TSP Name: Southern Star Central Gas Pipeline, Inc.

TSP: 007906233

CSI048

8/13/2020 12:15:34 AM

Gas Quality Reports

LS490 - Rawlins Hesston at Hesston

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	1,045.7	1,027.6	0.588	1,364.09	-141.32	0.873	0.230	93.913	4.540	0.356	0.027	0.034	0.009	0.006	0.012
05/14/2020	1,044.9	1,026.7	0.586	1,364.45	-142.11	0.877	0.184	94.128	4.359	0.363	0.028	0.034	0.009	0.006	0.012
05/15/2020	1,042.0	1,023.9	0.583	1,364.78	-145.64	0.848	0.098	94.668	4.017	0.294	0.024	0.028	0.008	0.005	0.011
05/16/2020	1,042.9	1,024.7	0.583	1,365.28	-144.73	0.821	0.113	94.676	3.936	0.372	0.026	0.032	0.008	0.005	0.011
05/17/2020	1,042.5	1,024.4	0.584	1,364.58	-144.71	0.833	0.132	94.669	3.896	0.387	0.026	0.033	0.008	0.005	0.011
05/18/2020	1,042.5	1,024.3	0.584	1,364.14	-144.71	0.827	0.158	94.604	3.970	0.359	0.025	0.032	0.009	0.005	0.011
05/19/2020	1,046.6	1,028.4	0.586	1,367.21	-141.84	0.800	0.138	94.161	4.459	0.363	0.024	0.030	0.008	0.005	0.011
05/20/2020	1,043.3	1,025.2	0.584	1,364.82	-143.60	0.811	0.159	94.591	3.937	0.413	0.027	0.036	0.009	0.006	0.011
05/21/2020	1,038.8	1,020.7	0.582	1,361.99	-147.46	0.834	0.156	95.057	3.525	0.345	0.025	0.031	0.008	0.005	0.012
05/22/2020	1,036.6	1,018.5	0.581	1,359.89	-148.77	0.876	0.174	95.206	3.327	0.334	0.026	0.031	0.009	0.006	0.012
05/23/2020	1,036.8	1,018.8	0.581	1,360.79	-148.86	0.877	0.132	95.262	3.312	0.332	0.026	0.031	0.009	0.005	0.012
05/24/2020	1,036.3	1,018.3	0.580	1,360.81	-148.84	0.901	0.101	95.447	3.041	0.411	0.036	0.037	0.009	0.005	0.012
05/25/2020	1,036.0	1,017.9	0.581	1,359.48	-148.93	0.904	0.159	95.299	3.177	0.366	0.033	0.036	0.009	0.006	0.012
05/26/2020	1,033.6	1,015.6	0.579	1,358.81	-151.46	0.885	0.137	95.618	2.968	0.310	0.026	0.031	0.009	0.005	0.011
05/27/2020	1,035.2	1,017.2	0.581	1,358.43	-149.51	0.909	0.190	95.259	3.225	0.334	0.026	0.031	0.009	0.006	0.012
05/28/2020	1,034.8	1,016.8	0.580	1,358.37	-149.89	0.924	0.169	95.331	3.160	0.330	0.027	0.032	0.009	0.006	0.012
05/29/2020	1,034.8	1,016.8	0.580	1,358.93	-150.11	0.928	0.137	95.387	3.136	0.329	0.026	0.031	0.009	0.005	0.012
05/30/2020	1,041.2	1,023.1	0.584	1,362.81	-72.98	0.956	0.106	94.734	3.643	0.453	0.034	0.046	0.010	0.006	0.013
05/31/2020	1,038.4	1,020.3	0.582	1,361.23	-78.44	0.944	0.113	95.078	3.337	0.426	0.033	0.042	0.010	0.006	0.013
06/01/2020	1,041.9	1,023.8	0.584	1,363.23	-68.02	0.948	0.109	94.761	3.536	0.517	0.041	0.057	0.011	0.007	0.013
06/02/2020	1,038.7	1,020.6	0.583	1,360.81	-71.61	0.985	0.118	94.991	3.328	0.464	0.036	0.049	0.010	0.006	0.013
