



GCU com G179
30-045-07805
Bradenhead Sample

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

Analysis No: SO180139
Cust No: 15950-11125

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU COM G #179; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API 3004507805

Source: BRADENHEAD
Well Flowing: Y
Pressure: 118 PSIA
Flow Temp: DEG. F
Ambient Temp: 87 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/20/2018
Sample Time: 11.47 AM
Sampled By: SCOTT WILLARD
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NM000
FEB 13 2013
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4876	0.4935	0.0540	0.00	0.0047
CO2	0.0216	0.0219	0.0040	0.00	0.0003
Methane	93.7529	94.8792	15.9280	946.90	0.5193
Ethane	4.3160	4.3678	1.1570	76.38	0.0448
Propane	0.8315	0.8415	0.2300	20.92	0.0127
Iso-Butane	0.0598	0.0605	0.0200	1.94	0.0012
N-Butane	0.1023	0.1035	0.0320	3.34	0.0021
I-Pentane	0.0674	0.0682	0.0250	2.70	0.0017
N-Pentane	0.0512	0.0518	0.0190	2.05	0.0013
Hexane Plus	0.3097	0.3134	0.1380	16.32	0.0102
Total	100.0000	101.2013	17.6070	1070.56	0.5983

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0024
BTU/CU.FT IDEAL: 1073.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1075.6
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1056.9
DRY BTU @ 15.025: 1097.1
REAL SPECIFIC GRAVITY: 0.5995

CYLINDER #: 1014
CYLINDER PRESSURE: 118 PSIG
ANALYSIS DATE: 07/31/2018
ANALYSIS TIME: 09:48:53 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

Last Cal/Verify: 08/02/2018

GC Method: C6+ Gas

6



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU COM G #179; BHD
Stn. No.: API 3004507805
Mtr. No.:

BRADENHEAD
PC

08/02/2018
15950-11125

Smpl Date: 07/20/2018
Test Date: 07/31/2018
Run No: SO180139
Nitrogen: 0.4876
CO2: 0.0216
Methane: 93.7529
Ethane: 4.3160
Propane: 0.8315
I-Butane: 0.0598
N-Butane: 0.1023
I-Pentane: 0.0674
N-Pentane: 0.0512
Hexane+: 0.3097
BTU: 1075.6
GPM: 17.6070
SPG: 0.5995



GCU Com G 179
30-245-07805
Casing Sample

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

Analysis No: SO180140
Cust No: 15950-11130

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU COM G #179; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API 3004507805

Source: CASING
Well Flowing: Y
Pressure: 110 PSIA
Flow Temp: DEG. F
Ambient Temp: 87 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/20/2018
Sample Time: 11.54 AM
Sampled By: SCOTT WILLARD
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMDCD
FEB 13 2013
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3666	0.3698	0.0400	0.00	0.0035
CO2	0.7488	0.7554	0.1280	0.00	0.0114
Methane	78.4186	79.1076	13.3430	792.03	0.4344
Ethane	10.6478	10.7414	2.8580	188.43	0.1105
Propane	5.2637	5.3100	1.4550	132.44	0.0801
Iso-Butane	0.8532	0.8607	0.2800	27.75	0.0171
N-Butane	1.5906	1.6046	0.5030	51.89	0.0319
I-Pentane	0.5464	0.5512	0.2010	21.86	0.0136
N-Pentane	0.4729	0.4771	0.1720	18.96	0.0118
Hexane Plus	1.0914	1.1010	0.4880	57.53	0.0361
Total	100.0000	100.8788	19.4680	1290.88	0.7505

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0039
BTU/CU.FT IDEAL: 1293.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1298.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1276.3
DRY BTU @ 15.025: 1324.9
REAL SPECIFIC GRAVITY: 0.7532

CYLINDER #: 187
CYLINDER PRESSURE: 94 PSIG
ANALYSIS DATE: 07/30/2018
ANALYSIS TIME: 03:59:48 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: 08/02/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU COM G #179; CSG
Stn. No.: API 3004507805
Mtr. No.:

CASING
PC

08/02/2018
15950-11130

Smpl Date: 07/20/2018
Test Date: 07/30/2018
Run No: SO180140
Nitrogen: 0.3666
CO2: 0.7488
Methane: 78.4186
Ethane: 10.6478
Propane: 5.2637
I-Butane: 0.8532
N-Butane: 1.5906
I-Pentane: 0.5464
N-Pentane: 0.4729
Hexane+: 1.0914
BTU: 1298.9
GPM: 19.4680
SPG: 0.7532



GCU Com G 179
30-045-07805
Tubing Sample

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

Analysis No: SO180141
Cust No: 15950-11135

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU COM G #179; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API 3004507805

Source: TUBING
Well Flowing: Y
Pressure: 106 PSIA
Flow Temp: DEG. F
Ambient Temp: 87 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/20/2018
Sample Time: 12.03 PM
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	0.3711	0.3752	0.0410	0.00	0.0036
CO2	1.5773	1.5949	0.2700	0.00	0.0240
Methane	78.6647	79.5422	13.3820	794.51	0.4357
Ethane	10.7779	10.8981	2.8920	190.74	0.1119
Propane	5.0746	5.1312	1.4030	127.68	0.0773
Iso-Butane	0.7955	0.8044	0.2610	25.87	0.0160
N-Butane	1.3900	1.4055	0.4400	45.35	0.0279
I-Pentane	0.3990	0.4035	0.1460	15.96	0.0099
N-Pentane	0.2540	0.2568	0.0920	10.18	0.0063
Hexane Plus	0.6959	0.7037	0.3110	36.68	0.0230
Total	100.0000	101.1155	19.2380	1246.97	0.7356

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0037
BTU/CU.FT IDEAL: 1249.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1254.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1232.7
DRY BTU @ 15.025: 1279.6
REAL SPECIFIC GRAVITY: 0.738

CYLINDER #: 170
CYLINDER PRESSURE: 91 PSIG
ANALYSIS DATE: 07/31/2018
ANALYSIS TIME: 12:08:27 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

Last Cal/Verify: 08/02/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU COM G #179; TBG
Stn. No.: API 3004507805
Mtr. No.:

TUBING
PC

08/02/2018
15950-11135

Smpl Date: 07/20/2018
Test Date: 07/31/2018
Run No: SO180141

Nitrogen: 0.3711
CO2: 1.5773
Methane: 78.6647
Ethane: 10.7779
Propane: 5.0746
I-Butane: 0.7955
N-Butane: 1.3900
I-Pentane: 0.3990
N-Pentane: 0.2540
Hexane+: 0.6959

BTU: 1254.5
GPM: 19.2380
SPG: 0.7380