API 30-045-25811
Casing

OIL CONS. DIV DIST. 3

DEC 18 2015

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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 333	Meter ID:	3004525807 (CSG)
Sampled by:	Daniel F.	Date Sampled	06-25-15
Analyzed by:	Logan Richter	Date Received:	07-13-15
Sample Pressure:	17 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	0.008	0.002	0.001
Oxygen	0.008	0.014	0.001
Nitrogen	0.585	0.875	0.064
Carbon Dioxide	0.204	0.479	0.035
Methane	88.983	76.143	15.089
Ethane	5.733	9.196	1.534
Propane	2.407	5.662	0.663
i-Butane	0.496	1.536	0.162
n-Butane	0.658	2.041	0.208
i-Pentane	0.242	0.931	0.088
n-Pentane	0.175	0.674	0.063
C6+	0.500	2.449	0.218
	100.000	100.000	18.127

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99720	C2+	2.937
Density (G) (Dry Gas)	0.64753	C3+	1.403
Component MW Total	18.75	C5+	0.370
Heating Value (Dry Ideal) Total BTU	1140.67	Heating Value (Sat Ideal) Total BTU	1120.77
Heating Value (Dry Real) Total BTU	1143.87	Heating Value (Sat Real) Total BTU	1123.80

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API 30-045-25[illegible]
Bradenhead

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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 333	Meter ID:	3004525807 (BHD)
Sampled by:	Daniel F.	Date Sampled	06-25-15
Analyzed by:	Logan Richter	Date Received:	07-13-15
Sample Pressure:	55 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	0.012	0.003	0.001
Oxygen	0.003	0.005	0.000
Nitrogen	0.215	0.341	0.024
Carbon Dioxide	0.000	0.000	0.000
Methane	91.556	83.131	15.520
Ethane	6.288	10.701	1.681
Propane	1.105	2.759	0.305
i-Butane	0.274	0.900	0.090
n-Butane	0.267	0.879	0.084
i-Pentane	0.087	0.357	0.032
n-Pentane	0.065	0.264	0.023
C6+	0.127	0.659	0.055
	100.000	100.000	17.816

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99753	C2+	2.270
Density (G) (Dry Gas)	0.61010	C3+	0.589
Component MW Total	17.67	C5+	0.111
Heating Value (Dry Ideal) Total BTU	1094.02	Heating Value (Sat Ideal) Total BTU	1074.93
Heating Value (Dry Real) Total BTU	1096.73	Heating Value (Sat Real) Total BTU	1077.50

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