



NMOCD REC'D  
10/12/20

Well Name: MUDGE B 20; CSG  
API #: API # 300451320800  
Source: CASING  
Sample Type: GAS  
Analysis No: SO200080  
Cust No: 15950-11780

### Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT  
Well Name: MUDGE B 20; CSG  
County/State: CO  
Location:  
Lease/PA/CA:  
Formation:  
Cust. Stn. No.: API # 300451320800

Source: CASING  
Well Flowing: Y  
Pressure: 60 PSIG  
Flow Temp: 89.5 DEG. F  
Ambient Temp: 86 DEG. F  
Flow Rate: MCF/D  
Sample Method: Purge & Fill  
Sample Date: 07/21/2020  
Sample Time: 12.40 PM  
Sampled By: CELIA L.  
Sampled by (CO): ABC

Heat Trace: N  
Remarks:

### Analysis

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:   | *SP Gravity: |
|-------------|----------|-----------------|---------|---------|--------------|
| Nitrogen    | 0.9035   | 0.8856          | 0.1000  | 0.00    | 0.0087       |
| CO2         | 1.3414   | 1.3148          | 0.2300  | 0.00    | 0.0204       |
| Methane     | 85.2370  | 83.5454         | 14.4940 | 860.89  | 0.4721       |
| Ethane      | 5.8754   | 5.7588          | 1.5760  | 103.98  | 0.0610       |
| Propane     | 3.0118   | 2.9520          | 0.8320  | 75.78   | 0.0459       |
| Iso-Butane  | 0.6707   | 0.6574          | 0.2200  | 21.81   | 0.0135       |
| N-Butane    | 0.8687   | 0.8515          | 0.2750  | 28.34   | 0.0174       |
| I-Pentane   | 0.3992   | 0.3913          | 0.1460  | 15.97   | 0.0099       |
| N-Pentane   | 0.3357   | 0.3290          | 0.1220  | 13.46   | 0.0084       |
| Hexane Plus | 1.3566   | 1.3297          | 0.6070  | 71.51   | 0.0449       |
| Total       | 100.0000 | 98.0155         | 18.6020 | 1191.74 | 0.7022       |

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

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

COMPRESSIBILITY FACTOR (1/Z): 1.0033  
BTU/CU.FT IDEAL: 1194.5  
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1198.4  
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1177.5  
DRY BTU @ 15.025: 1222.4  
REAL SPECIFIC GRAVITY: 0.7042

CYLINDER #: 1087  
CYLINDER PRESSURE: 47 PSIG  
ANALYSIS DATE: 07/24/2020  
ANALYSIS TIME: 02:29:09 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: 07/28/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT  
WELL ANALYSIS COMPARISON

Lease: MUDGE B 20; CSG  
Stn. No.: API #  
Mtr. No.:

CASING

07/28/2020  
15950-11780

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Smpl Date: 07/21/2020  
Test Date: 07/24/2020  
Run No: SO200080  
  
Nitrogen: 0.9035  
CO2: 1.3414  
Methane: 85.2370  
Ethane: 5.8754  
Propane: 3.0118  
I-Butane: 0.6707  
N-Butane: 0.8687  
I-Pentane: 0.3992  
N-Pentane: 0.3357  
Hexane+: 1.3566  
  
BTU: 1198.4  
GPM: 18.6020  
SPG: 0.7042



NMOCD REC'D  
10/12/20

Well Name: MUDGE B 20; INT  
API #: API # 300451320800  
Source: INTERMEDIATE CASING  
Sample Type: GAS  
Analysis No: SO200081  
Cust No: 15950-11785

### Well/Lease Information

|                 |                        |                  |                     |
|-----------------|------------------------|------------------|---------------------|
| Customer Name:  | BP - SOUTH BHD PROJECT | Source:          | INTERMEDIATE CASING |
| Well Name:      | MUDGE B 20; INT        | Well Flowing:    | Y                   |
| County/State:   | SAN JUAN NM            | Pressure:        | 50 PSIG             |
| Location:       |                        | Flow Temp:       | 88.4 DEG. F         |
| Lease/PA/CA:    |                        | Ambient Temp:    | 86 DEG. F           |
| Formation:      |                        | Flow Rate:       | MCF/D               |
| Cust. Stn. No.: | API # 300451320800     | Sample Method:   | Purge & Fill        |
|                 |                        | Sample Date:     | 07/21/2020          |
|                 |                        | Sample Time:     | 12.30 PM            |
|                 |                        | Sampled By:      | CELIA L.            |
|                 |                        | Sampled by (CO): | ABC                 |
| Heat Trace:     | N                      |                  |                     |
| Remarks:        |                        |                  |                     |

### Analysis

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:   | *SP Gravity: |
|-------------|----------|-----------------|---------|---------|--------------|
| Nitrogen    | 1.2663   | 1.2225          | 0.1400  | 0.00    | 0.0122       |
| CO2         | 0.0045   | 0.0043          | 0.0010  | 0.00    | 0.0001       |
| Methane     | 86.0251  | 83.0529         | 14.6220 | 868.85  | 0.4765       |
| Ethane      | 7.6153   | 7.3522          | 2.0420  | 134.77  | 0.0791       |
| Propane     | 3.2499   | 3.1376          | 0.8980  | 81.77   | 0.0495       |
| Iso-Butane  | 0.5620   | 0.5426          | 0.1840  | 18.28   | 0.0113       |
| N-Butane    | 0.7331   | 0.7078          | 0.2320  | 23.92   | 0.0147       |
| I-Pentane   | 0.2462   | 0.2377          | 0.0900  | 9.85    | 0.0061       |
| N-Pentane   | 0.1390   | 0.1342          | 0.0510  | 5.57    | 0.0035       |
| Hexane Plus | 0.1586   | 0.1531          | 0.0710  | 8.36    | 0.0052       |
| Total       | 100.0000 | 96.5449         | 18.3310 | 1151.37 | 0.6582       |

