

Gas Quality Reports

LS423 - Jane 20"

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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	1,026.9	1,009.0	0.588	1,339.75	-150.32	1.742	0.389	93.732	3.873	0.216	0.011	0.021	0.021	0.005	0.005
05/14/2020	1,021.0	1,003.2	0.583	1,337.35	-156.66	1.666	0.383	94.623	3.126	0.161	0.009	0.018	0.018	0.004	0.005
05/15/2020	1,017.9	1,000.1	0.581	1,335.77	-159.45	1.692	0.352	95.049	2.705	0.157	0.010	0.019	0.019	0.005	0.006
05/16/2020	1,022.7	1,004.9	0.584	1,338.54	-154.26	1.744	0.322	94.441	3.236	0.199	0.014	0.026	0.026	0.006	0.006
05/17/2020	1,021.2	1,003.4	0.584	1,336.84	-155.19	1.803	0.326	94.491	3.127	0.195	0.013	0.026	0.026	0.006	0.007
05/18/2020	1,015.9	998.2	0.580	1,334.00	-160.75	1.788	0.325	95.141	2.544	0.158	0.010	0.019	0.019	0.005	0.006
05/19/2020	1,016.2	998.5	0.580	1,334.44	-160.74	1.767	0.323	95.149	2.564	0.155	0.009	0.017	0.017	0.005	0.006
05/20/2020	1,017.1	999.4	0.580	1,335.33	-160.01	1.723	0.333	95.115	2.629	0.155	0.009	0.019	0.019	0.005	0.006
05/21/2020	1,017.7	1,000.0	0.580	1,336.42	-160.32	1.640	0.348	95.170	2.661	0.145	0.008	0.015	0.015	0.004	0.005
05/22/2020	1,021.0	1,003.2	0.580	1,340.11	-158.00	1.429	0.388	95.203	2.757	0.176	0.010	0.020	0.020	0.006	0.007
05/23/2020	1,021.0	1,003.2	0.581	1,339.55	-157.16	1.464	0.397	95.145	2.732	0.204	0.013	0.025	0.025	0.006	0.007
05/24/2020	1,022.3	1,004.5	0.582	1,339.77	-155.10	1.546	0.373	94.887	2.901	0.226	0.015	0.030	0.030	0.007	0.008
05/25/2020	1,020.7	1,002.9	0.581	1,339.39	-157.48	1.475	0.390	95.175	2.690	0.220	0.012	0.022	0.022	0.005	0.007
05/26/2020	1,018.0	1,000.2	0.580	1,336.13	-159.40	1.626	0.381	95.153	2.611	0.185	0.010	0.019	0.019	0.005	0.006
05/27/2020	1,018.1	1,000.4	0.582	1,334.38	-158.02	1.755	0.395	94.825	2.773	0.205	0.010	0.021	0.021	0.005	0.006
05/28/2020	1,020.2	1,002.4	0.582	1,336.77	-156.62	1.732	0.346	94.730	2.933	0.211	0.011	0.021	0.021	0.005	0.006
05/29/2020	1,018.4	1,000.7	0.582	1,334.96	-157.56	1.730	0.389	94.875	2.755	0.195	0.011	0.023	0.023	0.007	0.010
05/30/2020	1,016.9	999.2	0.581	1,334.10	-159.14	1.719	0.396	95.069	2.570	0.192	0.011	0.024	0.024	0.006	0.007
05/31/2020	1,018.9	1,001.1	0.582	1,335.39	-157.00	1.746	0.368	94.855	2.758	0.210	0.013	0.027	0.027	0.007	0.008
06/01/2020	1,021.4	1,003.6	0.583	1,337.77	-63.40	1.662	0.373	94.939	2.611	0.287	0.026	0.061	0.061	0.016	0.012
06/02/2020	1,012.6	994.9	0.578	1,332.13	-164.74	1.748	0.347	95.604	2.124	0.129	0.010	0.020	0.020	0.006	0.007
