



Callow A 1E
30-045-24287
Bradenhead
sample

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

Analysis No: SO180001
Cust No: 15950-10435

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: CALLOW A #1E; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Stn. No.: API 3004524287

Source: BRADENHEAD
Well Flowing: Y
Pressure: 45 PSIA
Flow Temp: DEG. F
Ambient Temp: 76 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 06/15/2018
Sample Time: 9.36 AM
Sampled By: EUGENIA HAMILTON
Sampled by (CO): PESCO

NMOC

FEB 13 2019

DISTRICT III

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	2.2301	1.2210	0.2460	0.00	0.0216
CO2	0.0177	0.0097	0.0030	0.00	0.0003
Methane	92.8124	50.8156	15.7650	937.41	0.5141
Ethane	4.1145	2.2527	1.1030	72.81	0.0427
Propane	0.4352	0.2383	0.1200	10.95	0.0066
Iso-Butane	0.1405	0.0769	0.0460	4.57	0.0028
N-Butane	0.0891	0.0488	0.0280	2.91	0.0018
I-Pentane	0.0226	0.0124	0.0080	0.90	0.0006
N-Pentane	0.0046	0.0025	0.0020	0.18	0.0001
Hexane Plus	0.1333	0.0730	0.0600	7.03	0.0044
Total	100.0000	54.7509	17.3810	1036.76	0.5950

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0022
BTU/CU.FT IDEAL: 1039.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1041.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1023.3
DRY BTU @ 15.025: 1062.3
REAL SPECIFIC GRAVITY: 0.596

CYLINDER #: 7082
CYLINDER PRESSURE: 41 PSIG
ANALYSIS DATE: 06/19/2018
ANALYSIS TIME: 02:56:20 PM
ANALYSIS RUN BY: PATRICIA KING

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: 06/21/2018

GC Method: C6+ Gas

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BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: CALLOW A #1E; BHD
Stn. No.: API 3004524287
Mtr. No.:

BRADENHEAD
DK

06/21/2018
15950-10435

Smpl Date: 06/15/2018
Test Date: 06/19/2018
Run No: SO180001

Nitrogen: 2.2301
CO2: 0.0177
Methane: 92.8124
Ethane: 4.1145
Propane: 0.4352
I-Butane: 0.1405
N-Butane: 0.0891
I-Pentane: 0.0226
N-Pentane: 0.0046
Hexane+: 0.1333

BTU: 1041.4
GPM: 17.3810
SPG: 0.5960



Callow A 1E
30-045-24287
Casing Sample

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

Analysis No: SO180002
Cust No: 15950-10440

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: CALLOW A #1E; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Stn. No.: API 3004524287

Source: CASING
Well Flowing: Y
Pressure: 116 PSIA
Flow Temp: DEG. F
Ambient Temp: 76 DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 06/15/2018
Sample Time: 9.43 AM
Sampled By: EUGENIA HAMILTON
Sampled by (CO): PESCO

Heat Trace: N
Remarks:

NMOC
FEB 13 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.6053	0.5972	0.0670	0.00	0.0059
CO2	1.0985	1.0838	0.1880	0.00	0.0167
Methane	79.3521	78.2932	13.5000	801.46	0.4395
Ethane	9.8353	9.7040	2.6400	174.06	0.1021
Propane	4.7320	4.6688	1.3080	119.06	0.0720
Iso-Butane	0.6943	0.6850	0.2280	22.58	0.0139
N-Butane	1.4746	1.4549	0.4670	48.11	0.0296
I-Pentane	0.5278	0.5208	0.1940	21.12	0.0131
N-Pentane	0.5184	0.5115	0.1890	20.78	0.0129
Hexane Plus	1.1617	1.1462	0.5200	61.23	0.0384
Total	100.0000	98.6654	19.3010	1268.39	0.7443

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0038
BTU/CU.FT IDEAL: 1271.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1276.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1254.0
DRY BTU @ 15.025: 1301.8
REAL SPECIFIC GRAVITY: 0.7468

CYLINDER #: 7044
CYLINDER PRESSURE: 89 PSIG
ANALYSIS DATE: 06/19/2018
ANALYSIS TIME: 02:29:18 PM
ANALYSIS RUN BY: PATRICIA KING

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: 06/21/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: CALLOW A #1E; CSG
Stn. No.: API 3004524287
Mtr. No.:

CASING
DK

06/21/2018
15950-10440

Smpl Date: 06/15/2018
Test Date: 06/19/2018
Run No: SO180002

Nitrogen: 0.6053
CO2: 1.0985
Methane: 79.3521
Ethane: 9.8353
Propane: 4.7320
I-Butane: 0.6943
N-Butane: 1.4746
I-Pentane: 0.5278
N-Pentane: 0.5184
Hexane+: 1.1617

BTU: 1276.2
GPM: 19.3010
SPG: 0.7468



Callow A 1E
30-045-24287
Tubing Sample

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

Analysis No: SO180003
Cust No: 15950-10445

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: CALLOW A #1E; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Str. No.: API 3004524287

Source: TUBING
Well Flowing: Y
Pressure: 85 PSIA
Flow Temp: DEG. F
Ambient Temp: 76 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 06/15/2018
Sample Time: 9.51 AM
Sampled By: EUGENIA HAMILTON
Sampled by (CO): PESCO

Heat Trace: N

Remarks: WELL STARTED FLOWING AT THE END OF COLLECTING SAMPLE

FEB 13 2019

DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.6506	0.6434	0.0720	0.00	0.0063
CO2	1.0940	1.0820	0.1870	0.00	0.0166
Methane	82.4311	81.5234	14.0200	832.55	0.4566
Ethane	8.6977	8.6019	2.3340	153.92	0.0903
Propane	3.7620	3.7206	1.0400	94.66	0.0573
Iso-Butane	0.5638	0.5576	0.1850	18.33	0.0113
N-Butane	1.0352	1.0238	0.3270	33.77	0.0208
I-Pentane	0.3385	0.3348	0.1240	13.54	0.0084
N-Pentane	0.2926	0.2894	0.1060	11.73	0.0073
Hexane Plus	1.1345	1.1220	0.5080	59.80	0.0375
Total	100.0000	98.8989	18.9030	1218.31	0.7124

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035
BTU/CU.FT IDEAL: 1221.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1225.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1204.1
DRY BTU @ 15.025: 1249.9
REAL SPECIFIC GRAVITY: 0.7147

CYLINDER #: 1120
CYLINDER PRESSURE: 78 PSIG
ANALYSIS DATE: 06/19/2018
ANALYSIS TIME: 02:41:49 PM
ANALYSIS RUN BY: PATRICIA KING

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: 06/21/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: CALLOW A #1E; TBG
Stn. No.: API 3004524287
Mtr. No.:

TUBING
DK

06/21/2018
15950-10445

Smpl Date: 06/15/2018
Test Date: 06/19/2018
Run No: SO180003

Nitrogen: 0.6506
CO2: 1.0940
Methane: 82.4311
Ethane: 8.6977
Propane: 3.7620
I-Butane: 0.5638
N-Butane: 1.0352
I-Pentane: 0.3385
N-Pentane: 0.2926
Hexane+: 1.1345

BTU: 1225.4
GPM: 18.9030
SPG: 0.7147