

Gas Quality Reports

M - CPL

11/25/2019 - 2/25/2020

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%)
11/25/2019	1,083.1	1,064.2	0.610	1,386.68	-66.41	0.280	0.533	89.964	8.515	0.623	0.027	0.042	0.007	0.006	0.004
11/26/2019	1,089.1	1,070.1	0.618	1,385.00	-54.83	0.307	0.790	88.777	9.201	0.804	0.036	0.061	0.010	0.009	0.005
11/27/2019	1,084.7	1,065.8	0.613	1,385.31	-55.91	0.314	0.634	89.624	8.584	0.719	0.037	0.061	0.011	0.010	0.007
11/28/2019	1,082.8	1,063.9	0.611	1,384.84	-58.53	0.319	0.598	89.879	8.409	0.684	0.035	0.052	0.009	0.008	0.007
11/29/2019	1,080.5	1,061.7	0.609	1,385.11	-63.54	0.308	0.523	90.228	8.268	0.580	0.029	0.044	0.008	0.007	0.005
11/30/2019	1,080.2	1,061.4	0.608	1,384.87	-63.64	0.309	0.525	90.265	8.229	0.577	0.030	0.045	0.008	0.007	0.005
12/01/2019	1,082.3	1,063.5	0.609	1,386.78	-61.97	0.289	0.498	90.147	8.355	0.610	0.031	0.048	0.008	0.008	0.005
12/02/2019	1,083.5	1,064.6	0.611	1,386.06	-61.82	0.292	0.571	89.817	8.602	0.622	0.030	0.046	0.008	0.007	0.005
12/03/2019	1,070.3	1,051.6	0.594	1,389.10	-131.04	0.242	0.046	92.399	7.000	0.280	0.014	0.012	0.003	0.002	0.002
12/04/2019	1,068.9	1,050.3	0.593	1,388.64	-132.01	0.238	0.035	92.580	6.859	0.256	0.013	0.012	0.003	0.002	0.002
12/05/2019	1,072.3	1,053.6	0.597	1,387.41	-128.48	0.250	0.189	91.896	7.266	0.346	0.018	0.023	0.005	0.004	0.003
12/06/2019	1,070.9	1,052.2	0.596	1,387.54	-129.82	0.249	0.142	92.137	7.121	0.305	0.016	0.019	0.004	0.004	0.003
12/07/2019	1,076.8	1,058.0	0.604	1,385.80	-123.92	0.274	0.394	90.947	7.843	0.467	0.023	0.035	0.006	0.006	0.004
12/08/2019	1,078.1	1,059.3	0.606	1,384.81	-122.64	0.286	0.479	90.552	8.129	0.488	0.022	0.031	0.005	0.004	0.004
12/09/2019	1,083.7	1,064.8	0.613	1,383.57	-60.33	0.300	0.708	89.503	8.733	0.655	0.030	0.050	0.008	0.008	0.004
12/10/2019	1,083.3	1,064.5	0.612	1,384.61	-59.17	0.291	0.645	89.783	8.477	0.688	0.038	0.056	0.009	0.009	0.005
12/11/2019	1,079.0	1,060.2	0.608	1,383.47	-66.14	0.277	0.585	90.342	8.147	0.551	0.029	0.046	0.009	0.008	0.005
12/12/2019	1,077.5	1,058.8	0.607	1,383.43	-66.88	0.289	0.534	90.627	7.900	0.550	0.029	0.048	0.009	0.008	0.005
12/13/2019	1,072.0	1,053.3	0.599	1,384.77	-127.47	0.259	0.316	91.696	7.271	0.387	0.021	0.032	0.006	0.006	0.004
12/14/2019	1,078.0	1,059.2	0.608	1,382.12	-66.67	0.302	0.611	90.372	8.050	0.567	0.029	0.048	0.008	0.008	0.005
12/15/2019	1,091.3	1,072.4	0.624	1,381.70	-46.04	0.325	1.032	88.078	9.502	0.893	0.049	0.084	0.014	0.014	0.008
