



GCU 241  
30-045-11687  
Bradenhead Sample

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

Analysis No: SO180012  
Cust No: 15950-10490

### Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT  
Well Name: GCU #241; BHD  
County/State: SAN JUAN NM  
Location:  
Field:  
Formation: PC  
Cust. Stn. No.: API 3004511687

Source: BRADENHEAD  
Well Flowing: Y  
Pressure: 35 PSIA  
Flow Temp: DEG. F  
Ambient Temp: 68 DEG. F  
Flow Rate: MCF/D  
Sample Method: Purge & Fill  
Sample Date: 06/08/2018  
Sample Time: 9.14 AM  
Sampled By: EUGENIA HAMILTON  
Sampled by (CO): PESCO

Heat Trace: N  
Remarks:

NM000  
FEB 13 2018  
DISTRICT III

### Analysis

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:   | *SP Gravity: |
|-------------|----------|-----------------|---------|---------|--------------|
| Nitrogen    | 0.3237   | 0.3230          | 0.0360  | 0.00    | 0.0031       |
| CO2         | 0.0100   | 0.0100          | 0.0020  | 0.00    | 0.0002       |
| Methane     | 88.7284  | 88.5385         | 15.0800 | 896.16  | 0.4915       |
| Ethane      | 6.4732   | 6.4593          | 1.7360  | 114.56  | 0.0672       |
| Propane     | 2.5780   | 2.5725          | 0.7120  | 64.87   | 0.0393       |
| Iso-Butane  | 0.5470   | 0.5458          | 0.1790  | 17.79   | 0.0110       |
| N-Butane    | 0.6542   | 0.6528          | 0.2070  | 21.34   | 0.0131       |
| I-Pentane   | 0.2611   | 0.2605          | 0.0960  | 10.45   | 0.0065       |
| N-Pentane   | 0.1754   | 0.1750          | 0.0640  | 7.03    | 0.0044       |
| Hexane Plus | 0.2490   | 0.2485          | 0.1110  | 13.12   | 0.0082       |
| Total       | 100.0000 | 99.7859         | 18.2230 | 1145.31 | 0.6444       |

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0028  
BTU/CU.FT IDEAL: 1148.0  
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: 0.646

CYLINDER #: 7008  
CYLINDER PRESSURE: 33 PSIG  
ANALYSIS DATE: 06/19/2018  
ANALYSIS TIME: 04:06:56 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: 06/21/2018

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BP - SOUTH BHD PROJECT  
WELL ANALYSIS COMPARISON

Lease: GCU #241; BHD  
Stn. No.: API 3004511687  
Mtr. No.:

BRADENHEAD  
PC

06/21/2018  
15950-10490

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Smpl Date: 06/08/2018  
Test Date: 06/19/2018  
Run No: SO180012  
Nitrogen: 0.3237  
CO2: 0.0100  
Methane: 88.7284  
Ethane: 6.4732  
Propane: 2.5780  
I-Butane: 0.5470  
N-Butane: 0.6542  
I-Pentane: 0.2611  
N-Pentane: 0.1754  
Hexane+: 0.2490  
BTU: 1151.2  
GPM: 18.2230  
SPG: 0.6460



GCU 241  
30-045-11687  
Casing Sample

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

Analysis No: SO180013  
Cust No: 15950-10495

### Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT  
Well Name: GCU #241; CSG  
County/State: SAN JUAN NM  
Location:  
Field:  
Formation: PC  
Cust. Stn. No.: API 3004511687

Source: CASING  
Well Flowing: Y  
Pressure: 13 PSIA  
Flow Temp: DEG. F  
Ambient Temp: 68 DEG. F  
Flow Rate: MCF/D  
Sample Method: Purge & Fill  
Sample Date: 06/08/2018  
Sample Time: 9.07 AM  
Sampled By: EUGENIA HAMILTON  
Sampled by (CO): PESCO

Heat Trace: N  
Remarks:

UNOCD  
FEB 13 2013  
DISTRICT III

### Analysis

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:   | *SP Gravity: |
|-------------|----------|-----------------|---------|---------|--------------|
| Nitrogen    | 0.1625   | 0.1571          | 0.0180  | 0.00    | 0.0016       |
| CO2         | 1.9602   | 1.8951          | 0.3350  | 0.00    | 0.0298       |
| Methane     | 93.1883  | 90.0942         | 15.8320 | 941.20  | 0.5162       |
| Ethane      | 3.3731   | 3.2611          | 0.9040  | 59.69   | 0.0350       |
| Propane     | 0.5378   | 0.5199          | 0.1480  | 13.53   | 0.0082       |
| Iso-Butane  | 0.1112   | 0.1075          | 0.0360  | 3.62    | 0.0022       |
| N-Butane    | 0.1300   | 0.1257          | 0.0410  | 4.24    | 0.0026       |
| I-Pentane   | 0.0548   | 0.0530          | 0.0200  | 2.19    | 0.0014       |
| N-Pentane   | 0.0383   | 0.0370          | 0.0140  | 1.54    | 0.0010       |
| Hexane Plus | 0.4438   | 0.4291          | 0.1980  | 23.39   | 0.0147       |
| Total       | 100.0000 | 96.6797         | 17.5460 | 1049.41 | 0.6126       |

