API 30-045-26193
Bradenhead

envirotech

OIL CONS. DIV DIST. 3

DEC 18 2015

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 90E	Meter ID:	3004526193 (BHD)
Sampled by:	Daniel F.	Date Sampled	07-09-15
Analyzed by:	Logan Richter	Date Received:	07-13-15
Sample Pressure:	63 psig	Date Analyzed:	07-15-15
Sample Temperature	N/R	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.054	0.011	0.006
Oxygen	0.007	0.011	0.001
Nitrogen	0.487	0.679	0.054
Carbon Dioxide	0.805	1.766	0.138
Methane	84.798	67.794	14.386
Ethane	7.295	10.932	1.952
Propane	3.233	7.105	0.891
i-Butane	0.531	1.539	0.174
n-Butane	1.073	3.107	0.338
i-Pentane	0.404	1.453	0.148
n-Pentane	0.414	1.487	0.150
C6+	0.899	4.115	0.392
	100.000	100.000	18.629

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99675	C2+	4.047
Density (G) (Dry Gas)	0.69323	C3+	2.094
Component MW Total	20.07	C5+	0.690
Heating Value (Dry Ideal) Total BTU	1198.03	Heating Value (Sat Ideal) Total BTU	1177.12
Heating Value (Dry Real) Total BTU	1201.93	Heating Value (Sat Real) Total BTU	1180.83

10/19/2015

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API 30-045-26193
Casing

envirotech

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 90E	Meter ID:	3004526193 (CSG)
Sampled by:	Daniel F.	Date Sampled	07-10-15
Analyzed by:	Logan Richter	Date Received:	07-13-15
Sample Pressure:	142 psig	Date Analyzed:	07-15-15
Sample Temperature	N/R	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.012	0.003	0.001
Oxygen	0.014	0.025	0.001
Nitrogen	0.943	1.454	0.104
Carbon Dioxide	0.000	0.000	0.000
Methane	92.028	81.251	15.602
Ethane	3.024	5.004	0.809
Propane	1.774	4.304	0.489
i-Butane	0.627	2.007	0.205
n-Butane	0.773	2.473	0.244
i-Pentane	0.325	1.292	0.119
n-Pentane	0.221	0.879	0.080
C6+	0.259	1.309	0.113
	100.000	100.000	17.766

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99742	C2+	2.059
Density (G) (Dry Gas)	0.62749	C3+	1.250
Component MW Total	18.17	C5+	0.312
Heating Value (Dry Ideal) Total BTU	1108.41	Heating Value (Sat Ideal) Total BTU	1089.07
Heating Value (Dry Real) Total BTU	1111.27	Heating Value (Sat Real) Total BTU	1091.78

RG/RG2

10/14/2015

16.07.2015 14:49:56

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)

Date of Test 7/9/15 **Operator** BP America Production Company **API #** 3004526193

Property Name GCU 090E-DK **Location:** Unit P Section 35 Township 28 Range 13

(Well Name and Number)

Pressure (Shut-in or Producing) Tubing 142 Intermediate — Casing 142 Bradenhead 63

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

Time	Bradenhead: BH Blowdown	Bradenhead: Casing Monitor	Bradenhead: Intermediate Monitor	Intermediate: Intermediate Blowdown	Intermediate: Casing Monitor
5 minutes	W	142			
10 minutes	W	142			
15 minutes	W	142			
20 minutes	0	142			
25 minutes	0	142			
30 minutes	0	142			
5 minute SI	2				

	Bradenhead Flowed	Intermediate Flowed
Steady Flow		
Surges		
Down to Nothing	✓	
No Flow		
Gas		
Gas and Water		
Water		

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

Clear _____ Fresh _____ Salty _____ Sulfur _____ Black _____

5 Minute Shut-in Bradenhead 2 Intermediate —

REMARKS:

Blew from 1" valve. BH blew to a whisper in 10 sec.

By _____ **Witness** _____

(Position)

NMOCD Test Area: B 127