

Gas Quality Reports

LS190 - KC 26" at Ottawa X-Over

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	1,033.0	1,033.0	0.596	1,337.66	-144.13	1.985	0.538	91.999	5.229	0.221	0.007	0.011	0.003	0.002	0.005
11/26/2019	1,033.6	1,033.6	0.596	1,339.28	-144.18	1.897	0.528	92.151	5.170	0.224	0.008	0.013	0.003	0.003	0.005
11/27/2019	1,038.0	1,038.0	0.599	1,341.40	-139.66	1.967	0.506	91.658	5.445	0.369	0.015	0.026	0.005	0.004	0.005
11/28/2019	1,038.1	1,038.1	0.597	1,343.12	-140.73	1.858	0.486	91.853	5.454	0.309	0.011	0.018	0.003	0.003	0.005
11/29/2019	1,036.1	1,036.1	0.596	1,341.54	-142.14	1.891	0.486	91.996	5.318	0.272	0.009	0.016	0.003	0.003	0.005
11/30/2019	1,032.6	1,032.6	0.595	1,338.16	-144.38	1.981	0.501	92.204	5.012	0.266	0.009	0.016	0.003	0.003	0.005
12/01/2019	1,035.7	1,035.7	0.596	1,342.18	-143.45	1.819	0.488	92.087	5.399	0.187	0.005	0.008	0.002	0.002	0.004
12/02/2019	1,037.0	1,037.0	0.596	1,343.10	-142.29	1.810	0.482	92.026	5.419	0.233	0.007	0.013	0.002	0.002	0.004
12/03/2019	1,036.7	1,036.7	0.596	1,342.39	-142.37	1.847	0.486	91.955	5.465	0.219	0.007	0.011	0.002	0.002	0.005
12/04/2019	1,035.3	1,035.3	0.596	1,341.38	-143.00	1.886	0.474	92.104	5.256	0.249	0.008	0.014	0.003	0.002	0.005
12/05/2019	1,033.4	1,033.4	0.594	1,341.09	-144.49	1.807	0.478	92.626	4.756	0.273	0.014	0.028	0.006	0.006	0.006
12/06/2019	1,031.2	1,031.2	0.593	1,338.99	-146.19	1.868	0.485	92.678	4.679	0.250	0.010	0.018	0.003	0.003	0.005
12/07/2019	1,029.9	1,029.9	0.592	1,337.99	-147.31	1.908	0.471	92.735	4.648	0.204	0.008	0.015	0.003	0.003	0.005
12/08/2019	1,039.9	1,039.9	0.600	1,342.70	-137.93	2.038	0.448	91.469	5.543	0.436	0.018	0.033	0.005	0.004	0.006
12/09/2019	1,029.2	1,029.2	0.593	1,336.64	-147.49	1.980	0.477	92.638	4.660	0.218	0.007	0.012	0.002	0.002	0.003
12/10/2019	1,029.6	1,029.6	0.593	1,337.47	-147.24	1.935	0.472	92.743	4.581	0.231	0.010	0.017	0.003	0.003	0.005
12/11/2019	1,027.5	1,027.5	0.591	1,336.41	-148.74	1.942	0.460	93.024	4.311	0.221	0.010	0.018	0.004	0.004	0.006
12/12/2019	1,028.4	1,028.4	0.592	1,336.67	-147.96	1.940	0.478	92.866	4.450	0.229	0.010	0.017	0.003	0.003	0.006
12/13/2019	1,030.5	1,030.5	0.593	1,338.12	-146.30	1.935	0.465	92.695	4.590	0.270	0.012	0.020	0.004	0.004	0.005
12/14/2019	1,032.2	1,032.2	0.595	1,337.95	-144.20	1.986	0.495	92.353	4.789	0.322	0.015	0.026	0.005	0.004	0.005
12/15/2019	1,027.6	1,027.6	0.593	1,334.73	-147.97	2.031	0.497	92.721	4.485	0.227	0.010	0.017	0.004	0.003	0.005
12/16/2019	1,027.4	1,027.4	0.591	1,336.38	-149.19	1.931	0.466	92.996	4.386	0.186	0.008	0.015	0.003	0.003	0.005
