

## Gas Quality Reports

M - CPL

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5/17/2019 - 8/17/2019

Gas Day	Gross Heating Value (HHV) (Btu/scf)	Net Heating Value (LHV) (Btu/scf)	Specific Gravity	Wobbe Index	Hydrocarbon Dewpoint (HCDP) (deg F)	N2 (mol%)	CO2 (mol%)	Methane (mol%)	Ethane (mol%)	Propane (mol%)	Isobutane (mol%)	N-Butane (mol%)	Isopentane (mol%)	N-Pentane (mol%)	C6 Plus (mol%)
05/17/2019	1,041.1	1,023.0	0.575	1,372.62	-152.46	0.262	0.045	95.941	3.640	0.090	0.007	0.010	0.002	0.002	0.002
05/18/2019	1,049.6	1,031.4	0.581	1,376.55	-144.67	0.267	0.086	94.880	4.532	0.186	0.015	0.022	0.004	0.004	0.004
05/19/2019	1,043.2	1,025.1	0.576	1,374.49	-151.22	0.258	0.013	95.708	3.935	0.074	0.005	0.005	0.001	0	0.001
05/20/2019	1,049.9	1,031.6	0.580	1,378.24	-145.12	0.256	0.012	95.075	4.363	0.253	0.019	0.017	0.002	0.001	0.001
05/21/2019	1,049.7	1,031.5	0.583	1,374.98	-143.32	0.290	0.156	94.733	4.527	0.226	0.019	0.032	0.006	0.006	0.005
05/22/2019	1,050.2	1,031.9	0.583	1,375.34	-143.21	0.286	0.152	94.671	4.613	0.213	0.018	0.030	0.006	0.005	0.005
05/23/2019	1,056.3	1,037.9	0.590	1,375.14	-136.49	0.312	0.325	93.671	5.220	0.363	0.030	0.052	0.010	0.009	0.008
05/24/2019	1,053.6	1,035.3	0.587	1,375.21	-138.93	0.294	0.256	94.144	4.911	0.286	0.028	0.051	0.011	0.010	0.010
05/25/2019	1,054.0	1,035.6	0.587	1,375.26	-73.30	0.295	0.262	94.125	4.897	0.302	0.030	0.056	0.012	0.011	0.011
05/26/2019	1,048.3	1,030.1	0.581	1,374.80	-144.92	0.273	0.135	94.954	4.394	0.181	0.017	0.028	0.006	0.005	0.007
05/27/2019	1,043.7	1,025.5	0.576	1,374.71	-150.77	0.255	0.017	95.663	3.969	0.082	0.006	0.006	0.002	0.001	0.002
05/28/2019	1,049.6	1,031.3	0.580	1,378.03	-145.20	0.255	0.015	95.129	4.309	0.234	0.025	0.026	0.004	0.002	0.001
05/29/2019	1,076.6	1,057.8	0.597	1,392.79	-25.73	0.254	0.019	93.091	5.383	0.805	0.143	0.180	0.054	0.043	0.028
05/30/2019	1,051.5	1,033.2	0.582	1,378.87	-69.15	0.259	0.022	95.138	4.140	0.297	0.044	0.056	0.017	0.014	0.013
05/31/2019	1,058.2	1,039.8	0.591	1,377.01	-69.25	0.273	0.309	93.622	5.262	0.411	0.035	0.053	0.012	0.011	0.011
06/01/2019	1,071.8	1,053.2	0.602	1,381.25	-38.51	0.252	0.500	92.293	5.818	0.824	0.109	0.133	0.030	0.024	0.019
06/02/2019	1,051.1	1,032.8	0.585	1,374.62	-70.59	0.226	0.253	94.822	4.145	0.424	0.049	0.049	0.011	0.008	0.012
06/03/2019	1,051.7	1,033.4	0.583	1,377.04	-141.39	0.271	0.114	94.925	4.089	0.520	0.038	0.033	0.004	0.003	0.003
06/04/2019	1,040.5	1,022.4	0.576	1,371.40	-152.49	0.255	0.095	95.952	3.552	0.121	0.010	0.009	0.002	0.002	0.002
06/05/2019	1,040.3	1,022.2	0.578	1,368.81	-151.78	0.230	0.241	95.723	3.643	0.134	0.013	0.010	0.002	0.002	0.002