12/16/2019	1,083.4	1,064.6	0.614	1,383.10	-54.80	0.312	0.718	89.615	8.508	0.715	0.038	0.064	0.011	0.011	0.008
12/17/2019	1,074.6	1,055.9	0.604	1,382.71	-67.63	0.299	0.478	91.045	7.604	0.478	0.029	0.044	0.009	0.008	0.007
12/18/2019	1,072.9	1,054.2	0.602	1,382.41	-70.70	0.300	0.442	91.302	7.414	0.457	0.025	0.038	0.007	0.007	0.007
12/19/2019	1,071.6	1,053.0	0.603	1,380.57	-126.22	0.321	0.491	91.237	7.443	0.440	0.021	0.031	0.006	0.005	0.005
12/20/2019	1,075.1	1,056.4	0.605	1,382.07	-63.44	0.312	0.521	90.923	7.604	0.533	0.030	0.051	0.010	0.009	0.007
12/21/2019	1,072.7	1,054.0	0.601	1,383.18	-126.26	0.290	0.402	91.374	7.434	0.431	0.022	0.031	0.006	0.005	0.005
12/22/2019	1,072.1	1,053.4	0.600	1,384.03	-126.87	0.280	0.345	91.625	7.249	0.419	0.024	0.038	0.007	0.007	0.005
12/23/2019	1,074.2	1,055.5	0.602	1,384.67	-69.86	0.284	0.371	91.373	7.399	0.477	0.029	0.044	0.009	0.008	0.006
12/24/2019	1,074.4	1,055.7	0.602	1,384.64	-70.28	0.282	0.380	91.315	7.458	0.471	0.027	0.044	0.008	0.008	0.006
12/25/2019	1,074.0	1,055.3	0.602	1,383.97	-67.19	0.281	0.405	91.367	7.347	0.489	0.030	0.053	0.010	0.010	0.007
12/26/2019	1,073.6	1,054.9	0.601	1,384.45	-70.48	0.286	0.363	91.446	7.349	0.458	0.027	0.047	0.009	0.009	0.006
12/27/2019	1,077.1	1,058.4	0.604	1,385.47	-66.27	0.291	0.410	90.952	7.724	0.515	0.029	0.053	0.010	0.010	0.006
12/28/2019	1,071.8	1,053.2	0.598	1,386.04	-127.98	0.269	0.237	91.870	7.185	0.367	0.021	0.033	0.007	0.007	0.005
12/29/2019	1,065.1	1,046.5	0.590	1,386.30	-134.57	0.247	0.038	93.027	6.435	0.218	0.013	0.013	0.003	0.003	0.003
12/30/2019	1,071.5	1,052.9	0.601	1,382.23	-127.23	0.275	0.428	91.445	7.392	0.407	0.019	0.023	0.004	0.003	0.003
12/31/2019	1,062.7	1,044.2	0.590	1,384.02	-135.58	0.242	0.092	93.263	6.123	0.235	0.016	0.017	0.004	0.003	0.004
01/01/2020	1,063.6	1,045.0	0.589	1,385.54	-135.51	0.232	0.044	93.253	6.210	0.222	0.014	0.014	0.004	0.003	0.003
01/02/2020	1,063.1	1,044.6	0.589	1,385.31	-135.81	0.228	0.047	93.307	6.163	0.216	0.015	0.014	0.004	0.003	0.003
01/03/2020	1,062.9	1,044.5	0.589	1,385.30	-136.05	0.232	0.039	93.318	6.174	0.203	0.013	0.013	0.003	0.003	0.003
01/04/2020	1,071.3	1,052.6	0.601	1,381.50	-73.41	0.297	0.445	91.523	7.178	0.466	0.028	0.042	0.008	0.007	0.005
01/05/2020	1,079.2	1,060.5	0.611	1,381.02	-56.17	0.334	0.688	90.102	8.122	0.611	0.040	0.070	0.013	0.012	0.008
01/06/2020	1,075.3	1,056.6	0.606	1,381.76	-61.36	0.312	0.542	90.873	7.624	0.526	0.034	0.058	0.011	0.011	0.008

