

Gas Quality Reports

LS145 - So. Glavin at Ottawa X-Over

5/13/2020 - 8/13/2020

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%)
05/13/2020	1,049.9	1,031.7	0.601	1,353.92	-132.93	1.752	0.334	91.233	6.058	0.540	0.026	0.039	0.007	0.005	0.006
05/14/2020	1,050.4	1,032.1	0.599	1,357.05	-133.89	1.604	0.273	91.640	5.884	0.520	0.024	0.036	0.007	0.005	0.008
05/15/2020	1,050.3	1,032.1	0.599	1,356.99	-133.97	1.607	0.273	91.637	5.885	0.520	0.024	0.036	0.007	0.005	0.007
05/16/2020	1,053.3	1,034.9	0.602	1,357.03	-131.35	1.636	0.343	91.068	6.304	0.573	0.024	0.036	0.006	0.005	0.006
05/17/2020	1,054.4	1,036.0	0.606	1,354.49	-70.48	1.731	0.455	90.634	6.341	0.757	0.028	0.040	0.005	0.004	0.005
05/18/2020	1,052.8	1,034.5	0.605	1,354.12	-130.71	1.699	0.449	90.754	6.421	0.604	0.024	0.036	0.005	0.004	0.004
05/19/2020	1,055.5	1,037.1	0.607	1,354.85	-128.99	1.802	0.424	90.212	6.869	0.644	0.018	0.023	0.003	0.002	0.003
05/20/2020	1,046.3	1,028.1	0.601	1,349.48	-135.12	1.969	0.320	91.106	6.064	0.499	0.015	0.019	0.003	0.002	0.004
05/21/2020	1,049.3	1,031.1	0.603	1,351.83	-133.03	1.861	0.358	90.943	6.233	0.555	0.017	0.023	0.003	0.002	0.004
05/22/2020	1,049.4	1,031.1	0.603	1,351.90	-133.05	1.857	0.358	90.944	6.237	0.554	0.017	0.022	0.003	0.002	0.004
05/23/2020	1,049.4	1,031.1	0.603	1,351.94	-133.02	1.858	0.357	90.945	6.237	0.554	0.017	0.022	0.003	0.002	0.004
05/24/2020	1,049.3	1,031.0	0.602	1,351.88	-133.11	1.863	0.352	90.955	6.229	0.553	0.017	0.022	0.003	0.002	0.004
05/25/2020	1,052.1	1,033.8	0.603	1,355.48	-131.76	1.747	0.321	90.997	6.285	0.582	0.024	0.030	0.005	0.004	0.005
05/26/2020	1,054.3	1,036.0	0.605	1,355.09	-72.49	1.853	0.342	90.422	6.736	0.577	0.020	0.033	0.006	0.005	0.006
05/27/2020	1,050.8	1,032.5	0.601	1,355.67	-133.46	1.702	0.297	91.220	6.228	0.508	0.016	0.020	0.003	0.002	0.005
05/28/2020	1,050.9	1,032.6	0.602	1,354.56	-133.10	1.777	0.312	90.960	6.427	0.483	0.014	0.018	0.003	0.002	0.004
05/29/2020	1,048.1	1,029.9	0.599	1,353.83	-135.13	1.805	0.247	91.404	6.021	0.477	0.016	0.020	0.004	0.002	0.005
05/30/2020	1,047.5	1,029.3	0.599	1,354.01	-135.68	1.788	0.230	91.568	5.891	0.477	0.016	0.020	0.004	0.002	0.005
05/31/2020	1,047.5	1,029.3	0.599	1,354.00	-135.69	1.789	0.229	91.563	5.895	0.476	0.016	0.020	0.004	0.002	0.005
06/01/2020	1,049.5	1,031.3	0.599	1,356.20	-134.15	1.768	0.184	91.601	5.810	0.564	0.022	0.032	0.006	0.004	0.006
06/02/2020	1,049.3	1,031.1	0.599	1,355.68	-134.11	1.809	0.181	91.522	5.871	0.547	0.022	0.031	0.006	0.004	0.007
06/03/2020	1,047.9	1,029.7	0.598	1,354.96	-135.08	1.830	0.161	91.691	5.715	0.530	0.022	0.032	0.006	0.004	0.007
