



Irvin Com 1
30-045-20585
Bradenhead Sample

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

Analysis No: SO180057
Cust No: 15950-10715

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: IRVIN COM 1; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: 3004520585

Source: BRADENHEAD
Well Flowing: Y
Pressure: 56 PSIA
Flow Temp: DEG. F
Ambient Temp: 62 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/06/2018
Sample Time: 7.07 AM
Sampled By: SCOTT WILLARD
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMOC
FEB 13 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5112	0.4957	0.0560	0.00	0.0049
CO2	0.6029	0.5846	0.1030	0.00	0.0092
Methane	81.9970	79.5060	13.9450	828.17	0.4542
Ethane	9.5514	9.2612	2.5620	169.03	0.0992
Propane	4.1103	3.9854	1.1360	103.42	0.0626
Iso-Butane	0.6065	0.5881	0.1990	19.72	0.0122
N-Butane	1.2002	1.1637	0.3800	39.15	0.0241
I-Pentane	0.4070	0.3946	0.1490	16.28	0.0101
N-Pentane	0.3718	0.3605	0.1350	14.90	0.0093
Hexane Plus	0.6417	0.6222	0.2870	33.82	0.0212
Total	100.0000	96.9620	18.9520	1224.51	0.7069

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0034
BTU/CU.FT IDEAL: 1227.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1231.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1210.1
DRY BTU @ 15.025: 1256.2
REAL SPECIFIC GRAVITY: 0.7091

CYLINDER #: 7087
CYLINDER PRESSURE: 53 PSIG
ANALYSIS DATE: 07/10/2018
ANALYSIS TIME: 04:00:34 PM
ANALYSIS RUN BY: SHYANN ELLEDGE

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: 07/12/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: IRVIN COM 1; BHD
Stn. No.: 3004520585
Mtr. No.:

BRADENHEAD
PC

07/12/2018
15950-10715

Smpl Date: 07/06/2018
Test Date: 07/10/2018
Run No: SO180057

Nitrogen: 0.5112
CO2: 0.6029
Methane: 81.9970
Ethane: 9.5514
Propane: 4.1103
I-Butane: 0.6065
N-Butane: 1.2002
I-Pentane: 0.4070
N-Pentane: 0.3718
Hexane+: 0.6417

BTU: 1231.5
GPM: 18.9520
SPG: 0.7091



Irvin Com 1
30-045-20585
Casing Sample

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

Analysis No: SO180058
Cust No: 15950-10720

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: IRVIN COM 1; CSG
County/State: SAN JUNA NM
Location:
Field:
Formation: PC
Cust. Stn. No.: 3004520585

Source: CASING
Well Flowing: Y
Pressure: 144 PSIA
Flow Temp: DEG. F
Ambient Temp: 62 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/06/2018
Sample Time: 7.20 AM
Sampled By: SCOTT WILLARD
Sampled by (CO): PESCO

Heat Trace: N

Remarks:

NM000
FEB 13 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4659	0.4627	0.0510	0.00	0.0045
CO2	0.8524	0.8465	0.1460	0.00	0.0130
Methane	81.8438	81.2752	13.9190	826.62	0.4533
Ethane	9.6807	9.6134	2.5970	171.32	0.1005
Propane	4.1686	4.1396	1.1520	104.89	0.0635
Iso-Butane	0.6001	0.5959	0.1970	19.51	0.0120
N-Butane	1.1885	1.1802	0.3760	38.77	0.0239
I-Pentane	0.3834	0.3807	0.1410	15.34	0.0096
N-Pentane	0.3410	0.3386	0.1240	13.67	0.0085
Hexane Plus	0.4756	0.4723	0.2130	25.07	0.0157
Total	100.0000	99.3051	18.9160	1215.19	0.7044

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0034
BTU/CU.FT IDEAL: 1218.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1222.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1200.9
DRY BTU @ 15.025: 1246.7
REAL SPECIFIC GRAVITY: 0.7066

CYLINDER #: 7076
CYLINDER PRESSURE: 143 PSIG
ANALYSIS DATE: 07/10/2018
ANALYSIS TIME: 02:55:58 PM
ANALYSIS RUN BY: SHYANN ELLEDGE

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

GPA Standard: GPA-2261

GC: Danalyzer Model 500

GC Method: C6+ Gas

Last Cal/Verify: 07/12/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: IRVIN COM 1; CSG
Stn. No.: 3004520585
Mtr. No.:

CASING
PC

07/12/2018
15950-10720

Smpl Date: 07/06/2018
Test Date: 07/10/2018
Run No: SO180058

Nitrogen: 0.4659
CO2: 0.8524
Methane: 81.8438
Ethane: 9.6807
Propane: 4.1686
I-Butane: 0.6001
N-Butane: 1.1885
I-Pentane: 0.3834
N-Pentane: 0.3410
Hexane+: 0.4756

BTU: 1222.2
GPM: 18.9160
SPG: 0.7066



Irvin Com1
30-045-20585
Tubing Sample

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

Analysis No: SO180059
Cust No: 15950-10725

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: IRVIN COM 1; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: 3004520585

Source: TUBING
Well Flowing: Y
Pressure: 134 PSIA
Flow Temp: DEG. F
Ambient Temp: 62 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/06/2018
Sample Time: 7.13 AM
Sampled By: SCOTT WILLARD
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMOC
FEB 13 2013
DISTRICT III

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4500	0.4537	0.0500	0.00	0.0044
CO2	1.1448	1.1541	0.1960	0.00	0.0174
Methane	81.2651	81.9248	13.8200	820.78	0.4501
Ethane	9.8323	9.9121	2.6380	174.00	0.1021
Propane	4.1952	4.2292	1.1590	105.56	0.0639
Iso-Butane	0.6024	0.6073	0.1980	19.59	0.0121
N-Butane	1.1880	1.1976	0.3760	38.76	0.0238
I-Pentane	0.3741	0.3771	0.1370	14.97	0.0093
N-Pentane	0.3261	0.3287	0.1190	13.07	0.0081
Hexane Plus	0.6220	0.6270	0.2780	32.79	0.0206
Total	100.0000	100.8116	18.9710	1219.51	0.7118

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0034
BTU/CU.FT IDEAL: 1222.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1226.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1205.2
DRY BTU @ 15.025: 1251.1
REAL SPECIFIC GRAVITY: 0.7139

CYLINDER #: 7021
CYLINDER PRESSURE: 122 PSIG
ANALYSIS DATE: 07/10/2018
ANALYSIS TIME: 02:00:18 PM
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: 07/12/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: IRVIN COM 1; TBG
Stn. No.: 3004520585
Mtr. No.:

TUBING
PC

07/12/2018
15950-10725

Smpl Date: 07/06/2018
Test Date: 07/10/2018
Run No: SO180059

Nitrogen: 0.4500
CO2: 1.1448
Methane: 81.2651
Ethane: 9.8323
Propane: 4.1952
I-Butane: 0.6024
N-Butane: 1.1880
I-Pentane: 0.3741
N-Pentane: 0.3261
Hexane+: 0.6220

BTU: 1226.5
GPM: 18.9710
SPG: 0.7139