



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 | Average Flow Temperature | Average Flow Pressure | Flow Duration | Methane Concentration | Methane Emissions | Benzene |
|-------------------------|--------------------------|-----------------------|-----------------------|-----------------------|---------------------|-------------------|
| 0.0023 scf/hr | 48.72 °F | 0.4121 psi | 1469.23 min | 99.74 % | 0.04 g/hr | N/A ppm |

Annual Emission Rate = $(\bar{X}Q_{measured}) \times (Conc_{measured}) \times p \times 0.454 \times 8,760$

Methane Calculation:

$(\bar{X}Q_{measured}) 0.0023 \text{ scf/hr} \times (Conc_{measured}) 0.9974 = 0.00229212 \text{ scf CH}_4/\text{hr}$

Methane Flow $\times (p) \times .0423 \times .454 \times 8,760 = 0.3504 \text{ CH}_4 \text{ kg/yr}$ Emission Rate

Where:

$Q_{measured}$ - scf/hr total measured flow

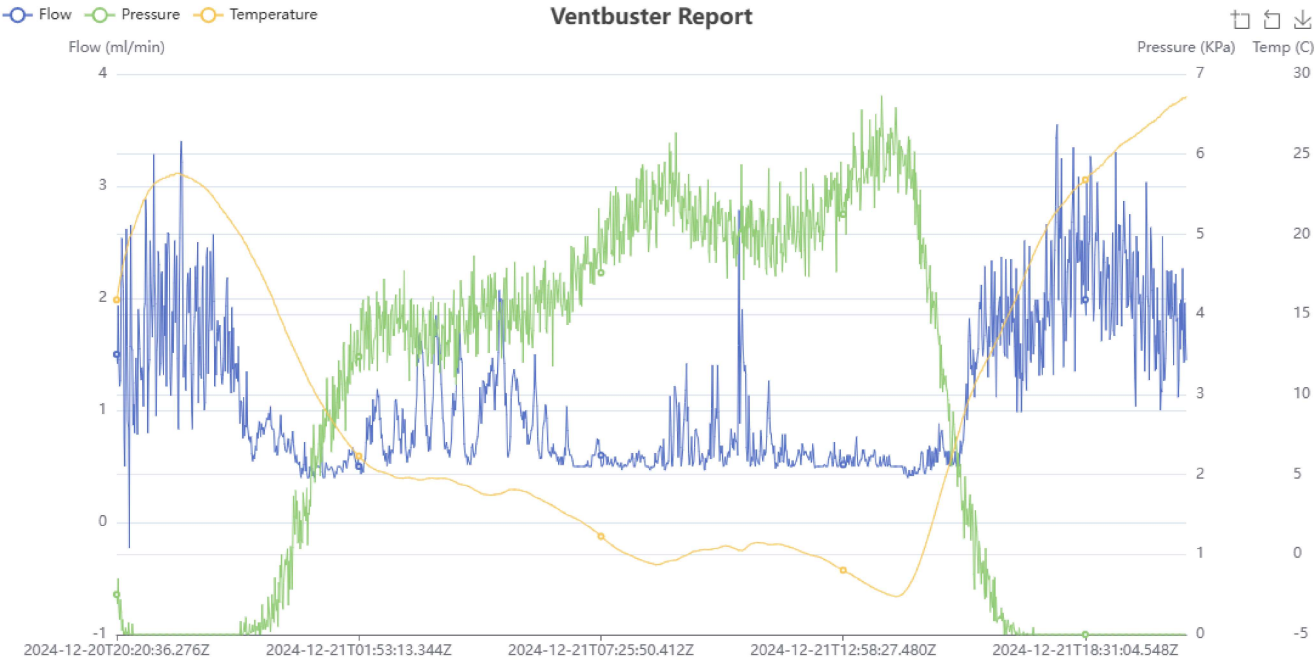
$Conc_{measured}$ - methane concentration measured