06/04/2020	1,034.1	1,016.1	0.591	1,344.82	-73.56	2.097	0.105	92.970	4.304	0.420	0.031	0.044	0.010	0.008	0.011
06/05/2020	1,034.2	1,016.2	0.592	1,343.98	-79.24	2.156	0.117	92.719	4.532	0.391	0.023	0.035	0.008	0.007	0.012
06/06/2020	1,038.9	1,020.8	0.598	1,343.63	-138.83	2.138	0.296	91.763	5.281	0.448	0.021	0.034	0.006	0.005	0.007
06/07/2020	1,039.0	1,020.9	0.598	1,343.63	-138.75	2.139	0.299	91.734	5.305	0.450	0.021	0.033	0.006	0.005	0.007
06/08/2020	1,039.1	1,021.0	0.598	1,343.69	-138.73	2.137	0.299	91.733	5.307	0.451	0.021	0.033	0.006	0.005	0.006
06/09/2020	1,039.0	1,021.0	0.598	1,343.70	-138.77	2.136	0.299	91.736	5.305	0.451	0.021	0.034	0.006	0.005	0.006
06/10/2020	1,039.0	1,021.0	0.598	1,343.68	-138.78	2.137	0.299	91.733	5.306	0.452	0.021	0.034	0.006	0.006	0.006
06/11/2020	1,039.1	1,021.0	0.598	1,343.75	-138.74	2.134	0.299	91.739	5.303	0.452	0.022	0.034	0.006	0.006	0.006
06/12/2020	1,039.0	1,020.9	0.598	1,343.68	-138.74	2.138	0.298	91.741	5.296	0.453	0.022	0.034	0.006	0.005	0.006
06/13/2020	1,036.4	1,018.3	0.595	1,343.35	-141.13	2.098	0.258	92.247	4.891	0.437	0.021	0.030	0.006	0.005	0.007
06/14/2020	1,041.9	1,023.8	0.598	1,346.98	-137.84	1.959	0.326	91.700	5.473	0.488	0.019	0.025	0.004	0.002	0.004
06/15/2020	1,038.8	1,020.7	0.597	1,344.57	-139.79	1.965	0.355	92.009	5.158	0.454	0.019	0.027	0.005	0.003	0.005
06/16/2020	1,043.9	1,025.7	0.599	1,349.24	-136.55	1.785	0.377	91.831	5.409	0.513	0.026	0.039	0.007	0.006	0.007
06/17/2020	1,043.8	1,025.7	0.598	1,350.01	-69.36	1.711	0.382	92.041	5.253	0.512	0.029	0.045	0.010	0.008	0.010
06/18/2020	1,048.8	1,030.5	0.601	1,352.33	-66.44	1.682	0.430	91.432	5.774	0.566	0.032	0.055	0.011	0.010	0.009
06/19/2020	1,051.1	1,032.8	0.602	1,354.63	-61.92	1.732	0.342	91.374	5.736	0.683	0.037	0.065	0.012	0.010	0.009
06/20/2020	1,030.1	1,012.2	0.622	1,306.11	-30.29	5.177	0.138	87.728	5.282	1.286	0.099	0.206	0.032	0.032	0.019
06/21/2020	1,036.4	1,018.4	0.593	1,345.83	-71.29	2.003	0.185	92.836	4.324	0.534	0.033	0.055	0.011	0.009	0.010
06/22/2020	1,037.8	1,019.7	0.595	1,344.84	-77.33	2.135	0.195	92.340	4.650	0.575	0.029	0.051	0.009	0.008	0.008
06/23/2020	1,033.3	1,015.3	0.594	1,340.25	-141.66	2.266	0.217	92.569	4.249	0.605	0.029	0.045	0.007	0.006	0.007
06/24/2020	1,031.3	1,013.3	0.591	1,341.32	-144.72	2.129	0.187	93.097	4.002	0.498	0.027	0.040	0.007	0.006	0.007

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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%)
06/25/2020	1,024.3	1,006.4	0.586	1,338.11	-151.50	2.156	0.124	93.839	3.540	0.277	0.019	0.026	0.006	0.005	0.008
06/26/2020	1,024.3	1,006.5	0.586	1,338.14	-151.55	2.155	0.123	93.837	3.544	0.277	0.019	0.026	0.006	0.005	0.008