12/17/2019	1,029.1	1,029.1	0.591	1,338.80	-148.53	1.851	0.441	93.001	4.496	0.178	0.007	0.013	0.003	0.003	0.005
12/18/2019	1,030.4	1,030.4	0.592	1,339.66	-147.69	1.838	0.444	92.833	4.695	0.163	0.006	0.011	0.003	0.003	0.006
12/19/2019	1,031.1	1,031.1	0.592	1,340.56	-147.07	1.791	0.447	92.918	4.598	0.209	0.009	0.016	0.003	0.003	0.006
12/20/2019	1,030.3	1,030.3	0.591	1,340.29	-148.03	1.763	0.456	93.012	4.568	0.170	0.007	0.012	0.003	0.003	0.006
12/21/2019	1,029.4	1,029.4	0.590	1,339.70	-148.70	1.761	0.461	93.114	4.471	0.159	0.007	0.013	0.004	0.004	0.006
12/22/2019	1,029.1	1,029.1	0.592	1,337.88	-147.87	1.864	0.481	92.944	4.461	0.209	0.010	0.017	0.004	0.004	0.007
12/23/2019	1,026.8	1,026.8	0.590	1,336.60	-149.99	1.869	0.476	93.169	4.293	0.160	0.007	0.012	0.003	0.003	0.007
12/24/2019	1,053.2	1,053.2	0.608	1,350.42	-66.73	2.135	0.379	89.972	6.749	0.670	0.028	0.047	0.007	0.006	0.007
12/25/2019	1,054.4	1,054.4	0.610	1,349.56	-67.24	2.266	0.381	89.538	7.007	0.713	0.029	0.049	0.007	0.006	0.005
12/26/2019	1,032.4	1,032.4	0.594	1,339.29	-144.78	1.935	0.464	92.452	4.823	0.280	0.012	0.020	0.005	0.004	0.005
12/27/2019	1,026.5	1,026.5	0.590	1,336.14	-149.96	1.881	0.482	93.214	4.200	0.185	0.009	0.015	0.004	0.004	0.007
12/28/2019	1,048.9	1,048.9	0.605	1,348.61	-70.72	2.088	0.374	90.560	6.294	0.597	0.026	0.042	0.007	0.006	0.007
12/29/2019	1,035.2	1,035.2	0.596	1,340.73	-142.00	1.990	0.437	92.110	5.064	0.340	0.015	0.028	0.005	0.005	0.005
12/30/2019	1,027.2	1,027.2	0.591	1,336.39	-149.20	1.894	0.485	93.093	4.282	0.205	0.010	0.017	0.004	0.004	0.006
12/31/2019	1,029.0	1,029.0	0.592	1,337.00	-147.30	1.917	0.491	92.872	4.417	0.253	0.012	0.022	0.005	0.004	0.006
01/01/2020	1,026.2	1,026.2	0.589	1,336.71	-150.40	1.829	0.476	93.395	4.070	0.186	0.010	0.018	0.004	0.004	0.008
01/02/2020	1,022.2	1,022.2	0.587	1,334.13	-154.10	1.870	0.462	93.834	3.621	0.174	0.009	0.016	0.004	0.004	0.007
01/03/2020	1,025.6	1,025.6	0.590	1,335.56	-150.33	1.913	0.465	93.338	4.012	0.226	0.011	0.020	0.004	0.004	0.006
01/04/2020	1,025.1	1,025.1	0.589	1,335.24	-150.76	1.916	0.464	93.400	3.961	0.214	0.011	0.019	0.004	0.004	0.007
01/05/2020	1,029.3	1,029.3	0.593	1,337.08	-146.53	1.990	0.448	92.836	4.360	0.308	0.015	0.025	0.005	0.005	0.007
01/06/2020	1,027.3	1,027.3	0.591	1,336.23	-148.42	1.931	0.471	93.142	4.120	0.280	0.014	0.026	0.005	0.005	0.007

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01/07/2020	1,023.9	1,023.9	0.589	1,334.65	-151.70	1.916	0.458	93.571	3.788	0.220	0.011	0.020	0.004	0.004	0.007
01/08/2020	1,020.3	1,020.3	0.586	1,333.08	-155.73	1.900	0.441	94.024	3.446	0.152	0.007	0.014	0.003	0.003	0.008
