



Irvin Com 1E
30-045-25841
Bradenhead Sample

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

Analysis No: SO180060
Cust No: 15950-10730

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT

Well Name: IRVIN COM 1E; BHD

County/State: SAN JUAN NM

Location:

Field:

Formation: PC

Cust. Str. No.: 3004525841

Source: BRADENHEAD

Well Flowing: Y

Pressure: 41 PSIA

Flow Temp: DEG. F

Ambient Temp: 93 DEG. F

Flow Rate: MCF/D

Sample Method: Purge & Fill

Sample Date: 07/05/2018

Sample Time: 2.38 PM

Sampled By: SCOTT WILLARD

Sampled by (CO): PESCO

Heat Trace: N

Remarks:

HMOC
FEB 13 2019
DISTRICT III

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.9442	0.9406	0.1040	0.00	0.0091
CO2	0.0219	0.0218	0.0040	0.00	0.0003
Methane	95.5319	95.1660	16.2250	964.87	0.5292
Ethane	2.9583	2.9470	0.7930	52.35	0.0307
Propane	0.4118	0.4102	0.1140	10.36	0.0063
Iso-Butane	0.0686	0.0683	0.0220	2.23	0.0014
N-Butane	0.0385	0.0384	0.0120	1.26	0.0008
I-Pentane	0.0071	0.0071	0.0030	0.28	0.0002
N-Pentane	0.0039	0.0039	0.0010	0.16	0.0001
Hexane Plus	0.0138	0.0137	0.0060	0.73	0.0005
Total	100.0000	99.6170	17.2840	1032.24	0.5785

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0021
BTU/CU.FT IDEAL: 1034.6
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1036.8
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1018.8
DRY BTU @ 15.025: 1057.6
REAL SPECIFIC GRAVITY: 0.5795

CYLINDER #: 7035
CYLINDER PRESSURE: 35 PSIG
ANALYSIS DATE: 07/10/2018
ANALYSIS TIME: 04:16:16 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 1E; BHD
Stn. No.: 3004525841
Mtr. No.:

BRADENHEAD
PC

07/12/2018
15950-10730

Smpl Date: 07/05/2018
Test Date: 07/10/2018
Run No: SO180060

Nitrogen: 0.9442
CO2: 0.0219
Methane: 95.5319
Ethane: 2.9583
Propane: 0.4118
I-Butane: 0.0686
N-Butane: 0.0385
I-Pentane: 0.0071
N-Pentane: 0.0039
Hexane+: 0.0138

BTU: 1036.8
GPM: 17.2840
SPG: 0.5795



Irvin Com 1E
30-045-25841
Casing Sample

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

Analysis No: SO180061
Cust No: 15950-10735

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT

Well Name: IRVIN COM 1E; CSG

County/State: SAN JUAN NM

Location:

Field:

Formation: PC

Cust. Stn. No.: 3004525841

Source: CASING

Well Flowing: Y

Pressure: 150 PSIA

Flow Temp: DEG. F

Ambient Temp: 93 DEG. F

Flow Rate: MCF/D

Sample Method: Purge & Fill

Sample Date: 07/05/2018

Sample Time: 2.42 PM

Sampled By: SCOTT WILLARD

Sampled by (CO): PESCO

Heat Trace: N

Remarks:

NMOCB
FEB 13 2013
DISTRICT III

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	4.8487	4.5519	0.5360	0.00	0.0469
CO2	0.0042	0.0039	0.0010	0.00	0.0001
Methane	64.7534	60.7893	11.0320	654.01	0.3587
Ethane	11.2991	10.6074	3.0370	199.96	0.1173
Propane	8.9933	8.4428	2.4900	226.28	0.1369
Iso-Butane	1.8825	1.7673	0.6190	61.22	0.0378
N-Butane	4.6765	4.3902	1.4820	152.56	0.0938
I-Pentane	1.6513	1.5502	0.6070	66.07	0.0411
N-Pentane	1.4362	1.3483	0.5230	57.57	0.0358
Hexane Plus	0.4548	0.4270	0.2040	23.97	0.0151
Total	100.0000	93.8783	20.5310	1441.64	0.8835

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0052
BTU/CU.FT IDEAL: 1445.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1452.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1427.2
DRY BTU @ 15.025: 1481.6
REAL SPECIFIC GRAVITY: 0.8877

CYLINDER #: 5122
CYLINDER PRESSURE: 132 PSIG
ANALYSIS DATE: 07/10/2018
ANALYSIS TIME: 02:47:06 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

GC Method: C6+ Gas

Last Cal/Verify: 07/12/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: IRVIN COM 1E; CSG
Stn. No.: 3004525841
Mtr. No.:

CASING
PC

07/12/2018
15950-10735

Smpl Date: 07/05/2018
Test Date: 07/10/2018
Run No: SO180061

Nitrogen: 4.8487
CO2: 0.0042
Methane: 64.7534
Ethane: 11.2991
Propane: 8.9933
I-Butane: 1.8825
N-Butane: 4.6765
I-Pentane: 1.6513
N-Pentane: 1.4362
Hexane+: 0.4548

BTU: 1452.5
GPM: 20.5310
SPG: 0.8877



Irvin Com 1E
30-045-25841
Tubing Sample

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

Analysis No: SO180062
Cust No: 15950-10740

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT

Well Name: IRVIN COM 1E; TBG

County/State: SAN JUAN NM

Location:

Field:

Formation: PC

Cust. Stn. No.: 3004525841

Source: TUBING

Well Flowing: Y

Pressure: 150 PSIA

Flow Temp: DEG. F

Ambient Temp: 93 DEG. F

Flow Rate: MCF/D

Sample Method: Purge & Fill

Sample Date: 07/05/2018

Sample Time: 2.49 PM

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	0.6212	0.6165	0.0690	0.00	0.0060
CO2	1.0177	1.0100	0.1740	0.00	0.0155
Methane	81.7287	81.1134	13.8990	825.46	0.4527
Ethane	9.6372	9.5646	2.5850	170.55	0.1001
Propane	4.0509	4.0204	1.1200	101.92	0.0617
Iso-Butane	0.5785	0.5741	0.1900	18.81	0.0116
N-Butane	1.0691	1.0611	0.3380	34.88	0.0215
I-Pentane	0.3244	0.3220	0.1190	12.98	0.0081
N-Pentane	0.2816	0.2795	0.1020	11.29	0.0070
Hexane Plus	0.6907	0.6855	0.3090	36.41	0.0229
Total	100.0000	99.2471	18.9050	1212.30	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: 1215.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1219.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1198.0
DRY BTU @ 15.025: 1243.6
REAL SPECIFIC GRAVITY: 0.709

CYLINDER #: 7089
CYLINDER PRESSURE: 126 PSIG
ANALYSIS DATE: 07/10/2018
ANALYSIS TIME: 01:56:10 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 1E; TBG
Stn. No.: 3004525841
Mtr. No.:

TUBING
PC

07/12/2018
15950-10740

Smpl Date: 07/05/2018
Test Date: 07/10/2018
Run No: SO180062

Nitrogen: 0.6212
CO2: 1.0177
Methane: 81.7287
Ethane: 9.6372
Propane: 4.0509
I-Butane: 0.5785
N-Butane: 1.0691
I-Pentane: 0.3244
N-Pentane: 0.2816
Hexane+: 0.6907

BTU: 1219.2
GPM: 18.9050
SPG: 0.7090