

## Gas Quality Reports

LS235 - On Sedalia 20" at Peculiar

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	1,048.3	1,030.0	0.609	1,343.19	-72.33	2.884	0.134	89.372	6.889	0.641	0.025	0.041	0.006	0.005	0.003
11/26/2019	1,057.1	1,038.7	0.613	1,350.30	-60.50	2.708	0.136	88.941	7.205	0.902	0.033	0.056	0.008	0.006	0.005
11/27/2019	1,052.5	1,034.2	0.610	1,347.80	-69.09	2.708	0.127	89.336	7.022	0.726	0.026	0.041	0.006	0.005	0.004
11/28/2019	1,057.8	1,039.4	0.612	1,352.42	-62.09	2.556	0.138	89.154	7.187	0.865	0.031	0.051	0.007	0.006	0.005
11/29/2019	1,052.2	1,033.9	0.610	1,347.69	-61.61	2.645	0.164	89.522	6.824	0.731	0.035	0.054	0.010	0.008	0.007
11/30/2019	1,054.8	1,036.4	0.612	1,348.42	-60.07	2.787	0.113	89.076	7.068	0.842	0.035	0.058	0.008	0.006	0.007
12/01/2019	1,047.7	1,029.5	0.609	1,342.86	-69.18	2.953	0.089	89.395	6.842	0.635	0.026	0.043	0.006	0.005	0.006
12/02/2019	1,056.5	1,038.1	0.614	1,347.85	-59.91	2.955	0.091	88.621	7.258	0.956	0.036	0.066	0.007	0.006	0.004
12/03/2019	1,066.4	1,047.8	0.617	1,357.25	-49.84	2.381	0.257	88.511	7.612	1.074	0.049	0.087	0.011	0.009	0.008
12/04/2019	1,069.2	1,050.6	0.618	1,360.15	-47.49	2.283	0.248	88.522	7.608	1.143	0.058	0.107	0.013	0.010	0.008
12/05/2019	1,068.1	1,049.5	0.618	1,358.53	-45.76	2.223	0.344	88.616	7.459	1.153	0.064	0.108	0.013	0.010	0.009
12/06/2019	1,071.0	1,052.4	0.619	1,361.28	-43.46	2.219	0.285	88.462	7.605	1.212	0.064	0.116	0.014	0.011	0.010
12/07/2019	1,078.4	1,059.6	0.623	1,366.34	-39.22	2.310	0.176	87.764	8.154	1.319	0.079	0.163	0.014	0.011	0.009
12/08/2019	1,055.9	1,037.5	0.613	1,348.55	-59.49	2.639	0.240	88.906	7.354	0.735	0.037	0.066	0.009	0.007	0.007
12/09/2019	1,054.0	1,035.6	0.610	1,349.30	-65.13	2.253	0.389	89.680	6.826	0.734	0.035	0.063	0.008	0.007	0.005
12/10/2019	1,055.8	1,037.5	0.609	1,353.08	-60.16	2.003	0.401	90.130	6.488	0.849	0.040	0.064	0.010	0.008	0.007
12/11/2019	1,074.3	1,055.6	0.619	1,365.59	-44.82	1.922	0.343	88.493	7.870	1.198	0.053	0.086	0.013	0.010	0.011
12/12/2019	1,063.1	1,044.6	0.613	1,358.35	-55.96	2.327	0.126	89.088	7.453	0.889	0.037	0.056	0.009	0.007	0.009
12/13/2019	1,069.3	1,050.6	0.616	1,361.82	-52.76	2.114	0.269	88.590	7.890	1.007	0.042	0.065	0.009	0.007	0.007
12/14/2019	1,069.9	1,051.3	0.616	1,362.64	-52.51	2.023	0.303	88.648	7.895	0.993	0.043	0.070	0.010	0.008	0.007
12/15/2019	1,067.2	1,048.7	0.616	1,359.99	-56.78	2.179	0.265	88.610	7.893	0.935	0.037	0.060	0.009	0.007	0.006
12/16/2019	1,068.2	1,049.6	0.617	1,360.45	-54.51	2.078	0.337	88.535	8.032	0.887	0.039	0.066	0.010	0.009	0.007
12/17/2019	1,071.0	1,052.4	0.617	1,363.38	-52.11	1.926	0.363	88.595	7.973	1.002	0.045	0.072	0.010	0.008	0.007