01/09/2020	1,019.5	1,019.5	0.586	1,331.74	-156.15	1.944	0.461	93.956	3.467	0.140	0.006	0.012	0.003	0.003	0.007
01/10/2020	1,021.7	1,021.7	0.587	1,334.07	-154.87	1.884	0.441	93.882	3.599	0.163	0.007	0.013	0.003	0.003	0.005
01/11/2020	1,024.9	1,024.9	0.588	1,336.85	-151.80	1.826	0.429	93.704	3.782	0.215	0.011	0.020	0.004	0.004	0.006
01/12/2020	1,027.2	1,027.2	0.590	1,337.53	-149.55	1.856	0.445	93.311	4.119	0.224	0.011	0.020	0.004	0.004	0.006
01/13/2020	1,025.8	1,025.8	0.589	1,336.60	-150.17	1.867	0.445	93.506	3.891	0.234	0.013	0.025	0.005	0.005	0.009
01/14/2020	1,020.7	1,020.7	0.585	1,334.20	-155.84	1.856	0.423	94.110	3.435	0.140	0.007	0.014	0.004	0.004	0.008
01/15/2020	1,022.9	1,022.9	0.588	1,334.26	-152.88	1.983	0.405	93.609	3.779	0.188	0.009	0.016	0.004	0.003	0.005
01/16/2020	1,025.7	1,025.7	0.590	1,335.90	-150.40	1.937	0.435	93.313	4.064	0.209	0.010	0.018	0.004	0.004	0.006
01/17/2020	1,024.9	1,007.1	0.588	1,336.64	-151.73	1.834	0.437	93.611	3.910	0.167	0.008	0.016	0.004	0.004	0.008
01/18/2020	1,027.1	1,027.1	0.590	1,336.80	-149.40	1.920	0.439	93.176	4.205	0.219	0.010	0.018	0.004	0.004	0.006
01/19/2020	1,027.5	1,009.7	0.590	1,337.45	-148.67	1.910	0.425	93.252	4.109	0.239	0.015	0.030	0.007	0.007	0.007
01/20/2020	1,027.5	1,027.5	0.591	1,337.03	-148.97	1.908	0.447	93.148	4.232	0.220	0.010	0.019	0.004	0.004	0.007
01/21/2020	1,025.5	1,025.5	0.589	1,336.09	-150.68	1.892	0.448	93.403	4.025	0.189	0.009	0.017	0.004	0.004	0.008
01/22/2020	1,028.1	1,028.1	0.592	1,336.76	-147.81	1.937	0.462	93.027	4.256	0.263	0.013	0.024	0.005	0.005	0.008
01/23/2020	1,030.1	1,030.1	0.593	1,337.46	-145.58	1.987	0.456	92.754	4.398	0.338	0.017	0.031	0.006	0.005	0.007
01/24/2020	1,023.3	1,023.3	0.588	1,334.76	-152.75	1.899	0.447	93.636	3.817	0.165	0.008	0.015	0.004	0.004	0.007
01/25/2020	1,029.7	1,029.7	0.593	1,336.67	-145.63	2.010	0.471	92.722	4.393	0.335	0.017	0.032	0.006	0.006	0.007
01/26/2020	1,027.0	1,027.0	0.591	1,336.06	-148.63	1.967	0.446	93.134	4.138	0.260	0.013	0.024	0.005	0.005	0.008
01/27/2020	1,031.2	1,031.2	0.595	1,337.29	-144.23	2.040	0.464	92.520	4.535	0.368	0.019	0.034	0.006	0.006	0.007
01/28/2020	1,024.3	1,024.3	0.590	1,333.87	-151.14	2.007	0.454	93.261	4.056	0.186	0.008	0.015	0.003	0.004	0.006
01/29/2020	1,023.4	1,023.4	0.589	1,333.27	-151.79	2.002	0.462	93.381	3.933	0.180	0.009	0.018	0.004	0.004	0.007
01/30/2020	1,029.8	1,029.8	0.594	1,336.27	-145.09	2.054	0.467	92.664	4.377	0.363	0.019	0.036	0.006	0.006	0.008
01/31/2020	1,024.9	1,024.9	0.589	1,335.71	-150.99	1.924	0.429	93.479	3.908	0.213	0.011	0.020	0.004	0.004	0.007
02/01/2020	1,024.3	1,024.3	0.588	1,335.34	-151.51	1.917	0.432	93.565	3.843	0.195	0.010	0.020	0.004	0.005	0.009
