

Natural Gas Analysis Report SAN JUAN DIVISION

JUN 07 2016

Sample Information

Sample Information	
Sample Name	APACHE FEDERAL 14 BH
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2016-05-24 10:33:11

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	1.7032	0.0	0.01647	0.188
Oxygen	0.0426	0.0	0.00047	0.004
Methane	81.5648	825.7	0.45179	13.875
Carbon Dioxide	0.0398	0.0	0.00060	0.007
Ethane	10.1132	179.4	0.10500	2.714
Propane	2.9148	73.5	0.04438	0.806
I-Butane	0.4661	15.2	0.00935	0.153
N-Butane	0.5930	19.4	0.01190	0.188
I-Pentane	0.2832	11.4	0.00705	0.104
N-Pentane	0.1819	7.3	0.00453	0.066
Hexanes	0.3808	18.2	0.01133	0.157
Heptanes	1.1652	64.3	0.04031	0.539
Octanes	0.5362	33.6	0.02115	0.276
Nonanes	0.0152	1.1	0.00067	0.009
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000
Water	0.0000	0.0	0.00000	0.000
Total:	100.0000	1248.9	0.72501	19.085

Results Summary

Result	Dry	Sat.
Total Normalized Mole%	100.0000	100.0000
Pressure Base (psia)	14.730	
Flowing Temperature (Deg. F)	65.0	
Flowing Pressure (psia)	50.0	
Gross Heating Value (BTU / Real cu.ft.)	1253.5	1232.2
Relative Density (G), Real	0.7274	0.7259
Compressibility (Z) Factor	0.9963	0.9959
Total GPM	19.085	18.860

Natural Gas Analysis Report

SAN JUAN DIVISION

Sample Information

Sample Information	
Sample Name	APACHE FEDERAL 14 CASEING
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2016-05-24 10:27:07

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	74.5924	0.0	0.72146	8.208
Oxygen	20.6025	0.0	0.22762	1.829
Methane	3.8556	39.0	0.02136	0.654
Carbon Dioxide	0.0985	0.0	0.00150	0.017
Ethane	0.5161	9.2	0.00536	0.138
Propane	0.1699	4.3	0.00259	0.047
I-Butane	0.0333	1.1	0.00067	0.011
N-Butane	0.0445	1.5	0.00089	0.014
I-Pentane	0.0206	0.8	0.00051	0.008
N-Pentane	0.0127	0.5	0.00032	0.005
Hexanes	0.0095	0.5	0.00028	0.004
Heptanes	0.0254	1.4	0.00088	0.012
Octanes	0.0111	0.7	0.00044	0.006
Nonanes	0.0079	0.6	0.00035	0.004
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000
Water	0.0000	0.0	0.00000	0.000
Total:	100.0000	59.5	0.98421	10.955

Results Summary

Result	Dry	Sat.
Total Normalized Mole%	100.0000	100.0000
Pressure Base (psia)	14.730	
Flowing Temperature (Deg. F)	65.0	
Flowing Pressure (psia)	2.0	
Gross Heating Value (BTU / Real cu.ft.)	59.5	58.5
Relative Density (G), Real	0.9842	0.9781
Compressibility (Z) Factor	0.9995	0.9994
Total GPM	10.955	10.866

Natural Gas Analysis Report SAN JUAN DIVISION

Sample Information

Sample Information	
Sample Name	APACHE FEDERAL 14 TUBING
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2016-05-24 10:12:59

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	0.4727	0.0	0.00457	0.052
Oxygen	0.0086	0.0	0.00010	0.001
Methane	80.9346	819.3	0.44830	13.763
Carbon Dioxide	0.6486	0.0	0.00986	0.111
Ethane	11.4814	203.7	0.11920	3.080
Propane	3.8521	97.1	0.05865	1.065
I-Butane	0.6592	21.5	0.01323	0.216
N-Butane	0.9282	30.4	0.01863	0.294
I-Pentane	0.4122	16.5	0.01027	0.151
N-Pentane	0.2815	11.3	0.00701	0.102
Hexanes	0.1191	5.7	0.00354	0.049
Heptanes	0.1595	8.8	0.00552	0.074
Octanes	0.0298	1.9	0.00118	0.015
Nonanes	0.0125	0.9	0.00055	0.007
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000
Water	0.0000	0.0	0.00000	0.000
Total:	100.0000	1217.0	0.70059	18.981

Results Summary

Result	Dry	Sat.
Total Normalized Mole%	100.0000	100.0000
Pressure Base (psia)	14.730	
Flowing Temperature (Deg. F)	65.0	
Flowing Pressure (psia)	50.0	
Gross Heating Value (BTU / Real cu.ft.)	1221.1	1200.3
Relative Density (G), Real	0.7026	0.7015
Compressibility (Z) Factor	0.9967	0.9963
Total GPM	18.981	18.757