p - 0.0423 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



www.permianls.com
575.397.3713 2609 W MARLAND HOBBS, NEW MEXICO 88240

EXTENDED GAS REPORT
SUMMARY OF CHROMATOGRAPHIC ANALYSIS

| | | | |
|---------------|-----------------------|----------------|------------|
| Sample Name: | CSAU #137 CASING VENT | For: | 23154G |
| Sample Date: | 12/21/2024 | Cyl. Ident.: | 2024103623 |
| Sampled By: | DJ | Company: | WELL DONE |
| Time Sampled: | 14:00 | Analysis Date: | 12/31/2024 |
| Sample Temp: | 0.0 F | Analysis By: | LC |
| Sample Press: | 0.0 | Data File: | 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

MOLE WT: 16.272
VAPOR PRESS PSIA: 4987.1
SPECIFIC GRAVITY
AIR = 1 (REAL): 0.5629
AIR = 1 (IDEAL): 0.5619
H2O = 1 (IDEAL): 0.303

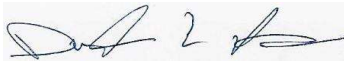
REPORTED BASIS: 14.73
Unnormalized Total: 124.509

HEATING VALUE

BTU/CUFT (DRY) 1025.0
BTU/CUFT (WET) 1007.5

BTEX SUMMARY

WT% BENZENE 31.913
WT% TOLUENE 2.751
WT% E BENZENE 0.000
WT% XYLENES 0.000


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% |
|-----------------------|-------|-------|
| 2,2 DIMETHYL BUTANE | 0.000 | 0.000 |
| CYCLOPENTANE | 0.000 | 0.001 |
| 2-METHYLPENTANE | 0.000 | 0.000 |
| 3-METHYLPENTANE | 0.000 | 0.000 |
| HEXANE (C6) | 0.000 | 0.000 |
| DIMETHYLPENTANES | 0.001 | 0.005 |
| METHYLCYCLOPENTANE | 0.000 | 0.001 |
| 2,2,3 TRIMETHYLBUTANE | 0.000 | 0.000 |
| BENZENE | 0.000 | 0.000 |
| CYCLOHEXANE | 0.000 | 0.001 |
| 2-METHYLHEXANE | 0.000 | 0.000 |
| 3-METHYLHEXANE | 0.001 | 0.009 |
| DIMETHYCYCLOPENTANES | 0.000 | 0.000 |
| HEPTANE (C7) | 0.000 | 0.000 |
| METHYLCYCLOHEXANE | 0.000 | 0.001 |
| 2,5 DIMETHYLHEXANE | 0.000 | 0.001 |
| TOLUENE | 0.000 | 0.001 |
| 2-METHYLHEPTANE | 0.000 | 0.000 |
| OTHER OCTANES | 0.014 | 0.091 |
| OCTANE (C8) | 0.000 | 0.001 |
| ETHYLCYCLOHEXANE | 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 |

***HEXANES PLUS SUMMARY**

| | |
|-------------------|---------|
| AVG MOLE WT | 136.179 |
| VAPOR PRESS PSIA | 9.860 |
| API GRAVITY @ 60F | 48.8 |
| SPECIFIC GRAVITY | |
| AIR = 1 (IDEAL): | 2.975 |
| H2O = 1 (IDEAL): | 0.785 |

COMPONENT RATIOS

| | |
|-----------------------|--------|
| HEXANES (C6) MOLE% | 0.238 |
| HEPTANES (C7) MOLE% | 2.250 |
| OCTANES (C8) MOLE% | 8.540 |
| NONANES (C9) MOLE% | 19.657 |
| DECANES+ (C10+) MOLE% | 69.315 |
| | |
| HEXANES (C6) WT% | 0.146 |
| HEPTANES (C7) WT% | 1.654 |
| OCTANES (C8) WT% | 6.880 |
| NONANES (C9) WT% | 18.283 |
| DECANES+ (C10+) WT% | 73.037 |



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

Action 535164

QUESTIONS

| | |
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QUESTIONS

| | |
|----------------------------|--|
| Prerequisites | |
| [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 (m³/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 |