API 30-045-24427
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	7/10/2015 10:21:38 AM

Client:	BP	Project #:	03143-0880
Site Name:	GCU 184E	Meter ID:	3004524427 (BHD)
Sampled by:	Sawyer M.	Date Sampled	07-13-15
Analyzed by:	Logan Richter	Date Received:	07-14-15
Sample Pressure:	65 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	0.005	0.009	0.000
Nitrogen	0.476	0.708	0.052
Carbon Dioxide	0.000	0.000	0.000
Methane	89.236	76.079	15.133
Ethane	5.774	9.227	1.545
Propane	2.279	5.340	0.628
i-Butane	0.435	1.342	0.142
n-Butane	0.568	1.753	0.179
i-Pentane	0.215	0.825	0.079
n-Pentane	0.164	0.629	0.059
C6+	0.837	4.086	0.365
	100.000	100.000	18.184

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99714	C2+	2.997
Density (G) (Dry Gas)	0.65007	C3+	1.453
Component MW Total	18.82	C5+	0.503
Heating Value (Dry Ideal) Total BTU	1151.55	Heating Value (Sat Ideal) Total BTU	1131.45
Heating Value (Dry Real) Total BTU	1154.84	Heating Value (Sat Real) Total BTU	1134.58

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API 30-045-24427
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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 184E	Meter ID:	3004524427 (CSG)
Sampled by:	Sawyer M.	Date Sampled	07-13-15
Analyzed by:	Logan Richter	Date Received:	07-14-15
Sample Pressure:	207 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	0.057	0.012	0.006
Oxygen	0.011	0.017	0.001
Nitrogen	0.781	1.117	0.086
Carbon Dioxide	0.945	2.121	0.161
Methane	84.686	69.319	14.364
Ethane	8.368	12.839	2.239
Propane	2.845	6.401	0.784
i-Butane	0.443	1.315	0.145
n-Butane	0.750	2.223	0.236
i-Pentane	0.301	1.108	0.110
n-Pentane	0.288	1.059	0.104
C6+	0.527	2.469	0.230
	100.000	100.000	18.467

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99696	C2+	3.849
Density (G) (Dry Gas)	0.67692	C3+	1.610
Component MW Total	19.60	C5+	0.444
Heating Value (Dry Ideal) Total BTU	1164.45	Heating Value (Sat Ideal) Total BTU	1144.13
Heating Value (Dry Real) Total BTU	1168.00	Heating Value (Sat Real) Total BTU	1147.50

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