06/03/2020	1,035.0	1,017.0	0.585	1,353.46	-59.89	1.306	0.186	94.622	3.295	0.452	0.044	0.054	0.015	0.009	0.018
06/04/2020	1,040.3	1,022.2	0.589	1,355.98	-55.71	1.374	0.169	93.863	3.945	0.519	0.040	0.048	0.013	0.008	0.020
06/05/2020	1,047.4	1,029.2	0.591	1,362.78	-56.73	1.168	0.156	93.530	4.422	0.580	0.051	0.054	0.014	0.009	0.017
06/06/2020	1,037.9	1,019.8	0.584	1,357.77	-62.38	1.132	0.158	94.632	3.558	0.396	0.040	0.045	0.013	0.008	0.018
06/07/2020	1,027.8	1,009.9	0.576	1,354.46	-79.80	0.978	0.131	96.164	2.373	0.258	0.030	0.033	0.011	0.007	0.015
06/08/2020	1,030.4	1,012.4	0.578	1,355.86	-154.17	0.904	0.183	95.843	2.742	0.242	0.027	0.030	0.010	0.006	0.014
06/09/2020	1,031.5	1,013.5	0.578	1,356.52	-153.09	0.851	0.216	95.742	2.857	0.250	0.026	0.029	0.009	0.006	0.013
06/10/2020	1,042.8	1,024.7	0.587	1,361.24	-57.98	0.921	0.259	94.448	3.679	0.537	0.053	0.060	0.015	0.010	0.017
06/11/2020	1,037.4	1,019.3	0.584	1,357.75	-70.96	0.964	0.253	94.877	3.341	0.466	0.031	0.037	0.010	0.007	0.014
06/12/2020	1,039.8	1,021.7	0.586	1,358.12	-65.08	0.983	0.296	94.511	3.561	0.534	0.036	0.043	0.012	0.007	0.016
06/13/2020	1,040.8	1,022.7	0.586	1,359.49	-65.34	0.971	0.258	94.546	3.535	0.574	0.037	0.046	0.011	0.007	0.015
06/14/2020	1,038.7	1,020.7	0.584	1,358.84	-70.13	0.930	0.258	94.831	3.354	0.522	0.033	0.041	0.010	0.007	0.014
06/15/2020	1,038.4	1,020.3	0.584	1,359.22	-70.99	0.933	0.226	94.916	3.324	0.499	0.033	0.039	0.010	0.006	0.014
06/16/2020	1,037.9	1,019.8	0.583	1,358.81	-71.31	0.928	0.237	94.944	3.306	0.484	0.032	0.038	0.010	0.007	0.014
06/17/2020	1,039.4	1,021.3	0.584	1,359.82	-65.84	0.954	0.210	94.906	3.223	0.578	0.038	0.056	0.012	0.008	0.014
06/18/2020	1,037.5	1,019.5	0.583	1,359.38	-68.11	0.944	0.183	95.190	3.006	0.563	0.036	0.046	0.011	0.007	0.014
06/19/2020	1,039.2	1,021.1	0.584	1,360.37	-67.30	0.954	0.176	94.942	3.272	0.546	0.035	0.043	0.011	0.007	0.015
06/20/2020	1,044.1	1,026.0	0.588	1,361.42	-59.74	0.932	0.283	94.236	3.787	0.626	0.043	0.055	0.013	0.009	0.016
06/21/2020	1,035.5	1,017.5	0.580	1,359.75	-77.22	0.889	0.141	95.567	2.816	0.487	0.031	0.040	0.010	0.006	0.013
06/22/2020	1,037.5	1,019.5	0.583	1,359.29	-70.31	0.899	0.218	95.179	3.054	0.546	0.033	0.042	0.010	0.007	0.014
06/23/2020	1,031.6	1,013.7	0.579	1,355.80	-72.86	0.926	0.209	95.769	2.581	0.411	0.033	0.040	0.011	0.007	0.015
06/24/2020	1,027.7	1,009.8	0.577	1,353.21	-78.99	0.923	0.229	96.104	2.373	0.271	0.031	0.037	0.011	0.007	0.015

