API 30-045-20585
Casing

envirotech

OIL CONS. DIV DIST. 3

DEC 18 2015

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:	Irvin Com 1	Meter ID:	3004520585 (CSG)
Sampled by:	Daniel F.	Date Sampled	06-09-15
Analyzed by:	Logan Richter	Date Received:	06-19-15
Sample Pressure:	78 psig	Date Analyzed:	06-24-15
Sample Temperature		Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.042	0.008	0.004
Oxygen	0.006	0.009	0.001
Nitrogen	0.423	0.574	0.047
Carbon Dioxide	1.168	2.494	0.200
Methane	81.190	63.188	13.776
Ethane	9.880	14.413	2.645
Propane	4.185	8.952	1.154
i-Butane	0.611	1.722	0.200
n-Butane	1.139	3.213	0.360
i-Pentane	0.343	1.199	0.125
n-Pentane	0.306	1.070	0.111
C6+	0.708	3.156	0.309
	100.000	100.000	18.931

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99657	C2+	4.904
Density (G) (Dry Gas)	0.71202	C3+	2.259
Component MW Total	20.61	C5+	0.546
Heating Value (Dry Ideal) Total BTU	1219.47	Heating Value (Sat Ideal) Total BTU	1198.19
Heating Value (Dry Real) Total BTU	1223.66	Heating Value (Sat Real) Total BTU	1202.16

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10/20/2015

API 30-045-20585
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:	Irvin Com 1	Meter ID:	3004520585 (BHD)
Sampled by:	Daniel F.	Date Sampled	06-08-15
Analyzed by:	Logan Richter	Date Received:	06-19-15
Sample Pressure:	175 psig	Date Analyzed:	06-24-15
Sample Temperature		Analysis Time:	Standard

Component Results (14.696)

Name	Qty (Norm) [Mol %]	Wt Percent (%)	GPM
Helium	0.044	0.009	0.004
Oxygen	0.007	0.010	0.001
Nitrogen	0.457	0.630	0.050
Carbon Dioxide	0.070	0.152	0.012
Methane	81.957	64.802	13.905
Ethane	10.088	14.951	2.700
Propane	4.362	9.479	1.203
i-Butane	0.631	1.809	0.207
n-Butane	1.181	3.384	0.373
i-Pentane	0.367	1.307	0.134
n-Pentane	0.330	1.174	0.120
C6+	0.506	2.292	0.221
	100.000	100.000	18.930

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99663	C2+	4.958
Density (G) (Dry Gas)	0.70076	C3+	2.257
Component MW Total	20.29	C5+	0.475
Heating Value (Dry Ideal) Total BTU	1229.01	Heating Value (Sat Ideal) Total BTU	1207.56
Heating Value (Dry Real) Total BTU	1233.16	Heating Value (Sat Real) Total BTU	1211.50

10/20/2015