



Case D-111
API 30-045-23191
Bradenhead 1 of 2
2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: SO170016
Cust No: 15950-10075

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: CASE B 4A; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: FT
Cust. Str. No.: API # 3004523191

OIL CONS. DIV DIST. 3

JAN 02 2018

Source: BRADENHEAD
Pressure: 24 PSIA
Sample Temp: DEG. F
Well Flowing: Y
Date Sampled: 06/05/2017
Sampled By: E. HAMILTON
Foreman/Engr.: SABRE BEEBE

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	24.284	2.6760	0.00	0.2349
CO2	0.024	0.0040	0.00	0.0004
Methane	67.938	11.5370	686.18	0.3763
Ethane	4.555	1.2200	80.61	0.0473
Propane	2.099	0.5790	52.81	0.0320
Iso-Butane	0.449	0.1470	14.60	0.0090
N-Butane	0.399	0.1260	13.02	0.0080
I-Pentane	0.137	0.0500	5.48	0.0034
N-Pentane	0.060	0.0220	2.41	0.0015
Hexane Plus	0.055	0.0250	2.90	0.0018
Total	100.000	16.3860	858.00	0.7145

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0019
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 861.6
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 846.6
REAL SPECIFIC GRAVITY: 0.7156

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

DRY BTU @ 14.650: 856.9
DRY BTU @ 14.696: 859.6
DRY BTU @ 14.730: 861.6
DRY BTU @ 15.025: 878.9

CYLINDER #: 7075
CYLINDER PRESSURE: PSIG
DATE RUN: 6/12/17 12:00 AM
ANALYSIS RUN BY: RICHARD WILSON

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API 30-045-23191
Bradenhead

BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: CASE B 4A; BHD
Stn. No.: API # 3004523191
Mtr. No.:

BRADENHEAD
FT

06/27/2017
15950-10075

Smpl Date: 06/05/2017
Test Date: 06/12/2017
Run No: SO170016

Nitrogen: 24.284
CO2: 0.024
Methane: 67.938
Ethane: 4.555
Propane: 2.099
I-Butane: 0.449
N-Butane: 0.399
I-Pentane: 0.137
N-Pentane: 0.060
Hexane+: 0.055

BTU: 861.6
GPM: 16.3860
SPG: 0.7156



API 30-045-23A1
TUBING

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

Analysis No: SO170018
Cust No: 15950-10085

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: CASE B 4A; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: FT
Cust. Stn. No.: API # 3004523191

OIL CONS. DIV DIST. 3

JAN 02 2018

Source: TUBING
Pressure: 38 PSIA
Sample Temp: DEG. F
Well Flowing: Y
Date Sampled: 06/05/2017
Sampled By: E. HAMILTON
Foreman/Engr.: SABRE BEEBE

Remarks: PRESSURED W/ HELIUM TO 30#

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	9.831	1.0840	0.00	0.0951
CO2	0.797	0.1360	0.00	0.0121
Methane	75.264	12.7930	760.16	0.4169
Ethane	8.179	2.1930	144.75	0.0849
Propane	3.367	0.9300	84.72	0.0513
Iso-Butane	0.557	0.1830	18.11	0.0112
N-Butane	0.918	0.2900	29.95	0.0184
I-Pentane	0.304	0.1110	12.16	0.0076
N-Pentane	0.233	0.0850	9.34	0.0058
Hexane Plus	0.550	0.2460	28.99	0.0182
Total	100.000	18.0510	1088.18	0.7214

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0029
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1093.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1074.9
REAL SPECIFIC GRAVITY: 0.7233

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

DRY BTU @ 14.650: 1088.0
DRY BTU @ 14.696: 1091.4
DRY BTU @ 14.730: 1093.9
DRY BTU @ 15.025: 1115.8

CYLINDER #: 7056
CYLINDER PRESSURE: 1 PSIG
DATE RUN: 6/12/17 12:24 PM
ANALYSIS RUN BY: RICHARD WILSON

API 30-045-23P1
Tubing



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: CASE B 4A; TBG
Stn. No.: API # 3004523191
Mtr. No.:

TUBING
FT

06/27/2017
15950-10085

Smpl Date: 06/05/2017
Test Date: 06/12/2017
Run No: SO170018

Nitrogen: 9.831
CO2: 0.797
Methane: 75.264
Ethane: 8.179
Propane: 3.367
I-Butane: 0.557
N-Butane: 0.918
I-Pentane: 0.304
N-Pentane: 0.233
Hexane+: 0.550

BTU: 1093.9
GPM: 18.0510
SPG: 0.7233



API 30-045-23191

Casing

2030 Afton Place
Farmington, NM 87401
(505) 325-6622Analysis No: SO170017
Cust No: 15950-10080**Well/Lease Information**Customer Name: BP - SOUTH BHD PROJECT
Well Name: CASE B 4A; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: FT
Cust. Stn. No.: API # 3004523191Source: CASING
Pressure: 83 PSIA
Sample Temp: DEG. F
Well Flowing: Y
Date Sampled: 06/05/2017
Sampled By: E. HAMILTON
Foreman/Engr.: SABRE BEEBE

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.245	0.0270	0.00	0.0024
CO2	0.755	0.1290	0.00	0.0115
Methane	82.215	13.9830	830.37	0.4554
Ethane	9.123	2.4480	161.45	0.0947
Propane	4.002	1.1060	100.69	0.0609
Iso-Butane	0.702	0.2300	22.83	0.0141
N-Butane	1.178	0.3730	38.43	0.0236
I-Pentane	0.464	0.1700	18.56	0.0116
N-Pentane	0.354	0.1290	14.19	0.0088
Hexane Plus	0.962	0.4300	50.71	0.0318
Total	100.000	19.0250	1237.23	0.7148

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035

BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1244.5

BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1222.8

REAL SPECIFIC GRAVITY: 0.717

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

DRY BTU @ 14.650: 1237.7

DRY BTU @ 14.696: 1241.6

DRY BTU @ 14.730: 1244.5

DRY BTU @ 15.025: 1269.4

CYLINDER #: 7033

CYLINDER PRESSURE: 77 PSIG

DATE RUN: 6/12/17 12:22 PM

ANALYSIS RUN BY: RICHARD WILSON

30-045-23A1
Casing



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: CASE B 4A; CSG
Stn. No.: API # 3004523191
Mtr. No.:

CASING
FT

06/27/2017
15950-10080

Smpl Date: 06/05/2017
Test Date: 06/12/2017
Run No: SO170017

Nitrogen: 0.245
CO2: 0.755
Methane: 82.215
Ethane: 9.123
Propane: 4.002
I-Butane: 0.702
N-Butane: 1.178
I-Pentane: 0.464
N-Pentane: 0.354
Hexane+: 0.962

BTU: 1244.5
GPM: 19.0250
SPG: 0.7170