



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

Analysis No: GW190011
Cust No: 33050-10155

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: NEWBERRY FED #1; BHD
County/State: SAN JUAN NM
Location:
Lease/PA/CA:
Formation: BASIN DK
Cust. Stn. No.: 72873
API # 30-045-10689

Source: BRADENHEAD
Well Flowing: Y
Pressure: 105 PSIG
Flow Temp: 87 DEG. F
Ambient Temp: 73 DEG. F
Flow Rate: 10 MCF/D
Sample Method: Purge & Fill
Sample Date: 06/13/2019
Sample Time: 9.50 AM
Sampled By: CULLAN KELLER
Sampled by (CO): GREAT WESTERN

Heat Trace: N
Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	3.4439	3.4072	0.3800	0.00	0.0333
CO2	0.0150	0.0148	0.0030	0.00	0.0002
Methane	84.0678	83.1712	14.2880	849.08	0.4657
Ethane	7.6055	7.5244	2.0390	134.59	0.0790
Propane	3.0049	2.9729	0.8300	75.61	0.0457
Iso-Butane	0.5682	0.5621	0.1860	18.48	0.0114
N-Butane	0.6823	0.6750	0.2160	22.26	0.0137
I-Pentane	0.2519	0.2492	0.0920	10.08	0.0063
N-Pentane	0.1354	0.1340	0.0490	5.43	0.0034
Hexane Plus	0.2251	0.2227	0.1010	11.87	0.0074
Total	100.0000	98.9335	18.1840	1127.39	0.6661

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0028
BTU/CU.FT IDEAL: 1130.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1133.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1113.5
DRY BTU @ 15.025: 1155.9
REAL SPECIFIC GRAVITY: 0.6677

CYLINDER #: 6213
CYLINDER PRESSURE: 106 PSIG
ANALYSIS DATE: 06/17/2019
ANALYSIS TIME: 03:42:38 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: 06/24/2019
GC Method: C6+ Gas

NMOC

AUG 28 2019

DISTRICT III



GREAT WESTERN DRILLING
WELL ANALYSIS COMPARISON

Lease: NEWBERRY FED #1; BHD
Stn. No.: 72873
Mtr. No.: API # 30-045-

BRADENHEAD
BASIN DK

06/24/2019
33050-10155

Smpl Date:	06/13/2019	10/18/2017	09/05/2014
Test Date:	06/17/2019	10/18/2017	09/05/2014
Run No:	GW190011	GW170017	GW140017
Nitrogen:	3.4439	3.4837	3.1640
CO2:	0.0150	0.0334	0.0070
Methane:	84.0678	83.7095	84.0000
Ethane:	7.6055	7.6161	7.7390
Propane:	3.0049	3.0276	3.0180
I-Butane:	0.5682	0.6077	0.5910
N-Butane:	0.6823	0.7321	0.7160
I-Pentane:	0.2519	0.3037	0.2880
N-Pentane:	0.1354	0.1770	0.1620
Hexane+:	0.2251	0.3092	0.3150
BTU:	1133.2	1141.4	1144.4
GPM:	18.1840	18.2400	18.2630
SPG:	0.6677	0.6737	0.6718



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Analysis No: GW190012
Cust No: 33050-10285

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: NEWBERRY FED #1; CSG
County/State: SAN JUAN NM
Location:
Lease/PA/CA:
Formation: BASIN DAKOTA
Cust. Stn. No.: 72873
API # 30-045-10689

Source: CASNG
Well Flowing: Y
Pressure: 380 PSIG
Flow Temp: 87 DEG. F
Ambient Temp: 73 DEG. F
Flow Rate: 10 MCF/D
Sample Method: Purge & Fill
Sample Date: 06/13/2019
Sample Time: 9.30 AM
Sampled By: CULLEN KELLER
Sampled by (CO): GREAT WESTERN

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3733	0.3693	0.0410	0.00	0.0036
CO2	0.2626	0.2598	0.0450	0.00	0.0040
Methane	78.5676	77.7332	13.3650	793.53	0.4352
Ethane	10.1862	10.0780	2.7340	180.27	0.1058
Propane	6.8898	6.8166	1.9050	173.35	0.1049
Iso-Butane	1.3156	1.3016	0.4320	42.78	0.0264
N-Butane	1.4730	1.4574	0.4660	48.05	0.0296
I-Pentane	0.4336	0.4290	0.1590	17.35	0.0108
N-Pentane	0.3006	0.2974	0.1090	12.05	0.0075
Hexane Plus	0.1977	0.1956	0.0880	10.42	0.0065
Total	100.0000	98.9379	19.3440	1277.81	0.7342