02/02/2020	1,036.0	1,036.0	0.598	1,339.39	-139.63	2.241	0.371	91.725	5.142	0.447	0.020	0.035	0.006	0.005	0.009
02/03/2020	1,021.4	1,021.4	0.587	1,332.73	-154.43	1.956	0.458	93.712	3.685	0.154	0.007	0.014	0.004	0.004	0.006
02/04/2020	1,021.4	1,021.4	0.586	1,334.27	-155.35	1.870	0.430	93.954	3.581	0.133	0.006	0.013	0.003	0.004	0.006
02/05/2020	1,021.7	1,021.7	0.587	1,333.32	-154.19	1.940	0.447	93.743	3.672	0.161	0.008	0.015	0.004	0.004	0.007
02/06/2020	1,025.4	1,025.4	0.591	1,333.86	-149.35	2.033	0.473	93.108	4.087	0.246	0.012	0.023	0.005	0.005	0.008
02/07/2020	1,025.3	1,025.3	0.591	1,334.04	-149.57	2.017	0.470	93.177	4.032	0.250	0.013	0.025	0.005	0.005	0.007
02/08/2020	1,025.4	1,025.4	0.590	1,335.25	-150.13	1.934	0.461	93.351	3.985	0.218	0.011	0.022	0.005	0.005	0.009
02/09/2020	1,023.7	1,023.7	0.588	1,335.04	-152.25	1.904	0.439	93.621	3.814	0.180	0.008	0.017	0.004	0.004	0.008
02/10/2020	1,028.7	1,028.7	0.593	1,336.16	-146.36	2.010	0.465	92.873	4.258	0.322	0.017	0.032	0.006	0.006	0.009
02/11/2020	1,026.2	1,026.2	0.591	1,335.24	-148.98	1.980	0.458	93.188	4.059	0.256	0.014	0.026	0.005	0.005	0.009
02/12/2020	1,021.9	1,021.9	0.588	1,332.84	-153.31	1.972	0.458	93.633	3.728	0.169	0.009	0.017	0.004	0.004	0.006
02/13/2020	1,023.0	1,023.0	0.590	1,332.05	-151.42	2.072	0.470	93.291	3.904	0.215	0.011	0.022	0.004	0.005	0.006
02/14/2020	1,023.3	1,023.3	0.589	1,333.38	-151.60	1.998	0.457	93.439	3.863	0.195	0.010	0.020	0.004	0.005	0.008
02/15/2020	1,026.4	1,026.4	0.591	1,334.85	-148.76	2.010	0.465	93.065	4.159	0.249	0.012	0.023	0.005	0.005	0.008
02/16/2020	1,023.7	1,023.7	0.588	1,335.35	-152.36	1.888	0.432	93.661	3.811	0.168	0.007	0.015	0.003	0.004	0.010
02/17/2020	1,023.4	1,023.4	0.587	1,335.27	-152.89	1.887	0.428	93.699	3.790	0.160	0.007	0.014	0.003	0.004	0.008
02/18/2020	1,024.6	1,024.6	0.589	1,334.85	-151.22	1.956	0.443	93.381	3.993	0.186	0.009	0.018	0.004	0.004	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%)
02/19/2020	1,028.1	1,028.1	0.593	1,334.73	-146.59	2.085	0.477	92.716	4.351	0.306	0.016	0.031	0.006	0.006	0.007
02/20/2020	1,026.1	1,026.1	0.592	1,333.97	-148.64	2.062	0.469	92.983	4.176	0.253	0.013	0.026	0.005	0.006	0.007
02/21/2020	1,029.6	1,029.6	0.595	1,334.83	-144.21	2.133	0.489	92.509	4.386	0.393	0.023	0.043	0.008	0.008	0.009
02/22/2020	1,025.7	1,025.7	0.592	1,333.14	-148.31	2.101	0.476	92.951	4.149	0.258	0.014	0.028	0.006	0.006	0.010
02/23/2020	1,026.4	1,026.4	0.591	1,334.79	-148.46	2.020	0.463	93.038	4.188	0.232	0.012	0.025	0.005	0.006	0.011

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 = 48161