

Diablo Analytical BTU Report

GPA 2145-03 Analysis

Sample Information

Sample Information	
Sample Name	NM Com M1 BradenHead
Station Number	2300450072
Taken By	Alpine Analysis LLC
Operator	Travis Tapp
Method Name	StandardNatGas.met
Injection Date	2018-03-19 11:27:38
Report Date	2018-03-19 11:32:46
EZReporter Configuration File	default Standard Sample.cfgx
Source Data File	2018-03-19 11-27-27 (GMT -06-00)NM Com M1 BradenHead.dat
EZReporter Data File	NM Com M1 BradenHead-20180319-113246.ezrx
Data Source	Agilent EZChrom Connector

30.045.10173

Component Results

Component Name	Ret. Time	Peak Area	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	0.319	546737.0	0.80108	0.0	0.00775	0.088
Methane	0.324	39652412.0	84.37836	854.2	0.46737	14.346
Carbon Dioxide	0.405	15079.0	0.02237	0.0	0.00034	0.004
Ethane	0.420	5210455.0	7.31777	129.8	0.07597	1.963
Hydrogen Sulfide	0.601	0.0	0.00000	0.0	0.00000	0.000
Propane	0.524	8017508.0	4.12758	104.1	0.06284	1.140
i-Butane	0.573	2275542.0	1.00607	32.8	0.02019	0.330
n-Butane	0.606	2921569.0	1.26637	41.4	0.02541	0.400
i-Pentane	0.711	1275925.0	0.49718	19.9	0.01239	0.182
n-Pentane	0.754	843066.0	0.31571	12.7	0.00786	0.115
Hexanes Plus	0.000	870479.0	0.26751	0.0	0.00000	0.000
Water	0.000	0.0	0.00000	0.0	0.00000	0.000
Total:			100.00000	1194.9	0.68013	18.569

Results Summary

Result	Dry	Sat. (Base)
Total Raw Mole% (Dry)	95.65890	
Pressure Base (psia)	14.730	
Temperature Base	60.0	
Water Mole%	-	1.74067
Gross Heating Value (BTU / Ideal cu.ft.)	1194.9	1174.1
Gross Heating Value (BTU / Real cu.ft.)	1198.6	1178.2
Relative Density (G), Real	0.6820	0.6812
Compressibility (Z) Factor	0.9969	0.9965
Total GPM	18.569	18.352

Diablo Analytical BTU Report

GPA 2145-03 Analysis

Sample Information

Sample Information	
Sample Name	NM Com M1 Casing
Station Number	2300450072
Taken By	Alpine Analysis LLC
Operator	Travis Tapp
Method Name	StandardNatGas.met
Injection Date	2018-03-19 11:37:33
Report Date	2018-03-19 11:42:51
EZReporter Configuration File	default Standard Sample.cfgx
Source Data File	2018-03-19 11-37-06 (GMT -06-00)NM Com M1 Casing
EZReporter Data File	NM Com M1 Casing-20180319-114251.ezrx
Data Source	Agilent EZChrom Connector

Component Results

Component Name	Ret. Time	Peak Area	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	0.320	199219.0	0.27885	0.0	0.00270	0.031
Methane	0.324	38597675.0	78.47087	794.4	0.43465	13.347
Carbon Dioxide	0.377	582247.0	0.82388	0.0	0.01252	0.141
Ethane	0.417	7962550.0	10.68422	189.5	0.11092	2.867
Hydrogen Sulfide	0.601	0.0	0.00000	0.0	0.00000	0.000
Propane	0.524	11577728.0	5.69462	143.6	0.08670	1.574
i-Butane	0.574	2375517.0	1.00345	32.7	0.02014	0.329
n-Butane	0.607	3683590.0	1.52540	49.9	0.03061	0.482
i-Pentane	0.712	1345138.0	0.50078	20.1	0.01247	0.184
n-Pentane	0.756	1141026.0	0.40829	16.4	0.01017	0.148
Hexanes Plus	0.000	2076601.0	0.60964	0.0	0.00000	0.000
Water	0.000	0.0	0.00000	0.0	0.00000	0.000
Total:			100.00000	1246.6	0.72089	19.104

Results Summary

Result	Dry	Sat. (Base)
Total Raw Mole% (Dry)	100.12430	
Pressure Base (psia)	14.730	
Temperature Base	60.0	
Water Mole%	-	1.74067
Gross Heating Value (BTU / Ideal cu.ft.)	1246.6	1224.9
Gross Heating Value (BTU / Real cu.ft.)	1251.0	1229.7
Relative Density (G), Real	0.7231	0.7217
Compressibility (Z) Factor	0.9965	0.9961
Total GPM	19.104	18.879

Diablo Analytical BTU Report

GPA 2145-03 Analysis

Sample Information

Sample Information	
Sample Name	NM Com M1 Tubing
Station Number	2300450072
Taken By	Alpine Analysis LLC
Operator	Travis Tapp
Method Name	StandardNatGas.met
Injection Date	2018-03-19 11:47:20
Report Date	2018-03-19 11:51:11
EZReporter Configuration File	default Standard Sample.cfgx
Source Data File	2018-03-19 11-47-04 (GMT -06-00)NM Com M1 Tubing
EZReporter Data File	NM Com M1 Tubing-20180319-115111.ezrx
Data Source	Agilent EZChrom Connector

Component Results

Component Name	Ret. Time	Peak Area	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	0.320	274033.0	0.38271	0.0	0.00370	0.042
Methane	0.324	38602899.0	78.29362	792.6	0.43367	13.317
Carbon Dioxide	0.377	598545.0	0.84492	0.0	0.01284	0.145
Ethane	0.417	7957506.0	10.65187	188.9	0.11059	2.858
Hydrogen Sulfide	0.601	0.0	0.00000	0.0	0.00000	0.000
Propane	0.522	11768040.0	5.77435	145.6	0.08791	1.596
i-Butane	0.571	2389455.0	1.00693	32.8	0.02021	0.331
n-Butane	0.605	3700628.0	1.52883	50.0	0.03068	0.484
i-Pentane	0.709	1343477.0	0.49898	20.0	0.01243	0.183
n-Pentane	0.753	1138432.0	0.40632	16.3	0.01012	0.148
Hexanes Plus	0.000	2087872.0	0.61147	0.0	0.00000	0.000
Water	0.000	0.0	0.00000	0.0	0.00000	0.000
Total:			100.00000	1246.3	0.72215	19.103

Results Summary

Result	Dry	Sat. (Base)
Total Raw Mole% (Dry)	100.36450	
Pressure Base (psia)	14.730	
Temperature Base	60.0	
Water Mole%	-	1.74067
Gross Heating Value (BTU / Ideal cu.ft.)	1246.3	1224.6
Gross Heating Value (BTU / Real cu.ft.)	1250.7	1229.5
Relative Density (G), Real	0.7244	0.7230
Compressibility (Z) Factor	0.9965	0.9961
Total GPM	19.103	18.878