API 30-045-24170
Bradenhead

envirotech

Gas Analysis Certificate

GPA Standard 2261-13

OIL CONS. DIV DIST. 3

DEC 18 2015

Acquisition Method Name	au_report_150_C6+
Last calibration date	9/28/2015 11:07:06 AM

Client:	BP	Project #:	03143-0880
Site Name:	GCU 200E	Meter ID:	3004524170 (BHD)
Sampled by:	Daniel F.	Date Sampled	10-16-15
Analyzed by:	Logan Richter	Date Received:	10-19-15
Sample Pressure:	52 psig	Date Analyzed:	10-26-15
Sample Temperature	NA	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.000	0.000	0.000
Oxygen	0.011	0.019	0.001
Nitrogen	0.784	1.183	0.086
Carbon Dioxide	0.000	0.000	0.000
Methane	88.793	76.694	15.056
Ethane	6.317	10.227	1.690
Propane	2.357	5.595	0.649
i-Butane	0.524	1.639	0.171
n-Butane	0.546	1.708	0.172
i-Pentane	0.276	1.071	0.101
n-Pentane	0.076	0.295	0.028
C6+	0.317	1.569	0.138
	100.000	100.000	18.092

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99727	C2+	2.949
Density (G) (Dry Gas)	0.64142	C3+	1.260
Component MW Total	18.57	C5+	0.267
Heating Value (Dry Ideal) Total BTU	1133.08	Heating Value (Sat Ideal) Total BTU	1113.30
Heating Value (Dry Real) Total BTU	1136.17	Heating Value (Sat Real) Total BTU	1116.24

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API 30-045-24170
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Gas Analysis Certificate

GPA Standard 2261-13

Acquisition Method Name	au_report_150_C6+
Last calibration date	9/28/2015 11:07:06 AM

Client:	BP	Project #:	03143-0880
Site Name:	GCU 200E	Meter ID:	3004524170 (CSG)
Sampled by:	Daniel F.	Date Sampled	10-16-15
Analyzed by:	Logan Richter	Date Received:	10-19-15
Sample Pressure:	17 psig	Date Analyzed:	10-26-15
Sample Temperature	NA	Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.000	0.000	0.000
Oxygen	0.062	0.078	0.006
Nitrogen	0.907	0.990	0.100
Carbon Dioxide	0.914	1.566	0.156
Methane	64.062	40.020	10.893
Ethane	15.076	17.653	4.044
Propane	10.831	18.599	2.993
i-Butane	1.427	3.230	0.468
n-Butane	3.374	7.636	1.067
i-Pentane	1.081	3.037	0.397
n-Pentane	1.190	3.342	0.433
C6+	1.076	3.850	0.471
	100.000	100.000	21.028

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99442	C2+	9.873
Density (G) (Dry Gas)	0.88714	C3+	5.828
Component MW Total	25.68	C5+	1.300
Heating Value (Dry Ideal) Total BTU	1488.95	Heating Value (Sat Ideal) Total BTU	1462.97
Heating Value (Dry Real) Total BTU	1497.31	Heating Value (Sat Real) Total BTU	1470.90

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