30-045-24556

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Gas Analysis Certificate

GPA Standard 2261-13

Method Name	au_report_150_C6+
Last calibration date	1/15/2015 1:00:58 PM

Client:	BP	Project #:	03143-0880
Site Name:	GCU Com G 179 - DK	Meter ID:	3004507805 (BH)
Sampled by:	Daniel F.	Date Sampled	05-14-15
Analysed by:	Logan Richter	Date Received:	05-15-15
Sample Pressure:	213 psig	Date Analyzed:	05-20-15
Sample Temperature	N/R	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.000	0.000	0.000
Oxygen	0.007	0.010	0.001
Nitrogen	0.485	0.622	0.053
Carbon Dioxide	0.174	0.351	0.030
Methane	76.738	56.415	13.027
Ethane	11.331	15.614	3.035
Propane	6.641	13.420	1.832
i-Butane	1.090	2.902	0.357
n-Butane	2.070	5.514	0.654
i-Pentane	0.615	2.034	0.225
n-Pentane	0.504	1.668	0.183
C6+	0.344	1.450	0.150
	100.000	100.000	19.547

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99606	C2+	6.436
Density (G) (Dry Gas)	0.75360	C3+	3.402
Component MW Total	21.82	C5+	0.559
Heating Value (Dry Ideal) Total BTU	1308.15	Heating Value (Sat Ideal) Total BTU	1285.33
Heating Value (Dry Real) Total BTU	1313.33	Heating Value (Sat Real) Total BTU	1290.23

Reviewed by

05/22/2015
mm/dd/yyyy

20.05.2015 09:04:41

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Gas Analysis Certificate

GPA Standard 2261-13

Method Name	au_report_150_C6+
Last calibration date	1/15/2015 1:00:58 PM

Client:	BP	Project #:	03143-0880
Site Name:	GCU Com G 179 - DK	Meter ID:	3004507805 (PC)
Sampled by:	Daniel F.	Date Sampled	05-14-15
Analysed by:	Logan Richter	Date Received:	05-15-15
Sample Pressure:	N/R	Date Analyzed:	05-20-15
Sample Temperature	N/R	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.000	0.000	0.000
Oxygen	0.005	0.008	0.000
Nitrogen	0.397	0.567	0.044
Carbon Dioxide	0.354	0.795	0.060
Methane	85.135	69.654	14.441
Ethane	7.792	11.949	2.085
Propane	3.767	8.471	1.038
i-Butane	0.545	1.615	0.178
n-Butane	1.058	3.135	0.334
i-Pentane	0.335	1.231	0.122
n-Pentane	0.299	1.100	0.108
C6+	0.315	1.475	0.137
	100.000	100.000	18.549

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99691	C2+	4.003
Density (G) (Dry Gas)	0.67715	C3+	1.919
Component MW Total	19.61	C5+	0.368
Heating Value (Dry Ideal) Total BTU	1186.26	Heating Value (Sat Ideal) Total BTU	1165.56
Heating Value (Dry Real) Total BTU	1189.94	Heating Value (Sat Real) Total BTU	1169.05

Reviewed by

05/22/2015
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