



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

Analysis No: GW170019
Cust No: 33050-10290

API 30-045-10689

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: NEWBERRY FED #1; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: BD
Cust. Str. No.: API 20-045-10689

Source: TUBING
Well Flowing: Y
Pressure: 156 PSIG
Flow Temp: DEG. F
Ambient Temp: 67 DEG. F
Flow Rate: 9 MCF/D
Sample Method: Purge & Fill
Date Sampled: 10/18/2017
Sample Time: 11.20 AM
Sampled By: CULLEN
Sampled by (CO): GWDC

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4395	0.4389	0.0490	0.00	0.0043
CO2	0.8154	0.8143	0.1400	0.00	0.0124
Methane	82.2139	82.0983	13.9820	830.36	0.4554
Ethane	9.3506	9.3374	2.5090	165.48	0.0971
Propane	3.9569	3.9513	1.0940	99.56	0.0602
Iso-Butane	0.7813	0.7802	0.2560	25.41	0.0157
N-Butane	1.1914	1.1897	0.3770	38.87	0.0239
I-Pentane	0.3432	0.3427	0.1260	13.73	0.0085
N-Pentane	0.2553	0.2549	0.0930	10.23	0.0064
Hexane Plus	0.6525	0.6516	0.2920	34.39	0.0216
Total	100.0000	99.8593	18.9180	1218.03	0.7054

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0034
BTU/CU.FT IDEAL: 1220.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1225.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1203.7
DRY BTU @ 15.025: 1249.5
REAL SPECIFIC GRAVITY: 0.7076

CYLINDER #: 6230
CYLINDER PRESSURE: 154 PSIG
DATE RUN: 10/25/17 11:20 AM
ANALYSIS RUN BY: CAMERON MANGAN

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

GPA Standard: GPA-2261

GC: Danalyzer Model 500

GC Method: C6+ Gas

Last Cal/Verify: 10/27/2017

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ARI 30-045-10689

GREAT WESTERN DRILLING
WELL ANALYSIS COMPARISON

Lease: NEWBERRY FED #1; TBG
Stn. No.: API 20-045-10689
Mtr. No.:

TUBING
BD

10/27/2017
33050-10290

Smpl Date: 10/18/2017
Test Date: 10/25/2017
Run No: GW170019

Nitrogen: 0.4395
CO2: 0.8154
Methane: 82.2139
Ethane: 9.3506
Propane: 3.9569
I-Butane: 0.7813
N-Butane: 1.1914
I-Pentane: 0.3432
N-Pentane: 0.2553
Hexane+: 0.6525

BTU: 1225.0
GPM: 18.9180
SPG: 0.7076



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

Analysis No: GW170018
Cust No: 33050-10285

API 30-045-10689

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: NEWBERRY FED #1; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: BD
Cust. Stn. No.: API 30-045-10689

Source: CASING
Well Flowing: Y
Pressure: 375 PSIG
Flow Temp: DEG. F
Ambient Temp: 67 DEG. F
Flow Rate: 9 MCF/D
Sample Method: Purge & Fill
Date Sampled: 10/18/2017
Sample Time: 11.30 AM
Sampled By: CULLEN
Sampled by (CO): GWDC

Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3988	0.3979	0.0440	0.00	0.0039
CO2	0.2868	0.2861	0.0490	0.00	0.0044
Methane	79.5097	79.3258	13.5240	803.05	0.4404
Ethane	10.1064	10.0830	2.7120	178.85	0.1049
Propane	6.5252	6.5101	1.8040	164.18	0.0993
Iso-Butane	1.1669	1.1642	0.3830	37.95	0.0234
N-Butane	1.2602	1.2573	0.3990	41.11	0.0253
I-Pentane	0.3313	0.3305	0.1220	13.25	0.0083
N-Pentane	0.2348	0.2343	0.0850	9.41	0.0058
Hexane Plus	0.1799	0.1795	0.0800	9.48	0.0060
Total	100.0000	99.7687	19.2020	1257.29	0.7217