Gas Quality Reports

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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	1,037.6	1,019.5	0.583	1,359.03	-65.00	0.990	0.173	95.161	2.949	0.605	0.038	0.050	0.011	0.007	0.015
06/26/2020	1,039.8	1,021.7	0.584	1,360.91	-65.81	0.972	0.152	94.944	3.212	0.606	0.036	0.045	0.011	0.007	0.015
06/27/2020	1,042.3	1,024.1	0.585	1,362.68	-68.48	0.941	0.153	94.741	3.385	0.663	0.036	0.051	0.010	0.006	0.012
06/28/2020	1,040.8	1,022.7	0.589	1,356.22	-72.82	1.267	0.241	93.841	3.979	0.574	0.031	0.042	0.009	0.005	0.011
06/29/2020	1,040.9	1,022.8	0.585	1,361.21	-69.20	1.033	0.130	94.672	3.469	0.590	0.033	0.043	0.010	0.006	0.013
06/30/2020	1,041.8	1,023.7	0.584	1,363.30	-71.04	0.922	0.120	94.805	3.480	0.571	0.033	0.042	0.009	0.006	0.013
07/01/2020	1,037.8	1,019.8	0.581	1,361.82	-80.06	0.878	0.107	95.379	3.037	0.499	0.032	0.041	0.009	0.006	0.012
07/02/2020	1,040.0	1,021.9	0.582	1,362.90	-77.50	0.881	0.114	95.095	3.287	0.525	0.032	0.040	0.009	0.006	0.012
07/03/2020	1,042.9	1,024.7	0.584	1,364.71	-68.89	0.855	0.121	94.875	3.442	0.586	0.036	0.055	0.011	0.008	0.013
07/04/2020	1,043.5	1,025.3	0.584	1,365.08	-73.42	0.837	0.130	94.752	3.614	0.567	0.032	0.042	0.009	0.005	0.012
07/05/2020	1,048.3	1,030.1	0.589	1,365.40	-67.99	0.867	0.240	93.887	4.257	0.643	0.034	0.046	0.009	0.006	0.012
07/06/2020	1,047.5	1,029.2	0.589	1,364.46	-68.50	0.911	0.235	93.875	4.257	0.621	0.032	0.042	0.009	0.006	0.012
07/07/2020	1,047.7	1,029.5	0.589	1,365.06	-68.63	0.867	0.241	93.973	4.153	0.663	0.033	0.044	0.009	0.006	0.012
07/08/2020	1,047.1	1,028.8	0.588	1,365.08	-70.64	0.848	0.231	94.120	4.036	0.665	0.032	0.044	0.008	0.005	0.011
07/09/2020	1,048.0	1,029.7	0.590	1,364.31	-66.47	0.908	0.260	93.834	4.207	0.683	0.034	0.046	0.010	0.006	0.012
07/10/2020	1,052.9	1,034.6	0.594	1,366.45	-61.94	0.938	0.275	93.222	4.633	0.821	0.039	0.045	0.009	0.005	0.012
07/11/2020	1,041.7	1,023.6	0.584	1,362.72	-72.06	0.917	0.149	94.824	3.367	0.647	0.031	0.039	0.008	0.005	0.012
07/12/2020	1,041.5	1,023.4	0.585	1,361.86	-72.25	0.995	0.139	94.678	3.451	0.644	0.030	0.037	0.008	0.005	0.012
07/13/2020	1,042.6	1,024.5	0.585	1,363.59	-72.61	0.903	0.140	94.766	3.430	0.668	0.030	0.038	0.008	0.005	0.011
07/14/2020	1,045.2	1,027.0	0.588	1,363.53	-66.39	0.914	0.213	94.314	3.754	0.696	0.034	0.046	0.010	0.007	0.013
07/15/2020	1,043.6	1,025.5	0.589	1,359.35	-58.07	1.240	0.176	93.837	3.951	0.689	0.032	0.041	0.009	0.006	0.018
07/16/2020	1,045.9	1,027.7	0.588	1,363.73	-62.97	1.008	0.164	94.150	3.829	0.739	0.036	0.044	0.010	0.006	0.014
07/17/2020	1,048.7	1,030.5	0.593	1,361.45	-60.44	1.289	0.186	93.251	4.262	0.897	0.038	0.050	0.009	0.006	0.013
07/18/2020	1,045.1	1,026.9	0.591	1,359.94	-64.94	1.282	0.161	93.648	4.033	0.767	0.035	0.045	0.009	0.006	0.013
