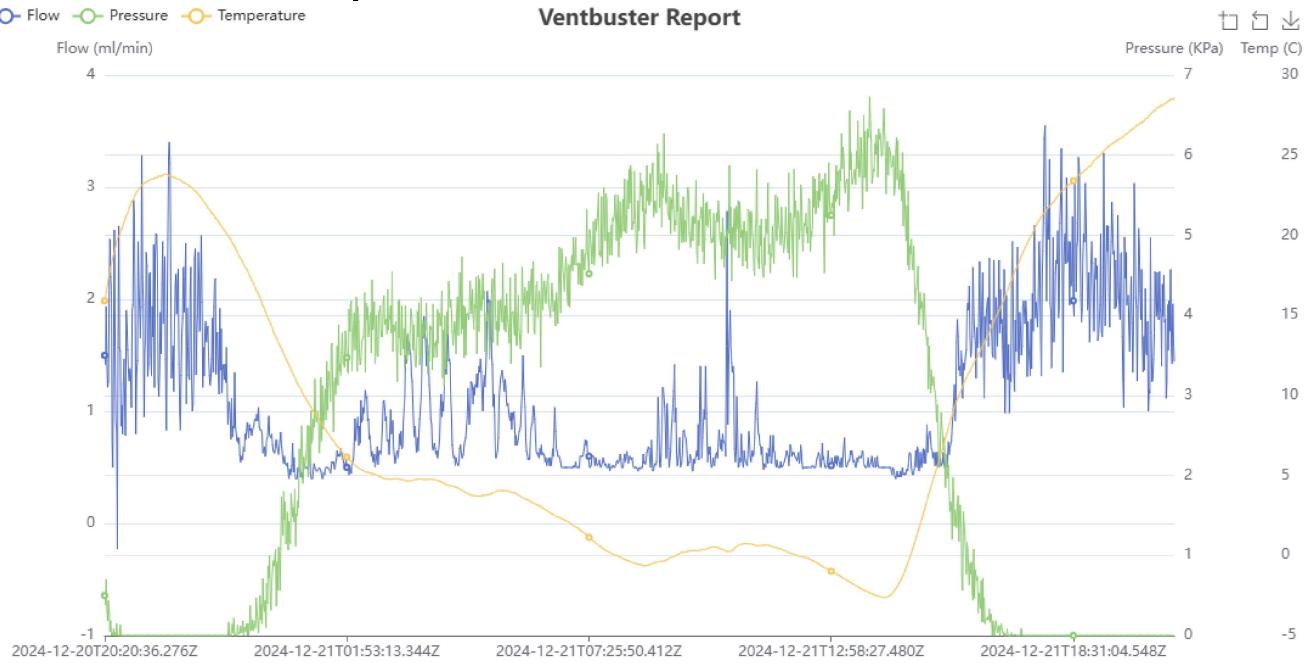
$\text{Conc}\text{measured}$  - methane concentration measured

$p$  - 0.423 methane density at 1 atm; 60° F

0.454 - Conversion from lb to kg

8760 - Conversion from hr to yr

## Flow/Pressure/Temperature Timeseries



## Site Photos



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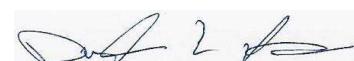
**EXTENDED GAS REPORT**  
**SUMMARY OF CHROMATOGRAPHIC ANALYSIS**

<b>Sample Name:</b>	CSAU #137 CASING VENT	<b>For:</b>	23154G
<b>Sample Date:</b>	12/21/2024	<b>Cyl. Ident.:</b>	2024103623
<b>Sampled By:</b>	DJ	<b>Company:</b>	WELL DONE
<b>Time Sampled:</b>	14:00	<b>Analysis Date:</b>	12/31/2024
<b>Sample Temp:</b>	0.0 F	<b>Analysis By:</b>	LC
<b>Sample Press:</b>	0.0	<b>Data File:</b>	LS2_1153.D
	H2S (PPM) = 0.0		

Component	Mole%	GPM REAL	GPM IDEAL
H2S	0.000		
Nitrogen	0.000		
Methane	99.740		
CO2	0.059		
Ethane	0.006	0.002	0.002
Propane	0.010	0.003	0.003
Isobutane	0.002	0.001	0.001
N-Butane	0.007	0.002	0.002
Isopentane	0.004	0.001	0.001
N-Pentane	0.005	0.002	0.002
Hexanes+	0.167	0.092	0.092
Total	100.000	0.103	0.103