12/18/2019	1,065.4	1,046.8	0.614	1,359.06	-52.97	2.029	0.354	89.036	7.524	0.910	0.046	0.071	0.012	0.009	0.008
12/19/2019	1,066.7	1,048.2	0.616	1,359.63	-52.39	2.076	0.336	88.780	7.753	0.917	0.043	0.067	0.011	0.008	0.009
12/20/2019	1,063.6	1,045.1	0.615	1,356.65	-57.72	2.163	0.347	88.837	7.697	0.838	0.037	0.059	0.009	0.007	0.007
12/21/2019	1,060.6	1,042.1	0.611	1,356.55	-60.29	2.159	0.258	89.366	7.332	0.774	0.035	0.054	0.008	0.006	0.007
12/22/2019	1,060.2	1,041.7	0.612	1,354.92	-62.61	2.339	0.218	89.062	7.509	0.775	0.031	0.049	0.007	0.005	0.005
12/23/2019	1,062.7	1,044.2	0.614	1,355.97	-59.80	2.175	0.347	88.887	7.668	0.815	0.035	0.054	0.008	0.006	0.006
12/24/2019	1,064.7	1,046.2	0.615	1,357.27	-56.39	2.150	0.357	88.784	7.673	0.911	0.039	0.064	0.009	0.007	0.006
12/25/2019	1,062.3	1,043.8	0.616	1,353.86	-59.01	2.312	0.362	88.644	7.708	0.858	0.036	0.060	0.008	0.007	0.005
12/26/2019	1,058.6	1,040.2	0.613	1,352.12	-61.99	2.356	0.314	89.079	7.313	0.825	0.036	0.058	0.008	0.006	0.004
12/27/2019	1,067.1	1,048.5	0.615	1,360.22	-54.89	2.141	0.273	88.732	7.782	0.944	0.040	0.065	0.009	0.008	0.007
12/28/2019	1,063.6	1,045.0	0.614	1,357.59	-55.43	2.174	0.284	89.032	7.500	0.883	0.040	0.062	0.010	0.008	0.008
12/29/2019	1,063.6	1,045.1	0.616	1,355.43	-56.96	2.298	0.326	88.629	7.740	0.875	0.040	0.068	0.009	0.008	0.006
12/30/2019	1,065.2	1,046.6	0.616	1,356.62	-55.22	2.227	0.356	88.587	7.779	0.911	0.042	0.073	0.011	0.009	0.006
12/31/2019	1,067.0	1,048.4	0.616	1,359.32	-51.32	2.067	0.366	88.766	7.703	0.941	0.047	0.078	0.012	0.010	0.008
01/01/2020	1,065.2	1,046.6	0.616	1,357.49	-50.44	2.134	0.368	88.831	7.586	0.921	0.048	0.079	0.013	0.011	0.010
01/02/2020	1,056.6	1,038.2	0.612	1,350.12	-62.15	2.611	0.193	88.956	7.383	0.749	0.032	0.056	0.008	0.007	0.006
01/03/2020	1,053.9	1,035.5	0.610	1,349.53	-68.33	2.670	0.099	89.271	7.208	0.653	0.029	0.050	0.008	0.007	0.004
01/04/2020	1,056.0	1,037.6	0.610	1,351.82	-63.20	2.506	0.146	89.335	7.207	0.703	0.031	0.050	0.008	0.007	0.006
01/05/2020	1,066.1	1,047.6	0.615	1,359.07	-52.80	2.186	0.275	88.745	7.737	0.926	0.041	0.061	0.011	0.008	0.009
01/06/2020	1,060.6	1,042.2	0.613	1,354.82	-65.14	2.454	0.162	88.838	7.687	0.774	0.027	0.043	0.006	0.004	0.005

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01/07/2020	1,062.9	1,044.4	0.613	1,357.69	-59.55	2.275	0.192	89.049	7.491	0.889	0.035	0.052	0.007	0.005	0.006
01/08/2020	1,058.1	1,039.7	0.611	1,353.33	-57.44	2.309	0.259	89.459	6.987	0.862	0.042	0.058	0.009	0.006	0.009
01/09/2020	1,058.3	1,039.9	0.612	1,353.17	-58.76	2.474	0.168	89.253	7.111	0.877	0.040	0.056	0.008	0.005	0.007
