



GCU 165
30-045-07171
Bradenhead Sample

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

Analysis No: SO180069
Cust No: 15950-10775

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 165; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Stn. No.: API 3004507171

Source: BRADENHEAD
Well Flowing: Y
Pressure: 64 PSIA
Flow Temp: DEG. F
Ambient Temp: 86 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/09/2018
Sample Time: 1.58 PM
Sampled By: E. HAMILTON
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMOC
FEB 13 2013
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4276	0.4297	0.0470	0.00	0.0041
CO2	0.0436	0.0438	0.0070	0.00	0.0007
Methane	89.7248	90.1716	15.2480	906.22	0.4970
Ethane	5.8600	5.8892	1.5710	103.70	0.0608
Propane	2.2921	2.3035	0.6330	57.67	0.0349
Iso-Butane	0.4318	0.4339	0.1420	14.04	0.0087
N-Butane	0.5486	0.5513	0.1730	17.90	0.0110
I-Pentane	0.2052	0.2062	0.0750	8.21	0.0051
N-Pentane	0.1381	0.1388	0.0500	5.54	0.0034
Hexane Plus	0.3282	0.3298	0.1470	17.30	0.0109
Total	100.0000	100.4978	18.0930	1130.58	0.6366

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0027
BTU/CU.FT IDEAL: 1133.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1136.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1116.5
DRY BTU @ 15.025: 1159.1
REAL SPECIFIC GRAVITY: 0.6381

CYLINDER #: 7062
CYLINDER PRESSURE: 41 PSIG
ANALYSIS DATE: 07/17/2018
ANALYSIS TIME: 02:36:10 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: 07/19/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 165; BHD
Stn. No.: API 3004507171
Mtr. No.:

BRADENHEAD
DK

07/19/2018
15950-10775

Smpl Date: 07/09/2018
Test Date: 07/17/2018
Run No: SO180069

Nitrogen: 0.4276
CO2: 0.0436
Methane: 89.7248
Ethane: 5.8600
Propane: 2.2921
I-Butane: 0.4318
N-Butane: 0.5486
I-Pentane: 0.2052
N-Pentane: 0.1381
Hexane+: 0.3282

BTU: 1136.3
GPM: 18.0930
SPG: 0.6381



GCU 165
30-045-07171
Casing Sample

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

Analysis No: SO180070
Cust No: 15950-10780

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 165; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Stn. No.: API 3004507171

Source: CASING
Well Flowing: Y
Pressure: 182 PSIA
Flow Temp: DEG. F
Ambient Temp: 86 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/09/2018
Sample Time: 2.11 PM
Sampled By: E. HAMILTON
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMOC
FEB 13 2019
DISTRICT III

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4998	0.5054	0.0550	0.00	0.0048
CO2	0.8409	0.8504	0.1440	0.00	0.0128
Methane	76.7351	77.6003	13.0580	775.02	0.4250
Ethane	11.3557	11.4837	3.0480	200.96	0.1179
Propane	6.0563	6.1246	1.6750	152.38	0.0922
Iso-Butane	0.8598	0.8695	0.2820	27.96	0.0173
N-Butane	1.7468	1.7665	0.5530	56.99	0.0351
I-Pentane	0.5782	0.5847	0.2120	23.13	0.0144
N-Pentane	0.5343	0.5403	0.1940	21.42	0.0133
Hexane Plus	0.7931	0.8020	0.3550	41.80	0.0262
Total	100.0000	101.1274	19.5760	1299.67	0.7590

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.004
BTU/CU.FT IDEAL: 1302.7
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1307.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1285.1
DRY BTU @ 15.025: 1334.1
REAL SPECIFIC GRAVITY: 0.7618

CYLINDER #: 7055
CYLINDER PRESSURE: 159 PSIG
ANALYSIS DATE: 07/17/2018
ANALYSIS TIME: 02:18:37 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: 07/19/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 165; CSG
Stn. No.: API 3004507171
Mtr. No.:

CASING
DK

07/19/2018
15950-10780

Smpl Date: 07/09/2018
Test Date: 07/17/2018
Run No: SO180070

Nitrogen: 0.4998
CO2: 0.8409
Methane: 76.7351
Ethane: 11.3557
Propane: 6.0563
I-Butane: 0.8598
N-Butane: 1.7468
I-Pentane: 0.5782
N-Pentane: 0.5343
Hexane+: 0.7931

BTU: 1307.9
GPM: 19.5760
SPG: 0.7618



GCU 165
30-045-07171
Tubing Sample

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

Analysis No: SO180071
Cust No: 15950-10785

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 165; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Str. No.: API 3004507171

Source: TUBING
Well Flowing: Y
Pressure: 171 PSIA
Flow Temp: DEG. F
Ambient Temp: 86 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/09/2018
Sample Time: 2.05 PM
Sampled By: E. HAMILTON
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMCOB
FEB 13 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5078	0.5030	0.0560	0.00	0.0049
CO2	1.1157	1.1052	0.1910	0.00	0.0170
Methane	84.3011	83.5076	14.3320	851.44	0.4669
Ethane	8.5788	8.4981	2.3010	151.82	0.0891
Propane	3.2806	3.2497	0.9060	82.54	0.0499
Iso-Butane	0.4940	0.4894	0.1620	16.06	0.0099
N-Butane	0.7849	0.7775	0.2480	25.61	0.0158
I-Pentane	0.2535	0.2511	0.0930	10.14	0.0063
N-Pentane	0.1914	0.1896	0.0700	7.67	0.0048
Hexane Plus	0.4922	0.4876	0.2200	25.94	0.0163
Total	100.0000	99.0588	18.5790	1171.23	0.6809

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
BTU/CU.FT IDEAL: 1173.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1177.6
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1157.1
DRY BTU @ 15.025: 1201.2
REAL SPECIFIC GRAVITY: 0.6827

CYLINDER #: 7007
CYLINDER PRESSURE: 163 PSIG
ANALYSIS DATE: 07/17/2018
ANALYSIS TIME: 02:17:27 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: 07/19/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 165; TBG
Stn. No.: API 3004507171
Mtr. No.:

TUBING
DK

07/19/2018
15950-10785

Smpl Date: 07/09/2018
Test Date: 07/17/2018
Run No: SO180071

Nitrogen: 0.5078
CO2: 1.1157
Methane: 84.3011
Ethane: 8.5788
Propane: 3.2806
I-Butane: 0.4940
N-Butane: 0.7849
I-Pentane: 0.2535
N-Pentane: 0.1914
Hexane+: 0.4922

BTU: 1177.6
GPM: 18.5790
SPG: 0.6827