06/06/2019	1,047.6	1,029.4	0.582	1,372.82	-144.10	0.260	0.226	94.994	4.182	0.251	0.028	0.031	0.009	0.007	0.012
06/07/2019	1,067.0	1,048.4	0.600	1,377.25	-27.75	0.333	0.517	92.380	5.941	0.568	0.062	0.112	0.024	0.022	0.039
06/08/2019	1,073.3	1,054.7	0.606	1,378.41	-29.37	0.358	0.632	91.373	6.676	0.672	0.069	0.134	0.027	0.026	0.032
06/09/2019	1,074.3	1,055.6	0.608	1,377.32	-25.67	0.353	0.723	91.142	6.773	0.694	0.074	0.146	0.030	0.030	0.035
06/10/2019	1,069.3	1,050.7	0.604	1,375.55	-33.87	0.376	0.653	91.720	6.347	0.638	0.064	0.125	0.025	0.025	0.028
06/11/2019	1,076.1	1,057.4	0.608	1,380.49	-42.28	0.326	0.625	90.882	7.324	0.622	0.055	0.106	0.020	0.020	0.019
06/12/2019	1,078.4	1,059.6	0.614	1,376.40	-37.13	0.357	0.900	90.115	7.591	0.768	0.068	0.133	0.025	0.024	0.019
06/13/2019	1,092.5	1,073.5	0.631	1,375.22	-21.63	0.450	1.348	87.695	8.949	1.163	0.102	0.197	0.035	0.035	0.025
06/14/2019	1,084.1	1,065.2	0.617	1,380.28	-31.13	0.361	0.858	89.693	7.880	0.891	0.085	0.153	0.029	0.028	0.022
06/15/2019	1,057.4	1,039.1	0.585	1,382.35	-139.47	0.251	0.021	94.087	5.356	0.245	0.017	0.015	0.003	0.002	0.003
06/16/2019	1,053.7	1,035.4	0.583	1,380.24	-142.54	0.254	0.021	94.458	5.073	0.170	0.010	0.009	0.002	0.002	0.002
06/17/2019	1,052.8	1,034.5	0.582	1,379.76	-143.40	0.255	0.019	94.522	5.056	0.129	0.007	0.007	0.002	0.001	0.002
06/18/2019	1,059.2	1,040.7	0.586	1,383.23	-138.51	0.256	0.022	93.810	5.657	0.224	0.014	0.012	0.003	0.002	0.002
06/19/2019	1,053.4	1,035.0	0.583	1,380.12	-142.94	0.249	0.020	94.478	5.091	0.138	0.008	0.009	0.002	0.002	0.002
06/20/2019	1,052.5	1,034.2	0.582	1,379.50	-143.52	0.261	0.021	94.546	5.021	0.131	0.007	0.007	0.002	0.001	0.002
06/21/2019	1,059.3	1,040.8	0.587	1,383.05	-138.71	0.278	0.020	93.657	5.870	0.155	0.008	0.008	0.002	0.001	0.002
06/22/2019	1,065.4	1,046.9	0.592	1,385.21	-133.50	0.267	0.093	92.847	6.513	0.233	0.014	0.021	0.004	0.004	0.004
06/23/2019	1,073.5	1,054.8	0.599	1,387.30	-126.99	0.272	0.217	91.700	7.381	0.346	0.024	0.040	0.008	0.007	0.006
06/24/2019	1,073.7	1,055.0	0.597	1,389.38	-127.75	0.254	0.124	91.888	7.321	0.345	0.022	0.029	0.006	0.005	0.005
06/25/2019	1,075.4	1,056.7	0.597	1,392.34	-127.58	0.240	0.025	91.929	7.387	0.357	0.026	0.025	0.005	0.004	0.003
06/26/2019	1,082.4	1,063.6	0.601	1,396.28	-67.65	0.237	0.023	91.320	7.761	0.538	0.050	0.049	0.010	0.007	0.005
06/27/2019	1,082.2	1,063.4	0.601	1,396.29	-124.19	0.235	0.019	90.955	8.436	0.328	0.011	0.010	0.002	0.001	0.002
06/28/2019	1,087.3	1,068.4	0.604	1,399.15	-120.85	0.236	0.017	90.442	8.805	0.464	0.017	0.014	0.002	0.002	0.002