**CALCULATED PARAMETERS**

TOTAL ANALYSIS SUMMARY		HEATING VALUE		BTEX SUMMARY	
MOLE WT:	16.272	BTU/CUFT (DRY)	1025.0	WT% BENZENE	31.913
VAPOR PRESS PSIA:	4987.1	BTU/CUFT (WET)	1007.5	WT% TOLUENE	2.751
SPECIFIC GRAVITY				WT% E BENZENE	0.000
AIR = 1 (REAL):	0.5629			WT% XYLENES	0.000
AIR = 1 (IDEAL):	0.5619				
H2O = 1 (IDEAL):	0.303				
REPORTED BASIS:	14.73				
Unnormalized Total:	124.509				



LAB MANAGER



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**Sample Name:** CSAU #137 CASING VENT  
**Company:** WELL DONE

**Data File:** LS2\_1153.D

### \*ANALYSIS OF HEXANES PLUS

Component	MOLE%	WT%	*HEXANES PLUS SUMMARY		
2,2 DIMETHYL BUTANE	0.000	0.000	AVG MOLE WT	136.179	
CYCLOPENTANE	0.000	0.001	VAPOR PRESS PSIA	9.860	
2-METHYL PENTANE	0.000	0.000	API GRAVITY @ 60F	48.8	
3-METHYL PENTANE	0.000	0.000	SPECIFIC GRAVITY		
HEXANE (C6)	0.000	0.000	AIR = 1 (IDEAL):	2.975	
DIMETHYL PENTANES	0.001	0.005	H2O = 1 (IDEAL):	0.785	
METHYL CYCLOPENTANE	0.000	0.001	COMPONENT RATIOS		
2,2,3 TRIMETHYL BUTANE	0.000	0.000	HEXANES (C6) MOLE%	0.238	
BENZENE	0.000	0.000	HEPTANES (C7) MOLE%	2.250	
CYCLOHEXANE	0.000	0.001	OCTANES (C8) MOLE%	8.540	
2-METHYL HEXANE	0.000	0.000	NONANES (C9) MOLE%	19.657	
3-METHYL HEXANE	0.001	0.009	DECANES+ (C10+) MOLE%	69.315	
DIMETHYL CYCLOPENTANES	0.000	0.000	HEXANES (C6) WT%	0.146	
HEPTANE (C7)	0.000	0.000	HEPTANES (C7) WT%	1.654	
METHYL CYCLOHEXANE	0.000	0.001	OCTANES (C8) WT%	6.880	
2,5 DIMETHYL HEXANE	0.000	0.001	NONANES (C9) WT%	18.283	
TOLUENE	0.000	0.001	DECANES+ (C10+) WT%	73.037	
2-METHYL HEPTANE	0.000	0.000			
OTHER OCTANES	0.014	0.091			
OCTANE (C8)	0.000	0.001			
ETHYL CYCLOHEXANE	0.000	0.003			
ETHYL BENZENE	0.000	0.002			
M,P-XYLENE	0.000	0.003			
O-XYLENE	0.000	0.003			
OTHER NONANES	0.029	0.239			
NONANE (C-9)	0.001	0.006			
IC3 BENZENE	0.001	0.006			
CYCLOOCTANE	0.000	0.000			
NC3 BENZENE	0.010	0.075			
TM BENZENE(S)	0.007	0.058			
IC4 BENZENE	0.001	0.008			
NC4 BENZENE	0.000	0.000			
DECANES + (C10+)	0.101	0.876			



Remarks: NR=NOT REPORTED ON FIELD TAG

\* Hexane+ portion calculated by Allocation Process

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 535164

**DEFINITIONS**

Operator:	Well Done New Mexico LLC (OPG Vendor) 333 Main St Shelby, MT 59474	OGRID: 333567
		Action Number: 535164
		Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

**DEFINITIONS**

The OCD Mitigation Activity (OMA) forms are a subset of the OCD's forms exclusively designed for activities related to State of New Mexico's contracted evaluation, plugging, decommissioning, remediation, salvage and reclamation activities. Specifically, these forms are typically used where the OCD has acquired a hearing order allowing the OCD to perform mitigation activities on wells and associated facilities that no longer have an authorized or 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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**QUESTIONS**

<b>Prerequisites</b>	
[OGRID] Well Operator	[248802] CANO PETRO OF NEW MEXICO, INC.
[API] Well Name and Number	[30-005-20117] CATO SAN ANDRES UNIT #137
Well Status	Plugged (site released)

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

Reason For Filing	Pre-Plug Methane Monitoring
Date of monitoring	12/20/2024
Latitude	33.6071091
Longitude	-103.8701553

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

Flow rate in cubic meters per day (m <sup>3</sup> /day)	0.05
Test duration in hours (hr)	12.0
Average flow temperature in degrees Celsius (°C)	8.9
Average gauge flow pressure in kilopascals (kPag)	0.4
Methane concentration in part per million (ppm)	997,400
Methane emission rate in grams per hour (g/hr)	0.04
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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