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0037
BTU/CU.FT IDEAL: 1280.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1285.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1263.1
DRY BTU @ 15.025: 1311.2
REAL SPECIFIC GRAVITY: 0.7367

CYLINDER #: 7055
CYLINDER PRESSURE: 385 PSIG
ANALYSIS DATE: 06/18/2019
ANALYSIS TIME: 09:39:32 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

GC Method: C6+ Gas

Last Cal/Verify: 06/24/2019



GREAT WESTERN DRILLING
WELL ANALYSIS COMPARISON

Lease: NEWBERRY FED #1; CSG
Stn. No.: 72873
Mtr. No.: API # 30-045-

CASNG
BASIN DAKOTA

06/24/2019
33050-10285

Smpl Date:	06/13/2019	10/18/2017
Test Date:	06/18/2019	10/18/2017
Run No:	GW190012	GW170018
Nitrogen:	0.3733	0.3988
CO2:	0.2626	0.2868
Methane:	78.5676	79.5097
Ethane:	10.1862	10.1064
Propane:	6.8898	6.5252
I-Butane:	1.3156	1.1669
N-Butane:	1.4730	1.2602
I-Pentane:	0.4336	0.3313
N-Pentane:	0.3006	0.2348
Hexane+:	0.1977	0.1799
BTU:	1285.5	1264.8
GPM:	19.3440	19.2020
SPG:	0.7367	0.7240



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Analysis No: GW190013
Cust No: 33050-10290

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: NEWBERRY FED #1; TBG
County/State: SAN JUAN NM
Location:
Lease/PA/CA:
Formation: BASIN DAKOTA
Cust. Stn. No.: 72873
API # 30-045-10689

Source: TUBING
Well Flowing: Y
Pressure: 140 PSIG
Flow Temp: 87 DEG. F
Ambient Temp: 73 DEG. F
Flow Rate: 10 MCF/D
Sample Method: Purge & Fill
Sample Date: 06/13/2019
Sample Time: 9.44 AM
Sampled By: CULLEN KELLER
Sampled by (CO): GREAT WESTERN

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3961	0.3939	0.0440	0.00	0.0038
CO2	1.0745	1.0685	0.1840	0.00	0.0163
Methane	82.8941	82.4293	14.0960	837.23	0.4592
Ethane	9.2433	9.1915	2.4800	163.58	0.0960
Propane	3.6769	3.6563	1.0160	92.51	0.0560
Iso-Butane	0.5904	0.5871	0.1940	19.20	0.0118
N-Butane	1.0019	0.9963	0.3170	32.68	0.0201
I-Pentane	0.2626	0.2611	0.0960	10.51	0.0065
N-Pentane	0.2144	0.2132	0.0780	8.59	0.0053
Hexane Plus	0.6458	0.6422	0.2890	34.04	0.0214
Total	100.0000	99.4394	18.7940	1198.35	0.6965

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
BTU/CU.FT IDEAL: 1201.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1205.1
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1184.1
DRY BTU @ 15.025: 1229.2
REAL SPECIFIC GRAVITY: 0.6985

CYLINDER #: 4238
CYLINDER PRESSURE: 140 PSIG
ANALYSIS DATE: 06/17/2019
ANALYSIS TIME: 04:23:52 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

GC Method: C6+ Gas

Last Cal/Verify: 06/24/2019



GREAT WESTERN DRILLING
WELL ANALYSIS COMPARISON

Lease: NEWBERRY FED #1; TBG
Stn. No.: 72873
Mtr. No.: API # 30-045-

TUBING
BASIN DAKOTA

06/24/2019
33050-10290

Smpl Date:	06/13/2019	10/18/2017
Test Date:	06/17/2019	10/18/2017
Run No:	GW190013	GW170019
Nitrogen:	0.3961	0.4395
CO2:	1.0745	0.8154
Methane:	82.8941	82.2139
Ethane:	9.2433	9.3506
Propane:	3.6769	3.9569
I-Butane:	0.5904	0.7813
N-Butane:	1.0019	1.1914
I-Pentane:	0.2626	0.3432
N-Pentane:	0.2144	0.2553
Hexane+:	0.6458	0.6525
BTU:	1205.1	1225.0
GPM:	18.7940	18.9180
SPG:	0.6985	0.7076