06/03/2020	1,013.7	996.1	0.578	1,333.34	-163.06	1.699	0.350	95.581	2.182	0.135	0.010	0.023	0.023	0.006	0.008
06/04/2020	1,013.7	996.1	0.578	1,333.34	-163.06	1.699	0.350	95.581	2.182	0.135	0.010	0.023	0.023	0.006	0.008
06/05/2020	1,036.6	1,018.5	0.592	1,347.19	-61.64	1.474	0.465	93.061	4.643	0.288	0.011	0.027	0.027	0.007	0.018
06/06/2020	1,021.4	1,003.6	0.583	1,338.15	-156.00	1.624	0.380	94.714	3.070	0.155	0.011	0.025	0.025	0.007	0.008
06/07/2020	1,018.1	1,000.4	0.582	1,334.81	-158.68	1.728	0.389	94.821	2.893	0.122	0.009	0.020	0.020	0.006	0.007
06/08/2020	1,024.6	1,006.7	0.585	1,339.25	-152.90	1.649	0.403	94.193	3.517	0.196	0.009	0.018	0.018	0.005	0.007
06/09/2020	1,017.8	1,000.0	0.581	1,334.74	-159.27	1.760	0.361	94.840	2.877	0.123	0.008	0.016	0.016	0.004	0.007
06/10/2020	1,016.7	999.0	0.581	1,334.08	-160.91	1.767	0.359	94.907	2.848	0.095	0.005	0.009	0.009	0.003	0.006
06/11/2020	1,018.3	1,000.5	0.583	1,333.85	-158.53	1.837	0.374	94.544	3.087	0.130	0.006	0.011	0.011	0.003	0.006
06/12/2020	1,019.1	1,001.3	0.584	1,333.78	-157.25	1.873	0.381	94.372	3.188	0.154	0.007	0.013	0.013	0.003	0.005
06/13/2020	1,020.0	1,002.2	0.585	1,333.72	-155.88	1.901	0.394	94.196	3.293	0.179	0.009	0.016	0.016	0.004	0.005
06/14/2020	1,015.7	998.0	0.582	1,331.55	-160.30	1.778	0.457	94.848	2.753	0.125	0.008	0.015	0.015	0.004	0.008
06/15/2020	1,019.3	1,001.5	0.582	1,336.62	-159.09	1.632	0.391	94.841	2.991	0.120	0.005	0.009	0.009	0.002	0.006
06/16/2020	1,016.4	998.7	0.580	1,334.04	-161.71	1.705	0.392	94.991	2.808	0.084	0.004	0.007	0.007	0.002	0.005
06/17/2020	1,017.3	999.6	0.580	1,335.65	-161.20	1.660	0.363	95.059	2.808	0.087	0.004	0.009	0.009	0.003	0.005
06/18/2020	1,019.7	1,001.9	0.581	1,337.64	-159.03	1.594	0.375	94.909	2.976	0.120	0.006	0.011	0.011	0.003	0.005
06/19/2020	1,017.6	999.9	0.580	1,335.80	-161.20	1.635	0.381	95.015	2.870	0.081	0.003	0.007	0.007	0.002	0.005
06/20/2020	1,020.2	1,002.4	0.582	1,337.32	-158.65	1.636	0.379	94.701	3.168	0.094	0.004	0.008	0.008	0.002	0.005
06/21/2020	1,035.1	1,017.0	0.592	1,345.75	-143.47	1.580	0.425	93.166	4.366	0.407	0.015	0.027	0.027	0.005	0.005
06/22/2020	1,035.1	1,017.0	0.592	1,345.75	-143.47	1.580	0.425	93.166	4.366	0.407	0.015	0.027	0.027	0.005	0.005
06/23/2020	1,020.3	1,002.5	0.582	1,337.52	-158.22	1.594	0.399	94.791	3.062	0.126	0.006	0.011	0.011	0.003	0.006
06/24/2020	1,015.5	997.8	0.586	1,326.74	-156.99	2.314	0.361	93.908	3.202	0.171	0.011	0.018	0.018	0.005	0.006

