

## Gas Quality Reports

North Wichita

5/17/2019 - 8/17/2019

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%)
05/17/2019	1,023.8	1,006.0	0.583	1,341.48	-156.43	1.413	0.417	94.772	3.178	0.183	0.009	0.018	0.003	0.003	0.002
05/18/2019	1,024.6	1,006.8	0.582	1,342.82	-156.14	1.377	0.392	94.830	3.168	0.200	0.010	0.017	0.003	0.003	0.002
05/19/2019	1,022.7	1,004.9	0.581	1,341.13	-157.57	1.443	0.379	94.935	3.033	0.176	0.009	0.017	0.003	0.003	0.003
05/20/2019	1,023.0	1,005.2	0.582	1,341.04	-156.96	1.490	0.363	94.824	3.118	0.166	0.010	0.018	0.004	0.004	0.004
05/21/2019	1,023.3	1,005.5	0.582	1,341.28	-155.71	1.529	0.335	94.867	2.989	0.213	0.016	0.033	0.007	0.007	0.006
05/22/2019	1,023.7	1,005.9	0.583	1,340.70	-155.20	1.575	0.349	94.624	3.209	0.188	0.013	0.025	0.005	0.005	0.007
05/23/2019	1,023.9	1,006.1	0.583	1,341.40	-155.83	1.590	0.306	94.608	3.287	0.171	0.009	0.017	0.004	0.004	0.004
05/24/2019	1,025.6	1,007.8	0.584	1,342.14	-154.58	1.526	0.362	94.389	3.519	0.171	0.008	0.015	0.003	0.003	0.003
05/25/2019	1,029.3	1,011.4	0.586	1,344.91	-150.53	1.497	0.347	94.147	3.700	0.249	0.016	0.028	0.006	0.006	0.005
05/26/2019	1,027.1	1,009.2	0.584	1,343.57	-152.88	1.474	0.366	94.355	3.573	0.189	0.010	0.019	0.004	0.005	0.005
05/27/2019	1,030.1	1,012.2	0.588	1,343.83	-149.23	1.526	0.410	93.839	3.914	0.256	0.013	0.024	0.005	0.005	0.007
05/28/2019	1,032.1	1,014.2	0.588	1,345.99	-147.60	1.468	0.394	93.831	3.922	0.316	0.018	0.031	0.006	0.005	0.008
05/29/2019	1,027.8	1,009.9	0.585	1,344.04	-151.96	1.449	0.378	94.334	3.582	0.203	0.013	0.023	0.005	0.005	0.008
05/30/2019	1,025.8	1,008.0	0.584	1,342.36	-154.13	1.545	0.344	94.390	3.504	0.174	0.011	0.020	0.004	0.004	0.004
05/31/2019	1,026.5	1,008.6	0.584	1,343.01	-152.93	1.419	0.413	94.517	3.370	0.225	0.014	0.025	0.005	0.005	0.007
06/01/2019	1,025.8	1,008.0	0.583	1,342.98	-154.55	1.407	0.402	94.601	3.334	0.218	0.010	0.017	0.003	0.003	0.004
06/02/2019	1,025.2	1,007.4	0.583	1,343.02	-155.04	1.386	0.394	94.780	3.180	0.207	0.013	0.026	0.005	0.005	0.005
06/03/2019	1,026.0	1,008.2	0.584	1,342.23	-152.50	1.474	0.403	94.602	3.119	0.332	0.020	0.036	0.005	0.004	0.005
06/04/2019	1,024.0	1,006.2	0.582	1,342.66	-156.91	1.344	0.405	94.914	3.134	0.169	0.009	0.016	0.003	0.003	0.003
06/05/2019	1,025.4	1,007.6	0.582	1,344.33	-156.02	1.185	0.462	95.030	3.083	0.192	0.012	0.023	0.005	0.005	0.003
06/06/2019	1,021.6	1,003.8	0.581	1,340.75	-159.41	1.376	0.411	95.047	3.050	0.099	0.004	0.007	0.001	0.002	0.003