06/27/2020	1,024.3	1,006.5	0.586	1,338.22	-151.53	2.152	0.123	93.837	3.547	0.278	0.019	0.026	0.006	0.005	0.008
06/28/2020	1,024.4	1,006.6	0.586	1,337.91	-151.14	2.193	0.116	93.767	3.559	0.302	0.019	0.027	0.006	0.004	0.007
06/29/2020	1,025.8	1,007.9	0.589	1,336.79	-148.60	2.409	0.077	93.287	3.739	0.429	0.019	0.027	0.004	0.003	0.006
06/30/2020	1,026.0	1,008.2	0.592	1,333.49	-146.79	2.689	0.081	92.617	4.089	0.474	0.017	0.025	0.003	0.002	0.004
07/01/2020	1,026.9	1,009.0	0.591	1,336.32	-147.19	2.497	0.080	92.956	3.943	0.468	0.019	0.027	0.004	0.002	0.004
07/02/2020	1,027.0	1,009.1	0.591	1,335.94	-146.79	2.564	0.059	92.848	4.004	0.470	0.017	0.025	0.004	0.003	0.006
07/03/2020	1,028.0	1,010.1	0.591	1,336.88	-146.16	2.514	0.074	92.806	4.068	0.481	0.018	0.026	0.004	0.003	0.005
07/04/2020	1,041.7	1,023.6	0.595	1,350.71	-80.21	1.789	0.225	92.630	4.584	0.682	0.030	0.043	0.006	0.004	0.007
07/05/2020	1,041.9	1,023.7	0.595	1,350.83	-80.73	1.786	0.225	92.616	4.597	0.685	0.030	0.043	0.006	0.004	0.007
07/06/2020	1,041.9	1,023.7	0.595	1,350.83	-81.04	1.787	0.225	92.614	4.599	0.686	0.030	0.043	0.006	0.004	0.007
07/07/2020	1,039.7	1,021.6	0.594	1,348.85	-139.48	1.859	0.218	92.676	4.537	0.625	0.028	0.040	0.006	0.004	0.007
07/08/2020	1,027.9	1,010.1	0.591	1,336.73	-146.52	2.388	0.162	92.868	4.088	0.434	0.019	0.029	0.004	0.003	0.006
07/09/2020	1,025.8	1,008.0	0.589	1,336.14	-148.79	2.349	0.154	93.186	3.875	0.382	0.017	0.027	0.004	0.003	0.004
07/10/2020	1,034.3	1,016.3	0.595	1,341.12	-141.74	2.192	0.252	92.407	4.557	0.514	0.024	0.038	0.006	0.005	0.006
07/11/2020	1,032.6	1,014.6	0.593	1,341.23	-143.96	2.200	0.186	92.680	4.402	0.472	0.019	0.028	0.004	0.003	0.006
07/12/2020	1,029.8	1,011.9	0.590	1,341.21	-146.40	2.214	0.090	93.247	3.914	0.469	0.021	0.030	0.005	0.004	0.006
07/13/2020	1,027.5	1,009.7	0.592	1,335.48	-146.19	2.512	0.137	92.712	4.122	0.456	0.019	0.029	0.004	0.003	0.005
07/14/2020	1,027.9	1,010.0	0.593	1,335.10	-145.25	2.585	0.122	92.609	4.084	0.537	0.021	0.031	0.004	0.003	0.005
07/15/2020	1,027.3	1,009.5	0.592	1,335.13	-146.15	2.515	0.147	92.735	4.056	0.486	0.019	0.030	0.004	0.003	0.005
07/16/2020	1,028.7	1,010.8	0.592	1,336.88	-145.74	2.426	0.152	92.732	4.166	0.463	0.019	0.029	0.004	0.003	0.005
07/17/2020	1,040.9	1,022.8	0.599	1,345.23	-74.29	2.103	0.294	91.796	5.082	0.635	0.026	0.043	0.007	0.006	0.007
07/18/2020	1,038.6	1,020.5	0.599	1,341.47	-137.74	2.322	0.285	91.532	5.186	0.602	0.022	0.036	0.005	0.004	0.004
07/19/2020	1,033.9	1,015.9	0.597	1,338.30	-141.02	2.437	0.235	91.879	4.878	0.507	0.020	0.032	0.005	0.004	0.004
