

Natural Gas Analysis Report **SAN JUAN DIVISION**

OIL CONS. DIV DIST. 3

OCT 03 2015

Sample Information

30-045-33473

Sample Information	
Sample Name	FEDERAL PIONEER 1E BH
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2015-09-30 08:25:40

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	1.7777	0.0	0.01719	0.196
Oxygen	0.0455	0.0	0.00050	0.004
Methane	93.1750	943.2	0.51610	15.827
Carbon Dioxide	0.0000	0.0	0.00000	0.000
Ethane	4.0911	72.6	0.04247	1.096
Propane	0.3614	9.1	0.00550	0.100
I-Butane	0.2267	7.4	0.00455	0.074
N-Butane	0.1463	4.8	0.00294	0.046
I-Pentane	0.0804	3.2	0.00200	0.029
N-Pentane	0.0756	3.0	0.00188	0.027
Hexanes	0.0145	0.7	0.00043	0.006
Heptanes	0.0029	0.2	0.00010	0.001
Octanes	0.0019	0.1	0.00007	0.001
Nonanes	0.0010	0.1	0.00004	0.001
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000
Water	0.0000	0.0	0.00000	0.000
Total:	100.0000	1044.4	0.59379	17.409

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)	25.0	
Gross Heating Value (BTU / Real cu.ft.)	1046.7	1028.9
Relative Density (G), Real	0.5949	0.5956
Compressibility (Z) Factor	0.9978	0.9974
Total GPM	17.409	17.212

Natural Gas Analysis Report SAN JUAN DIVISION

OIL CONS. DIV DIST. 3

OCT 03 2015

Sample Information

Sample Information	
Sample Name	FEDERAL PIONEER 1E CASEING
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2015-09-30 08:33:57

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)	
Nitrogen	0.9698	0.0	0.00938	0.107	
Oxygen	1.6923	0.0	0.01870	0.151	
Methane	74.2904	752.1	0.41149	12.646	
Carbon Dioxide	1.9920	0.0	0.03027	0.341	
Ethane	10.2460	181.7	0.10637	2.751	
Propane	4.8587	122.5	0.07397	1.344	
I-Butane	0.7671	25.0	0.01539	0.252	
N-Butane	1.5711	51.4	0.03153	0.497	
I-Pentane	0.7371	29.6	0.01836	0.271	
N-Pentane	0.7574	30.4	0.01887	0.276	
Hexanes	0.7778	37.1	0.02314	0.321	
Heptanes	0.9359	51.6	0.03238	0.434	
Octanes	0.4025	25.2	0.01587	0.207	
Nonanes	0.0019	0.1	0.00008	0.001	
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000	
Water	0.0000	0.0	0.00000	0.000	
Total:	100.0000	1306.7	0.80582	19.600	

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)	45.0		
Gross Heating Value (BTU / Real cu.ft.)	1312.5	1290.2	
Relative Density (G), Real	0.8090	0.8061	
Compressibility (Z) Factor	0.9956	0.9952	
Total GPM	19.600	19.367	

Natural Gas Analysis Report

SAN JUAN DIVISION

OIL CONS. DIV DIST. 3

OCT 03 2015

Sample Information

Sample Information	
Sample Name	FEDERAL PIONEER 1E TUBEING
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2015-09-30 08:40:03

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	0.4699	0.0	0.00454	0.052
Oxygen	0.0048	0.0	0.00005	0.000
Methane	77.8468	788.1	0.43119	13.249
Carbon Dioxide	1.8727	0.0	0.02846	0.321
Ethane	10.4382	185.2	0.10837	2.803
Propane	4.5562	114.9	0.06937	1.260
I-Butane	0.6470	21.1	0.01298	0.213
N-Butane	1.2296	40.2	0.02468	0.389
I-Pentane	0.4468	17.9	0.01113	0.164
N-Pentane	0.4439	17.8	0.01106	0.162
Hexanes	0.4699	22.4	0.01398	0.194
Heptanes	1.0119	55.8	0.03501	0.469
Octanes	0.5527	34.6	0.02180	0.284
Nonanes	0.0096	0.7	0.00043	0.005
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000
Water	0.0000	0.0	0.00000	0.000
Total:	100.0000	1298.7	0.77305	19.565

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)	45.0	
Gross Heating Value (BTU / Real cu.ft.)	1304.1	1282.0
Relative Density (G), Real	0.7760	0.7736
Compressibility (Z) Factor	0.9958	0.9954
Total GPM	19.565	19.332