



30-045-32491
Bradenhead
2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: SO170043
Cust No: 15950-10215

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: BARNES LS 7M BHD
County/State: NM
Location:
Field:
Formation: MV/DK
Cust. Strn. No.:
API 3004532491

OIL CONS. DIV DIST. 3
AUG 09 2017

Source: BRADENHEAD
Well Flowing: Y
Pressure: 106 PSIG
Flow Temp: DEG. F
Ambient Temp: 87 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Date Sampled: 07/14/2017
Sampled By: EUGENIA HAMILTON
Foreman/Engr.: SABRE BEEBE

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.1979	0.1320	0.00	0.0116
CO2	0.0986	0.0170	0.00	0.0015
Methane	89.4191	15.1950	903.13	0.4953
Ethane	5.8784	1.5760	104.03	0.0610
Propane	2.0759	0.5730	52.23	0.0316
Iso-Butane	0.4093	0.1340	13.31	0.0082
N-Butane	0.4605	0.1460	15.02	0.0092
I-Pentane	0.1828	0.0670	7.31	0.0046
N-Pentane	0.0891	0.0320	3.57	0.0022
Hexane Plus	0.1884	0.0840	9.93	0.0062
Total	100.0000	17.9560	1108.54	0.6315

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0026	CYLINDER #:	5122
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1114.0	CYLINDER PRESSURE:	99 PSIG
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1094.6	DATE RUN:	7/27/17 12:00 AM
REAL SPECIFIC GRAVITY:	0.6329	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: 08/01/2017

GC Method: C6+ Gas



30-045-32491
Bradenhead

BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: BARNES LS 7M BHD
Stn. No.:
Mtr. No.: API 3004532491

BRADENHEAD
MV/DK

08/01/2017
15950-10215

Smpl Date: 07/14/2017
Test Date: 07/27/2017
Run No: SO170043

Nitrogen: 1.1979
CO2: 0.0986
Methane: 89.4191
Ethane: 5.8784
Propane: 2.0759
I-Butane: 0.4093
N-Butane: 0.4605
I-Pentane: 0.1828
N-Pentane: 0.0891
Hexane+: 0.1884

BTU: 1114.0
GPM: 17.9560
SPG: 0.6329



30-045-32491
Intermediate
2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: SO170045
Cust No: 15950-10220

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: BARNES LS 7M INT
County/State: NM
Location:
Field:
Formation: MV/DK
Cust. Str. No.:
API 3004532491

Source: INTERMEDIATE
Well Flowing: Y
Pressure: 541 PSIG
Flow Temp: DEG. F
Ambient Temp: 87 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Date Sampled: 07/14/2017
Sampled By: EUGENIA HAMILTON
Foreman/Engr.: SABRE BEEBE

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1081	0.0120	0.00	0.0010
CO2	0.0822	0.0140	0.00	0.0012
Methane	84.2939	14.3310	851.37	0.4669
Ethane	9.7614	2.6180	172.75	0.1013
Propane	3.5541	0.9820	89.42	0.0541
Iso-Butane	0.6148	0.2020	19.99	0.0123
N-Butane	0.8189	0.2590	26.71	0.0164
I-Pentane	0.2888	0.1060	11.55	0.0072
N-Pentane	0.1836	0.0670	7.36	0.0046
Hexane Plus	0.2942	0.1320	15.51	0.0097
Total	100.0000	18.7230	1194.67	0.6749

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0031	CYLINDER #:	7023
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1201.2	CYLINDER PRESSURE:	184 PSIG
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1180.3	DATE RUN:	7/27/17 4:28 PM
REAL SPECIFIC GRAVITY:	0.6768	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: 08/01/2017

GC Method: C6+ Gas



30-045-32491
Intermediate

BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: BARNES LS 7M INT
Stn. No.:
Mtr. No.: API 3004532491

INTERMEDIATE
MV/DK

08/01/2017
15950-10220

Smpl Date: 07/14/2017
Test Date: 07/27/2017
Run No: SO170045

Nitrogen: 0.1081
CO2: 0.0822
Methane: 84.2939
Ethane: 9.7614
Propane: 3.5541
I-Butane: 0.6148
N-Butane: 0.8189
I-Pentane: 0.2888
N-Pentane: 0.1836
Hexane+: 0.2942

