30-045-23899

OIL CONS. DIV DIST. 3

DEC 18 2015

OIL 30-045-23044 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 227E	Meter ID:	3004523899 (CSG)
Sampled by:	Daniel F.	Date Sampled	07-09-15
Analyzed by:	Logan Richter	Date Received:	07-13-15
Sample Pressure:	18 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	0.015	0.003	0.001
Oxygen	0.004	0.006	0.000
Nitrogen	0.245	0.350	0.027
Carbon Dioxide	1.343	3.022	0.229
Methane	86.324	70.788	14.642
Ethane	6.626	10.184	1.773
Propane	2.945	6.637	0.812
i-Butane	0.465	1.381	0.152
n-Butane	0.824	2.448	0.260
i-Pentane	0.267	0.986	0.098
n-Pentane	0.232	0.854	0.084
C6+	0.711	3.341	0.310
	100.000	100.000	18.389

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99696	C2+	3.489
Density (G) (Dry Gas)	0.67579	C3+	1.716
Component MW Total	19.56	C5+	0.492
Heating Value (Dry Ideal) Total BTU	1161.68	Heating Value (Sat Ideal) Total BTU	1141.40
Heating Value (Dry Real) Total BTU	1165.22	Heating Value (Sat Real) Total BTU	1144.77

10/19/2015

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3

API 30-045-25574
Bradenhead

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 227E	Meter ID:	3004523899 (BHD)
Sampled by:	Daniel F.	Date Sampled	07-09-15
Analyzed by:	Logan Richter	Date Received:	07-13-15
Sample Pressure:	24 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	0.010	0.002	0.001
Oxygen	0.007	0.013	0.001
Nitrogen	0.812	1.291	0.089
Carbon Dioxide	0.000	0.000	0.000
Methane	92.071	83.776	15.606
Ethane	4.715	8.041	1.261
Propane	1.580	3.951	0.435
i-Butane	0.286	0.942	0.093
n-Butane	0.296	0.975	0.093
i-Pentane	0.086	0.352	0.031
n-Pentane	0.052	0.214	0.019
C6+	0.085	0.443	0.037
	100.000	100.000	17.668

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99759	C2+	1.970
Density (G) (Dry Gas)	0.60878	C3+	0.709
Component MW Total	17.63	C5+	0.088
Heating Value (Dry Ideal) Total BTU	1081.94	Heating Value (Sat Ideal) Total BTU	1063.06
Heating Value (Dry Real) Total BTU	1084.55	Heating Value (Sat Real) Total BTU	1065.54

10/19/2015

16.07.2015 14:51:05

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/

OIL CONS. DIV DIST. 3

DEC 18 2015

BRADENHEAD TEST REPORT

(Submit 2 copies to above address)

Date of Test 7/8/15 **Operator** BP America Production Company **API #** 3004523899

Property Name GCU 227E-PC/DK **Location:** Unit C Section 20 Township 28 Range 12

(Well Name and Number)

Pressure (Shut-in or Producing) Tubing 12 Intermediate — Casing 18 Bradenhead 24

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	6	18			
10 minutes	0	18			
15 minutes	0	18			
20 minutes					
25 minutes					
30 minutes					
5 minute SI	0	18			

	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 0 Intermediate —

REMARKS:

Blew from 1" valve. BH blew down to nothing in 2 min

By _____ **Witness** _____

(Position)

NMOCD Test Area: B 260