



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 237E	Meter ID:	3004526269 (BHD)
Sampled by:	Daniel F.	Date Sampled	08-19-15
Analyzed by:	Logan Richter	Date Received:	08-27-15
Sample Pressure:	67 psig	Date Analyzed:	09-01-15
Sample Temperature	N/R	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.048	0.009	0.005
Oxygen	0.008	0.013	0.001
Nitrogen	0.667	0.917	0.073
Carbon Dioxide	0.918	1.981	0.157
Methane	81.939	64.439	13.902
Ethane	9.139	13.471	2.446
Propane	4.369	9.444	1.205
i-Butane	0.599	1.708	0.196
n-Butane	1.140	3.247	0.360
i-Pentane	0.284	1.005	0.104
n-Pentane	0.241	0.853	0.087
C6+	0.647	2.914	0.282
	100.000	100.000	18.818

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99666	C2+	4.680
Density (G) (Dry Gas)	0.70462	C3+	2.234
Component MW Total	20.40	C5+	0.474
Heating Value (Dry Ideal) Total BTU	1210.13	Heating Value (Sat Ideal) Total BTU	1189.01
Heating Value (Dry Real) Total BTU	1214.18	Heating Value (Sat Real) Total BTU	1192.85

Logan Richter

9/10/2015



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Last calibration date 7/10/2015 10:21:38 AM

Client:	BP	Project #:	03143-0880
Site Name:	GCU 237E	Meter ID:	3004526269 (CSG)
Sampled by:	Daniel F.	Date Sampled	08-19-15
Analyzed by:	Logan Richter	Date Received:	08-27-15
Sample Pressure:	47 psig	Date Analyzed:	09-01-15
Sample Temperature	N/R	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.034	0.008	0.003
Oxygen	0.029	0.054	0.003
Nitrogen	4.593	7.585	0.505
Carbon Dioxide	0.000	0.000	0.000
Methane	93.173	88.123	15.786
Ethane	1.798	3.188	0.481
Propane	0.305	0.793	0.084
i-Butane	0.049	0.169	0.016
n-Butane	0.011	0.038	0.003
i-Pentane	0.000	0.000	0.000
n-Pentane	0.000	0.000	0.000
C6+	0.008	0.043	0.003
	100.000	100.000	16.885

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99803	C2+	0.588
Density (G) (Dry Gas)	0.58564	C3+	0.107
Component MW Total	16.96	C5+	0.003
Heating Value (Dry Ideal) Total BTU	982.91	Heating Value (Sat Ideal) Total BTU	965.76
Heating Value (Dry Real) Total BTU	984.85	Heating Value (Sat Real) Total BTU	967.60