07/19/2020	1,050.0	1,031.7	0.591	1,366.27	-60.38	1.032	0.133	93.880	3.884	0.938	0.043	0.062	0.009	0.006	0.012
07/20/2020	1,044.4	1,026.2	0.587	1,362.64	-65.12	1.053	0.145	94.311	3.628	0.748	0.037	0.050	0.010	0.006	0.013
07/21/2020	1,042.8	1,024.7	0.589	1,358.71	-67.55	1.280	0.161	93.857	3.910	0.692	0.032	0.040	0.009	0.005	0.013
07/22/2020	1,043.3	1,025.2	0.587	1,362.01	-62.81	1.041	0.155	94.383	3.628	0.685	0.035	0.042	0.010	0.006	0.015
07/23/2020	1,043.6	1,025.5	0.587	1,362.23	-61.91	1.056	0.143	94.373	3.603	0.709	0.037	0.047	0.011	0.006	0.015
07/24/2020	1,041.6	1,023.5	0.585	1,361.30	-69.36	1.029	0.149	94.517	3.632	0.575	0.031	0.038	0.009	0.006	0.014
07/25/2020	1,042.0	1,023.9	0.586	1,361.38	-68.50	1.021	0.163	94.504	3.584	0.626	0.033	0.042	0.009	0.006	0.013
07/26/2020	1,042.7	1,024.6	0.586	1,362.25	-68.40	0.987	0.159	94.528	3.569	0.654	0.033	0.041	0.009	0.006	0.013
07/27/2020	1,043.7	1,025.5	0.588	1,361.05	-70.48	1.108	0.173	94.144	3.764	0.704	0.035	0.048	0.008	0.005	0.011
07/28/2020	1,040.6	1,022.5	0.585	1,359.94	-70.72	1.064	0.167	94.536	3.548	0.584	0.032	0.041	0.009	0.005	0.013
07/29/2020	1,041.0	1,022.9	0.587	1,359.12	-63.24	1.131	0.181	94.392	3.531	0.649	0.037	0.046	0.011	0.007	0.015
07/30/2020	1,046.5	1,028.2	0.595	1,356.23	-66.73	1.536	0.238	92.718	4.605	0.803	0.033	0.045	0.008	0.005	0.010
07/31/2020	1,037.9	1,019.8	0.594	1,346.80	-79.99	1.902	0.243	92.813	4.280	0.675	0.029	0.039	0.006	0.004	0.008
08/01/2020	1,039.9	1,021.8	0.585	1,359.99	-71.53	1.046	0.155	94.681	3.458	0.555	0.032	0.045	0.010	0.006	0.012
08/02/2020	1,036.2	1,018.2	0.585	1,354.64	-59.26	1.282	0.176	94.645	3.204	0.550	0.043	0.061	0.014	0.009	0.017
08/03/2020	1,052.6	1,034.2	0.602	1,356.38	-53.56	1.913	0.172	91.520	5.241	0.993	0.047	0.084	0.011	0.008	0.012
08/04/2020	1,046.6	1,028.4	0.596	1,355.95	-60.11	1.721	0.137	92.415	4.944	0.665	0.035	0.051	0.010	0.007	0.014
08/05/2020	1,048.0	1,029.8	0.592	1,361.94	-54.96	1.262	0.156	93.428	4.229	0.777	0.045	0.065	0.013	0.009	0.017
08/06/2020	1,049.9	1,031.6	0.595	1,360.90	-49.75	1.387	0.187	93.001	4.340	0.922	0.051	0.071	0.014	0.009	0.018

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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	1,049.0	1,030.8	0.593	1,362.77	-53.52	1.236	0.160	93.311	4.401	0.760	0.040	0.053	0.013	0.008	0.018
08/08/2020	1,042.5	1,024.4	0.588	1,359.59	-65.69	1.233	0.135	93.984	3.951	0.592	0.033	0.041	0.010	0.006	0.015
08/09/2020	1,050.0	1,031.8	0.591	1,366.10	-62.86	1.076	0.117	93.635	4.254	0.803	0.037	0.050	0.009	0.006	0.012
08/10/2020	1,046.1	1,027.9	0.590	1,362.48	-59.75	1.156	0.139	93.897	3.920	0.762	0.041	0.053	0.011	0.007	0.015
08/11/2020	1,046.0	1,027.8	0.589	1,362.66	-60.03	1.132	0.142	93.937	3.927	0.731	0.041	0.055	0.012	0.007	0.015

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 = 52782