



30-039-31020

NMOCD

JUN 01 2018

DISTRICT III

2030 Afton Place  
Farmington, NM 87401  
(505) 325-6622Analysis No: RW180400  
Cust No: 67500-12380

## Well/Lease Information

Customer Name: RED WILLOW PRODUCTION CO  
Well Name: N.C. UTE 23D #2H BHD  
County/State:  
Location:  
Field:  
Formation: FRUITLAND COAL  
Cust. Stn. No.:Source: BRADENHEAD  
Well Flowing: Y  
Pressure: 59 PSIG  
Flow Temp: 75 DEG. F  
Ambient Temp: 65 DEG. F  
Flow Rate: 0 MCF/D  
Sample Method: Purge & Fill  
Sample Date: 04/25/2018  
Sample Time: 10.45 AM  
Sampled By: L. BARTLEY  
Sampled by (CO): RED WILLOWHeat Trace: N  
Remarks:**DENIED**  
BY: MK  
DATE: 5-21-18 (505) 334-6178

## Analysis

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:   | *SP Gravity: |
|-------------|----------|-----------------|---------|---------|--------------|
| Nitrogen    | 1.5164   | 1.4604          | 0.1670  | 0.00    | 0.0147       |
| CO2         | 0.0290   | 0.0279          | 0.0050  | 0.00    | 0.0004       |
| Methane     | 96.0173  | 92.4746         | 16.3080 | 969.77  | 0.5318       |
| Ethane      | 1.3378   | 1.2884          | 0.3580  | 23.68   | 0.0139       |
| Propane     | 0.6600   | 0.6356          | 0.1820  | 16.61   | 0.0100       |
| Iso-Butane  | 0.1896   | 0.1826          | 0.0620  | 6.17    | 0.0038       |
| N-Butane    | 0.1020   | 0.0982          | 0.0320  | 3.33    | 0.0020       |
| I-Pentane   | 0.0431   | 0.0415          | 0.0160  | 1.72    | 0.0011       |
| N-Pentane   | 0.0150   | 0.0144          | 0.0050  | 0.60    | 0.0004       |
| Hexane Plus | 0.0898   | 0.0865          | 0.0400  | 4.73    | 0.0030       |
| Total       | 100.0000 | 96.3101         | 17.1750 | 1026.61 | 0.5812       |

\* @ 14.730 PSIA DRY &amp; UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA &amp; 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0021  
BTU/CU.FT IDEAL: 1029.0  
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1031.1  
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1013.2  
DRY BTU @ 15.025: 1051.8  
REAL SPECIFIC GRAVITY: 0.5821CYLINDER #: 6141  
CYLINDER PRESSURE: 34 PSIG  
ANALYSIS DATE: 04/27/2018  
ANALYSIS TIME: 01:47:46 PM  
ANALYSIS RUN BY: SHYANN ELLEDGE

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

Last Cal/Verify: 05/22/2018

GC Method: C6+ Gas



RED WILLOW PRODUCTION CO  
WELL ANALYSIS COMPARISON

Lease: N.C. UTE 23D #2H BHD  
Stn. No.:  
Mtr. No.:

BRADENHEAD  
FRUITLAND COAL

05/22/2018  
67500-12380

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|            |            |            |
|------------|------------|------------|
| Smpl Date: | 04/25/2018 | 04/17/2015 |
| Test Date: | 04/27/2018 | 04/17/2015 |
| Run No:    | RW180400   | RW150053   |
| Nitrogen:  | 1.5164     | 2.7260     |
| CO2:       | 0.0290     | 0.0110     |
| Methane:   | 96.0173    | 96.9520    |
| Ethane:    | 1.3378     | 0.2130     |
| Propane:   | 0.6600     | 0.0610     |
| I-Butane:  | 0.1896     | 0.0150     |
| N-Butane:  | 0.1020     | 0.0080     |
| I-Pentane: | 0.0431     | 0.0100     |
| N-Pentane: | 0.0150     | 0.0000     |
| Hexane+:   | 0.0898     | 0.0040     |
| BTU:       | 1031.1     | 990.0      |
| GPM:       | 17.1750    | 16.8530    |
| SPG:       | 0.5821     | 0.5684     |



