



API 30-045-08131
Brodenhead

Gas Analysis Certificate

OIL CONS. DIV DIST. 3 GPA Standard 2261-13

Acquisition Method Name au_report_150_C6+
Last calibration date 9/28/2015 11:07:06 AM

DEC 18 2015

Client:	BP	Project #:	03143-0880
Site Name:	GCU 107	Meter ID:	3004508131 (BHD)
Sampled by:	Daniel F.	Date Sampled	10-15-15
Analyzed by:	Logan Richter	Date Received:	10-15-15
Sample Pressure:	30 psig	Date Analyzed:	10-19-15
Sample Temperature	N/R	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.000	0.000	0.000
Oxygen	0.009	0.013	0.001
Nitrogen	0.379	0.473	0.042
Carbon Dioxide	1.131	2.218	0.193
Methane	78.619	56.185	13.350
Ethane	8.926	11.956	2.391
Propane	4.628	9.091	1.277
i-Butane	0.799	2.068	0.262
n-Butane	2.010	5.203	0.635
i-Pentane	0.845	2.717	0.310
n-Pentane	0.897	2.883	0.326
C6+	1.757	7.195	0.768
	100.000	100.000	19.554

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99579	C2+	5.968
Density (G) (Dry Gas)	0.77586	C3+	3.577
Component MW Total	22.45	C5+	1.404
Heating Value (Dry Ideal) Total BTU	1319.92	Heating Value (Sat Ideal) Total BTU	1296.88
Heating Value (Dry Real) Total BTU	1325.50	Heating Value (Sat Real) Total BTU	1302.18



081 30-045-08131
Casing
Gas Analysis Certificate

GPA Standard 2261-13

Acquisition Method Name au_report_150_C6+
Last calibration date 7/10/2015 10:21:38 AM

Client:	BP	Project #:	03143-0880
Site Name:	GCU 107	Meter ID:	3004508131 (CSG)
Sampled by:	Sawyer M.	Date Sampled	07-14-15
Analyzed by:	Logan Richter	Date Received:	07-14-15
Sample Pressure:	64 psig	Date Analyzed:	07-16-15
Sample Temperature	N/R	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.040	0.007	0.004
Oxygen	0.006	0.009	0.001
Nitrogen	0.460	0.589	0.051
Carbon Dioxide	1.157	2.329	0.198
Methane	79.744	58.533	13.538
Ethane	8.723	12.001	2.336
Propane	4.479	9.037	1.236
i-Butane	0.734	1.953	0.241
n-Butane	1.764	4.690	0.557
i-Pentane	0.713	2.355	0.261
n-Pentane	0.739	2.439	0.268
C6+	1.440	6.057	0.629
	100.000	100.000	19.319

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99606	C2+	5.528
Density (G) (Dry Gas)	0.75528	C3+	3.192
Component MW Total	21.86	C5+	1.159
Heating Value (Dry Ideal) Total BTU	1285.97	Heating Value (Sat Ideal) Total BTU	1263.53
Heating Value (Dry Real) Total BTU	1291.06	Heating Value (Sat Real) Total BTU	1268.36



NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC, NM 87410
(505) 334-6178 FAX: (505) 334-6170
<http://www.emnrd.state.nm.us/ocd/>

BRADENHEAD TEST REPORT

(Submit 2 copies to above address)

OIL CONS. DIV DIST. 3

DEC 18 2015

Date of Test 5/28/15 Operator BP America Production Company API # 3004508131

Property Name GCU 107-DK Location: Unit D Section 19 Township 29 Range 12
(Well Name and Number)

Pressure (Shut-in or Producing) Tubing 73 Intermediate Casing 79 Bradenhead 33

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

Time	Bradenhead			Intermediate		Bradenhead Flowed	Intermediate Flowed
	BH Blowdown	Casing Monitor	Intermediate Monitor	Intermediate Blowdown	Casing Monitor		
5 minutes	<u>WP</u>	<u>79</u>				Steady Flow	
10 minutes	<u>W</u>	<u>80</u>				Surges	
15 minutes	<u>W</u>	<u>81</u>				Down to Nothing	
20 minutes	<u>W</u>	<u>81</u>				No Flow	
25 minutes	<u>W</u>	<u>82</u>				Gas	
30 minutes	<u>W</u>	<u>82</u>				Gas and Water	
5 minute SI	<u>14</u>	<u>82</u>				Water	

If bradenhead flowed water, check all of the descriptions that apply below:

Clear Fresh Salty Sulfur Black

5 Minute Shut-in Bradenhead 14 Intermediate W/A

REMARKS:

BH went to a whisper in 1 sec. BH whispered through test
W = whisper Blew through 1" valve

unable to take sample

By Witness

(Position)