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06/29/2019	1,089.3	1,070.4	0.605	1,400.25	-69.50	0.236	0.015	90.381	8.722	0.567	0.034	0.031	0.006	0.004	0.003
06/30/2019	1,090.1	1,071.2	0.606	1,400.69	-62.38	0.230	0.018	90.376	8.681	0.580	0.047	0.046	0.010	0.007	0.005
07/01/2019	1,089.2	1,070.3	0.605	1,400.15	-62.45	0.231	0.020	90.455	8.635	0.541	0.048	0.047	0.010	0.007	0.005
07/02/2019	1,088.5	1,069.6	0.605	1,399.79	-66.25	0.231	0.019	90.497	8.633	0.509	0.045	0.044	0.009	0.007	0.005
07/03/2019	1,088.7	1,069.7	0.605	1,399.86	-66.15	0.235	0.017	90.491	8.620	0.528	0.044	0.044	0.009	0.007	0.005
07/04/2019	1,089.6	1,070.6	0.605	1,400.35	-61.92	0.236	0.017	90.466	8.564	0.595	0.051	0.049	0.010	0.007	0.005
07/05/2019	1,088.5	1,069.6	0.605	1,399.77	-62.11	0.232	0.019	90.571	8.504	0.548	0.051	0.051	0.011	0.008	0.005
07/06/2019	1,088.3	1,069.3	0.605	1,399.64	-63.23	0.232	0.018	90.562	8.551	0.518	0.048	0.048	0.010	0.007	0.005
07/07/2019	1,088.5	1,069.6	0.605	1,399.80	-63.03	0.231	0.018	90.537	8.572	0.524	0.048	0.048	0.010	0.007	0.005
07/08/2019	1,088.4	1,069.4	0.605	1,399.74	-62.94	0.230	0.018	90.563	8.543	0.526	0.049	0.048	0.010	0.007	0.005
07/09/2019	1,088.3	1,069.3	0.605	1,399.69	-62.79	0.229	0.017	90.586	8.520	0.527	0.049	0.049	0.010	0.008	0.005
07/10/2019	1,086.1	1,067.2	0.603	1,398.50	-71.90	0.232	0.017	90.681	8.561	0.425	0.034	0.033	0.007	0.005	0.004
07/11/2019	1,080.8	1,062.0	0.600	1,395.61	-125.16	0.233	0.016	91.089	8.356	0.282	0.010	0.008	0.002	0.001	0.002
07/12/2019	1,081.3	1,062.5	0.600	1,395.84	-124.79	0.233	0.019	91.047	8.376	0.301	0.011	0.009	0.002	0.001	0.002
07/13/2019	1,080.5	1,061.7	0.600	1,395.41	-125.36	0.232	0.018	91.123	8.334	0.269	0.010	0.008	0.002	0.001	0.002
07/14/2019	1,086.1	1,067.2	0.609	1,392.08	-58.43	0.280	0.332	89.996	8.769	0.510	0.033	0.053	0.010	0.009	0.009
07/15/2019	1,084.2	1,065.3	0.606	1,392.58	-61.68	0.262	0.259	90.363	8.572	0.443	0.028	0.047	0.009	0.009	0.008
07/16/2019	1,084.5	1,065.7	0.607	1,392.12	-59.97	0.271	0.287	90.328	8.479	0.528	0.030	0.050	0.010	0.009	0.008
07/17/2019	1,080.3	1,061.5	0.600	1,394.24	-124.64	0.241	0.069	91.137	8.151	0.362	0.014	0.016	0.003	0.003	0.003
07/18/2019	1,079.2	1,060.4	0.599	1,394.45	-126.14	0.254	0.016	91.220	8.241	0.248	0.009	0.008	0.002	0.001	0.002
07/19/2019	1,083.5	1,064.7	0.604	1,393.80	-70.26	0.259	0.175	90.556	8.530	0.405	0.022	0.034	0.007	0.006	0.006
07/20/2019	1,080.5	1,061.7	0.600	1,394.73	-124.94	0.241	0.049	91.063	8.331	0.282	0.012	0.013	0.003	0.002	0.003
07/21/2019	1,079.7	1,060.9	0.599	1,394.89	-125.67	0.236	0.020	91.234	8.192	0.293	0.010	0.009	0.002	0.002	0.002
07/22/2019	1,079.2	1,060.4	0.599	1,394.62	-126.04	0.234	0.021	91.278	8.175	0.267	0.010	0.009	0.002	0.002	0.002
07/23/2019	1,079.5	1,060.7	0.599	1,394.82	-125.84	0.233	0.020	91.264	8.172	0.287	0.010	0.009	0.002	0.001	0.002
07/24/2019	1,078.9	1,060.2	0.599	1,394.54	-126.25	0.234	0.018	91.319	8.137	0.271	0.009	0.008	0.002	0.001	0.002
07/25/2019	1,079.7	1,060.9	0.599	1,394.99	-125.81	0.235	0.015	91.249	8.184	0.298	0.009	0.007	0.001	0.001	0.002
07/26/2019	1,079.8	1,061.0	0.599	1,395.00	-125.61	0.237	0.017	91.242	8.165	0.317	0.010	0.008	0.002	0.001	0.002
07/27/2019	1,080.2	1,061.4	0.599	1,395.26	-125.47	0.234	0.015	91.207	8.207	0.317	0.009	0.007	0.001	0	0.002
07/28/2019	1,079.2	1,060.5	0.599	1,394.73	-126.08	0.234	0.016	91.292	8.154	0.283	0.009	0.007	0.002	0.001	0.002
07/29/2019	1,079.5	1,060.7	0.599	1,394.85	-125.87	0.234	0.017	91.283	8.142	0.303	0.010	0.008	0.002	0.001	0.002
07/30/2019	1,080.0	1,061.2	0.599	1,395.14	-125.56	0.233	0.016	91.227	8.189	0.313	0.010	0.008	0.001	0.001	0.002
07/31/2019	1,078.7	1,059.9	0.598	1,394.44	-126.38	0.232	0.016	91.384	8.045	0.302	0.009	0.007	0.001	0	0.002
08/01/2019	1,091.2	1,072.2	0.617	1,388.69	-41.47	0.336	0.631	89.058	8.917	0.849	0.056	0.102	0.018	0.018	0.013
08/02/2019	1,095.3	1,076.2	0.621	1,389.77	-34.16	0.336	0.697	88.661	9.025	1.023	0.070	0.127	0.023	0.022	0.017
08/03/2019	1,106.2	1,087.0	0.645	1,377.88	-3.39	0.548	1.573	86.109	9.483	1.736	0.138	0.269	0.050	0.051	0.044
08/04/2019	1,094.9	1,075.9	0.629	1,380.16	-12.92	0.499	1.111	88.076	8.573	1.312	0.107	0.203	0.040	0.039	0.040
08/05/2019	1,087.5	1,068.6	0.616	1,385.99	-30.79	0.397	0.626	89.627	8.167	0.915	0.070	0.125	0.024	0.024	0.025
08/06/2019	1,092.9	1,073.9	0.619	1,388.66	-29.75	0.356	0.670	88.988	8.749	0.956	0.074	0.133	0.025	0.025	0.024
08/07/2019	1,090.0	1,071.0	0.618	1,386.82	-28.80	0.398	0.655	89.306	8.410	0.944	0.074	0.135	0.026	0.025	0.026
08/08/2019	1,096.5	1,077.4	0.632	1,378.90	-7.17	0.558	1.193	87.881	8.392	1.465	0.129	0.244	0.048	0.045	0.045
08/09/2019	1,104.1	1,084.9	0.642	1,377.71	-4.52	0.516	1.534	86.365	9.436	1.646	0.131	0.237	0.045	0.043	0.047
08/10/2019	1,108.7	1,089.4	0.646	1,379.52	-3.61	0.491	1.597	85.824	9.815	1.744	0.137	0.254	0.047	0.046	0.045

