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Gas Analysis Certificate

30-045-08235 **GPA Standard 2261-13**

Method Name	C6+ Excel Recalc2
Last calibration date	6/19/2015 8:47:52 AM

Client:	BP	Project #:	03143-0880
Site Name:	GCU 77	Meter ID:	3004508235 (BHD)
Sampled by:	Daniel F.	Date Sampled	052915
Analyzed by:	Logan Richter	Date Received:	060215
Sample Pressure:	60 psig	Date Analyzed:	060315
Sample Temperature	NA	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.413	0.091	0.042
Oxygen	0.087	0.153	0.008
Nitrogen	2.502	3.846	0.275
Carbon Dioxide	0.129	0.311	0.022
Methane	88.144	77.582	14.942
Ethane	5.426	8.952	1.451
Propane	2.134	5.162	0.588
i-Butane	0.413	1.316	0.135
n-Butane	0.506	1.614	0.160
i-Pentane	0.149	0.590	0.055
n-Pentane	0.096	0.382	0.035
C6+	0.000	0.000	0.000
	100.000	100.000	17.712

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99753	C2+	2.423
Density (G) (Dry Gas)	0.62931	C3+	0.972
Component MW Total	18.23	C5+	0.089
Heating Value (Dry Ideal) Total BTU	1079.74	Heating Value (Sat Ideal) Total BTU	1060.90
Heating Value (Dry Real) Total BTU	1082.42	Heating Value (Sat Real) Total BTU	1063.44

KSB 72a
Reviewed by

07/01/2015
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Gas Analysis Certificate

GPA Standard 2261-13

Method Name	C6+ Excel Recalc2
Last calibration date	6/19/2015 8:47:52 AM

Client:	BP	Project #:	03143-0880
Site Name:	GCU 77	Meter ID:	3004508235 (CSG)
Sampled by:	Daniel F.	Date Sampled	052915
Analyzed by:	Logan Richter	Date Received:	060215
Sample Pressure:	16 psig	Date Analyzed:	060315
Sample Temperature	NA	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.311	0.066	0.032
Oxygen	0.005	0.008	0.000
Nitrogen	0.330	0.491	0.036
Carbon Dioxide	0.354	0.827	0.060
Methane	87.532	74.574	14.843
Ethane	6.509	10.394	1.741
Propane	2.875	6.732	0.792
i-Butane	0.569	1.755	0.186
n-Butane	0.882	2.724	0.278
i-Pentane	0.360	1.379	0.132
n-Pentane	0.274	1.049	0.099
C6+	0.000	0.000	0.000
	100.000	100.000	16.200

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99719	C2+	3.229
Density (G) (Dry Gas)	0.65014	C3+	1.487
Component MW Total	18.83	C5+	0.231
Heating Value (Dry Ideal) Total BTU	1144.24	Heating Value (Sat Ideal) Total BTU	1124.28
Heating Value (Dry Real) Total BTU	1147.46	Heating Value (Sat Real) Total BTU	1127.33

Reviewed by

07/01/2015
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