



OCD Received 10/28/2020

Well Name: MUDGE LS 24 ; TBG
API #: API # 30045118700
Source: TUBING
Sample Type: GAS
Analysis No: SO200206
Cust No: 15950-12390

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: MUDGE LS 24 ; TBG
County/State: NM
Location:
Lease/PA/CA:
Formation:
Cust. Stn. No.: API # 30045118700
72929

Source: TUBING
Well Flowing: Y
Pressure: 39 PSIG
Flow Temp: DEG. F
Ambient Temp: 55 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 09/28/2020
Sample Time: 8.15 AM
Sampled By: SEAN CASAUS
Sampled by (CO): ABC

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2121	0.2074	0.0230	0.00	0.0021
CO2	1.0586	1.0352	0.1810	0.00	0.0161
Methane	84.4707	82.6064	14.3610	853.15	0.4679
Ethane	8.7432	8.5502	2.3450	154.73	0.0908
Propane	3.2771	3.2048	0.9050	82.46	0.0499
Iso-Butane	0.5361	0.5243	0.1760	17.43	0.0108
N-Butane	0.7810	0.7638	0.2470	25.48	0.0157
I-Pentane	0.2703	0.2643	0.0990	10.81	0.0067
N-Pentane	0.1791	0.1751	0.0650	7.18	0.0045
Hexane Plus	0.4718	0.4614	0.2110	24.87	0.0156
Total	100.0000	97.7929	18.6130	1176.11	0.6799

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
BTU/CU.FT IDEAL: 1178.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1182.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1161.9
DRY BTU @ 15.025: 1206.2
REAL SPECIFIC GRAVITY: 0.6818

CYLINDER #: 140
CYLINDER PRESSURE: 41 PSIG
ANALYSIS DATE: 10/02/2020
ANALYSIS TIME: 10:02:30 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

Last Cal/Verify: 10/08/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: MUDGE LS 24 ; TBG
Stn. No.: API #
Mtr. No.: 72929

TUBING

10/08/2020
15950-12390

Smpl Date: 09/28/2020
Test Date: 10/02/2020
Run No: SO200206

Nitrogen: 0.2121
CO2: 1.0586
Methane: 84.4707
Ethane: 8.7432
Propane: 3.2771
I-Butane: 0.5361
N-Butane: 0.7810
I-Pentane: 0.2703
N-Pentane: 0.1791
Hexane+: 0.4718

BTU: 1182.5
GPM: 18.6130
SPG: 0.6818



OCD Received 10/28/2020

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

Analysis No: SO200207
Cust No: 15950-12395

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: MUDGE LS 24 ; INT
County/State: NM
Location:
Lease/PA/CA:
Formation:
Cust. Stn. No.: API # 300451118700
72929

Source: INTERMEDIATE
Well Flowing: N
Pressure: 390 PSIG
Flow Temp: DEG. F
Ambient Temp: 55 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 09/25/2020
Sample Time: 8.25 AM
Sampled By: SEANC CASAUS
Sampled by (CO): ABC

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3080	0.3039	0.0340	0.00	0.0030
CO2	0.2310	0.2280	0.0400	0.00	0.0035
Methane	85.0015	83.8798	14.4510	858.52	0.4708
Ethane	8.4765	8.3646	2.2730	150.01	0.0880
Propane	3.9605	3.9082	1.0940	99.65	0.0603
Iso-Butane	0.5841	0.5764	0.1920	18.99	0.0117
N-Butane	0.8744	0.8629	0.2760	28.53	0.0175
I-Pentane	0.2312	0.2281	0.0850	9.25	0.0058
N-Pentane	0.1471	0.1452	0.0530	5.90	0.0037
Hexane Plus	0.1857	0.1832	0.0830	9.79	0.0061
Total	100.0000	98.6803	18.5810	1180.63	0.6705

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
BTU/CU.FT IDEAL: 1183.4
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1186.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1166.2
DRY BTU @ 15.025: 1210.7
REAL SPECIFIC GRAVITY: 0.6722

CYLINDER #: 093
CYLINDER PRESSURE: 542 PSIG
ANALYSIS DATE: 10/01/2020
ANALYSIS TIME: 10:44:36 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

Last Cal/Verify: 10/08/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease:	MUDGE LS 24 ; INT	INTERMEDIATE	10/08/2020
Stn. No.:	API #		15950-12395
Mtr. No.:	72929		

Smpl Date:	09/25/2020
Test Date:	10/01/2020
Run No:	SO200207
Nitrogen:	0.3080
CO2:	0.2310
Methane:	85.0015
Ethane:	8.4765
Propane:	3.9605
I-Butane:	0.5841
N-Butane:	0.8744
I-Pentane:	0.2312
N-Pentane:	0.1471
Hexane+:	0.1857
BTU:	1186.9
GPM:	18.5810
SPG:	0.6722



Well Name: MUDGE LS 24; CSG
 API #: API # 30045118700
 Source: CASING
 Sample Type: GAS
 Analysis No: SO200205
 Cust No: 15950-12385

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
 Well Name: MUDGE LS 24; CSG
 County/State: NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: API # 30045118700
 72929

Source: CASING
 Well Flowing: Y
 Pressure: 146 PSIG
 Flow Temp: DEG. F
 Ambient Temp: 55 DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 09/25/2020
 Sample Time: 8.20 AM
 Sampled By: SEAN CASAUS
 Sampled by (CO): ABC

Heat Trace: N
 Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2242	0.2209	0.0250	0.00	0.0022
CO2	0.4921	0.4849	0.0840	0.00	0.0075
Methane	85.0643	83.8209	14.4630	859.15	0.4712
Ethane	8.0133	7.8962	2.1490	141.81	0.0832
Propane	3.6566	3.6032	1.0100	92.00	0.0557
Iso-Butane	0.6087	0.5998	0.2000	19.79	0.0122
N-Butane	0.9073	0.8940	0.2870	29.60	0.0182
I-Pentane	0.3084	0.3039	0.1130	12.34	0.0077
N-Pentane	0.2210	0.2178	0.0800	8.86	0.0055
Hexane Plus	0.5041	0.4967	0.2250	26.57	0.0167
Total	100.0000	98.5383	18.6360	1190.13	0.6800

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0032
 BTU/CU.FT IDEAL: 1192.9
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1196.6
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1175.8
 DRY BTU @ 15.025: 1220.6
 REAL SPECIFIC GRAVITY: 0.6818

CYLINDER #: 084
 CYLINDER PRESSURE: 149 PSIG
 ANALYSIS DATE: 10/02/2020
 ANALYSIS TIME: 09:32:48 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

Last Cal/Verify: 10/08/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: MUDGE LS 24; CSG
Stn. No.: API #
Mtr. No.: 72929

CASING

10/08/2020
15950-12385

Smpl Date: 09/25/2020
Test Date: 10/02/2020
Run No: SO200205
Nitrogen: 0.2242
CO2: 0.4921
Methane: 85.0643
Ethane: 8.0133
Propane: 3.6566
I-Butane: 0.6087
N-Butane: 0.9073
I-Pentane: 0.3084
N-Pentane: 0.2210
Hexane+: 0.5041
BTU: 1196.6
GPM: 18.6360
SPG: 0.6818