



GCU 138 E
30-045-24155
Bradenhead Sample

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

Analysis No: SO180178
Cust No: 15950-11320

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 138E; BHD
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API # 3004526155

Source: BRADENHEAD
Well Flowing: Y
Pressure: 97 PSIA
Flow Temp: DEG. F
Ambient Temp: 74 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/26/2018
Sample Time: 8.11 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	0.2638	0.2604	0.0290	0.00	0.0026
CO2	0.0105	0.0104	0.0020	0.00	0.0002
Methane	90.3370	89.1690	15.3510	912.40	0.5004
Ethane	5.9693	5.8921	1.6000	105.64	0.0620
Propane	2.1588	2.1309	0.5960	54.32	0.0329
Iso-Butane	0.4115	0.4062	0.1350	13.38	0.0083
N-Butane	0.4399	0.4342	0.1390	14.35	0.0088
I-Pentane	0.1485	0.1466	0.0540	5.94	0.0037
N-Pentane	0.0896	0.0884	0.0330	3.59	0.0022
Hexane Plus	0.1711	0.1689	0.0760	9.02	0.0057
Total	100.0000	98.7071	18.0150	1118.64	0.6266

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0026
BTU/CU.FT IDEAL: 1121.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1124.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1104.6
DRY BTU @ 15.025: 1146.7
REAL SPECIFIC GRAVITY: 0.628

CYLINDER #: 7023
CYLINDER PRESSURE: 85 PSIG
ANALYSIS DATE: 09/07/2018
ANALYSIS TIME: 10:43:22 AM
ANALYSIS RUN BY: CAMERON MANGAN

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: 09/12/2018

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BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 138E; BHD
Stn. No.: API # 3004526155
Mtr. No.:

BRADENHEAD
PC

09/12/2018
15950-11320

Smpl Date: 07/26/2018
Test Date: 09/07/2018
Run No: SO180178

Nitrogen: 0.2638
CO2: 0.0105
Methane: 90.3370
Ethane: 5.9693
Propane: 2.1588
I-Butane: 0.4115
N-Butane: 0.4399
I-Pentane: 0.1485
N-Pentane: 0.0896
Hexane+: 0.1711

BTU: 1124.2
GPM: 18.0150
SPG: 0.6280



GCU 138E
30-045-24155
Casing Sample

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

Analysis No: SO180179
Cust No: 15950-11325

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 138E; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API # 3004526155

Source: CASING
Well Flowing: Y
Pressure: 88 PSIA
Flow Temp: DEG. F
Ambient Temp: 74 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/26/2018
Sample Time: 8.25 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	0.7360	0.7399	0.0810	0.00	0.0071
CO2	0.9037	0.9085	0.1550	0.00	0.0137
Methane	76.6433	77.0466	13.0450	774.10	0.4245
Ethane	10.8394	10.8964	2.9100	191.82	0.1125
Propane	5.6306	5.6602	1.5570	141.67	0.0857
Iso-Butane	0.7688	0.7728	0.2530	25.00	0.0154
N-Butane	1.9638	1.9741	0.6220	64.07	0.0394
I-Pentane	0.6456	0.6490	0.2370	25.83	0.0161
N-Pentane	0.6421	0.6455	0.2340	25.74	0.0160
Hexane Plus	1.2267	1.2332	0.5490	64.66	0.0406
Total	100.0000	100.5262	19.6430	1312.89	0.7712

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0042
BTU/CU.FT IDEAL: 1315.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1321.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1298.3
DRY BTU @ 15.025: 1347.8
REAL SPECIFIC GRAVITY: 0.774

CYLINDER #: 7058
CYLINDER PRESSURE: 80 PSIG
ANALYSIS DATE: 09/06/2018
ANALYSIS TIME: 04:33:33 AM
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: 09/12/2018



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 138E; CSG
Stn. No.: API # 3004526155
Mtr. No.:

CASING
PC

09/12/2018
15950-11325

Smpl Date: 07/26/2018
Test Date: 09/06/2018
Run No: SO180179

Nitrogen: 0.7360
CO2: 0.9037
Methane: 76.6433
Ethane: 10.8394
Propane: 5.6306
I-Butane: 0.7688
N-Butane: 1.9638
I-Pentane: 0.6456
N-Pentane: 0.6421
Hexane+: 1.2267

BTU: 1321.3
GPM: 19.6430
SPG: 0.7740



GCU 138 E
30-045-26155
Tubing Sample

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

Analysis No: SO180180
Cust No: 15950-11330

Well/Lease Information

Customer Name: BP - SOUTH BHD PROJECT
Well Name: GCU 138E; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: PC
Cust. Stn. No.: API # 3004526155

Source: TUBING
Well Flowing: Y
Pressure: 81 PSIA
Flow Temp: DEG. F
Ambient Temp: 74 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/26/2018
Sample Time: 8:17 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	0.4345	0.4319	0.0480	0.00	0.0042
CO2	1.2901	1.2823	0.2210	0.00	0.0196
Methane	80.6618	80.1709	13.7200	814.68	0.4468
Ethane	9.7032	9.6442	2.6040	171.72	0.1007
Propane	4.1554	4.1301	1.1490	104.55	0.0633
Iso-Butane	0.6888	0.6846	0.2260	22.40	0.0138
N-Butane	1.1804	1.1732	0.3730	38.51	0.0237
I-Pentane	0.4101	0.4076	0.1500	16.41	0.0102
N-Pentane	0.3520	0.3499	0.1280	14.11	0.0088
Hexane Plus	1.1237	1.1169	0.5030	59.23	0.0372
Total	100.0000	99.3916	19.1220	1241.61	0.7283

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0036
BTU/CU.FT IDEAL: 1244.5
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1249.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1227.3
DRY BTU @ 15.025: 1274.0
REAL SPECIFIC GRAVITY: 0.7306

CYLINDER #: 7049
CYLINDER PRESSURE: 68 PSIG
ANALYSIS DATE: 09/06/2018
ANALYSIS TIME: 04:10:46 AM
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: 09/12/2018

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT
WELL ANALYSIS COMPARISON

Lease: GCU 138E; TBG
Stn. No.: API # 3004526155
Mtr. No.:

TUBING
PC

09/12/2018
15950-11330

Smpl Date: 07/26/2018
Test Date: 09/06/2018
Run No: SO180180
Nitrogen: 0.4345
CO2: 1.2901
Methane: 80.6618
Ethane: 9.7032
Propane: 4.1554
I-Butane: 0.6888
N-Butane: 1.1804
I-Pentane: 0.4101
N-Pentane: 0.3520
Hexane+: 1.1237
BTU: 1249.0
GPM: 19.1220
SPG: 0.7306