Gas Quality Reports

LS423 - Jane 20"

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%)
06/25/2020	1,018.8	1,001.1	0.580	1,337.32	-160.20	1.570	0.380	95.040	2.884	0.098	0.006	0.011	0.011	0.003	0.004
06/26/2020	1,019.3	1,001.6	0.581	1,337.51	-159.08	1.537	0.407	95.045	2.854	0.113	0.009	0.018	0.018	0.005	0.006
06/27/2020	1,018.9	1,001.1	0.581	1,337.11	-159.57	1.571	0.392	95.046	2.845	0.107	0.008	0.016	0.016	0.005	0.005
06/28/2020	1,019.8	1,002.0	0.581	1,337.50	-158.53	1.565	0.403	94.938	2.937	0.114	0.009	0.018	0.018	0.005	0.006
06/29/2020	1,020.6	1,002.8	0.582	1,338.28	-157.93	1.547	0.400	94.874	3.022	0.116	0.009	0.018	0.018	0.005	0.006
06/30/2020	1,021.6	1,003.8	0.582	1,339.37	-157.45	1.510	0.396	94.829	3.113	0.113	0.009	0.016	0.016	0.005	0.005
07/01/2020	1,022.8	1,004.9	0.583	1,339.34	-155.84	1.570	0.395	94.563	3.296	0.136	0.010	0.018	0.018	0.004	0.005
07/02/2020	1,021.7	1,003.9	0.584	1,336.97	-155.40	1.719	0.391	94.414	3.267	0.161	0.011	0.021	0.021	0.005	0.006
07/03/2020	1,021.1	1,003.3	0.583	1,337.17	-156.38	1.679	0.387	94.573	3.175	0.141	0.010	0.020	0.020	0.005	0.006
07/04/2020	1,017.9	1,000.2	0.586	1,330.24	-154.76	2.072	0.404	94.158	3.111	0.168	0.017	0.039	0.039	0.012	0.009
07/05/2020	1,012.7	995.0	0.584	1,325.35	-159.39	2.244	0.392	94.390	2.750	0.166	0.013	0.024	0.024	0.007	0.007
07/06/2020	1,018.0	1,000.3	0.583	1,333.13	-70.52	1.825	0.413	94.703	2.806	0.165	0.017	0.035	0.035	0.011	0.015
07/07/2020	1,016.9	999.1	0.580	1,335.01	-160.14	1.686	0.367	95.147	2.629	0.121	0.011	0.019	0.019	0.006	0.010
07/08/2020	1,020.0	1,002.2	0.583	1,336.41	-156.88	1.702	0.379	94.739	2.927	0.208	0.011	0.019	0.019	0.004	0.007
07/09/2020	1,020.2	1,002.4	0.582	1,337.17	-157.50	1.651	0.377	94.812	2.922	0.201	0.010	0.016	0.016	0.003	0.004
07/10/2020	1,025.6	1,007.8	0.585	1,340.55	-151.18	1.619	0.386	94.312	3.322	0.294	0.017	0.031	0.031	0.007	0.006
07/11/2020	1,026.4	1,008.5	0.586	1,340.57	-149.53	1.661	0.380	94.215	3.324	0.338	0.021	0.039	0.039	0.008	0.008
07/12/2020	1,023.5	1,005.6	0.584	1,339.02	-153.32	1.629	0.394	94.503	3.143	0.277	0.014	0.025	0.025	0.005	0.005
07/13/2020	1,018.7	1,000.9	0.584	1,333.39	-157.15	1.873	0.388	94.465	3.043	0.190	0.010	0.017	0.017	0.004	0.005
07/14/2020	1,021.2	1,003.4	0.584	1,336.46	-155.43	1.733	0.395	94.484	3.121	0.221	0.012	0.020	0.020	0.005	0.006
07/15/2020	1,026.8	1,008.9	0.584	1,343.31	-152.09	1.545	0.322	94.363	3.508	0.213	0.012	0.020	0.020	0.005	0.006
07/16/2020	1,025.9	1,008.0	0.583	1,344.01	-154.34	1.472	0.305	94.608	3.420	0.155	0.009	0.016	0.016	0.005	0.006
07/17/2020	1,021.6	1,003.8	0.582	1,339.11	-156.52	1.576	0.367	94.829	2.993	0.189	0.010	0.020	0.020	0.005	0.006
07/18/2020	1,021.6	1,003.8	0.583	1,337.95	-155.72	1.639	0.388	94.670	3.038	0.217	0.011	0.021	0.021	0.005	0.006
