



NMOCD REC'D
10/12/20

Well Name: MUDGE GC B1M: CSG
API #: API #300453273500
Source: CASING
Sample Type: GAS
Analysis No: SO200060
Cust No: 15950-11735

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: MUDGE GC B1M: CSG
County/State: NM
Location:
Lease/PA/CA:
Formation:
Cust. Stn. No.: API #300453273500

Source: CASING
Well Flowing: Y
Pressure: 55 PSIG
Flow Temp: DEG. F
Ambient Temp: 77 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/15/2020
Sample Time: 9.25 AM
Sampled By: SEAN C.
Sampled by (CO): ABC

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2263	0.2236	0.0250	0.00	0.0022
CO2	2.0176	1.9937	0.3460	0.00	0.0307
Methane	80.1558	79.2069	13.6370	809.57	0.4440
Ethane	8.6965	8.5936	2.3340	153.90	0.0903
Propane	4.3465	4.2950	1.2020	109.36	0.0662
Iso-Butane	0.9039	0.8932	0.2970	29.39	0.0181
N-Butane	1.4125	1.3958	0.4470	46.08	0.0283
I-Pentane	0.5641	0.5574	0.2070	22.57	0.0141
N-Pentane	0.4326	0.4275	0.1570	17.34	0.0108
Hexane Plus	1.2442	1.2295	0.5570	65.58	0.0412
Total	100.0000	98.8162	19.2090	1253.81	0.7458

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0038
BTU/CU.FT IDEAL: 1256.7
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1261.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1239.5
DRY BTU @ 15.025: 1286.8
REAL SPECIFIC GRAVITY: 0.7483

CYLINDER #: 1077
CYLINDER PRESSURE: 48 PSIG
ANALYSIS DATE: 07/17/2020
ANALYSIS TIME: 10:17:32 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: 07/22/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: MUDGE GC B1M: CSG
Stn. No.: API
Mtr. No.:

CASING

07/22/2020
15950-11735

Smpl Date: 07/15/2020
Test Date: 07/17/2020
Run No: SO200060

Nitrogen: 0.2263
CO2: 2.0176
Methane: 80.1558
Ethane: 8.6965
Propane: 4.3465
I-Butane: 0.9039
N-Butane: 1.4125
I-Pentane: 0.5641
N-Pentane: 0.4326
Hexane+: 1.2442

BTU: 1261.5
GPM: 19.2090
SPG: 0.7483



NMOCD REC'D
10/12/20

Well Name: MUDGE GC B1M; INTER
API #: API #300453273500
Source: INTERMEDIATE CASING
Sample Type: GAS
Analysis No: SO200061
Cust No: 15950-11740

Well/Lease Information

Customer Name:	BP - SOUTH BHD PROJECT	Source:	INTERMEDIATE CASING
Well Name:	MUDGE GC B1M; INTER	Well Flowing:	Y
County/State:	NM	Pressure:	305 PSIG
Location:		Flow Temp:	DEG. F
Lease/PA/CA:		Ambient Temp:	77 DEG. F
Formation:		Flow Rate:	MCF/D
Cust. Stn. No.:	API #300453273500	Sample Method:	Purge & Fill
		Sample Date:	07/15/2020
		Sample Time:	9.20 AM
		Sampled By:	SEAN C.
		Sampled by (CO):	ABC
Heat Trace:	N		
Remarks:			

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3909	0.3860	0.0430	0.00	0.0038
CO2	0.5682	0.5611	0.0970	0.00	0.0086
Methane	84.0610	83.0115	14.2910	849.02	0.4656
Ethane	9.0013	8.8889	2.4140	159.30	0.0935
Propane	4.0156	3.9655	1.1090	101.04	0.0611
Iso-Butane	0.4740	0.4681	0.1560	15.41	0.0095
N-Butane	0.8732	0.8623	0.2760	28.49	0.0175
I-Pentane	0.1851	0.1828	0.0680	7.41	0.0046
N-Pentane	0.1294	0.1278	0.0470	5.19	0.0032
Hexane Plus	0.3013	0.2975	0.1350	15.88	0.0100
Total	100.0000	98.7515	18.6360	1181.72	0.6775

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0031	CYLINDER #:	1069
BTU/CU.FT IDEAL:	1184.5	CYLINDER PRESSURE:	276 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1188.1	ANALYSIS DATE:	07/17/2020
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1167.4	ANALYSIS TIME:	10:00:46 AM
DRY BTU @ 15.025:	1211.9	ANALYSIS RUN BY:	RICHARD WILSON
REAL SPECIFIC GRAVITY:	0.6793		

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: 07/22/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: MUDGE GC B1M; INTER
Stn. No.: API
Mtr. No.:

INTERMEDIATE CASING

07/22/2020
15950-11740

Smpl Date: 07/15/2020
Test Date: 07/17/2020
Run No: SO200061

Nitrogen: 0.3909
CO2: 0.5682
Methane: 84.0610
Ethane: 9.0013
Propane: 4.0156
I-Butane: 0.4740
N-Butane: 0.8732
I-Pentane: 0.1851
N-Pentane: 0.1294
Hexane+: 0.3013

BTU: 1188.1
GPM: 18.6360
SPG: 0.6793



NMOCD REC'D
10/12/20

Well Name: MUDGE GC B1M; TBG
API #: API #300453273500
Source: TUBING
Sample Type: GAS
Analysis No: SO200062
Cust No: 15950-11745

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: MUDGE GC B1M; TBG
County/State: NM
Location:
Lease/PA/CA:
Formation:
Cust. Stn. No.: API #300453273500

Source: TUBING
Well Flowing: Y
Pressure: 28 PSIG
Flow Temp: DEG. F
Ambient Temp: 77 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/15/2020
Sample Time: 9.30 AM
Sampled By: SEAN C.
Sampled by (CO): ABC

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2289	0.2248	0.0250	0.00	0.0022
CO2	2.2602	2.2200	0.3870	0.00	0.0343
Methane	81.6988	80.2447	13.8970	825.16	0.4525
Ethane	8.0640	7.9205	2.1640	142.71	0.0837
Propane	3.6787	3.6132	1.0170	92.56	0.0560
Iso-Butane	0.8087	0.7943	0.2660	26.30	0.0162
N-Butane	1.1807	1.1597	0.3730	38.52	0.0237
I-Pentane	0.5064	0.4974	0.1860	20.26	0.0126
N-Pentane	0.3750	0.3683	0.1360	15.03	0.0093
Hexane Plus	1.1986	1.1773	0.5360	63.18	0.0397
Total	100.0000	98.2202	18.9870	1223.71	0.7304

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0036
BTU/CU.FT IDEAL: 1226.5
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1231.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1209.6
DRY BTU @ 15.025: 1255.7
REAL SPECIFIC GRAVITY: 0.7327

CYLINDER #: 1428
CYLINDER PRESSURE: 25 PSIG
ANALYSIS DATE: 07/17/2020
ANALYSIS TIME: 10:32:36 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: 07/22/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: MUDGE GC B1M; TBG
Stn. No.: API
Mtr. No.:

TUBING

07/22/2020
15950-11745

Smpl Date: 07/15/2020
Test Date: 07/17/2020
Run No: SO200062

Nitrogen: 0.2289
CO2: 2.2602
Methane: 81.6988
Ethane: 8.0640
Propane: 3.6787
I-Butane: 0.8087
N-Butane: 1.1807
I-Pentane: 0.5064
N-Pentane: 0.3750
Hexane+: 1.1986

BTU: 1231.0
GPM: 18.9870
SPG: 0.7327