



OCD Received 10/28/2020

Well Name: MUDGE B 10R ; TBG
API #: API # 300451092100
Source: TUBING
Sample Type: GAS
Analysis No: SO200211
Cust No: 15950-12415

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: MUDGE B 10R ; TBG
County/State: NM
Location:
Lease/PA/CA:
Formation:
Cust. Stn. No.: API # 300451092100
99386

Source: TUBING
Well Flowing: Y
Pressure: 12.8 PSIG
Flow Temp: DEG. F
Ambient Temp: 72 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 09/25/2020
Sample Time: 10.51 AM
Sampled By: SABRE BEEBE
Sampled by (CO): ABC

Heat Trace:
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2949	0.2865	0.0330	0.00	0.0029
CO2	1.4350	1.3939	0.2460	0.00	0.0218
Methane	76.8295	74.6316	13.0790	775.98	0.4256
Ethane	10.2872	9.9929	2.7630	182.05	0.1068
Propane	5.3435	5.1906	1.4780	134.45	0.0814
Iso-Butane	0.9779	0.9499	0.3210	31.80	0.0196
N-Butane	1.7376	1.6879	0.5500	56.69	0.0349
I-Pentane	0.6491	0.6305	0.2380	25.97	0.0162
N-Pentane	0.5527	0.5369	0.2010	22.16	0.0138
Hexane Plus	1.8926	1.8385	0.8480	99.76	0.0626
Total	100.0000	97.1392	19.7570	1328.85	0.7854

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0044
BTU/CU.FT IDEAL: 1331.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1337.7
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1314.4
DRY BTU @ 15.025: 1364.5
REAL SPECIFIC GRAVITY: 0.7885

CYLINDER #: 0115
CYLINDER PRESSURE: 24 PSIG
ANALYSIS DATE: 10/05/2020
ANALYSIS TIME: 02:00:06 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: 10/08/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease:	MUDGE B 10R ; TBG	TUBING	10/08/2020
Stn. No.:	API #		15950-12415
Mtr. No.:	99386		

Smpl Date: 09/25/2020
Test Date: 10/05/2020
Run No: SO200211

Nitrogen: 0.2949
CO2: 1.4350
Methane: 76.8295
Ethane: 10.2872
Propane: 5.3435
I-Butane: 0.9779
N-Butane: 1.7376
I-Pentane: 0.6491
N-Pentane: 0.5527
Hexane+: 1.8926

BTU: 1337.7
GPM: 19.7570
SPG: 0.7885



OCD Received 10/28/2020

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

Analysis No: SO200213
Cust No: 15950-12425

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: MUDGE B 10R ; INT
County/State: NM
Location:
Lease/PA/CA:
Formation:
Cust. Stn. No.: API # 300451092100
99386

Source: INTERMEDIATE
Well Flowing: Y
Pressure: 38.2 PSIG
Flow Temp: DEG. F
Ambient Temp: 72 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 09/25/2020
Sample Time: 10.42 AM
Sampled By: SABRE BEEBE
Sampled by (CO): BP

Heat Trace:

Remarks: PRESSURED WITH HELIUM TO 30LBS.

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.7264	0.9158	0.1900	0.00	0.0167
CO2	0.0788	0.0418	0.0130	0.00	0.0012
Methane	88.1356	46.7537	14.9780	890.17	0.4882
Ethane	5.6470	2.9956	1.5140	99.93	0.0586
Propane	2.5634	1.3598	0.7080	64.50	0.0390
Iso-Butane	0.5482	0.2908	0.1800	17.83	0.0110
N-Butane	0.5893	0.3126	0.1860	19.22	0.0118
I-Pentane	0.2289	0.1214	0.0840	9.16	0.0057
N-Pentane	0.1425	0.0756	0.0520	5.71	0.0035
Hexane Plus	0.3399	0.1803	0.1520	17.92	0.0112
Total	100.0000	53.0474	18.0570	1124.44	0.6471

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0027
BTU/CU.FT IDEAL: 1127.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1130.1
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1110.4
DRY BTU @ 15.025: 1152.7
REAL SPECIFIC GRAVITY: 0.6486

CYLINDER #: 233
CYLINDER PRESSURE: 6 PSIG
ANALYSIS DATE: 10/05/2020
ANALYSIS TIME: 01:45:30 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: 10/08/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: MUDGE B 10R ; INT
Stn. No.: API #
Mtr. No.: 99386

INTERMEDIATE

10/08/2020
15950-12425

Smpl Date: 09/25/2020
Test Date: 10/05/2020
Run No: SO200213

Nitrogen: 1.7264
CO2: 0.0788
Methane: 88.1356
Ethane: 5.6470
Propane: 2.5634
I-Butane: 0.5482
N-Butane: 0.5893
I-Pentane: 0.2289
N-Pentane: 0.1425
Hexane+: 0.3399

BTU: 1130.1
GPM: 18.0570
SPG: 0.6486



OCD Received 10/28/2020

Well Name: MUDGE B 10R ; CSG
 API #: API # 300451092100
 Source: CASING
 Sample Type: GAS
 Analysis No: SO200212
 Cust No: 15950-12420

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
 Well Name: MUDGE B 10R ; CSG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: API # 300451092100
 99386

Source: CASING
 Well Flowing:
 Pressure: 30.2 PSIG
 Flow Temp: DEG. F
 Ambient Temp: 72 DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 09/25/2020
 Sample Time: 11.00 AM
 Sampled By: SABRE BEEBE
 Sampled by (CO): BP

Heat Trace:
 Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1771	0.1725	0.0200	0.00	0.0017
CO2	0.7239	0.7052	0.1240	0.00	0.0110
Methane	76.2486	74.2781	12.9830	770.11	0.4223
Ethane	10.5269	10.2549	2.8280	186.29	0.1093
Propane	5.9903	5.8355	1.6570	150.72	0.0912
Iso-Butane	1.1290	1.0998	0.3710	36.71	0.0227
N-Butane	1.7593	1.7138	0.5570	57.39	0.0353
I-Pentane	0.6413	0.6247	0.2360	25.66	0.0160
N-Pentane	0.5468	0.5327	0.1990	21.92	0.0136
Hexane Plus	2.2568	2.1985	1.0110	118.96	0.0747
Total	100.0000	97.4157	19.9860	1367.77	0.7978

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0046
 BTU/CU.FT IDEAL: 1370.9
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1377.3
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1353.3
 DRY BTU @ 15.025: 1404.9
 REAL SPECIFIC GRAVITY: 0.8012

CYLINDER #: 37
 CYLINDER PRESSURE: 18 PSIG
 ANALYSIS DATE: 10/05/2020
 ANALYSIS TIME: 02:44:57 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: 10/08/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: MUDGE B 10R ; CSG
Stn. No.: API #
Mtr. No.: 99386

CASING

10/08/2020
15950-12420

Smpl Date: 09/25/2020
Test Date: 10/05/2020
Run No: SO200212

Nitrogen: 0.1771
CO2: 0.7239
Methane: 76.2486
Ethane: 10.5269
Propane: 5.9903
I-Butane: 1.1290
N-Butane: 1.7593
I-Pentane: 0.6413
N-Pentane: 0.5468
Hexane+: 2.2568

BTU: 1377.3
GPM: 19.9860
SPG: 0.8012