07/20/2020	1,033.9	1,016.0	0.595	1,340.21	-141.74	2.347	0.189	92.199	4.689	0.511	0.020	0.031	0.005	0.004	0.005
07/21/2020	1,033.9	1,015.9	0.593	1,342.92	-142.68	2.204	0.134	92.720	4.309	0.565	0.022	0.033	0.005	0.003	0.004
07/22/2020	1,033.9	1,015.9	0.597	1,337.55	-140.40	2.663	0.126	91.682	4.875	0.597	0.019	0.030	0.003	0.002	0.002
07/23/2020	1,032.1	1,014.1	0.594	1,339.28	-143.08	2.386	0.155	92.436	4.441	0.523	0.019	0.028	0.004	0.003	0.005
07/24/2020	1,037.2	1,019.2	0.596	1,343.07	-139.91	2.171	0.252	92.077	4.882	0.555	0.021	0.029	0.005	0.003	0.005
07/25/2020	1,037.6	1,019.5	0.596	1,344.39	-139.56	2.114	0.227	92.340	4.603	0.636	0.026	0.038	0.006	0.004	0.006
07/26/2020	1,038.5	1,020.4	0.598	1,342.65	-138.20	2.203	0.293	91.850	4.938	0.637	0.026	0.038	0.005	0.003	0.005
07/27/2020	1,039.7	1,021.6	0.597	1,345.19	-138.06	2.040	0.299	92.082	4.848	0.649	0.027	0.040	0.006	0.004	0.005
07/28/2020	1,041.6	1,023.5	0.598	1,346.72	-136.88	2.019	0.290	91.917	5.029	0.660	0.027	0.042	0.006	0.004	0.005
07/29/2020	1,040.0	1,021.9	0.598	1,344.89	-137.72	2.069	0.307	91.930	4.989	0.623	0.026	0.040	0.006	0.005	0.006
07/30/2020	1,033.2	1,015.2	0.597	1,337.44	-140.93	2.429	0.265	92.009	4.655	0.564	0.025	0.037	0.006	0.005	0.005
07/31/2020	1,037.0	1,019.0	0.600	1,339.34	-138.26	2.323	0.352	91.606	5.017	0.631	0.024	0.035	0.004	0.003	0.005
08/01/2020	1,033.6	1,015.6	0.598	1,336.12	-140.28	2.473	0.321	91.719	4.838	0.583	0.022	0.033	0.004	0.003	0.004
08/02/2020	1,030.7	1,012.7	0.593	1,338.73	-144.05	2.381	0.143	92.724	4.120	0.555	0.026	0.037	0.005	0.004	0.005
08/03/2020	1,024.8	1,007.0	0.595	1,328.69	-145.54	2.964	0.127	92.089	4.238	0.524	0.021	0.030	0.003	0.002	0.003
08/04/2020	1,024.8	1,007.0	0.595	1,328.67	-145.57	2.964	0.127	92.092	4.237	0.522	0.021	0.030	0.003	0.002	0.003
08/05/2020	1,024.8	1,006.9	0.595	1,328.67	-145.58	2.963	0.127	92.094	4.236	0.521	0.021	0.030	0.003	0.002	0.003
08/06/2020	1,035.5	1,017.5	0.600	1,337.33	-138.49	2.778	0.114	91.287	5.125	0.629	0.024	0.033	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%)
08/07/2020	1,056.3	1,037.9	0.608	1,355.15	-65.52	2.268	0.127	90.028	6.607	0.878	0.032	0.045	0.005	0.003	0.006
08/08/2020	1,046.7	1,028.5	0.601	1,350.20	-61.54	2.170	0.159	91.351	5.486	0.718	0.039	0.049	0.010	0.006	0.011
08/09/2020	1,048.5	1,030.2	0.601	1,352.02	-133.05	2.218	0.086	90.931	6.115	0.587	0.021	0.028	0.005	0.003	0.007
08/10/2020	1,045.1	1,026.9	0.595	1,354.53	-137.24	1.831	0.096	92.210	5.258	0.534	0.023	0.031	0.006	0.004	0.008
08/11/2020	1,045.0	1,026.8	0.595	1,354.51	-137.31	1.829	0.097	92.221	5.250	0.532	0.023	0.031	0.007	0.004	0.007

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 = 48163