



GCU 233
30-045-11686
Bradenhead Sample

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

Analysis No: SO180106
Cust No: 15950-10960

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 233; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.:
API 3004511686

Source: BRADENHEAD
Well Flowing: Y
Pressure: 176 PSIA
Flow Temp: DEG. F
Ambient Temp: 72 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/13/2018
Sample Time: 9.12 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	0.4626	0.4573	0.0510	0.00	0.0045
CO2	0.0021	0.0021	0.0000	0.00	0.0000
Methane	89.1755	88.1535	15.1550	900.67	0.4939
Ethane	6.4338	6.3601	1.7250	113.86	0.0668
Propane	2.5413	2.5122	0.7020	63.94	0.0387
Iso-Butane	0.4565	0.4513	0.1500	14.84	0.0092
N-Butane	0.5740	0.5674	0.1810	18.73	0.0115
I-Pentane	0.1720	0.1700	0.0630	6.88	0.0043
N-Pentane	0.1044	0.1032	0.0380	4.19	0.0026
Hexane Plus	0.0778	0.0769	0.0350	4.10	0.0026
Total	100.0000	98.8540	18.1000	1127.21	0.6341

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0027
BTU/CU.FT IDEAL: 1129.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1132.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1113.2
DRY BTU @ 15.025: 1155.6
REAL SPECIFIC GRAVITY: 0.6355

CYLINDER #: 7035
CYLINDER PRESSURE: 155 PSIG
ANALYSIS DATE: 07/24/2018
ANALYSIS TIME: 09:42:10 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: 07/26/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 233; BHD
Stn. No.:
Mtr. No.: API 3004511686

BRADENHEAD
PC

07/26/2018
15950-10960

Smpl Date: 07/13/2018
Test Date: 07/24/2018
Run No: SO180106

Nitrogen: 0.4626
CO2: 0.0021
Methane: 89.1755
Ethane: 6.4338
Propane: 2.5413
I-Butane: 0.4565
N-Butane: 0.5740
I-Pentane: 0.1720
N-Pentane: 0.1044
Hexane+: 0.0778

BTU: 1132.9
GPM: 18.1000
SPG: 0.6355



GCU 233
30-045-11686
Casing Sample

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

Analysis No: SO180107
Cust No: 15950-10965

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 233; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.:
API 30045211686

NMOC
FEB 13 2019
DISTRICT III

Source: CASING
Well Flowing: Y
Pressure: 8 PSIA
Flow Temp: DEG. F
Ambient Temp: 72 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/13/2018
Sample Time: 9.16 AM
Sampled By: E. HAMILTON
Sampled by (CO): PESCO

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

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1437	0.0696	0.0160	0.00	0.0014
CO2	3.9726	1.9245	0.6800	0.00	0.0604
Methane	85.0200	41.1873	14.4540	858.70	0.4709
Ethane	6.9837	3.3832	1.8730	123.59	0.0725
Propane	1.5451	0.7485	0.4270	38.88	0.0235
Iso-Butane	0.3301	0.1599	0.1080	10.73	0.0066
N-Butane	0.4581	0.2219	0.1450	14.94	0.0092
I-Pentane	0.2370	0.1148	0.0870	9.48	0.0059
N-Pentane	0.1750	0.0848	0.0640	7.02	0.0044
Hexane Plus	1.1347	0.5497	0.5070	59.81	0.0376
Total	100.0000	48.4442	18.3610	1123.16	0.6923

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
BTU/CU.FT IDEAL: 1125.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1129.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1109.7
DRY BTU @ 15.025: 1151.9
REAL SPECIFIC GRAVITY: 0.6942

CYLINDER #: 7086
CYLINDER PRESSURE: PSIG
ANALYSIS DATE: 07/23/2018
ANALYSIS TIME: 04:11:25 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: 07/26/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 233; CSG
Stn. No.:
Mtr. No.: API 30045211686

CASING
PC

07/26/2018
15950-10965

Smpl Date: 07/13/2018
Test Date: 07/23/2018
Run No: SO180107

Nitrogen: 0.1437
CO2: 3.9726
Methane: 85.0200
Ethane: 6.9837
Propane: 1.5451
I-Butane: 0.3301
N-Butane: 0.4581
I-Pentane: 0.2370
N-Pentane: 0.1750
Hexane+: 1.1347

BTU: 1129.3
GPM: 18.3610
SPG: 0.6942



GCU 233
30-045-11486
Tubing Sample

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

Analysis No: SO180108
Cust No: 15950-10970

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 233; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.:
API 30045211686

NMOCB
FEB 13 2019
DISTRICT III

Source: TUBING
Well Flowing: Y
Pressure: 8 PSIA
Flow Temp: DEG. F
Ambient Temp: 72 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/13/2018
Sample Time: 9.21 AM
Sampled By: E. HAMILTON
Sampled by (CO): PESCO

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

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1311	0.0668	0.0140	0.00	0.0013
CO2	3.9693	2.0222	0.6790	0.00	0.0603
Methane	85.1124	43.3613	14.4700	859.64	0.4714
Ethane	6.9792	3.5556	1.8720	123.51	0.0725
Propane	1.5446	0.7869	0.4270	38.86	0.0235
Iso-Butane	0.3282	0.1672	0.1080	10.67	0.0066
N-Butane	0.4534	0.2310	0.1430	14.79	0.0091
I-Pentane	0.2328	0.1186	0.0850	9.31	0.0058
N-Pentane	0.1696	0.0864	0.0620	6.80	0.0042
Hexane Plus	1.0794	0.5499	0.4830	56.90	0.0357
Total	100.0000	50.9459	18.3430	1120.48	0.6904

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
BTU/CU.FT IDEAL: 1123.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1126.6
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1107.0
DRY BTU @ 15.025: 1149.2
REAL SPECIFIC GRAVITY: 0.6923

CYLINDER #: 7043
CYLINDER PRESSURE: PSIG
ANALYSIS DATE: 07/23/2018
ANALYSIS TIME: 03:38:58 AM
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: 07/26/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 233; TBG
Stn. No.:
Mtr. No.: API 30045211686

TUBING
PC

07/26/2018
15950-10970

Smpl Date: 07/13/2018
Test Date: 07/23/2018
Run No: SO180108

Nitrogen: 0.1311
CO2: 3.9693
Methane: 85.1124
Ethane: 6.9792
Propane: 1.5446
I-Butane: 0.3282
N-Butane: 0.4534
I-Pentane: 0.2328
N-Pentane: 0.1696
Hexane+: 1.0794

BTU: 1126.6
GPM: 18.3430
SPG: 0.6923