06/07/2019	1,024.0	1,006.2	0.582	1,342.50	-157.16	1.231	0.487	94.985	3.096	0.171	0.008	0.015	0.003	0.002	0.003
06/08/2019	1,022.9	1,005.1	0.580	1,342.97	-159.09	1.199	0.449	95.243	2.949	0.137	0.006	0.012	0.002	0.002	0.001
06/09/2019	1,022.9	1,005.1	0.579	1,343.82	-159.61	1.114	0.459	95.419	2.853	0.127	0.007	0.015	0.003	0.003	0.001
06/10/2019	1,025.2	1,007.4	0.585	1,340.78	-154.84	1.323	0.556	94.468	3.458	0.157	0.008	0.017	0.004	0.005	0.004
06/11/2019	1,023.8	1,006.0	0.582	1,341.51	-156.99	1.219	0.542	94.919	3.121	0.160	0.009	0.020	0.003	0.003	0.003
06/12/2019	1,022.5	1,004.7	0.582	1,340.21	-158.33	1.255	0.549	94.902	3.161	0.114	0.004	0.007	0.001	0.002	0.003
06/13/2019	1,022.2	1,004.4	0.582	1,339.59	-158.37	1.357	0.504	94.824	3.164	0.137	0.005	0.008	0.001	0.001	0.001
06/14/2019	1,025.5	1,007.6	0.584	1,341.78	-155.43	1.329	0.507	94.506	3.453	0.191	0.005	0.008	0.001	0.001	0
06/15/2019	1,024.3	1,006.5	0.584	1,340.04	-156.29	1.360	0.545	94.427	3.524	0.133	0.004	0.006	0	0	0
06/16/2019	1,023.4	1,005.6	0.582	1,341.04	-158.08	1.263	0.525	94.793	3.298	0.111	0.003	0.006	0	0	0
06/17/2019	1,022.2	1,004.4	0.582	1,339.96	-158.98	1.267	0.543	94.909	3.154	0.116	0.004	0.007	0	0	0
06/18/2019	1,021.0	1,003.3	0.582	1,338.53	-159.08	1.405	0.494	94.902	3.034	0.147	0.006	0.010	0.001	0.001	0
06/19/2019	1,040.4	1,022.3	0.597	1,347.07	-138.77	1.797	0.379	92.272	4.913	0.557	0.025	0.042	0.006	0.005	0.004
06/20/2019	1,069.5	1,050.9	0.616	1,362.36	-48.19	2.059	0.280	88.940	7.335	1.221	0.053	0.083	0.011	0.008	0.009
06/21/2019	1,073.8	1,055.2	0.621	1,363.05	-45.99	2.086	0.363	88.274	7.753	1.340	0.059	0.098	0.012	0.010	0.007
06/22/2019	1,068.5	1,049.9	0.618	1,359.29	-45.79	2.152	0.359	88.777	7.246	1.284	0.057	0.094	0.012	0.010	0.009
06/23/2019	1,063.7	1,045.2	0.614	1,357.60	-48.37	2.119	0.321	89.487	6.692	1.191	0.058	0.098	0.013	0.011	0.009
06/24/2019	1,060.9	1,042.5	0.611	1,357.37	-56.99	2.022	0.311	89.867	6.593	1.062	0.047	0.076	0.009	0.007	0.006
06/25/2019	1,061.8	1,043.3	0.611	1,358.16	-56.83	1.978	0.323	89.805	6.713	1.040	0.046	0.073	0.009	0.007	0.006
06/26/2019	1,025.1	1,007.3	0.581	1,344.34	-156.31	1.280	0.390	95.020	3.039	0.239	0.010	0.018	0.002	0.002	0.001
06/27/2019	1,021.8	1,004.0	0.578	1,343.97	-161.26	1.136	0.402	95.613	2.714	0.119	0.005	0.009	0.001	0.001	0
06/28/2019	1,038.2	1,020.1	0.593	1,348.04	-141.12	1.613	0.376	92.976	4.458	0.474	0.026	0.050	0.009	0.009	0.008

