

API 30-045-24864



# Gas Analysis Certificate

OIL CONS. DIV DIST. 3

GPA Standard 2261-13

Acquisition Method Name au\_report\_150\_C6+

DEC 18 2015

Last calibration date 9/28/2015 11:07:06 AM

|                    |               |                |                  |
|--------------------|---------------|----------------|------------------|
| Client:            | BP            | Project #:     | 03143-0880       |
| Site Name:         | GCU 182E      | Meter ID:      | 3004524864 (BHD) |
| Sampled by:        | Brandon K.    | Date Sampled   | 10-16-15         |
| Analyzed by:       | Logan Richter | Date Received: | 10-19-15         |
| Sample Pressure:   | 33 psig       | Date Analyzed: | 10-26-15         |
| Sample Temperature | NA            | Analysis Time: | Standard         |

## Component Results (14.696)

| Name           | Qty (Norm)<br>[Mol %] | Wt Percent<br>(%) | GPM    |
|----------------|-----------------------|-------------------|--------|
| Helium         | 0.000                 | 0.000             | 0.000  |
| Oxygen         | 0.014                 | 0.022             | 0.001  |
| Nitrogen       | 0.639                 | 0.907             | 0.070  |
| Carbon Dioxide | 0.000                 | 0.000             | 0.000  |
| Methane        | 84.154                | 68.393            | 14.275 |
| Ethane         | 7.944                 | 12.101            | 2.126  |
| Propane        | 4.723                 | 10.551            | 1.302  |
| i-Butane       | 0.992                 | 2.922             | 0.325  |
| n-Butane       | 0.969                 | 2.853             | 0.306  |
| i-Pentane      | 0.230                 | 0.840             | 0.084  |
| n-Pentane      | 0.151                 | 0.551             | 0.055  |
| C6+            | 0.185                 | 0.860             | 0.081  |
|                | 100.000               | 100.000           | 18.624 |

## Calculations at Pressure Base 14.696

|                                     |         |                                     |         |
|-------------------------------------|---------|-------------------------------------|---------|
| Compressibility (Z) (Dry Gas)       | 0.99687 | C2+                                 | 4.278   |
| Density (G) (Dry Gas)               | 0.68162 | C3+                                 | 2.152   |
| Component MW Total                  | 19.74   | C5+                                 | 0.219   |
| Heating Value (Dry Ideal) Total BTU | 1197.96 | Heating Value (Sat Ideal) Total BTU | 1177.05 |
| Heating Value (Dry Real) Total BTU  | 1201.72 | Heating Value (Sat Real) Total BTU  | 1180.62 |

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UPI 50-045-24864  
Casing

# Gas Analysis Certificate

GPA Standard 2261-13

Acquisition Method Name au\_report\_150\_C6+  
Last calibration date 9/28/2015 11:07:06 AM

|                    |               |                |                  |
|--------------------|---------------|----------------|------------------|
| Client:            | BP            | Project #:     | 03143-0880       |
| Site Name:         | GCU 182E      | Meter ID:      | 3004524864 (CSG) |
| Sampled by:        | Brandon K.    | Date Sampled   | 10-16-15         |
| Analyzed by:       | Logan Richter | Date Received: | 10-19-15         |
| Sample Pressure:   | 18 psig       | Date Analyzed: | 10-26-15         |
| Sample Temperature | NA            | Analysis Time: | Standard         |

## Component Results (14.696)

| Name           | Qty (Norm)<br>[Mol %] | Wt Percent<br>(%) | GPM    |
|----------------|-----------------------|-------------------|--------|
| Helium         | 0.000                 | 0.000             | 0.000  |
| Oxygen         | 0.008                 | 0.015             | 0.001  |
| Nitrogen       | 0.233                 | 0.380             | 0.026  |
| Carbon Dioxide | 1.020                 | 2.612             | 0.174  |
| Methane        | 95.055                | 88.751            | 16.110 |
| Ethane         | 2.346                 | 4.105             | 0.627  |
| Propane        | 0.821                 | 2.107             | 0.226  |
| i-Butane       | 0.206                 | 0.698             | 0.067  |
| n-Butane       | 0.133                 | 0.450             | 0.042  |
| i-Pentane      | 0.038                 | 0.162             | 0.014  |
| n-Pentane      | 0.025                 | 0.104             | 0.009  |
| C6+            | 0.115                 | 0.616             | 0.050  |
|                | 100.000               | 100.000           | 17.346 |

## Calculations at Pressure Base 14.696

|                                     |         |                                     |         |
|-------------------------------------|---------|-------------------------------------|---------|
| Compressibility (Z) (Dry Gas)       | 0.99775 | C2+                                 | 1.036   |
| Density (G) (Dry Gas)               | 0.59329 | C3+                                 | 0.409   |
| Component MW Total                  | 17.18   | C5+                                 | 0.073   |
| Heating Value (Dry Ideal) Total BTU | 1041.71 | Heating Value (Sat Ideal) Total BTU | 1023.53 |
| Heating Value (Dry Real) Total BTU  | 1044.06 | Heating Value (Sat Real) Total BTU  | 1025.76 |

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# 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 6/12/15 Operator BP America Production Company API # 3004524864

Property Name GCU 182E-PC Location: Unit K Section 19 Township 28 Range 11  
(Well Name and Number)

Pressure (Shut-in or Producing) 2 Tubing 2 Intermediate N/A Casing 6 Bradenhead 52

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

| Time        | Bradenhead     |                   |                         | Intermediate             |                   | Bradenhead<br>Flowed | Intermediate<br>Flowed              |
|-------------|----------------|-------------------|-------------------------|--------------------------|-------------------|----------------------|-------------------------------------|
|             | BH<br>Blowdown | Casing<br>Monitor | Intermediate<br>Monitor | Intermediate<br>Blowdown | Casing<br>Monitor |                      |                                     |
| 5 minutes   | <u>W</u>       | <u>6</u>          |                         |                          |                   | Steady Flow          |                                     |
| 10 minutes  | <u>0</u>       | <u>6</u>          |                         |                          |                   | Surges               |                                     |
| 15 minutes  | <u>0</u>       | <u>6</u>          |                         |                          |                   | Down to Nothing      | <input checked="" type="checkbox"/> |
| 20 minutes  | <u>0</u>       | <u>6</u>          |                         |                          |                   | No Flow              |                                     |
| 25 minutes  |                |                   |                         |                          |                   | Gas                  |                                     |
| 30 minutes  |                |                   |                         |                          |                   | Gas and Water        |                                     |
| 5 minute SI | <u>.6</u>      | <u>6</u>          |                         |                          |                   | Water                |                                     |

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

Clear ☐ Fresh ☐ Salty ☐ Sulfur ☐ Black ☐

5 Minute Shut-in Bradenhead .6 Intermediate N/A

### REMARKS:

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

By  Witness \_\_\_\_\_

(Position)