



GCU 93E
30-045-24177
Bradenhead Sample

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

Analysis No: SO180127
Cust No: 15950-11065

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU #93E; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API 3004524177

Source: BRADENHEAD
Well Flowing: Y
Pressure: 60 PSIA
Flow Temp: DEG. F
Ambient Temp: 84 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/25/2018
Sample Time: 10.51 AM
Sampled By: SCOTT WILLARD
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMOOD
FEB 13 2013
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2715	0.2717	0.0300	0.00	0.0026
CO2	0.0058	0.0058	0.0010	0.00	0.0001
Methane	88.5676	88.6307	15.0530	894.53	0.4906
Ethane	6.8180	6.8229	1.8280	120.66	0.0708
Propane	2.6328	2.6347	0.7270	66.24	0.0401
Iso-Butane	0.4626	0.4629	0.1520	15.04	0.0093
N-Butane	0.6101	0.6105	0.1930	19.90	0.0122
I-Pentane	0.2091	0.2092	0.0770	8.37	0.0052
N-Pentane	0.1363	0.1364	0.0500	5.46	0.0034
Hexane Plus	0.2862	0.2864	0.1280	15.09	0.0095
Total	100.0000	100.0712	18.2390	1145.30	0.6438

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0028
BTU/CU.FT IDEAL: 1147.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1151.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1131.2
DRY BTU @ 15.025: 1174.3
REAL SPECIFIC GRAVITY: 0.6453

CYLINDER #: 7045
CYLINDER PRESSURE: 46 PSIG
ANALYSIS DATE: 07/31/2018
ANALYSIS TIME: 08:32:14 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: 08/02/2018

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BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU #93E; BHD
Stn. No.: API 3004524177
Mtr. No.:

BRADENHEAD
PC

08/02/2018
15950-11065

Smpl Date: 07/25/2018
Test Date: 07/31/2018
Run No: SO180127

Nitrogen: 0.2715
CO2: 0.0058
Methane: 88.5676
Ethane: 6.8180
Propane: 2.6328
I-Butane: 0.4626
N-Butane: 0.6101
I-Pentane: 0.2091
N-Pentane: 0.1363
Hexane+: 0.2862

BTU: 1151.2
GPM: 18.2390
SPG: 0.6453



GCU 93 E
30-045-24177
Casing Sample

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

Analysis No: SO180128
Cust No: 15950-11070

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU #93E; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API 3004524177

Source: CASING
Well Flowing: Y
Pressure: 90 PSIA
Flow Temp: DEG. F
Ambient Temp: 86 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/25/2018
Sample Time: 11.09 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	0.8598	0.8403	0.0950	0.00	0.0083
CO2	0.0325	0.0318	0.0060	0.00	0.0005
Methane	87.6328	85.6435	14.8990	885.09	0.4854
Ethane	5.7821	5.6508	1.5510	102.33	0.0600
Propane	2.7508	2.6884	0.7600	69.21	0.0419
Iso-Butane	0.4795	0.4686	0.1570	15.59	0.0096
N-Butane	0.7540	0.7369	0.2380	24.60	0.0151
I-Pentane	0.2926	0.2860	0.1070	11.71	0.0073
N-Pentane	0.2371	0.2317	0.0860	9.50	0.0059
Hexane Plus	1.1788	1.1520	0.5270	62.14	0.0390
Total	100.0000	97.7300	18.4260	1180.17	0.6731

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
BTU/CU.FT IDEAL: 1182.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1186.6
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1166.0
DRY BTU @ 15.025: 1210.4
REAL SPECIFIC GRAVITY: 0.6749

CYLINDER #: 4932
CYLINDER PRESSURE: 63 PSIG
ANALYSIS DATE: 07/30/2018
ANALYSIS TIME: 02:55:32 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

Last Cal/Verify: 08/02/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU #93E; CSG
Stn. No.: API 3004524177
Mtr. No.:

CASING
PC

08/02/2018
15950-11070

Smpl Date: 07/25/2018
Test Date: 07/30/2018
Run No: SO180128

Nitrogen: 0.8598
CO2: 0.0325
Methane: 87.6328
Ethane: 5.7821
Propane: 2.7508
I-Butane: 0.4795
N-Butane: 0.7540
I-Pentane: 0.2926
N-Pentane: 0.2371
Hexane+: 1.1788

BTU: 1186.6
GPM: 18.4260
SPG: 0.6749



GCU 93 E
30-045-24177
Tubing Sample

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

Analysis No: SO180129
Cust No: 15950-11075

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU #93E; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API 3004524177

Source: TUBING
Well Flowing: Y
Pressure: 82 PSIA
Flow Temp: DEG. F
Ambient Temp: 84 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/25/2018
Sample Time: 11.02 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	0.4620	0.4587	0.0510	0.00	0.0045
CO2	1.2077	1.1991	0.2070	0.00	0.0184
Methane	73.5507	73.0285	12.5180	742.86	0.4074
Ethane	13.8389	13.7406	3.7160	244.91	0.1437
Propane	6.7167	6.6690	1.8580	169.00	0.1023
Iso-Butane	0.9371	0.9304	0.3080	30.47	0.0188
N-Butane	1.5919	1.5806	0.5040	51.93	0.0319
I-Pentane	0.4324	0.4293	0.1590	17.30	0.0108
N-Pentane	0.3480	0.3455	0.1270	13.95	0.0087
Hexane Plus	0.9146	0.9081	0.4090	48.21	0.0303
Total	100.0000	99.2898	19.8570	1318.63	0.7766

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0042
BTU/CU.FT IDEAL: 1321.7
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1327.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1304.2
DRY BTU @ 15.025: 1353.9
REAL SPECIFIC GRAVITY: 0.7796

CYLINDER #: 7007
CYLINDER PRESSURE: 77 PSIG
ANALYSIS DATE: 07/31/2018
ANALYSIS TIME: 10:37:38 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

GC Method: C6+ Gas

Last Cal/Verify: 08/02/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU #93E; TBG
Stn. No.: API 3004524177
Mtr. No.:

TUBING
PC

08/02/2018
15950-11075

Smpl Date: 07/25/2018
Test Date: 07/31/2018
Run No: SO180129
Nitrogen: 0.4620
CO2: 1.2077
Methane: 73.5507
Ethane: 13.8389
Propane: 6.7167
I-Butane: 0.9371
N-Butane: 1.5919
I-Pentane: 0.4324
N-Pentane: 0.3480
Hexane+: 0.9146
BTU: 1327.3
GPM: 19.8570
SPG: 0.7796