01/10/2020	1,052.7	1,034.4	0.609	1,348.62	-70.50	2.709	0.086	89.418	6.963	0.738	0.030	0.045	0.005	0.004	0.003
01/11/2020	1,043.5	1,025.4	0.600	1,347.00	-135.75	2.116	0.273	91.369	5.609	0.553	0.026	0.039	0.006	0.005	0.004
01/12/2020	1,062.3	1,043.8	0.611	1,358.62	-56.86	2.159	0.195	89.465	7.143	0.915	0.041	0.060	0.009	0.006	0.008
01/13/2020	1,060.5	1,042.1	0.611	1,356.27	-53.22	2.252	0.210	89.498	6.962	0.937	0.046	0.067	0.011	0.007	0.010
01/14/2020	1,060.8	1,042.3	0.612	1,356.17	-53.65	2.328	0.173	89.357	7.075	0.939	0.041	0.061	0.009	0.007	0.010
01/15/2020	1,037.3	1,019.2	0.599	1,340.00	-138.92	2.467	0.230	91.328	5.456	0.462	0.018	0.029	0.004	0.003	0.004
01/16/2020	1,034.2	1,016.2	0.596	1,339.09	-141.67	2.105	0.419	92.126	4.858	0.420	0.020	0.035	0.006	0.005	0.006
01/17/2020	1,049.7	1,031.4	0.606	1,348.91	-66.72	2.277	0.258	90.408	6.266	0.697	0.030	0.045	0.007	0.005	0.008
01/18/2020	1,043.6	1,025.4	0.602	1,345.18	-134.87	2.306	0.250	90.975	5.828	0.568	0.023	0.035	0.005	0.004	0.005
01/19/2020	1,044.7	1,026.6	0.602	1,346.00	-71.87	2.177	0.326	91.051	5.730	0.619	0.029	0.048	0.008	0.006	0.006
01/20/2020	1,038.0	1,019.9	0.598	1,341.78	-138.78	2.043	0.432	91.847	5.101	0.492	0.024	0.041	0.007	0.006	0.007
01/21/2020	1,053.3	1,035.0	0.607	1,351.59	-61.14	2.106	0.336	90.288	6.359	0.799	0.035	0.055	0.008	0.006	0.008
01/22/2020	1,061.0	1,042.5	0.613	1,355.49	-58.64	2.309	0.231	89.168	7.264	0.918	0.037	0.055	0.007	0.005	0.007
01/23/2020	1,065.3	1,046.7	0.614	1,360.05	-55.26	2.080	0.263	89.191	7.336	1.001	0.043	0.063	0.010	0.006	0.007
01/24/2020	1,063.4	1,044.9	0.612	1,359.46	-56.49	2.152	0.190	89.356	7.241	0.941	0.040	0.058	0.008	0.006	0.008
01/25/2020	1,055.2	1,036.9	0.607	1,353.90	-61.91	2.096	0.276	90.187	6.538	0.798	0.033	0.051	0.008	0.006	0.008
01/26/2020	1,056.5	1,038.1	0.610	1,352.39	-60.63	2.455	0.165	89.437	7.042	0.801	0.032	0.048	0.008	0.005	0.008
01/27/2020	1,059.5	1,041.1	0.611	1,355.08	-59.42	2.355	0.178	89.272	7.264	0.830	0.033	0.047	0.008	0.005	0.008
01/28/2020	1,051.6	1,033.3	0.609	1,347.23	-66.31	2.708	0.131	89.428	6.946	0.704	0.027	0.038	0.007	0.005	0.007
01/29/2020	1,058.9	1,040.5	0.612	1,353.76	-60.00	2.470	0.155	89.124	7.335	0.820	0.031	0.045	0.008	0.005	0.008
01/30/2020	1,064.1	1,045.6	0.614	1,358.52	-56.92	2.242	0.206	89.013	7.477	0.945	0.039	0.059	0.008	0.005	0.007
01/31/2020	1,060.9	1,042.5	0.612	1,356.04	-59.00	2.293	0.210	89.209	7.322	0.847	0.039	0.059	0.008	0.006	0.007
02/01/2020	1,062.0	1,043.5	0.613	1,356.87	-60.13	2.358	0.154	88.999	7.558	0.824	0.035	0.052	0.007	0.005	0.006
