



2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: RW180400
Cust No: 67500-12380

39-31020

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 WILLOW

Heat Trace: N
Remarks:

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 & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 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: 0.5821

CYLINDER #: 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

39-31020

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



2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: RW180401
Cust No: 67500-15025

39-31020

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 & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 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: 0.6039

CYLINDER #: 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
Str. No.:
Mtr. No.:

CASING
FC

05/22/2018
67500-15025

39-31020

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