



OCD Received 10/28/2020

Well Name: MUDGE LS 7A ; TBG
API #: API # 300452306400
Source: TUBING
Sample Type: GAS
Analysis No: SO200215
Cust No: 15950-12435

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: MUDGE LS 7A ; TBG
County/State: NM
Location:
Lease/PA/CA:
Formation:
Cust. Stn. No.: API # 300452306400
90358

Source: TUBING
Well Flowing: Y
Pressure: 25 PSIG
Flow Temp: DEG. F
Ambient Temp: 86 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 09/25/2020
Sample Time: 6.55 AM
Sampled By: SEAN CASAUS
Sampled by (CO): ABC

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2795	0.2757	0.0310	0.00	0.0027
CO2	1.3793	1.3608	0.2360	0.00	0.0210
Methane	79.5610	78.4925	13.5370	803.57	0.4407
Ethane	9.4858	9.3584	2.5460	167.87	0.0985
Propane	4.5439	4.4829	1.2560	114.33	0.0692
Iso-Butane	0.9223	0.9099	0.3030	29.99	0.0185
N-Butane	1.4747	1.4549	0.4670	48.11	0.0296
I-Pentane	0.5970	0.5890	0.2190	23.89	0.0149
N-Pentane	0.4756	0.4692	0.1730	19.07	0.0118
Hexane Plus	1.2809	1.2637	0.5730	67.52	0.0424
Total	100.0000	98.6570	19.3410	1274.33	0.7492

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0039
BTU/CU.FT IDEAL: 1277.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1282.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1260.0
DRY BTU @ 15.025: 1308.0
REAL SPECIFIC GRAVITY: 0.7519

CYLINDER #: 9
CYLINDER PRESSURE: 22 PSIG
ANALYSIS DATE: 10/01/2020
ANALYSIS TIME: 09:31:19 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 7A ; TBG
Stn. No.: API #
Mtr. No.: 90358

TUBING

10/08/2020
15950-12435

Smpl Date: 09/25/2020
Test Date: 10/01/2020
Run No: SO200215

Nitrogen: 0.2795
CO2: 1.3793
Methane: 79.5610
Ethane: 9.4858
Propane: 4.5439
I-Butane: 0.9223
N-Butane: 1.4747
I-Pentane: 0.5970
N-Pentane: 0.4756
Hexane+: 1.2809

BTU: 1282.3
GPM: 19.3410
SPG: 0.7519



Well Name: MUDGE LS 7A ; CSG
 API #: API # 300452306400
 Source: CASING
 Sample Type: GAS
 Analysis No: SO200216
 Cust No: 15950-12440

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
 Well Name: MUDGE LS 7A ; CSG
 County/State: NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: API # 300452306400
 90358

Source: CASING
 Well Flowing: N
 Pressure: 39 PSIG
 Flow Temp: DEG. F
 Ambient Temp: 86 DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 09/25/2020
 Sample Time: 6.50 PM
 Sampled By: SEAN CASAUS
 Sampled by (CO): ABC

Heat Trace: N
 Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3821	0.3435	0.0420	0.00	0.0037
CO2	2.4921	2.2402	0.4270	0.00	0.0379
Methane	76.8724	69.1012	13.0840	776.41	0.4258
Ethane	9.6766	8.6984	2.5980	171.25	0.1005
Propane	5.2284	4.6999	1.4460	131.55	0.0796
Iso-Butane	1.1677	1.0497	0.3840	37.97	0.0234
N-Butane	1.5136	1.3606	0.4790	49.38	0.0304
I-Pentane	0.5875	0.5281	0.2160	23.51	0.0146
N-Pentane	0.4755	0.4274	0.1730	19.06	0.0118
Hexane Plus	1.6041	1.4419	0.7180	84.55	0.0531
Total	100.0000	89.8909	19.5670	1293.68	0.7808

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0042
 BTU/CU.FT IDEAL: 1296.7
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1302.1
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1279.4
 DRY BTU @ 15.025: 1328.2
 REAL SPECIFIC GRAVITY: 0.7838

CYLINDER #: 234
 CYLINDER PRESSURE: 37 PSIG
 ANALYSIS DATE: 10/01/2020
 ANALYSIS TIME: 09:47:47 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 7A ; CSG
Stn. No.: API #
Mtr. No.: 90358

CASING

10/08/2020
15950-12440

Smpl Date: 09/25/2020
Test Date: 10/01/2020
Run No: SO200216
Nitrogen: 0.3821
CO2: 2.4921
Methane: 76.8724
Ethane: 9.6766
Propane: 5.2284
I-Butane: 1.1677
N-Butane: 1.5136
I-Pentane: 0.5875
N-Pentane: 0.4755
Hexane+: 1.6041
BTU: 1302.1
GPM: 19.5670
SPG: 0.7838



OCD Received 10/28/2020

Well Name: MUDGE LS 7A ; BHD
API #: API # 300452306400
Source: BRADENHEAD
Sample Type: GAS
Analysis No: SO200214
Cust No: 15950-12430

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: MUDGE LS 7A ; BHD
County/State: NM
Location:
Lease/PA/CA:
Formation:
Cust. Stn. No.: API # 300452306400
90358

Source: BRADENHEAD
Well Flowing:
Pressure: 39 PSIG
Flow Temp: DEG. F
Ambient Temp: 86 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 09/25/2020
Sample Time: 6.45 AM
Sampled By: SEAN CASAUS
Sampled by (CO): ABC

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4279	0.3847	0.0470	0.00	0.0041
CO2	2.4009	2.1585	0.4110	0.00	0.0365
Methane	77.0043	69.2311	13.1060	777.74	0.4265
Ethane	9.6760	8.6992	2.5980	171.24	0.1005
Propane	5.1977	4.6730	1.4380	130.78	0.0791
Iso-Butane	1.1586	1.0416	0.3810	37.68	0.0233
N-Butane	1.5020	1.3504	0.4750	49.00	0.0301
I-Pentane	0.5832	0.5243	0.2140	23.33	0.0145
N-Pentane	0.4706	0.4231	0.1710	18.86	0.0117
Hexane Plus	1.5788	1.4194	0.7070	83.22	0.0523
Total	100.0000	89.9053	19.5480	1291.85	0.7786

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0042
BTU/CU.FT IDEAL: 1294.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1300.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1277.6
DRY BTU @ 15.025: 1326.2
REAL SPECIFIC GRAVITY: 0.7815

CYLINDER #: 1072
CYLINDER PRESSURE: 38 PSIG
ANALYSIS DATE: 10/01/2020
ANALYSIS TIME: 09:39:19 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 7A ; BHD
Stn. No.: API #
Mtr. No.: 90358

BRADENHEAD

10/08/2020
15950-12430

Smpl Date: 09/25/2020
Test Date: 10/01/2020
Run No: SO200214

Nitrogen: 0.4279
CO2: 2.4009
Methane: 77.0043
Ethane: 9.6760
Propane: 5.1977
I-Butane: 1.1586
N-Butane: 1.5020
I-Pentane: 0.5832
N-Pentane: 0.4706
Hexane+: 1.5788

BTU: 1300.2
GPM: 19.5480
SPG: 0.7815