



GCU 193
30-045 11570
Bradenhead Sample

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

Analysis No: SO180072
Cust No: 15950-10790

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 193; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Stn. No.: API 3004511570

Source: BRADENHEAD
Well Flowing: Y
Pressure: 79 PSIA
Flow Temp: DEG. F
Ambient Temp: 87 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/09/2018
Sample Time: 2.52 PM
Sampled By: E. HAMILTON
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

WMOCD
FEB 13 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5067	0.5080	0.0560	0.00	0.0049
CO2	0.0156	0.0156	0.0030	0.00	0.0002
Methane	93.7457	93.9810	15.9250	946.83	0.5193
Ethane	4.1872	4.1977	1.1220	74.10	0.0435
Propane	0.9929	0.9954	0.2740	24.98	0.0151
Iso-Butane	0.1809	0.1814	0.0590	5.88	0.0036
N-Butane	0.1911	0.1916	0.0600	6.23	0.0038
I-Pentane	0.0650	0.0652	0.0240	2.60	0.0016
N-Pentane	0.0314	0.0315	0.0110	1.26	0.0008
Hexane Plus	0.0835	0.0837	0.0370	4.40	0.0028
Total	100.0000	100.2511	17.5710	1066.29	0.5956

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0023
BTU/CU.FT IDEAL: 1068.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1071.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1052.6
DRY BTU @ 15.025: 1092.7
REAL SPECIFIC GRAVITY: 0.5967

CYLINDER #: 7000
CYLINDER PRESSURE: 71 PSIG
ANALYSIS DATE: 07/17/2018
ANALYSIS TIME: 03:07:36 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

6



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 193; BHD
Stn. No.: API 3004511570
Mtr. No.:

BRADENHEAD
DK

07/19/2018
15950-10790

Smpl Date: 07/09/2018
Test Date: 07/17/2018
Run No: SO180072

Nitrogen: 0.5067
CO2: 0.0156
Methane: 93.7457
Ethane: 4.1872
Propane: 0.9929
I-Butane: 0.1809
N-Butane: 0.1911
I-Pentane: 0.0650
N-Pentane: 0.0314
Hexane+: 0.0835

BTU: 1071.2
GPM: 17.5710
SPG: 0.5967



GCU 193
30-045-11570
Casing Sample

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

Analysis No: SO180073
Cust No: 15950-10795

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 193; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Stn. No.: API 3004511570

Source: CASING
Well Flowing: Y
Pressure: 130 PSIA
Flow Temp: DEG. F
Ambient Temp: 87 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/09/2018
Sample Time: 3.03 PM
Sampled By: E. HAMILTON
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMOCB
FEB 13 2019
DISTRICT III

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4846	0.4366	0.0540	0.00	0.0047
CO2	0.0420	0.0378	0.0070	0.00	0.0006
Methane	77.6392	69.9524	13.2180	784.16	0.4300
Ethane	8.3729	7.5439	2.2490	148.18	0.0869
Propane	5.4110	4.8753	1.4970	136.15	0.0824
Iso-Butane	1.1835	1.0663	0.3890	38.49	0.0238
N-Butane	2.9886	2.6927	0.9460	97.50	0.0600
I-Pentane	1.5131	1.3633	0.5560	60.54	0.0377
N-Pentane	1.5112	1.3616	0.5500	60.58	0.0376
Hexane Plus	0.8539	0.7694	0.3820	45.01	0.0283
Total	100.0000	90.0993	19.8480	1370.59	0.7920

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0045
BTU/CU.FT IDEAL: 1373.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1380.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1356.0
DRY BTU @ 15.025: 1407.6
REAL SPECIFIC GRAVITY: 0.7953

CYLINDER #: 7029
CYLINDER PRESSURE: 120 PSIG
ANALYSIS DATE: 07/17/2018
ANALYSIS TIME: 03:03:45 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 193; CSG
Stn. No.: API 3004511570
Mtr. No.:

CASING
DK

07/19/2018
15950-10795

Smpl Date: 07/09/2018
Test Date: 07/17/2018
Run No: SO180073

Nitrogen: 0.4846
CO2: 0.0420
Methane: 77.6392
Ethane: 8.3729
Propane: 5.4110
I-Butane: 1.1835
N-Butane: 2.9886
I-Pentane: 1.5131
N-Pentane: 1.5112
Hexane+: 0.8539

BTU: 1380.0
GPM: 19.8480
SPG: 0.7953



GCU 193
30-045-11570
Tubing Sample

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

Analysis No: SO180074
Cust No: 15950-10800

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 193; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Stn. No.: API 3004511570

Source: TUBING
Well Flowing: Y
Pressure: 129 PSIA
Flow Temp: DEG. F
Ambient Temp: 87 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/09/2018
Sample Time: 2.57 PM
Sampled By: E. HAMILTON
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NNOOD
FEB 13 2013
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4535	0.4560	0.0500	0.00	0.0044
CO2	1.1346	1.1410	0.1940	0.00	0.0172
Methane	85.4182	85.8969	14.5220	862.72	0.4731
Ethane	7.6912	7.7343	2.0630	136.11	0.0799
Propane	2.8623	2.8783	0.7910	72.02	0.0436
Iso-Butane	0.4553	0.4579	0.1490	14.81	0.0091
N-Butane	0.7686	0.7729	0.2430	25.07	0.0154
I-Pentane	0.2615	0.2630	0.0960	10.46	0.0065
N-Pentane	0.2068	0.2080	0.0750	8.29	0.0052
Hexane Plus	0.7480	0.7522	0.3350	39.43	0.0248
Total	100.0000	100.5605	18.5180	1168.91	0.6792

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
BTU/CU.FT IDEAL: 1171.6
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1175.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1154.8
DRY BTU @ 15.025: 1198.8
REAL SPECIFIC GRAVITY: 0.681

CYLINDER #: 7023
CYLINDER PRESSURE: 123 PSIG
ANALYSIS DATE: 07/17/2018
ANALYSIS TIME: 02:55:17 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 193; TBG
Stn. No.: API 3004511570
Mtr. No.:

TUBING
DK

07/19/2018
15950-10800

Smpl Date: 07/09/2018
Test Date: 07/17/2018
Run No: SO180074

Nitrogen: 0.4535
CO2: 1.1346
Methane: 85.4182
Ethane: 7.6912
Propane: 2.8623
I-Butane: 0.4553
N-Butane: 0.7686
I-Pentane: 0.2615
N-Pentane: 0.2068
Hexane+: 0.7480

BTU: 1175.3
GPM: 18.5180
SPG: 0.6810