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

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

|                                      |        |                    |                |
|--------------------------------------|--------|--------------------|----------------|
| COMPRESSIBILITY FACTOR (1/Z):        | 1.0029 | CYLINDER #:        | 109            |
| BTU/CU.FT IDEAL:                     | 1154.0 | CYLINDER PRESSURE: | 42 PSIG        |
| BTU/CU.FT (DRY) CORRECTED FOR (1/Z): | 1157.4 | ANALYSIS DATE:     | 07/21/2020     |
| BTU/CU.FT (WET) CORRECTED FOR (1/Z): | 1137.3 | ANALYSIS TIME:     | 02:04:00 PM    |
| DRY BTU @ 15.025:                    | 1180.6 | ANALYSIS RUN BY:   | SHYANN ELLEDGE |
| REAL SPECIFIC GRAVITY:               | 0.6598 |                    |                |

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: 07/28/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT  
WELL ANALYSIS COMPARISON

Lease: MUDGE B 20; INT  
Stn. No.: API #  
Mtr. No.:

INTERMEDIATE CASING

07/28/2020  
15950-11785

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Smpl Date: 07/21/2020  
Test Date: 07/21/2020  
Run No: SO200081  
  
Nitrogen: 1.2663  
CO2: 0.0045  
Methane: 86.0251  
Ethane: 7.6153  
Propane: 3.2499  
I-Butane: 0.5620  
N-Butane: 0.7331  
I-Pentane: 0.2462  
N-Pentane: 0.1390  
Hexane+: 0.1586  
  
BTU: 1157.4  
GPM: 18.3310  
SPG: 0.6598



NMOCD REC'D  
10/12/20

Well Name: MUDGE B 20; TBG  
API #: API # 300451320800  
Source: TUBING  
Sample Type: GAS  
Analysis No: SO200082  
Cust No: 15950-11790

### Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT  
Well Name: MUDGE B 20; TBG  
County/State: SAN JUAN NM  
Location:  
Lease/PA/CA:  
Formation:  
Cust. Stn. No.: API # 300451320800

Source: TUBING  
Well Flowing: Y  
Pressure: 60 PSIG  
Flow Temp: 89.8 DEG. F  
Ambient Temp: 86 DEG. F  
Flow Rate: MCF/D  
Sample Method: Purge & Fill  
Sample Date: 07/21/2020  
Sample Time: 12.35 PM  
Sampled By: CELIA L.  
Sampled by (CO): ABC

Heat Trace: N  
Remarks:

### Analysis

| Component:: | Mole%:   | Unnormalized %: | **GPM:  | *BTU:   | *SP Gravity: |
|-------------|----------|-----------------|---------|---------|--------------|
| Nitrogen    | 0.2761   | 0.2702          | 0.0300  | 0.00    | 0.0027       |
| CO2         | 1.6316   | 1.5968          | 0.2790  | 0.00    | 0.0248       |
| Methane     | 82.2221  | 80.4706         | 13.9840 | 830.44  | 0.4554       |
| Ethane      | 8.5158   | 8.3344          | 2.2850  | 150.70  | 0.0884       |
| Propane     | 3.8269   | 3.7454          | 1.0580  | 96.29   | 0.0583       |
| Iso-Butane  | 0.6873   | 0.6727          | 0.2260  | 22.35   | 0.0138       |
| N-Butane    | 1.1860   | 1.1607          | 0.3750  | 38.69   | 0.0238       |
| I-Pentane   | 0.4329   | 0.4237          | 0.1590  | 17.32   | 0.0108       |
| N-Pentane   | 0.3428   | 0.3355          | 0.1250  | 13.74   | 0.0085       |
| Hexane Plus | 0.8785   | 0.8598          | 0.3930  | 46.31   | 0.0291       |
| Total       | 100.0000 | 97.8698         | 18.9140 | 1215.85 | 0.7156       |

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

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

COMPRESSIBILITY FACTOR (1/Z): 1.0035  
BTU/CU.FT IDEAL: 1218.7  
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1222.9  
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1201.6  
DRY BTU @ 15.025: 1247.4  
REAL SPECIFIC GRAVITY: 0.7178

CYLINDER #: 1027  
CYLINDER PRESSURE: 53 PSIG  
ANALYSIS DATE: 07/24/2020  
ANALYSIS TIME: 02:02:02 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: 07/28/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT  
WELL ANALYSIS COMPARISON

Lease: MUDGE B 20; TBG  
Stn. No.: API #  
Mtr. No.:

TUBING

07/28/2020  
15950-11790

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Smpl Date: 07/21/2020  
Test Date: 07/24/2020  
Run No: SO200082  
  
Nitrogen: 0.2761  
CO2: 1.6316  
Methane: 82.2221  
Ethane: 8.5158  
Propane: 3.8269  
I-Butane: 0.6873  
N-Butane: 1.1860  
I-Pentane: 0.4329  
N-Pentane: 0.3428  
Hexane+: 0.8785  
  
BTU: 1222.9  
GPM: 18.9140  
SPG: 0.7178