07/19/2020	1,019.7	1,001.9	0.583	1,335.74	-156.95	1.743	0.379	94.672	2.956	0.205	0.011	0.020	0.020	0.005	0.005
07/20/2020	1,019.3	1,001.5	0.584	1,333.77	-156.70	1.844	0.407	94.408	3.094	0.211	0.010	0.016	0.016	0.003	0.004
07/21/2020	1,024.2	1,006.4	0.585	1,338.82	-152.32	1.656	0.411	94.340	3.224	0.317	0.014	0.024	0.024	0.004	0.005
07/22/2020	1,023.1	1,005.2	0.584	1,338.73	-154.35	1.635	0.394	94.511	3.151	0.265	0.011	0.020	0.020	0.004	0.005
07/23/2020	1,025.3	1,007.4	0.586	1,339.43	-151.10	1.676	0.399	94.195	3.353	0.319	0.015	0.026	0.026	0.006	0.006
07/24/2020	1,019.7	1,002.0	0.582	1,336.93	-157.05	1.659	0.371	94.912	2.809	0.193	0.012	0.024	0.024	0.006	0.009
07/25/2020	1,019.6	1,001.8	0.581	1,337.11	-157.30	1.671	0.348	94.952	2.780	0.189	0.013	0.026	0.026	0.007	0.007
07/26/2020	1,025.6	1,007.7	0.585	1,340.97	-71.41	1.641	0.347	94.508	3.042	0.360	0.025	0.047	0.047	0.011	0.010
07/27/2020	1,027.1	1,009.2	0.586	1,341.39	-67.17	1.622	0.384	94.303	3.198	0.387	0.026	0.048	0.048	0.010	0.012
07/28/2020	1,024.9	1,007.1	0.586	1,339.22	-150.28	1.713	0.373	94.322	3.144	0.366	0.021	0.037	0.037	0.007	0.009
07/29/2020	1,019.8	1,002.0	0.588	1,329.90	-151.63	2.211	0.391	93.737	3.263	0.323	0.020	0.033	0.033	0.007	0.008
07/30/2020	1,023.0	1,005.1	0.587	1,335.50	-150.81	1.917	0.380	94.070	3.190	0.368	0.021	0.034	0.034	0.006	0.007
07/31/2020	1,026.3	1,008.4	0.587	1,340.11	-149.10	1.709	0.371	94.190	3.238	0.408	0.023	0.039	0.039	0.007	0.007
08/01/2020	1,022.0	1,004.2	0.585	1,335.67	-152.63	1.873	0.368	94.241	3.151	0.300	0.018	0.030	0.030	0.006	0.006
08/02/2020	1,019.6	1,001.8	0.586	1,332.12	-154.53	2.013	0.393	94.095	3.206	0.234	0.015	0.026	0.026	0.006	0.006
08/03/2020	1,022.1	1,004.3	0.584	1,337.78	-154.31	1.665	0.394	94.614	3.007	0.252	0.018	0.031	0.031	0.007	0.007
08/04/2020	1,022.9	1,005.0	0.582	1,340.38	-155.33	1.484	0.397	94.872	2.967	0.224	0.014	0.025	0.025	0.006	0.007
08/05/2020	1,020.9	1,003.1	0.581	1,338.81	-156.97	1.515	0.400	95.011	2.830	0.187	0.014	0.024	0.024	0.006	0.007
08/06/2020	1,019.8	1,002.0	0.581	1,338.24	-158.16	1.533	0.385	95.126	2.734	0.168	0.013	0.023	0.023	0.006	0.007

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	1,018.6	1,000.8	0.579	1,339.08	-161.22	1.459	0.350	95.435	2.612	0.110	0.008	0.014	0.014	0.004	0.005
08/08/2020	1,020.1	1,002.3	0.580	1,339.23	-158.43	1.539	0.336	95.171	2.752	0.150	0.012	0.022	0.022	0.006	0.007
08/09/2020	1,021.4	1,003.6	0.581	1,339.90	-157.05	1.554	0.332	94.978	2.928	0.153	0.013	0.023	0.023	0.006	0.007
08/10/2020	1,021.4	1,003.6	0.580	1,340.70	-157.67	1.489	0.332	95.109	2.873	0.146	0.012	0.021	0.021	0.006	0.007
08/11/2020	1,021.9	1,004.1	0.581	1,340.50	-156.53	1.525	0.335	94.990	2.928	0.164	0.013	0.025	0.025	0.007	0.008

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 = 53873