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08/11/2019	1,103.6	1,084.4	0.642	1,377.83	-2.59	0.531	1.501	86.611	9.121	1.692	0.139	0.259	0.049	0.048	0.050
08/12/2019	1,094.9	1,075.9	0.622	1,388.52	-23.78	0.354	0.742	88.714	8.837	1.054	0.077	0.139	0.027	0.026	0.031
08/13/2019	1,091.1	1,072.1	0.616	1,389.84	-31.20	0.324	0.570	89.393	8.582	0.881	0.063	0.116	0.022	0.022	0.026
08/14/2019	1,096.8	1,077.8	0.629	1,382.92	-11.62	0.438	1.056	88.145	8.590	1.327	0.112	0.210	0.041	0.040	0.041
08/15/2019	1,096.8	1,077.8	0.629	1,382.92	-11.62	0.438	1.056	88.145	8.590	1.327	0.112	0.210	0.041	0.040	0.041

**NOTES:****Wobbe Index:** Interchangeability constant calculated using the Gross (or Higher) Heating Value (HHV) divided by the square root of the Specific Gravity**Hydrocarbon Dewpoint (HCDP):** Theoretically determined value using the Redlich-Kwong equation of state (EOS)

Selection: Business Unit ID = 70; Analysis\_Key = 48752