02/02/2020	1,057.6	1,039.2	0.612	1,351.51	-65.37	2.581	0.168	88.980	7.365	0.812	0.033	0.049	0.005	0.004	0.004
02/03/2020	1,061.2	1,042.7	0.614	1,354.00	-59.89	2.394	0.266	88.799	7.591	0.824	0.038	0.066	0.010	0.008	0.004
02/04/2020	1,059.6	1,041.2	0.614	1,352.33	-61.32	2.465	0.262	88.806	7.546	0.804	0.035	0.061	0.008	0.007	0.004
02/05/2020	1,034.9	1,016.9	0.597	1,339.84	-141.29	2.076	0.420	92.106	4.901	0.421	0.021	0.037	0.006	0.006	0.005
02/06/2020	1,049.9	1,031.6	0.605	1,349.31	-66.01	2.199	0.293	90.482	6.247	0.672	0.031	0.052	0.008	0.007	0.008
02/07/2020	1,054.2	1,035.9	0.609	1,351.07	-59.91	2.489	0.144	89.720	6.759	0.759	0.039	0.063	0.011	0.008	0.008
02/08/2020	1,059.3	1,040.9	0.611	1,355.14	-47.97	2.303	0.200	89.623	6.772	0.936	0.051	0.076	0.014	0.010	0.014
02/09/2020	1,065.0	1,046.4	0.614	1,359.01	-52.08	2.381	0.113	88.897	7.468	1.010	0.041	0.065	0.009	0.007	0.010
02/10/2020	1,058.8	1,040.4	0.610	1,356.22	-61.31	2.344	0.098	89.507	7.188	0.761	0.032	0.048	0.008	0.006	0.008
02/11/2020	1,061.6	1,043.1	0.611	1,358.65	-58.40	2.214	0.136	89.471	7.220	0.840	0.037	0.057	0.009	0.007	0.008
02/12/2020	1,055.6	1,037.3	0.608	1,353.58	-62.36	2.387	0.115	89.800	6.832	0.757	0.033	0.054	0.009	0.007	0.007
02/13/2020	1,032.7	1,014.7	0.596	1,337.65	-142.28	2.127	0.436	92.258	4.671	0.425	0.022	0.040	0.007	0.006	0.007
02/14/2020	1,049.9	1,031.6	0.607	1,347.75	-61.42	2.189	0.384	90.437	6.080	0.789	0.038	0.058	0.008	0.006	0.009
02/15/2020	1,066.0	1,047.4	0.618	1,356.48	-52.19	2.231	0.386	88.601	7.522	1.123	0.048	0.070	0.008	0.005	0.007
02/16/2020	1,066.2	1,047.7	0.616	1,358.30	-56.19	2.120	0.365	88.767	7.574	1.049	0.045	0.064	0.007	0.004	0.005
02/17/2020	1,057.4	1,039.0	0.611	1,352.48	-65.57	2.462	0.185	89.275	7.139	0.843	0.034	0.049	0.005	0.004	0.004
02/18/2020	1,059.4	1,041.0	0.612	1,354.37	-62.65	2.375	0.199	89.273	7.135	0.909	0.038	0.055	0.007	0.004	0.004

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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%)
02/19/2020	1,059.2	1,040.8	0.612	1,354.04	-60.38	2.386	0.205	89.260	7.136	0.901	0.039	0.055	0.007	0.005	0.006
02/20/2020	1,063.8	1,045.3	0.612	1,359.81	-57.26	2.123	0.200	89.415	7.146	0.988	0.044	0.064	0.009	0.006	0.006
02/21/2020	1,047.9	1,029.6	0.603	1,349.06	-63.45	2.181	0.253	90.951	5.778	0.717	0.037	0.058	0.009	0.007	0.009
02/22/2020	1,062.2	1,043.7	0.611	1,358.64	-53.27	2.264	0.121	89.501	6.986	0.997	0.042	0.064	0.009	0.006	0.010
02/23/2020	1,056.9	1,038.5	0.609	1,353.76	-61.66	2.480	0.083	89.501	7.053	0.779	0.035	0.050	0.007	0.005	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 = 68421