



GCU 167
30-045-07516
Bradenhead
Sample

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

Analysis No: SO180151
Cust No: 15950-11185

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU #167; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API 3004507516

Source: BRADENHEAD
Well Flowing: Y
Pressure: 33 PSIA
Flow Temp: DEG. F
Ambient Temp: 67 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/30/2018
Sample Time: 8.40 AM
Sampled By: SCOTT WILLARD
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMOC
FEB 13 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4176	0.4164	0.0460	0.00	0.0040
CO2	0.0351	0.0350	0.0060	0.00	0.0005
Methane	88.9521	88.6893	15.1180	898.42	0.4927
Ethane	6.4174	6.3985	1.7210	113.57	0.0666
Propane	2.3576	2.3506	0.6510	59.32	0.0359
Iso-Butane	0.4222	0.4210	0.1390	13.73	0.0085
N-Butane	0.5168	0.5153	0.1630	16.86	0.0104
I-Pentane	0.1840	0.1835	0.0670	7.36	0.0046
N-Pentane	0.1179	0.1176	0.0430	4.73	0.0029
Hexane Plus	0.5793	0.5776	0.2590	30.54	0.0192
Total	100.0000	99.7048	18.2130	1144.52	0.6453

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0028
BTU/CU.FT IDEAL: 1147.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1150.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1130.4
DRY BTU @ 15.025: 1173.4
REAL SPECIFIC GRAVITY: 0.6469

CYLINDER #: 7056
CYLINDER PRESSURE: 30 PSIG
ANALYSIS DATE: 08/03/2018
ANALYSIS TIME: 02:28:21 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: 08/09/2018

GC Method: C6+ Gas

6



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU #167; BHD
Stn. No.: API 3004507516
Mtr. No.:

BRADENHEAD
PC

08/09/2018
15950-11185

Smpl Date: 07/30/2018
Test Date: 08/03/2018
Run No: SO180151

Nitrogen: 0.4176
CO2: 0.0351
Methane: 88.9521
Ethane: 6.4174
Propane: 2.3576
I-Butane: 0.4222
N-Butane: 0.5168
I-Pentane: 0.1840
N-Pentane: 0.1179
Hexane+: 0.5793

BTU: 1150.4
GPM: 18.2130
SPG: 0.6469



GCU 167
30-045-07516
Casing Sample

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

Analysis No: SO180152
Cust No: 15950-11190

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU #167; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API 3004507516

Source: CASING
Well Flowing: Y
Pressure: 103 PSIA
Flow Temp: DEG. F
Ambient Temp: 67 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/30/2018
Sample Time: 8.58 AM
Sampled By: SCOTT WILLARD
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

MMOCD
FEB 13 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5242	0.5200	0.0580	0.00	0.0051
CO2	0.4120	0.4087	0.0710	0.00	0.0063
Methane	71.9815	71.4105	12.2570	727.01	0.3987
Ethane	13.2946	13.1891	3.5710	235.27	0.1380
Propane	7.4132	7.3544	2.0510	186.52	0.1129
Iso-Butane	1.2086	1.1990	0.3970	39.30	0.0243
N-Butane	2.5164	2.4964	0.7970	82.09	0.0505
I-Pentane	0.8413	0.8346	0.3090	33.66	0.0210
N-Pentane	0.8021	0.7957	0.2920	32.15	0.0200
Hexane Plus	1.0061	0.9981	0.4510	53.03	0.0333
Total	100.0000	99.2065	20.2540	1389.05	0.8099

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0047
BTU/CU.FT IDEAL: 1392.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1398.8
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1374.5
DRY BTU @ 15.025: 1426.8
REAL SPECIFIC GRAVITY: 0.8134

CYLINDER #: 7043
CYLINDER PRESSURE: 81 PSIG
ANALYSIS DATE: 08/03/2018
ANALYSIS TIME: 10:55:41 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: 08/09/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU #167; CSG
Stn. No.: API 3004507516
Mtr. No.:

CASING
PC

08/09/2018
15950-11190

Smpl Date: 07/30/2018
Test Date: 08/03/2018
Run No: SO180152

Nitrogen: 0.5242
CO2: 0.4120
Methane: 71.9815
Ethane: 13.2946
Propane: 7.4132
I-Butane: 1.2086
N-Butane: 2.5164
I-Pentane: 0.8413
N-Pentane: 0.8021
Hexane+: 1.0061

BTU: 1398.8
GPM: 20.2540
SPG: 0.8134



GCU 1467
30-045-07516
Tubing Sample

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

Analysis No: SO180153
Cust No: 15950-11195

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU #167; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API 3004507516

Source: TUBING
Well Flowing: Y
Pressure: 47 PSIA
Flow Temp: DEG. F
Ambient Temp: 67 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/30/2018
Sample Time: 8.47 AM
Sampled By: SCOTT WILLARD
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMOC
FEB 13 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.0731	1.0618	0.1190	0.00	0.0104
CO2	1.3056	1.2918	0.2240	0.00	0.0198
Methane	73.9084	73.1269	12.5800	746.47	0.4094
Ethane	12.3445	12.2140	3.3150	218.46	0.1282
Propane	6.3491	6.2820	1.7560	159.75	0.0967
Iso-Butane	0.9810	0.9706	0.3220	31.90	0.0197
N-Butane	1.8340	1.8146	0.5810	59.83	0.0368
I-Pentane	0.5222	0.5167	0.1920	20.89	0.0130
N-Pentane	0.4565	0.4517	0.1660	18.30	0.0114
Hexane Plus	1.2256	1.2126	0.5490	64.60	0.0406
Total	100.0000	98.9427	19.8040	1320.21	0.7859

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0043
BTU/CU.FT IDEAL: 1323.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1329.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1305.9
DRY BTU @ 15.025: 1355.6
REAL SPECIFIC GRAVITY: 0.7889

CYLINDER #: 7076
CYLINDER PRESSURE: 21 PSIG
ANALYSIS DATE: 08/03/2018
ANALYSIS TIME: 12:55:10 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: 08/09/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU #167; TBG
Stn. No.: API 3004507516
Mtr. No.:

TUBING
PC

08/09/2018
15950-11195

Smpl Date: 07/30/2018
Test Date: 08/03/2018
Run No: SO180153

Nitrogen: 1.0731
CO2: 1.3056
Methane: 73.9084
Ethane: 12.3445
Propane: 6.3491
I-Butane: 0.9810
N-Butane: 1.8340
I-Pentane: 0.5222
N-Pentane: 0.4565
Hexane+: 1.2256

BTU: 1329.0
GPM: 19.8040
SPG: 0.7889