

30-045-23159
Bradenhead



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

Analysis No: SO170032
Cust No: 15950-10120

Well/Lease Information

Customer Name:	BP - SOUTH BHD PROJECT	Source:	BRADENHEAD
Well Name:	MUDGE LS 45	Pressure:	58 PSIA
County/State:	NM	Sample Temp:	DEG. F
Location:		Well Flowing:	Y
Field:		Date Sampled:	06/22/2017
Formation:	PC	Sampled By:	E. HAMILTON
Cust. Stn. No.:		Foreman/Engr.:	KEVIN IRELAND
	API 3004523159		

OIL CONS. DIV DIST. 3

JAN 02 2018

Remarks: PRESSURED WITH HELIUM TO 30 LBS.

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	82.152	9.0540	0.00	0.7946
CO2	1.772	0.3030	0.00	0.0269
Methane	5.570	0.9460	56.25	0.0309
Ethane	2.152	0.5770	38.08	0.0223
Propane	0.253	0.0700	6.37	0.0039
Iso-Butane	0.000	0.0000	0.00	0.0000
N-Butane	2.278	0.7200	74.33	0.0457
I-Pentane	0.000	0.0000	0.00	0.0000
N-Pentane	0.000	0.0000	0.00	0.0000
Hexane Plus	5.823	2.6010	306.92	0.1927
Total	100.000	14.2710	481.96	1.1170

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.002
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 484.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 475.6
REAL SPECIFIC GRAVITY: 1.1188

GPM, BTU, and SPG calculations as shown
above are based on current GPA factors.

DRY BTU @ 14.650: 481.4
DRY BTU @ 14.696: 482.9
DRY BTU @ 14.730: 484.0
DRY BTU @ 15.025: 493.7

CYLINDER #: 7085
CYLINDER PRESSURE: 1 PSIG
DATE RUN: 7/5/17 7:20 AM
ANALYSIS RUN BY: RICHARD WILSON

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30-045-23159
Bradenhead



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: MUDGE LS 45
Stn. No.:
Mtr. No.: API 3004523159

BRADENHEAD
PC

07/11/2017
15950-10120

Smpl Date: 06/22/2017
Test Date: 07/05/2017
Run No: SO170032

Nitrogen: 82.152
CO2: 1.772
Methane: 5.570
Ethane: 2.152
Propane: 0.253
I-Butane: 0.000
N-Butane: 2.278
I-Pentane: 0.000
N-Pentane: 0.000
Hexane+: 5.823

BTU: 484.0
GPM: 14.2710
SPG: 1.1188



30-045-23159

Casing

2030 Afton Place
Farmington, NM 87401
(505) 325-6622Analysis No: SO170033
Cust No: 15950-10180**Well/Lease Information**

Customer Name: BP - SOUTH BHD PROJECT
Well Name: MUDGE LS 45
County/State: NM
Location:
Field:
Formation: PC
Cust. Str. No.:
API 3004523159

Source: CASING
Pressure: 100 PSIA
Sample Temp: DEG. F
Well Flowing: Y
Date Sampled: 06/22/2017
Sampled By: E. HAMILTON
Foreman/Engr.: KEVIN IRELAND

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.208	0.0230	0.00	0.0020
CO2	0.760	0.1300	0.00	0.0115
Methane	86.397	14.6870	872.61	0.4786
Ethane	7.279	1.9520	128.82	0.0756
Propane	2.991	0.8260	75.26	0.0455
Iso-Butane	0.532	0.1750	17.30	0.0107
N-Butane	0.777	0.2460	25.35	0.0156
I-Pentane	0.280	0.1030	11.20	0.0070
N-Pentane	0.200	0.0730	8.02	0.0050
Hexane Plus	0.576	0.2580	30.36	0.0191
Total	100.000	18.4730	1168.91	0.6705

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.003
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1175.1
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1154.7
REAL SPECIFIC GRAVITY: 0.6723

GPM, BTU, and SPG calculations as shown
above are based on current GPA factors.

DRY BTU @ 14.650: 1168.7
DRY BTU @ 14.696: 1172.4
DRY BTU @ 14.730: 1175.1
DRY BTU @ 15.025: 1198.6

CYLINDER #: 7087
CYLINDER PRESSURE: 96 PSIG
DATE RUN: 7/5/17 7:21 AM
ANALYSIS RUN BY: RICHARD WILSON



30-045-23159
Casing

BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: MUDGE LS 45
Stn. No.:
Mtr. No.: API 3004523159

CASING
PC

07/11/2017
15950-10180

Smpl Date: 06/22/2017
Test Date: 07/05/2017
Run No: SO170033

Nitrogen: 0.208
CO2: 0.760
Methane: 86.397
Ethane: 7.279
Propane: 2.991
I-Butane: 0.532
N-Butane: 0.777
I-Pentane: 0.280
N-Pentane: 0.200
Hexane+: 0.576

BTU: 1175.1
GPM: 18.4730
SPG: 0.6723



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

Analysis No: SO170088
Cust No: 15950-10420

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: MUDGE LS 45;TBG
County/State: SAN JUAN NM
Location:
Field:
Formation:
Cust. Stn. No.:
API 3004523159

Source: TUBING
Well Flowing: Y
Pressure: 103 PSIA
Flow Temp: DEG. F
Ambient Temp: 67 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Date Sampled: 10/20/2017
Sample Time: 11.47 AM
Sampled By: SCOTT WILLARD
Sampled by (CO): PESCO

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2119	0.2094	0.0230	0.00	0.0020
CO2	0.7697	0.7607	0.1320	0.00	0.0117
Methane	86.3644	85.3563	14.6830	872.28	0.4784
Ethane	7.2690	7.1842	1.9500	128.64	0.0755
Propane	2.9741	2.9394	0.8220	74.83	0.0453
Iso-Butane	0.5340	0.5278	0.1750	17.37	0.0107
N-Butane	0.7796	0.7705	0.2460	25.43	0.0156
I-Pentane	0.2821	0.2788	0.1030	11.29	0.0070
N-Pentane	0.2010	0.1987	0.0730	8.06	0.0050
Hexane Plus	0.6142	0.6070	0.2750	32.37	0.0203
Total	100.0000	98.8328	18.4820	1170.27	0.6716

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
BTU/CU.FT IDEAL: 1173.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1176.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1156.0
DRY BTU @ 15.025: 1200.1
REAL SPECIFIC GRAVITY: 0.6733

CYLINDER #: 7083
CYLINDER PRESSURE: 79 PSIG
DATE RUN: 11/2/17 11:47 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: 11/02/2017

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: MUDGE LS 45;TBG
Stn. No.:
Mtr. No.: API 3004523159

TUBING

11/02/2017
15950-10420

Smpl Date: 10/20/2017
Test Date: 11/02/2017
Run No: SO170088
Nitrogen: 0.2119
CO2: 0.7697
Methane: 86.3644
Ethane: 7.2690
Propane: 2.9741
I-Butane: 0.5340
N-Butane: 0.7796
I-Pentane: 0.2821
N-Pentane: 0.2010
Hexane+: 0.6142
BTU: 1176.5
GPM: 18.4820
SPG: 0.6733