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0024  
BTU/CU.FT IDEAL: 1051.8  
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1054.4  
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1036.1  
DRY BTU @ 15.025: 1075.5  
REAL SPECIFIC GRAVITY: 0.6138

CYLINDER #: 8005  
CYLINDER PRESSURE: 13 PSIG  
ANALYSIS DATE: 06/19/2018  
ANALYSIS TIME: 04:06:19 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

GC Method: C6+ Gas

Last Cal/Verify: 06/21/2018



BP - SOUTH BHD PROJECT  
WELL ANALYSIS COMPARISON

Lease: GCU #241; CSG  
Stn. No.: API 3004511687  
Mtr. No.:

CASING  
PC

06/21/2018  
15950-10495

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Smpl Date: 06/08/2018  
Test Date: 06/19/2018  
Run No: SO180013  
  
Nitrogen: 0.1625  
CO2: 1.9602  
Methane: 93.1883  
Ethane: 3.3731  
Propane: 0.5378  
I-Butane: 0.1112  
N-Butane: 0.1300  
I-Pentane: 0.0548  
N-Pentane: 0.0383  
Hexane+: 0.4438  
  
BTU: 1054.4  
GPM: 17.5460  
SPG: 0.6138





GCU 241  
30-045-11687  
tubing sample

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

Analysis No: SO180014  
Cust No: 15950-10500

### Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT  
Well Name: GCU #241; TBG  
County/State: SAN JUAN NM  
Location:  
Field:  
Formation: PC  
Cust. Str. No.: API 3004511687

Source: TUBING  
Well Flowing: Y  
Pressure: 2 PSIA  
Flow Temp: DEG. F  
Ambient Temp: 68 DEG. F  
Flow Rate: MCF/D  
Sample Method: Purge & Fill  
Sample Date: 06/08/2018  
Sample Time: 8.58 AM  
Sampled By: EUGENIA HAMILTON  
Sampled by (CO): PESCO

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

NM000  
FEB 13 2019  
DISTRICT III

### Analysis

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:  | *SP Gravity: |
|-------------|----------|-----------------|---------|--------|--------------|
| Nitrogen    | 26.3928  | 8.3678          | 2.9080  | 0.00   | 0.2553       |
| CO2         | 0.6557   | 0.2079          | 0.1120  | 0.00   | 0.0100       |
| Methane     | 67.0201  | 21.2486         | 11.3810 | 676.90 | 0.3712       |
| Ethane      | 3.3907   | 1.0750          | 0.9080  | 60.01  | 0.0352       |
| Propane     | 1.1248   | 0.3566          | 0.3100  | 28.30  | 0.0171       |
| Iso-Butane  | 0.2079   | 0.0659          | 0.0680  | 6.76   | 0.0042       |
| N-Butane    | 0.3025   | 0.0959          | 0.0960  | 9.87   | 0.0061       |
| I-Pentane   | 0.1236   | 0.0392          | 0.0450  | 4.95   | 0.0031       |
| N-Pentane   | 0.0902   | 0.0286          | 0.0330  | 3.62   | 0.0022       |
| Hexane Plus | 0.6917   | 0.2193          | 0.3090  | 36.46  | 0.0229       |
| Total       | 100.0000 | 31.7048         | 16.1700 | 826.86 | 0.7272       |

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0019  
BTU/CU.FT IDEAL: 828.8  
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 830.4  
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 816.0  
DRY BTU @ 15.025: 847.0  
REAL SPECIFIC GRAVITY: 0.7283

CYLINDER #: 7023  
CYLINDER PRESSURE: PSIG  
ANALYSIS DATE: 06/19/2018  
ANALYSIS TIME: 04:18:30 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: 06/21/2018



BP - SOUTH BHD PROJECT  
WELL ANALYSIS COMPARISON

Lease: GCU #241; TBG  
Stn. No.: API 3004511687  
Mtr. No.:

TUBING  
PC

06/21/2018  
15950-10500

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Smpl Date: 06/08/2018  
Test Date: 06/19/2018  
Run No: SO180014  
  
Nitrogen: 26.3928  
CO2: 0.6557  
Methane: 67.0201  
Ethane: 3.3907  
Propane: 1.1248  
I-Butane: 0.2079  
N-Butane: 0.3025  
I-Pentane: 0.1236  
N-Pentane: 0.0902  
Hexane+: 0.6917  
  
BTU: 830.4  
GPM: 16.1700  
SPG: 0.7283