BTU: 1201.2
GPM: 18.7230
SPG: 0.6768



30-045-32491
Casing

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

Analysis No: SO170044
Cust No: 15950-10210

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: BARNES LS 7M
County/State: NM
Location:
Field:
Formation: MV/DK
Cust. Strn. No.:
API 3004532491

Source: CASING
Well Flowing: Y
Pressure: 82 PSIG
Flow Temp: DEG. F
Ambient Temp: 87 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Date Sampled: 07/14/2017
Sampled By: EUGENIA HAMILTON
Foreman/Engr.: SABRE BEEBE

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	8.9021	0.9820	0.00	0.0861
CO2	0.0109	0.0020	0.00	0.0002
Methane	75.8364	12.8930	765.95	0.4201
Ethane	8.4110	2.2560	148.85	0.0873
Propane	3.4251	0.9460	86.18	0.0521
Iso-Butane	0.7886	0.2590	25.64	0.0158
N-Butane	0.8805	0.2780	28.72	0.0177
I-Pentane	0.3945	0.1450	15.78	0.0098
N-Pentane	0.3041	0.1110	12.19	0.0076
Hexane Plus	1.0468	0.4680	55.18	0.0346
Total	100.0000	18.3400	1138.50	0.7313

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0031	CYLINDER #:	7055
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1144.7	CYLINDER PRESSURE:	76 PSIG
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1124.8	DATE RUN:	7/27/17 4:26 PM
REAL SPECIFIC GRAVITY:	0.7333	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: 08/01/2017

GC Method: C6+ Gas



30-045-32491
Casing

BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: BARNES LS 7M
Stn. No.:
Mtr. No.: API 3004532491

CASING
MV/DK

08/01/2017
15950-10210

Smpl Date: 07/14/2017
Test Date: 07/27/2017
Run No: SO170044

Nitrogen: 8.9021
CO2: 0.0109
Methane: 75.8364
Ethane: 8.4110
Propane: 3.4251
I-Butane: 0.7886
N-Butane: 0.8805
I-Pentane: 0.3945
N-Pentane: 0.3041
Hexane+: 1.0468

BTU: 1144.7
GPM: 18.3400
SPG: 0.7333



30-045-32491
tubing
2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: SO170046
Cust No: 15950-10205

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: BARNES LS 7M TBG
County/State: NM
Location:
Field:
Formation: MV/DK
Cust. Str. No.:
API 3004532491

Source: TUBING
Well Flowing: Y
Pressure: 16 PSIG
Flow Temp: DEG. F
Ambient Temp: 87 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Date Sampled: 07/14/2017
Sampled By: EUGENIA HAMILTON
Foreman/Engr.: SABRE BEEBE

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4655	0.0510	0.00	0.0045
CO2	2.3339	0.3990	0.00	0.0355
Methane	85.1170	14.4710	859.68	0.4715
Ethane	7.0025	1.8780	123.92	0.0727
Propane	2.6188	0.7240	65.89	0.0399
Iso-Butane	0.5601	0.1840	18.21	0.0112
N-Butane	0.6762	0.2140	22.06	0.0136
I-Pentane	0.2916	0.1070	11.67	0.0073
N-Pentane	0.2075	0.0750	8.32	0.0052
Hexane Plus	0.7269	0.3250	38.32	0.0241
Total	100.0000	18.4280	1148.07	0.6853

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0031	CYLINDER #:	7086
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1154.3	CYLINDER PRESSURE:	17 PSIG
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1134.2	DATE RUN:	7/27/17 4:31 PM
REAL SPECIFIC GRAVITY:	0.6872	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: 08/01/2017

GC Method: C6+ Gas



30-045-32491
Tubing

BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: BARNES LS 7M TBG
Stn. No.:
Mtr. No.: API 3004532491

TUBING
MV/DK

08/01/2017
15950-10205

Smpl Date: 07/14/2017
Test Date: 07/27/2017
Run No: SO170046

Nitrogen: 0.4655
CO2: 2.3339
Methane: 85.1170
Ethane: 7.0025
Propane: 2.6188
I-Butane: 0.5601
N-Butane: 0.6762
I-Pentane: 0.2916
N-Pentane: 0.2075
Hexane+: 0.7269

BTU: 1154.3
GPM: 18.4280
SPG: 0.6872