

API 30-045-24342

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 202E	Meter ID:	3004524342 (CSG)
Sampled by:	Daniel F.	Date Sampled	06-25-15
Analyzed by:	Logan Richter	Date Received:	07-13-15
Sample Pressure:	53 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	0.005	0.008	0.000
Nitrogen	0.406	0.626	0.045
Carbon Dioxide	0.000	0.000	0.000
Methane	90.621	79.950	15.364
Ethane	5.344	8.838	1.429
Propane	2.069	5.018	0.570
i-Butane	0.480	1.534	0.157
n-Butane	0.541	1.730	0.171
i-Pentane	0.192	0.762	0.070
n-Pentane	0.129	0.511	0.047
C6+	0.202	1.021	0.088
	100.000	100.000	17.942

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99736	C2+	2.532
Density (G) (Dry Gas)	0.62792	C3+	1.103
Component MW Total	18.18	C5+	0.205
Heating Value (Dry Ideal) Total BTU	1118.39	Heating Value (Sat Ideal) Total BTU	1098.88
Heating Value (Dry Real) Total BTU	1121.33	Heating Value (Sat Real) Total BTU	1101.66

RJR

10/20/2015

16.07.2015 14:53:12

1 of 1

2

API 30-045-2434



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 202E	Meter ID:	3004524342 (BHD)
Sampled by:	Daniel F.	Date Sampled	06-25-15
Analyzed by:	Logan Richter	Date Received:	07-13-15
Sample Pressure:	160 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	0.045	0.008	0.005
Oxygen	0.007	0.009	0.001
Nitrogen	0.392	0.492	0.043
Carbon Dioxide	1.341	2.648	0.229
Methane	78.522	56.514	13.333
Ethane	9.614	12.969	2.575
Propane	4.536	8.974	1.252
i-Butane	0.781	2.038	0.256
n-Butane	1.465	3.819	0.462
i-Pentane	0.628	2.033	0.230
n-Pentane	0.579	1.873	0.210
C6+	2.092	8.624	0.914
	100.000	100.000	19.510

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99585	C2+	5.900
Density (G) (Dry Gas)	0.77055	C3+	3.325
Component MW Total	22.29	C5+	1.354
Heating Value (Dry Ideal) Total BTU	1306.14	Heating Value (Sat Ideal) Total BTU	1283.35
Heating Value (Dry Real) Total BTU	1311.58	Heating Value (Sat Real) Total BTU	1288.51