



OIL CONS. DIV DIST. 3

NOV 01 2017

2030 Afton Place
Farmington, NM 87401
(505) 325-6622Analysis No: GW170016
Cust No: 33050-10280

API 30-045-27423

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: PUBCO #4; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: MV
Cust. Stn. No.:Source: TUBING
Well Flowing: Y
Pressure: 103 PSIG
Flow Temp: DEG. F
Ambient Temp: 70 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Date Sampled: 10/17/2017
Sample Time: 12.50 PM
Sampled By: CULLAN
Sampled by (CO): GWDC

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4341	0.4296	0.0480	0.00	0.0042
CO2	0.3228	0.3194	0.0550	0.00	0.0049
Methane	92.5592	91.5926	15.7270	934.85	0.5127
Ethane	3.9859	3.9443	1.0680	70.54	0.0414
Propane	1.6778	1.6603	0.4630	42.22	0.0255
Iso-Butane	0.3360	0.3325	0.1100	10.93	0.0067
N-Butane	0.3001	0.2970	0.0950	9.79	0.0060
I-Pentane	0.1112	0.1100	0.0410	4.45	0.0028
N-Pentane	0.0694	0.0687	0.0250	2.78	0.0017
Hexane Plus	0.2035	0.2014	0.0910	10.73	0.0067
Total	100.0000	98.9558	17.7230	1086.28	0.6127

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0025
BTU/CU.FT IDEAL: 1088.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1091.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1072.5
DRY BTU @ 15.025: 1113.4
REAL SPECIFIC GRAVITY: 0.614CYLINDER #: 6041
CYLINDER PRESSURE: 104 PSIG
DATE RUN: 10/24/17 12:50 PM
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

Last Cal/Verify: 10/27/2017

GC Method: C6+ Gas

6



API 30-045-27-123

GREAT WESTERN DRILLING

WELL ANALYSIS COMPARISON

Lease: PUBCO #4; TBG

Stn. No.:

Mtr. No.:

TUBING

MV

10/27/2017

33050-10280

Smpl Date: 10/17/2017

Test Date: 10/24/2017

Run No: GW170016

Nitrogen: 0.4341

CO2: 0.3228

Methane: 92.5592

Ethane: 3.9859

Propane: 1.6778

I-Butane: 0.3360

N-Butane: 0.3001

I-Pentane: 0.1112

N-Pentane: 0.0694

Hexane+: 0.2035

BTU: 1091.5

GPM: 17.7230

SPG: 0.6140



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

Analysis No: GW170015
Cust No: 33050-10275

API 30-045-27423

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: PUBCO #4; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: MV
Cust. Stn. No.:

Source: CASING
Well Flowing: Y
Pressure: 252 PSIG
Flow Temp: DEG. F
Ambient Temp: 70 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Date Sampled: 10/17/2017
Sample Time: 1.10 PM
Sampled By: CULLAN
Sampled by (CO): GWDC

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4099	0.4057	0.0450	0.00	0.0040
CO2	0.1403	0.1389	0.0240	0.00	0.0021
Methane	93.7642	92.7989	15.9300	947.02	0.5194
Ethane	3.5612	3.5245	0.9540	63.02	0.0370
Propane	1.4032	1.3888	0.3870	35.31	0.0214
Iso-Butane	0.2942	0.2912	0.0960	9.57	0.0059
N-Butane	0.2171	0.2149	0.0690	7.08	0.0044
I-Pentane	0.0803	0.0795	0.0290	3.21	0.0020
N-Pentane	0.0440	0.0435	0.0160	1.76	0.0011
Hexane Plus	0.0856	0.0847	0.0380	4.51	0.0028
Total	100.0000	98.9706	17.5880	1071.49	0.6000

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0024
BTU/CU.FT IDEAL: 1074.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1076.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1057.8
DRY BTU @ 15.025: 1098.1
REAL SPECIFIC GRAVITY: 0.6012

CYLINDER #: 7007
CYLINDER PRESSURE: 260 PSIG
DATE RUN: 10/24/17 1:10 PM
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



API 30-045-27423

GREAT WESTERN DRILLING

WELL ANALYSIS COMPARISON

Lease: PUBCO #4; CSG

Stn. No.:

Mtr. No.:

CASING

MV

10/27/2017

33050-10275

Smpl Date: 10/17/2017

Test Date: 10/24/2017

Run No: GW170015

Nitrogen: 0.4099

CO2: 0.1403

Methane: 93.7642

Ethane: 3.5612

Propane: 1.4032

I-Butane: 0.2942

N-Butane: 0.2171

I-Pentane: 0.0803

N-Pentane: 0.0440

Hexane+: 0.0856

BTU: 1076.5

GPM: 17.5880

SPG: 0.6012



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

Analysis No: GW170014
Cust No: 33050-10270

API 30-045-27423

Well/Lease Information

Customer Name: GREAT WESTERN DRILLING
Well Name: PUBCO #4; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: MV
Cust. Str. No.:

Source: BRADENHEAD
Well Flowing: Y
Pressure: 130 PSIG
Flow Temp: DEG. F
Ambient Temp: 70 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Date Sampled: 10/17/2017
Sample Time: 12.59 PM
Sampled By: CULLAN
Sampled by (CO): GWDC

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4167	0.4117	0.0460	0.00	0.0040
CO2	0.0118	0.0117	0.0020	0.00	0.0002
Methane	93.8560	92.7354	15.9460	947.95	0.5199
Ethane	3.5729	3.5302	0.9580	63.23	0.0371
Propane	1.4106	1.3938	0.3890	35.49	0.0215
Iso-Butane	0.2951	0.2916	0.0970	9.60	0.0059
N-Butane	0.2193	0.2167	0.0690	7.15	0.0044
I-Pentane	0.0813	0.0803	0.0300	3.25	0.0020
N-Pentane	0.0452	0.0447	0.0160	1.81	0.0011
Hexane Plus	0.0911	0.0900	0.0410	4.80	0.0030
Total	100.0000	98.8061	17.5940	1073.28	0.5991

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0024
BTU/CU.FT IDEAL: 1075.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1078.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1059.6
DRY BTU @ 15.025: 1100.0
REAL SPECIFIC GRAVITY: 0.6003

CYLINDER #: 4245
CYLINDER PRESSURE: 130 PSIG
DATE RUN: 10/24/17 12:59 PM
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



API 30-045-27423

GREAT WESTERN DRILLING

WELL ANALYSIS COMPARISON

Lease: PUBCO #4; BHD

Stn. No.:

Mtr. No.:

BRADENHEAD

MV

10/27/2017

33050-10270

Smpl Date: 10/17/2017

Test Date: 10/24/2017

Run No: GW170014

Nitrogen: 0.4167

CO2: 0.0118

Methane: 93.8560

Ethane: 3.5729

Propane: 1.4106

I-Butane: 0.2951

N-Butane: 0.2193

I-Pentane: 0.0813

N-Pentane: 0.0452

Hexane+: 0.0911

BTU: 1078.4

GPM: 17.5940

SPG: 0.6003