



GCU 233 E
30-045-26210
Bradenhead Sample

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

Analysis No: SO180109
Cust No: 15950-10975

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 233E; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Stn. No.:
API 3004526210

Source: BRADENHEAD
Well Flowing: Y
Pressure: 40 PSIA
Flow Temp: DEG. F
Ambient Temp: 69 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/13/2018
Sample Time: 8.15 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	0.4206	0.4218	0.0460	0.00	0.0041
CO2	0.0170	0.0170	0.0030	0.00	0.0003
Methane	94.4667	94.7279	16.0480	954.11	0.5233
Ethane	3.8394	3.8500	1.0290	67.95	0.0399
Propane	0.7544	0.7565	0.2080	18.98	0.0115
Iso-Butane	0.1171	0.1174	0.0380	3.81	0.0023
N-Butane	0.1519	0.1523	0.0480	4.96	0.0030
I-Pentane	0.0521	0.0522	0.0190	2.08	0.0013
N-Pentane	0.0376	0.0377	0.0140	1.51	0.0009
Hexane Plus	0.1432	0.1436	0.0640	7.55	0.0047
Total	100.0000	100.2764	17.5170	1060.94	0.5913

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0023
BTU/CU.FT IDEAL: 1063.4
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1065.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1047.4
DRY BTU @ 15.025: 1087.2
REAL SPECIFIC GRAVITY: 0.5924

CYLINDER #: 7077
CYLINDER PRESSURE: 36 PSIG
ANALYSIS DATE: 07/24/2018
ANALYSIS TIME: 09:37:45 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: 07/26/2018

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BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 233E; BHD
Stn. No.:
Mtr. No.: API 3004526210

BRADENHEAD
DK

07/26/2018
15950-10975

Smpl Date: 07/13/2018
Test Date: 07/24/2018
Run No: SO180109

Nitrogen: 0.4206
CO2: 0.0170
Methane: 94.4667
Ethane: 3.8394
Propane: 0.7544
I-Butane: 0.1171
N-Butane: 0.1519
I-Pentane: 0.0521
N-Pentane: 0.0376
Hexane+: 0.1432

BTU: 1065.9
GPM: 17.5170
SPG: 0.5924



GCU 233 E
30-045-26210
Casing Sample

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

Analysis No: SO180110
Cust No: 15950-10980

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 233E; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Stn. No.:
API 3004526210

Source: CASING
Well Flowing: Y
Pressure: 103 PSIA
Flow Temp: DEG. F
Ambient Temp: 69 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/13/2018
Sample Time: 8.30 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	0.7947	0.7993	0.0880	0.00	0.0077
CO2	0.9104	0.9156	0.1560	0.00	0.0138
Methane	82.5628	83.0375	14.0400	833.88	0.4573
Ethane	9.3737	9.4276	2.5150	165.89	0.0973
Propane	3.6375	3.6584	1.0050	91.52	0.0554
Iso-Butane	0.5325	0.5356	0.1750	17.32	0.0107
N-Butane	0.9391	0.9445	0.2970	30.64	0.0188
I-Pentane	0.3127	0.3145	0.1150	12.51	0.0078
N-Pentane	0.2544	0.2559	0.0920	10.20	0.0063
Hexane Plus	0.6822	0.6861	0.3050	35.96	0.0226
Total	100.0000	100.5750	18.7880	1197.91	0.6978

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
BTU/CU.FT IDEAL: 1200.7
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1204.7
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1183.7
DRY BTU @ 15.025: 1228.8
REAL SPECIFIC GRAVITY: 0.6998

CYLINDER #: 7047
CYLINDER PRESSURE: 95 PSIG
ANALYSIS DATE: 07/23/2018
ANALYSIS TIME: 04:17:31 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

Last Cal/Verify: 07/26/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 233E; CSG
Stn. No.:
Mtr. No.: API 3004526210

CASING
DK

07/26/2018
15950-10980

Smpl Date: 07/13/2018
Test Date: 07/23/2018
Run No: SO180110

Nitrogen: 0.7947
CO2: 0.9104
Methane: 82.5628
Ethane: 9.3737
Propane: 3.6375
I-Butane: 0.5325
N-Butane: 0.9391
I-Pentane: 0.3127
N-Pentane: 0.2544
Hexane+: 0.6822

BTU: 1204.7
GPM: 18.7880
SPG: 0.6998



GCU 233 E
30-045-26210
Tubing Sample

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

Analysis No: SO180111
Cust No: 15950-10985

Well/Lease Information

Customer Name:	BP - SOUTH BHD PROJECT	Source:	TUBING
Well Name:	GCU 233E; TBG	Well Flowing:	
County/State:	SAN JUAN NM	Pressure:	97 PSIA
Location:		Flow Temp:	DEG. F
Field:		Ambient Temp:	69 DEG. F
Formation:	DK	Flow Rate:	MCF/D
Cust. Stn. No.:		Sample Method:	Purge & Fill
	API 3004526210	Sample Date:	07/13/2018
		Sample Time:	8.20 AM
		Sampled By:	E. HAMILTON
		Sampled by (CO):	PESCO
Heat Trace:			
Remarks:	PRESSURED WITH HELIUM TO 30LBS. CYL #7097 WAS PRESSURE TESTED, NO LEAKS FOUND		

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	15.1313	3.6002	1.6690	0.00	0.1463
CO2	0.6586	0.1567	0.1130	0.00	0.0100
Methane	70.7751	16.8396	12.0290	714.83	0.3920
Ethane	7.6018	1.8087	2.0380	134.53	0.0789
Propane	3.0320	0.7214	0.8370	76.29	0.0462
Iso-Butane	0.4152	0.0988	0.1360	13.50	0.0083
N-Butane	0.7511	0.1787	0.2370	24.50	0.0151
I-Pentane	0.2417	0.0575	0.0890	9.67	0.0060
N-Pentane	0.1912	0.0455	0.0690	7.66	0.0048
Hexane Plus	1.2020	0.2860	0.5370	63.36	0.0398
Total	100.0000	23.7931	17.7540	1044.34	0.7474

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0028	CYLINDER #:	7097
BTU/CU.FT IDEAL:	1046.8	CYLINDER PRESSURE:	PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1049.7	ANALYSIS DATE:	07/23/2018
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1031.4	ANALYSIS TIME:	03:07:27 PM
DRY BTU @ 15.025:	1070.7	ANALYSIS RUN BY:	PATRICIA KING
REAL SPECIFIC GRAVITY:	0.7492		

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 233E; TBG
Stn. No.:
Mtr. No.: API 3004526210

TUBING
DK

07/26/2018
15950-10985

Smpl Date: 07/13/2018
Test Date: 07/23/2018
Run No: SO180111

Nitrogen: 15.1313
CO2: 0.6586
Methane: 70.7751
Ethane: 7.6018
Propane: 3.0320
I-Butane: 0.4152
N-Butane: 0.7511
I-Pentane: 0.2417
N-Pentane: 0.1912
Hexane+: 1.2020

BTU: 1049.7
GPM: 17.7540
SPG: 0.7492