



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

Analysis No: GW170023
Cust No: 33050-10305

API 30-045-34532

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: NEWBERRY FED 1E; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: BD
Cust. Stn. No.: API 30-045-34532

Source: TUBING
Well Flowing: Y
Pressure: 160 PSIG
Flow Temp: DEG. F
Ambient Temp: 67 DEG. F
Flow Rate: 26 MCF/D
Sample Method: Purge & Fill
Date Sampled: 10/18/2017
Sample Time: 12.20 PM
Sampled By: CULLEN
Sampled by (CO): GWDC

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3036	0.3023	0.0340	0.00	0.0029
CO2	2.3456	2.3355	0.4020	0.00	0.0356
Methane	80.3419	79.9944	13.6650	811.45	0.4450
Ethane	9.8636	9.8209	2.6460	174.56	0.1024
Propane	4.0912	4.0735	1.1310	102.94	0.0623
Iso-Butane	0.7120	0.7089	0.2340	23.15	0.0143
N-Butane	1.0868	1.0821	0.3440	35.45	0.0218
I-Pentane	0.3824	0.3807	0.1400	15.30	0.0095
N-Pentane	0.2908	0.2895	0.1060	11.66	0.0072
Hexane Plus	0.5821	0.5796	0.2600	30.68	0.0193
Total	100.0000	99.5674	18.9620	1205.20	0.7204

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035
BTU/CU.FT IDEAL: 1208.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1212.1
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1191.0
DRY BTU @ 15.025: 1236.4
REAL SPECIFIC GRAVITY: 0.7226

CYLINDER #: 6243
CYLINDER PRESSURE: 188 PSIG
DATE RUN: 10/25/17 12:20 PM
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

Last Cal/Verify: 10/27/2017

GC Method: C6+ Gas



API 30-045-34532

GREAT WESTERN DRILLING

WELL ANALYSIS COMPARISON

Lease: NEWBERRY FED 1E; TBG
Stn. No.: API 30-045-34532
Mtr. No.:

TUBING
BD

10/27/2017
33050-10305

Smpl Date: 10/18/2017
Test Date: 10/25/2017
Run No: GW170023

Nitrogen: 0.3036
CO2: 2.3456
Methane: 80.3419
Ethane: 9.8636
Propane: 4.0912
I-Butane: 0.7120
N-Butane: 1.0868
I-Pentane: 0.3824
N-Pentane: 0.2908
Hexane+: 0.5821

BTU: 1212.1
GPM: 18.9620
SPG: 0.7226



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

Analysis No: GW170021
Cust No: 33050-10295
API 30-045-34532

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: NEWBERRY FED 1E; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: BD
Cust. Stn. No.: API 30-045-34532

Source: CASING
Well Flowing: Y
Pressure: 220 PSIG
Flow Temp: DEG. F
Ambient Temp: 67 DEG. F
Flow Rate: 26 MCF/D
Sample Method: Purge & Fill
Date Sampled: 10/18/2017
Sample Time: 12:30 PM
Sampled By: CULLEN
Sampled by (CO): GWDC

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4454	0.4425	0.0490	0.00	0.0043
CO2	0.0909	0.0903	0.0160	0.00	0.0014
Methane	80.0434	79.5198	13.6170	808.44	0.4434
Ethane	9.6039	9.5411	2.5770	169.96	0.0997
Propane	5.8295	5.7914	1.6120	146.68	0.0888
Iso-Butane	1.2051	1.1972	0.3960	39.19	0.0242
N-Butane	1.5087	1.4988	0.4770	49.22	0.0303
I-Pentane	0.4892	0.4860	0.1800	19.57	0.0122
N-Pentane	0.3636	0.3612	0.1320	14.58	0.0091
Hexane Plus	0.4203	0.4176	0.1880	22.15	0.0139
Total	100.0000	99.3459	19.2440	1269.78	0.7271

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0037
BTU/CU.FT IDEAL: 1272.7
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1277.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1255.2
DRY BTU @ 15.025: 1303.0
REAL SPECIFIC GRAVITY: 0.7295

CYLINDER #: 5040
CYLINDER PRESSURE: 215 PSIG
DATE RUN: 10/25/17 12:30 PM
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 30-045-34532

GREAT WESTERN DRILLING

WELL ANALYSIS COMPARISON

Lease: NEWBERRY FED 1E; CSG
Stn. No.: API 30-045-34532
Mtr. No.:

CASING
BD

10/27/2017
33050-10295

Smpl Date: 10/18/2017
Test Date: 10/25/2017
Run No: GW170021

Nitrogen: 0.4454
CO2: 0.0909
Methane: 80.0434
Ethane: 9.6039
Propane: 5.8295
I-Butane: 1.2051
N-Butane: 1.5087
I-Pentane: 0.4892
N-Pentane: 0.3636
Hexane+: 0.4203

BTU: 1277.4
GPM: 19.2440
SPG: 0.7295



2030 Afton Place
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Analysis No: GW170020
Cust No: 33050-10165

ARI 30-045-34532

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: NEWBERRY FED #1E; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: BASIN DK
Cust. Stn. No.: 88643