## Gas Quality Reports

North Wichita

5/17/2019 - 8/17/2019

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%)
06/29/2019	1,046.1	1,027.9	0.601	1,348.95	-69.36	2.045	0.291	91.344	5.541	0.671	0.031	0.053	0.009	0.008	0.007
06/30/2019	1,023.9	1,006.1	0.579	1,345.53	-158.65	1.097	0.410	95.508	2.781	0.163	0.010	0.021	0.004	0.004	0.002
07/01/2019	1,026.1	1,008.2	0.581	1,346.19	-155.02	1.128	0.419	95.302	2.851	0.210	0.019	0.044	0.010	0.011	0.008
07/02/2019	1,024.9	1,007.1	0.580	1,345.86	-156.11	1.125	0.403	95.481	2.710	0.196	0.017	0.038	0.009	0.010	0.011
07/03/2019	1,047.9	1,029.6	0.607	1,345.46	-68.62	2.679	0.126	90.065	6.288	0.741	0.031	0.052	0.007	0.007	0.005
07/04/2019	1,045.1	1,026.9	0.609	1,339.34	-74.67	3.153	0.071	89.334	6.676	0.694	0.024	0.039	0.004	0.004	0.002
07/05/2019	1,044.2	1,026.1	0.609	1,338.57	-74.40	3.173	0.071	89.387	6.621	0.676	0.023	0.038	0.005	0.004	0.003
07/06/2019	1,042.1	1,024.0	0.602	1,343.10	-134.86	2.547	0.161	90.870	5.730	0.608	0.025	0.043	0.006	0.006	0.004
07/07/2019	1,023.8	1,006.0	0.580	1,344.46	-158.62	1.150	0.428	95.314	2.933	0.145	0.008	0.016	0.002	0.003	0.002
07/08/2019	1,033.8	1,015.8	0.589	1,347.29	-146.48	1.432	0.398	93.750	3.974	0.370	0.021	0.038	0.006	0.006	0.004
07/09/2019	1,022.8	1,005.0	0.579	1,343.77	-159.44	1.202	0.401	95.361	2.871	0.143	0.006	0.011	0.001	0.001	0.002
07/10/2019	1,022.8	1,005.0	0.579	1,343.61	-159.95	1.165	0.434	95.310	2.968	0.112	0.004	0.006	0	0	0
07/11/2019	1,034.2	1,016.2	0.586	1,350.71	-147.92	1.090	0.451	94.330	3.735	0.316	0.019	0.039	0.006	0.008	0.006
07/12/2019	1,036.2	1,018.2	0.588	1,351.91	-63.13	1.048	0.477	94.320	3.650	0.352	0.031	0.074	0.016	0.019	0.014
07/13/2019	1,034.4	1,016.4	0.585	1,352.16	-148.93	1.046	0.411	94.381	3.848	0.259	0.013	0.027	0.004	0.006	0.005
07/14/2019	1,031.0	1,013.0	0.581	1,352.34	-154.10	0.956	0.355	95.042	3.404	0.229	0.006	0.009	0	0	0
07/15/2019	1,041.0	1,022.9	0.592	1,353.04	-142.66	1.245	0.436	93.036	4.891	0.360	0.012	0.017	0.001	0.001	0.001
07/16/2019	1,036.6	1,018.5	0.588	1,351.57	-147.37	1.104	0.471	93.732	4.417	0.258	0.007	0.010	0	0	0
07/17/2019	1,035.3	1,017.2	0.587	1,351.00	-148.48	1.117	0.453	93.907	4.256	0.249	0.007	0.010	0	0	0
07/18/2019	1,037.7	1,019.6	0.589	1,351.83	-146.14	1.146	0.464	93.543	4.537	0.286	0.009	0.013	0	0	0
07/19/2019	1,035.8	1,017.8	0.589	1,349.72	-147.50	1.161	0.510	93.586	4.493	0.233	0.007	0.010	0	0	0
07/20/2019	1,036.8	1,018.8	0.588	1,351.77	-147.34	1.052	0.502	93.753	4.423	0.252	0.007	0.011	0.001	0	0
07/21/2019	1,036.3	1,018.2	0.588	1,351.77	-147.68	1.066	0.475	93.869	4.311	0.253	0.008	0.014	0.001	0.001	0.001
07/22/2019	1,035.4	1,017.4	0.587	1,350.92	-148.29	1.115	0.462	93.885	4.263	0.255	0.008	0.011	0	0	0
