API 30-045-24553
Braden head

30-045-24553

envirotech

Gas Analysis Certificate

OIL CONS. DIV DIST. 3

GPA Standard 2261-13

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 152E	Meter ID:	3004524553 (BHD)
Sampled by:	Daniel F.	Date Sampled	09-28-15
Analyzed by:	Logan Richter	Date Received:	10-15-15
Sample Pressure:	55 psig	Date Analyzed:	10-16-15
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	0.012	0.022	0.001
Nitrogen	0.514	0.802	0.057
Carbon Dioxide	0.000	0.000	0.000
Methane	91.239	81.478	15.467
Ethane	4.992	8.355	1.335
Propane	2.026	4.973	0.558
i-Butane	0.398	1.288	0.130
n-Butane	0.448	1.450	0.141
i-Pentane	0.146	0.587	0.053
n-Pentane	0.093	0.372	0.034
C6+	0.132	0.673	0.057
	100.000	100.000	17.834

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99746	C2+	2.309
Density (G) (Dry Gas)	0.62031	C3+	0.974
Component MW Total	17.96	C5+	0.144
Heating Value (Dry Ideal) Total BTU	1104.70	Heating Value (Sat Ideal) Total BTU	1085.42
Heating Value (Dry Real) Total BTU	1107.51	Heating Value (Sat Real) Total BTU	1088.09

11/01/2015

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API 30-045-24500
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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 152E	Meter ID:	3004524553 (CSG)
Sampled by:	Daniel F.	Date Sampled	09-28-15
Analyzed by:	Logan Richter	Date Received:	10-15-15
Sample Pressure:	70 psig	Date Analyzed:	10-16-15
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	0.010	0.014	0.001
Nitrogen	0.360	0.453	0.040
Carbon Dioxide	1.545	3.051	0.264
Methane	76.613	55.145	13.008
Ethane	10.695	14.429	2.865
Propane	5.767	11.409	1.591
i-Butane	0.870	2.268	0.285
n-Butane	1.875	4.889	0.592
i-Pentane	0.588	1.904	0.215
n-Pentane	0.539	1.745	0.196
C6+	1.138	4.693	0.497
	100.000	100.000	19.554

Calculations at Pressure Base 14.696

Compressibility (Z) (Dry Gas)	0.99592	C2+	6.241
Density (G) (Dry Gas)	0.77005	C3+	3.377
Component MW Total	22.29	C5+	0.909
Heating Value (Dry Ideal) Total BTU	1301.12	Heating Value (Sat Ideal) Total BTU	1278.41
Heating Value (Dry Real) Total BTU	1306.45	Heating Value (Sat Real) Total BTU	1283.47

11/01/2015