



GCU 33
3D-045-07268
Bradenhead Sample

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

Analysis No: SO180018
Cust No: 15950-10520

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU #33; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: FT
Cust. Str. No.: API 3004507268

Source: BRADENHEAD
Well Flowing: Y
Pressure: 26 PSIA
Flow Temp: DEG. F
Ambient Temp: 76 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 06/27/2018
Sample Time: 9.09 AM
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	0.2990	0.2999	0.0330	0.00	0.0029
CO2	0.0466	0.0467	0.0080	0.00	0.0007
Methane	90.1703	90.4349	15.3240	910.72	0.4995
Ethane	5.9912	6.0088	1.6060	106.03	0.0622
Propane	2.1474	2.1537	0.5930	54.03	0.0327
Iso-Butane	0.3744	0.3755	0.1230	12.18	0.0075
N-Butane	0.4544	0.4557	0.1440	14.82	0.0091
I-Pentane	0.1633	0.1638	0.0600	6.53	0.0041
N-Pentane	0.1115	0.1118	0.0410	4.47	0.0028
Hexane Plus	0.2419	0.2426	0.1080	12.75	0.0080
Total	100.0000	100.2934	18.0400	1121.53	0.6294

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0027
BTU/CU.FT IDEAL: 1124.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1127.1
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1107.5
DRY BTU @ 15.025: 1149.7
REAL SPECIFIC GRAVITY: 0.6308

CYLINDER #: 7055
CYLINDER PRESSURE: 26 PSIG
ANALYSIS DATE: 07/05/2018
ANALYSIS TIME: 08:24:57 AM
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: 07/09/2018

6



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU #33; BHD
Stn. No.: API 3004507268
Mtr. No.:

BRADENHEAD
FT

07/09/2018
15950-10520

Smpl Date: 06/27/2018
Test Date: 07/05/2018
Run No: SO180018

Nitrogen: 0.2990
CO2: 0.0466
Methane: 90.1703
Ethane: 5.9912
Propane: 2.1474
I-Butane: 0.3744
N-Butane: 0.4544
I-Pentane: 0.1633
N-Pentane: 0.1115
Hexane+: 0.2419

BTU: 1127.1
GPM: 18.0400
SPG: 0.6308



GCU 33
30-045-07268
Casing Sample

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

Analysis No: SO180019
Cust No: 15950-10525

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU #33; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: FT
Cust. Stn. No.: API 3004507268

Source: CASING
Well Flowing: Y
Pressure: 13 PSIA
Flow Temp: DEG. F
Ambient Temp: 76 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 06/27/2018
Sample Time: 9.14 AM
Sampled By: E. HAMILTON
Sampled by (CO): PESCO

Heat Trace: N
Remarks: PRESSURED WITH HELIUM TO 30LBS.

NMOC
FEB 13 2019
DISTRICT III

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	3.9588	0.9776	0.4360	0.00	0.0383
CO2	0.1357	0.0335	0.0230	0.00	0.0021
Methane	93.4442	23.0754	15.8710	943.79	0.5176
Ethane	1.4360	0.3546	0.3850	25.41	0.0149
Propane	0.3207	0.0792	0.0890	8.07	0.0049
Iso-Butane	0.1008	0.0249	0.0330	3.28	0.0020
N-Butane	0.0474	0.0117	0.0150	1.55	0.0010
I-Pentane	0.0207	0.0051	0.0080	0.83	0.0005
N-Pentane	0.0121	0.0030	0.0040	0.49	0.0003
Hexane Plus	0.5236	0.1293	0.2340	27.60	0.0173
Total	100.0000	24.6943	17.0980	1011.01	0.5989

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0021
BTU/CU.FT IDEAL: 1013.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1015.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 997.8
DRY BTU @ 15.025: 1035.8
REAL SPECIFIC GRAVITY: 0.5999

CYLINDER #: 7048
CYLINDER PRESSURE: 2 PSIG
ANALYSIS DATE: 07/05/2018
ANALYSIS TIME: 08:58:58 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: 07/09/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU #33; CSG
Stn. No.: API 3004507268
Mtr. No.:

CASING
FT

07/09/2018
15950-10525

Smpl Date: 06/27/2018
Test Date: 07/05/2018
Run No: SO180019

Nitrogen: 3.9588
CO2: 0.1357
Methane: 93.4442
Ethane: 1.4360
Propane: 0.3207
I-Butane: 0.1008
N-Butane: 0.0474
I-Pentane: 0.0207
N-Pentane: 0.0121
Hexane+: 0.5236

BTU: 1015.5
GPM: 17.0980
SPG: 0.5999



GCU 33
30-045-07268
Tubing Sample

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

Analysis No: SO180020
Cust No: 15950-10530

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU #33; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: FT
Cust. Stn. No.: API 3004507268

Source: TUBING
Well Flowing: Y
Pressure: 13 PSIA
Flow Temp: DEG. F
Ambient Temp: 76 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 06/27/2018
Sample Time: 7.56 AM
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	0.2078	0.2002	0.0230	0.00	0.0020
CO2	0.1387	0.1336	0.0240	0.00	0.0021
Methane	97.3411	93.7586	16.5340	983.15	0.5392
Ethane	1.5926	1.5340	0.4270	28.18	0.0165
Propane	0.3486	0.3358	0.0960	8.77	0.0053
Iso-Butane	0.1151	0.1109	0.0380	3.74	0.0023
N-Butane	0.0472	0.0455	0.0150	1.54	0.0009
I-Pentane	0.0228	0.0220	0.0080	0.91	0.0006
N-Pentane	0.0135	0.0130	0.0050	0.54	0.0003
Hexane Plus	0.1726	0.1662	0.0770	9.10	0.0057
Total	100.0000	96.3198	17.2470	1035.93	0.5750

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0022
BTU/CU.FT IDEAL: 1038.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1040.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1022.4
DRY BTU @ 15.025: 1061.3
REAL SPECIFIC GRAVITY: 0.576

CYLINDER #: 7004
CYLINDER PRESSURE: 10 PSIG
ANALYSIS DATE: 07/03/2018
ANALYSIS TIME: 02:33:38 PM
ANALYSIS RUN BY: PATRICIA KING

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: 07/09/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU #33; TBG
Stn. No.: API 3004507268
Mtr. No.:

TUBING
FT

07/09/2018
15950-10530

Smpl Date: 06/27/2018
Test Date: 07/03/2018
Run No: SO180020

Nitrogen: 0.2078
CO2: 0.1387
Methane: 97.3411
Ethane: 1.5926
Propane: 0.3486
I-Butane: 0.1151
N-Butane: 0.0472
I-Pentane: 0.0228
N-Pentane: 0.0135
Hexane+: 0.1726

BTU: 1040.5
GPM: 17.2470
SPG: 0.5760