07/23/2019	1,034.2	1,016.2	0.586	1,350.62	-149.40	1.128	0.435	94.041	4.147	0.231	0.008	0.011	0	0	0
07/24/2019	1,033.6	1,015.6	0.585	1,350.84	-150.25	1.120	0.407	94.197	4.041	0.218	0.007	0.010	0	0	0
07/25/2019	1,032.5	1,014.6	0.585	1,350.23	-150.98	1.106	0.418	94.342	3.905	0.205	0.008	0.014	0.001	0.001	0.001
07/26/2019	1,034.4	1,016.4	0.586	1,351.55	-149.49	1.040	0.448	94.209	4.042	0.234	0.008	0.014	0.001	0.002	0.001
07/27/2019	1,035.2	1,017.2	0.585	1,353.42	-149.66	0.977	0.413	94.330	4.013	0.249	0.007	0.010	0	0	0
07/28/2019	1,033.6	1,015.6	0.584	1,352.13	-150.80	0.989	0.426	94.469	3.860	0.240	0.007	0.010	0	0	0
07/29/2019	1,033.7	1,015.7	0.585	1,351.71	-150.22	1.009	0.437	94.442	3.819	0.264	0.011	0.015	0.001	0.001	0.001
07/30/2019	1,033.2	1,015.3	0.585	1,351.10	-150.76	1.014	0.453	94.401	3.877	0.237	0.007	0.011	0	0	0
07/31/2019	1,033.0	1,015.0	0.585	1,350.59	-150.69	1.018	0.469	94.412	3.829	0.246	0.009	0.014	0.001	0.001	0
08/01/2019	1,032.5	1,014.6	0.584	1,350.68	-151.46	1.006	0.458	94.475	3.833	0.208	0.007	0.011	0.001	0.001	0
08/02/2019	1,036.0	1,018.0	0.588	1,351.66	-147.78	1.065	0.475	93.936	4.202	0.301	0.009	0.012	0	0	0
08/03/2019	1,038.9	1,020.9	0.589	1,353.60	-145.15	1.061	0.462	93.707	4.351	0.383	0.014	0.020	0.002	0.001	0
08/04/2019	1,039.7	1,021.6	0.592	1,351.59	-143.46	1.202	0.502	93.147	4.772	0.342	0.013	0.019	0.002	0.001	0
08/05/2019	1,040.8	1,022.7	0.592	1,352.28	-142.96	1.219	0.490	92.919	5.042	0.309	0.009	0.010	0	0	0
08/06/2019	1,039.4	1,021.3	0.591	1,351.72	-144.44	1.209	0.481	93.141	4.858	0.293	0.008	0.010	0	0	0
08/07/2019	1,040.4	1,022.3	0.592	1,351.95	-143.25	1.243	0.477	92.948	5.005	0.307	0.008	0.010	0	0	0
08/08/2019	1,042.8	1,024.6	0.592	1,355.39	-141.40	1.152	0.424	93.125	4.882	0.360	0.016	0.028	0.004	0.005	0.004
08/09/2019	1,039.9	1,021.8	0.589	1,355.24	-144.90	1.102	0.377	93.634	4.514	0.338	0.013	0.018	0.002	0.001	0.001
08/10/2019	1,042.6	1,024.5	0.591	1,356.63	-142.86	0.979	0.466	93.374	4.792	0.359	0.012	0.016	0.001	0.001	0

## Gas Quality Reports

North Wichita

5/17/2019 - 8/17/2019

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%)
08/11/2019	1,041.3	1,023.2	0.590	1,355.55	-143.95	1.005	0.468	93.450	4.718	0.331	0.010	0.015	0.002	0.002	0.001
08/12/2019	1,043.3	1,025.2	0.592	1,356.44	-141.74	1.025	0.468	93.203	4.912	0.344	0.013	0.025	0.004	0.004	0.003
08/13/2019	1,041.2	1,023.1	0.590	1,355.27	-144.21	1.030	0.463	93.356	4.848	0.282	0.008	0.011	0.001	0.001	0.001
08/14/2019	1,047.7	1,029.4	0.594	1,359.02	-58.66	1.072	0.430	92.998	4.872	0.479	0.032	0.072	0.014	0.017	0.014
08/15/2019	1,045.2	1,027.0	0.593	1,357.44	-69.09	1.102	0.420	93.205	4.654	0.511	0.028	0.052	0.008	0.010	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 = 65211