Source: BRADENHEAD
Well Flowing: Y
Pressure: 53 PSIG
Flow Temp: DEG. F
Ambient Temp: 67 DEG. F
Flow Rate: 26 MCF/D
Sample Method: Purge & Fill
Date Sampled: 10/18/2017
Sample Time: 12.40 PM
Sampled By: CULLAN KELLER
Sampled by (CO): GWDC

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5766	0.5705	0.0640	0.00	0.0056
CO2	0.0078	0.0077	0.0010	0.00	0.0001
Methane	74.5757	73.7836	12.6990	753.21	0.4131
Ethane	8.8721	8.7779	2.3830	157.01	0.0921
Propane	8.0187	7.9335	2.2190	201.76	0.1221
Iso-Butane	2.4380	2.4121	0.8010	79.28	0.0489
N-Butane	3.0287	2.9965	0.9590	98.81	0.0608
I-Pentane	0.9114	0.9017	0.3350	36.46	0.0227
N-Pentane	0.7050	0.6975	0.2570	28.26	0.0176
Hexane Plus	0.8660	0.8568	0.3880	45.65	0.0287
Total	100.0000	98.9378	20.1060	1400.44	0.8116

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0047
BTU/CU.FT IDEAL: 1403.7
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1410.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1385.8
DRY BTU @ 15.025: 1438.5
REAL SPECIFIC GRAVITY: 0.8151

CYLINDER #: 4153
CYLINDER PRESSURE: 40 PSIG
DATE RUN: 10/25/17 12:40 PM
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

Last Cal/Verify: 10/27/2017

GC Method: C6+ Gas



API 30-045-34532

GREAT WESTERN DRILLING
WELL ANALYSIS COMPARISON

Lease: NEWBERRY FED #1E; BHD
Stn. No.: 88643
Mtr. No.:

BRADENHEAD
BASIN DK

10/27/2017
33050-10165

Smpl Date:	10/18/2017	09/05/2014
Test Date:	10/25/2017	09/09/2014
Run No:	GW170020	GW140019
Nitrogen:	0.5766	0.2370
CO2:	0.0078	0.0270
Methane:	74.5757	64.9910
Ethane:	8.8721	7.6090
Propane:	8.0187	15.6360
I-Butane:	2.4380	4.8540
N-Butane:	3.0287	5.4000
I-Pentane:	0.9114	0.8300
N-Pentane:	0.7050	0.3800
Hexane+:	0.8660	0.0360
BTU:	1410.3	1582.0
GPM:	20.1060	21.2630
SPG:	0.8151	0.9220



2030 Afton Place
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API 30-045-34532

Analysis No: GW170022
Cust No: 33050-10300

Well/Lease Information

Customer Name:	GREAT WESTERN DRILLING	Source:	INTERMEDIATE
Well Name:	NEWBERRY FED 1E; INT	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	572 PSIG
Location:		Flow Temp:	DEG. F
Field:		Ambient Temp:	67 DEG. F
Formation:	BD	Flow Rate:	26 MCF/D
Cust. Stn. No.:	API 30-045-34532	Sample Method:	Purge & Fill
		Date Sampled:	10/18/2017
		Sample Time:	12.50 PM
		Sampled By:	CULLEN
		Sampled by (CO):	GWDC

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4215	0.4213	0.0470	0.00	0.0041
CO2	0.0069	0.0069	0.0010	0.00	0.0001
Methane	80.0124	79.9774	13.6110	808.13	0.4432
Ethane	8.9042	8.9003	2.3900	157.58	0.0924
Propane	6.1324	6.1297	1.6950	154.30	0.0934
Iso-Butane	1.6755	1.6748	0.5500	54.49	0.0336
N-Butane	2.0724	2.0715	0.6560	67.61	0.0416
I-Pentane	0.4676	0.4674	0.1720	18.71	0.0116
N-Pentane	0.2744	0.2743	0.1000	11.00	0.0068
Hexane Plus	0.0327	0.0327	0.0150	1.72	0.0011
Total	100.0000	99.9563	19.2370	1273.53	0.7280

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0037
BTU/CU.FT IDEAL:	1276.5
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1281.1
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1258.8
DRY BTU @ 15.025:	1306.8
REAL SPECIFIC GRAVITY:	0.7303

CYLINDER #:	5036
CYLINDER PRESSURE:	588 PSIG
DATE RUN:	10/25/17 12:50 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: 10/27/2017



API 30-045-34532

GREAT WESTERN DRILLING

WELL ANALYSIS COMPARISON

Lease: NEWBERRY FED 1E; INT
Stn. No.: API 30-045-34532
Mtr. No.:

INTERMEDIATE
BD

10/27/2017
33050-10300

Smpl Date: 10/18/2017

Test Date: 10/25/2017

Run No: GW170022

Nitrogen: 0.4215

CO2: 0.0069

Methane: 80.0124

Ethane: 8.9042

Propane: 6.1324

I-Butane: 1.6755

N-Butane: 2.0724

I-Pentane: 0.4676

N-Pentane: 0.2744

Hexane+: 0.0327

BTU: 1281.1

GPM: 19.2370

SPG: 0.7303