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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%)
01/07/2020	1,070.5	1,051.9	0.600	1,382.48	-127.51	0.287	0.375	91.772	7.050	0.428	0.028	0.041	0.008	0.007	0.006
01/08/2020	1,069.7	1,051.1	0.599	1,382.56	-128.74	0.276	0.355	91.826	7.110	0.372	0.021	0.027	0.005	0.004	0.004
01/09/2020	1,069.7	1,051.1	0.599	1,382.56	-128.74	0.276	0.355	91.826	7.110	0.372	0.021	0.027	0.005	0.004	0.004
01/10/2020	1,084.0	1,065.2	0.618	1,379.05	-49.62	0.353	0.933	88.957	8.920	0.687	0.041	0.072	0.013	0.013	0.010
01/11/2020	1,078.8	1,060.1	0.609	1,382.07	-63.04	0.323	0.627	90.136	8.289	0.531	0.029	0.044	0.008	0.007	0.006
01/12/2020	1,078.4	1,059.6	0.608	1,382.79	-68.30	0.330	0.568	90.303	8.169	0.545	0.028	0.040	0.007	0.005	0.005
01/13/2020	1,077.0	1,058.3	0.605	1,384.18	-73.43	0.284	0.483	90.657	8.058	0.447	0.023	0.032	0.006	0.005	0.005
01/14/2020	1,079.9	1,061.1	0.608	1,385.40	-68.20	0.281	0.504	90.372	8.222	0.531	0.028	0.043	0.008	0.007	0.004
01/15/2020	1,087.7	1,068.7	0.616	1,385.47	-51.87	0.301	0.724	89.154	8.910	0.763	0.041	0.074	0.013	0.013	0.007
01/16/2020	1,082.9	1,064.1	0.610	1,387.01	-62.06	0.301	0.496	89.992	8.552	0.561	0.029	0.047	0.008	0.008	0.006
01/17/2020	1,079.7	1,060.9	0.608	1,385.10	-121.65	0.301	0.502	90.231	8.437	0.464	0.022	0.030	0.005	0.004	0.003
01/18/2020	1,077.8	1,059.0	0.605	1,385.46	-123.39	0.291	0.432	90.592	8.209	0.425	0.019	0.022	0.004	0.003	0.003
01/19/2020	1,076.3	1,057.5	0.602	1,387.59	-125.15	0.276	0.282	91.185	7.788	0.405	0.021	0.029	0.006	0.005	0.004
01/20/2020	1,079.0	1,060.3	0.605	1,387.05	-73.63	0.292	0.384	90.601	8.207	0.446	0.023	0.032	0.006	0.005	0.004
01/21/2020	1,081.1	1,062.3	0.608	1,385.94	-69.41	0.292	0.505	90.126	8.496	0.499	0.025	0.039	0.007	0.006	0.004
01/22/2020	1,079.0	1,060.2	0.607	1,385.28	-73.64	0.303	0.471	90.391	8.298	0.469	0.023	0.031	0.005	0.004	0.004
01/23/2020	1,079.4	1,060.6	0.607	1,385.64	-70.31	0.286	0.473	90.437	8.224	0.500	0.025	0.037	0.007	0.006	0.004
01/24/2020	1,080.9	1,062.1	0.609	1,385.26	-60.86	0.311	0.524	90.212	8.270	0.569	0.034	0.055	0.010	0.009	0.006
01/25/2020	1,079.7	1,060.9	0.608	1,384.21	-67.68	0.318	0.539	90.221	8.303	0.531	0.029	0.041	0.007	0.006	0.005
01/26/2020	1,078.1	1,059.3	0.606	1,384.49	-71.93	0.294	0.491	90.491	8.196	0.452	0.024	0.035	0.006	0.005	0.005
01/27/2020	1,078.4	1,059.7	0.605	1,386.05	-69.67	0.282	0.426	90.673	8.062	0.467	0.028	0.042	0.008	0.007	0.005
01/28/2020	1,077.6	1,058.8	0.603	1,387.50	-72.48	0.274	0.327	90.976	7.913	0.424	0.027	0.040	0.007	0.006	0.005
01/29/2020	1,077.8	1,059.0	0.603	1,387.48	-123.91	0.269	0.337	90.888	8.031	0.400	0.024	0.035	0.006	0.005	0.004
01/30/2020	1,076.2	1,057.5	0.602	1,387.23	-125.16	0.261	0.308	91.145	7.842	0.377	0.022	0.030	0.006	0.005	0.004
01/31/2020	1,082.8	1,063.9	0.607	1,389.27	-61.83	0.286	0.377	90.497	8.035	0.672	0.058	0.058	0.007	0.006	0.004