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0036
BTU/CU.FT IDEAL: 1260.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1264.8
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1242.8
DRY BTU @ 15.025: 1290.1
REAL SPECIFIC GRAVITY: 0.724

CYLINDER #: 6060
CYLINDER PRESSURE: 389 PSIG
DATE RUN: 10/25/17 11:30 AM
ANALYSIS RUN BY: RICHARD WILSON

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

GPA Standard: GPA-2261

GC: Danalyzer Model 500

GC Method: C6+ Gas

Last Cal/Verify: 10/27/2017



API 30-045-10689

GREAT WESTERN DRILLING

WELL ANALYSIS COMPARISON

Lease: NEWBERRY FED #1; CSG
Stn. No.: API 30-045-10689
Mtr. No.:

CASING
BD

10/27/2017
33050-10285

Smpl Date: 10/18/2017
Test Date: 10/25/2017
Run No: GW170018

Nitrogen: 0.3988
CO2: 0.2868
Methane: 79.5097
Ethane: 10.1064
Propane: 6.5252
I-Butane: 1.1669
N-Butane: 1.2602
I-Pentane: 0.3313
N-Pentane: 0.2348
Hexane+: 0.1799

BTU: 1264.8
GPM: 19.2020
SPG: 0.7240



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

Analysis No: GW170017
Cust No: 33050-10155

API 30-045-10689

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: NEWBERRY FED #1; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: BASIN DK
Cust. Stn. No.: 72873

Source: BRADENHEAD
Well Flowing: Y
Pressure: 120 PSIG
Flow Temp: DEG. F
Ambient Temp: 68 DEG. F
Flow Rate: 9 MCF/D
Sample Method: Purge & Fill
Date Sampled: 10/18/2017
Sample Time: 11.40 AM
Sampled By: CULLAN KELLER
Sampled by (CO): GWDC

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	3.4837	3.4666	0.3840	0.00	0.0337
CO2	0.0334	0.0332	0.0060	0.00	0.0005
Methane	83.7095	83.2998	14.2290	845.47	0.4637
Ethane	7.6161	7.5788	2.0420	134.78	0.0791
Propane	3.0276	3.0128	0.8360	76.18	0.0461
Iso-Butane	0.6077	0.6047	0.1990	19.76	0.0122
N-Butane	0.7321	0.7285	0.2310	23.88	0.0147
I-Pentane	0.3037	0.3022	0.1110	12.15	0.0076
N-Pentane	0.1770	0.1761	0.0640	7.10	0.0044
Hexane Plus	0.3092	0.3077	0.1380	16.30	0.0102
Total	100.0000	99.5104	18.2400	1135.61	0.6721

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0029
BTU/CU.FT IDEAL: 1138.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1141.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1121.5
DRY BTU @ 15.025: 1164.3
REAL SPECIFIC GRAVITY: 0.6737

CYLINDER #: 4237
CYLINDER PRESSURE: 118 PSIG
DATE RUN: 10/25/17 11:40 AM
ANALYSIS RUN BY: RICHARD WILSON

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

GPA Standard: GPA-2261

GC: Danalyzer Model 500

GC Method: C6+ Gas

Last Cal/Verify: 10/27/2017



API 30-045-10689

GREAT WESTERN DRILLING

WELL ANALYSIS COMPARISON

Lease: NEWBERRY FED #1; BHD
Stn. No.: 72873
Mtr. No.:

BRADENHEAD
BASIN DK

10/27/2017
33050-10155

Smpl Date:	10/18/2017	09/05/2014
Test Date:	10/25/2017	09/09/2014
Run No:	GW170017	GW140017
Nitrogen:	3.4837	3.1640
CO2:	0.0334	0.0070
Methane:	83.7095	84.0000
Ethane:	7.6161	7.7390
Propane:	3.0276	3.0180
I-Butane:	0.6077	0.5910
N-Butane:	0.7321	0.7160
I-Pentane:	0.3037	0.2880
N-Pentane:	0.1770	0.1620
Hexane+:	0.3092	0.3150
BTU:	1141.4	1144.4
GPM:	18.2400	18.2630
SPG:	0.6737	0.6718