

UPI 00-045-22257

Casing

Gas Analysis Certificate



OIL CONS. DIV DIST. 3 GPA Standard 2261-13

Acquisition Method Name au_report_150_C6+
Last calibration date 7/10/2015 10:21:38 AM

DEC 18 2015

Client:	BP	Project #:	03143-0880
Site Name:	GCU 268	Meter ID:	3004522239 (CSG)
Sampled by:	Daniel F.	Date Sampled	06-26-15
Analyzed by:	Logan Richter	Date Received:	07-13-15
Sample Pressure:	14 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	0.005	0.001	0.000
Oxygen	0.012	0.020	0.001
Nitrogen	0.359	0.526	0.039
Carbon Dioxide	3.099	7.137	0.529
Methane	87.254	73.244	14.795
Ethane	6.374	10.029	1.705
Propane	1.355	3.126	0.373
i-Butane	0.298	0.907	0.098
n-Butane	0.375	1.140	0.118
i-Pentane	0.173	0.654	0.063
n-Pentane	0.128	0.482	0.046
C6+	0.569	2.735	0.248
	100.000	100.000	18.017

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99724	C2+	2.652
Density (G) (Dry Gas)	0.66010	C3+	0.947
Component MW Total	19.11	C5+	0.358
Heating Value (Dry Ideal) Total BTU	1091.30	Heating Value (Sat Ideal) Total BTU	1072.26
Heating Value (Dry Real) Total BTU	1094.32	Heating Value (Sat Real) Total BTU	1075.12

BSR

10/19/2015

UPI 30-045-00057
Brodenhead



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 268	Meter ID:	3004522239 (BHD)
Sampled by:	Daniel F.	Date Sampled	06-26-15
Analyzed by:	Logan Richter	Date Received:	07-13-15
Sample Pressure:	25 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	0.017	0.004	0.002
Oxygen	0.099	0.183	0.009
Nitrogen	4.996	8.096	0.549
Carbon Dioxide	0.000	0.000	0.000
Methane	91.312	84.745	15.472
Ethane	3.070	5.340	0.821
Propane	0.286	0.730	0.079
i-Butane	0.068	0.228	0.022
n-Butane	0.052	0.174	0.016
i-Pentane	0.022	0.093	0.008
n-Pentane	0.011	0.047	0.004
C6+	0.068	0.360	0.030
	100.000	100.000	17.011

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99796	C2+	0.980
Density (G) (Dry Gas)	0.59685	C3+	0.159
Component MW Total	17.29	C5+	0.042
Heating Value (Dry Ideal) Total BTU	992.48	Heating Value (Sat Ideal) Total BTU	975.16
Heating Value (Dry Real) Total BTU	994.51	Heating Value (Sat Real) Total BTU	977.09

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10/19/2015