02/01/2020	1,078.8	1,060.0	0.600	1,392.17	-124.90	0.245	0.131	91.256	7.895	0.427	0.019	0.018	0.004	0.003	0.003
02/02/2020	1,077.8	1,059.0	0.598	1,393.44	-126.15	0.230	0.043	91.605	7.667	0.411	0.018	0.016	0.004	0.003	0.003
02/03/2020	1,077.9	1,059.2	0.598	1,393.42	-126.00	0.235	0.045	91.577	7.682	0.413	0.020	0.017	0.004	0.003	0.003
02/04/2020	1,082.2	1,063.3	0.601	1,395.40	-122.92	0.265	0.044	91.105	8.006	0.505	0.032	0.029	0.006	0.004	0.003
02/05/2020	1,087.6	1,068.7	0.605	1,397.91	-61.88	0.310	0.039	90.547	8.332	0.656	0.046	0.047	0.010	0.007	0.005
02/06/2020	1,081.4	1,062.6	0.601	1,395.29	-124.14	0.283	0.017	91.053	8.189	0.429	0.013	0.010	0.002	0.001	0.002
02/07/2020	1,076.7	1,058.0	0.598	1,392.45	-126.73	0.284	0.030	91.606	7.661	0.380	0.016	0.015	0.003	0.002	0.002
02/08/2020	1,076.5	1,057.8	0.598	1,392.31	-126.90	0.287	0.029	91.617	7.662	0.367	0.016	0.014	0.003	0.002	0.002
02/09/2020	1,079.8	1,061.0	0.600	1,394.24	-124.53	0.276	0.030	91.372	7.760	0.511	0.023	0.019	0.004	0.003	0.002
02/10/2020	1,078.7	1,060.0	0.599	1,393.58	-125.30	0.277	0.034	91.448	7.736	0.460	0.020	0.017	0.004	0.003	0.002
02/11/2020	1,078.1	1,059.4	0.599	1,393.19	-125.55	0.273	0.039	91.537	7.636	0.466	0.021	0.019	0.004	0.003	0.003
02/12/2020	1,079.4	1,060.6	0.600	1,393.86	-124.69	0.272	0.041	91.416	7.714	0.505	0.022	0.020	0.004	0.003	0.003
02/13/2020	1,077.1	1,058.4	0.598	1,392.72	-126.43	0.272	0.035	91.591	7.670	0.385	0.020	0.018	0.004	0.003	0.003
02/14/2020	1,079.8	1,061.0	0.600	1,394.50	-125.03	0.256	0.029	91.302	7.965	0.406	0.018	0.015	0.003	0.002	0.002
02/15/2020	1,076.0	1,057.3	0.597	1,392.46	-127.47	0.255	0.029	91.703	7.654	0.324	0.015	0.013	0.003	0.002	0.002
02/16/2020	1,076.1	1,057.4	0.597	1,392.51	-127.51	0.256	0.027	91.679	7.694	0.310	0.014	0.013	0.003	0.002	0.002
02/17/2020	1,074.1	1,055.4	0.596	1,391.31	-128.70	0.248	0.036	91.931	7.457	0.288	0.016	0.015	0.004	0.003	0.002
02/18/2020	1,074.2	1,055.5	0.596	1,391.32	-128.54	0.250	0.038	91.920	7.457	0.294	0.016	0.016	0.004	0.003	0.003

TSP Name: Southern Star Central Gas Pipeline, Inc.

CSI048

TSP: 007906233

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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%)
02/19/2020	1,082.0	1,063.2	0.601	1,395.41	-71.14	0.258	0.043	91.332	7.623	0.643	0.051	0.039	0.005	0.003	0.003
02/20/2020	1,072.1	1,053.4	0.596	1,388.78	-129.07	0.245	0.113	92.141	7.058	0.396	0.020	0.018	0.004	0.003	0.002
02/21/2020	1,081.0	1,062.2	0.601	1,394.67	-123.63	0.250	0.059	91.271	7.785	0.594	0.021	0.015	0.002	0.001	0.002
02/22/2020	1,079.5	1,060.7	0.599	1,394.42	-125.29	0.258	0.024	91.329	7.947	0.406	0.016	0.013	0.002	0.002	0.002
02/23/2020	1,079.6	1,060.9	0.600	1,394.08	-125.06	0.293	0.024	91.235	8.009	0.404	0.016	0.014	0.002	0.002	0.002

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