NMOCD

JUN 01 2018

DISTRICT III

2030 Afton Place  
Farmington, NM 87401  
(505) 325-6622Analysis No: RW180401  
Cust No: 67500-15025**Well/Lease Information**Customer Name: RED WILLOW PRODUCTION CO  
Well Name: N.C. UTE 23D #2H; CSG  
County/State: RIO ARRIBA NM  
Location:  
Field:  
Formation: FC  
Cust. Stn. No.:Source: CASING  
Well Flowing:  
Pressure: 59 PSIG  
Flow Temp: 75 DEG. F  
Ambient Temp: 65 DEG. F  
Flow Rate: 0 MCF/D  
Sample Method: Purge & Fill  
Sample Date: 04/25/2018  
Sample Time: 10.45 AM  
Sampled By: L. BARTLEY  
Sampled by (CO): RED WILLOW

Heat Trace:

Remarks:

**Analysis**

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:  | *SP Gravity: |
|-------------|----------|-----------------|---------|--------|--------------|
| Nitrogen    | 0.0274   | 0.0263          | 0.0030  | 0.00   | 0.0003       |
| CO2         | 4.9443   | 4.7520          | 0.8450  | 0.00   | 0.0751       |
| Methane     | 94.8047  | 91.1172         | 16.1020 | 957.53 | 0.5251       |
| Ethane      | 0.2128   | 0.2045          | 0.0570  | 3.77   | 0.0022       |
| Propane     | 0.0092   | 0.0088          | 0.0030  | 0.23   | 0.0001       |
| Iso-Butane  | 0.0016   | 0.0015          | 0.0010  | 0.05   | 0.0000       |
| N-Butane    | 0.0000   | 0.0000          | 0.0000  | 0.00   | 0.0000       |
| I-Pentane   | 0.0000   | 0.0000          | 0.0000  | 0.00   | 0.0000       |
| N-Pentane   | 0.0000   | 0.0000          | 0.0000  | 0.00   | 0.0000       |
| Hexane Plus | 0.0000   | 0.0000          | 0.0000  | 0.00   | 0.0000       |
| Total       | 100.0000 | 96.1103         | 17.0110 | 961.58 | 0.6029       |

\* @ 14.730 PSIA DRY &amp; UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA &amp; 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0021  
BTU/CU.FT IDEAL: 963.8  
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 965.8  
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 949.0  
DRY BTU @ 15.025: 985.1  
REAL SPECIFIC GRAVITY: 0.6039CYLINDER #: 4081  
CYLINDER PRESSURE: 19 PSIG  
ANALYSIS DATE: 04/27/2018  
ANALYSIS TIME: 01:41:04 AM  
ANALYSIS RUN BY: SHYANN ELLEDGE

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

Last Cal/Verify: 05/22/2018

GC Method: C6+ Gas



RED WILLOW PRODUCTION CO  
WELL ANALYSIS COMPARISON

Lease: N.C. UTE 23D #2H; CSG  
Stn. No.:  
Mtr. No.:

CASING  
FC

05/22/2018  
67500-15025

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|            |            |            |
|------------|------------|------------|
| Smpl Date: | 04/25/2018 | 04/16/2018 |
| Test Date: | 04/27/2018 | 04/18/2018 |
| Run No:    | RW180401   | RW180374   |
| Nitrogen:  | 0.0274     | 0.0213     |
| CO2:       | 4.9443     | 4.9752     |
| Methane:   | 94.8047    | 94.7913    |
| Ethane:    | 0.2128     | 0.2060     |
| Propane:   | 0.0092     | 0.0062     |
| I-Butane:  | 0.0016     | 0.0000     |
| N-Butane:  | 0.0000     | 0.0000     |
| I-Pentane: | 0.0000     | 0.0000     |
| N-Pentane: | 0.0000     | 0.0000     |
| Hexane+:   | 0.0000     | 0.0000     |
| BTU:       | 965.8      | 965.4      |
| GPM:       | 17.0110    | 17.0100    |
| SPG:       | 0.6039     | 0.6041     |