



*A Subsidiary of MDU Resources Group, Inc.*

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February 21, 2024

Mr. Steven Kahl  
Executive Secretary  
North Dakota Public Service Commission  
State Capitol Building  
Bismarck, ND 58505-0480

Re: Case No. PU-23-002 (Therm Billing)  
Monthly Report – December 2023

Mr. Kahl,

Montana-Dakota Utilities Co. herewith electronically submits the following information, pursuant to the Ordering paragraphs one and two of the Order issued in Case No. 11,006, dated October 20, 1987 and pursuant to the North Dakota Administrative Code 69-09-01-02, part 2.

1. Attachment A is a schedule showing the thermal billing factors by community that reflect the BTU values shown on Attachment B and were used for billing purposes in January 2024.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of December 2023.
3. Attachment C is a listing which states the type of measuring device in place at each zone.
4. Attachment D is a monthly list of the heating value data, by zone, for the most recent 12-month period and an average thereof. It is being provided pursuant to a Staff request.
5. Attachment E provides a brief explanation of the thermal variances, where applicable, for the month of December 2023.

Montana-Dakota respectfully requests this electronic filing, in lieu of an original and one copy, be accepted as being in full compliance with the filing requirements of this Commission.

Sincerely,

*/s/ Travis R. Jacobson*

Travis R. Jacobson  
Director of Regulatory Affairs

**Montana-Dakota Utilities Co.**  
**Therm Billing Factors - North Dakota**  
**Jan-24**

<u>Town</u>	<u>Heat Zone</u>	<u>Therm Factor</u>
MDU-303-ALEXANDER	025	1.1315
MDU-308-ARNEGARD	025	1.1315
MDU-314-APPLE VALLEY	271	1.1636
MDU-318-BEACH	032	1.0517
MDU-319-BELFIELD	032	1.0594
MDU-323-BERTHOLD	262	1.1372
MDU-327-BISMARCK	028	1.1202
MDU-330-BOWMAN	034	0.9329
MDU-337-BURLINGTON	262	1.1617
MDU-343-CARRINGTON	273	1.1627
MDU-344-CLEVELAND	272	1.1535
MDU-364-CAVALIER	273	1.1872
MDU-365-DAWSON	271	1.1554
MDU-368-DES LACS	262	1.1454
MDU-369-DICKINSON	031	1.0756
MDU-374-FT TOTTEN	273	1.1708
MDU-375-DEVILS LAKE	273	1.1708
MDU-379-BARLOW	273	1.1627
MDU-384-EPPING	264	1.1391
MDU-387-ELDRIDGE	272	1.1617
MDU-407-GLADSTONE	031	1.0756
MDU-411-GLEN ULLIN	031	1.0833
MDU-413-GOLVA	032	1.0362
MDU-416-GARRISON	262	1.1454
MDU-417-GRAFTON	273	1.1954
MDU-403-GWINNER	601	1.1301
MDU-429-HEBRON	031	1.0833
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1699
MDU-459-KILLDEER	033	1.1088
MDU-463-LANGDON	273	1.1627
MDU-469-LEFOR	031	1.0756
MDU-474-LIGNITE	263	1.0759
MDU-475-LINTON	802	1.0652
MDU-478-LINCOLN	028	1.1202
MDU-488-MCKENZIE	271	1.1636
MDU-494-MEDINA	271	1.1554
MDU-498-MANDAN	028	1.1202
MDU-500-MARMARTH	034	0.9398
MDU-505-MINOT	262	1.1617
MDU-510-MOTT	031	1.0756
MDU-512-MAX	262	1.1353
MDU-513-MILNOR	601	1.1301
MDU-522-NEW ENGLAND	031	1.0678
MDU-524-NEW SALEM	028	1.0966
MDU-532-NEW ROCKFORD	273	1.1627
MDU-539-PARK RIVER	273	1.1872
MDU-540-PALERMO	262	1.1372
MDU-558-RAY	264	1.1391

MDU-561-REGENT	031	1.0756
MDU-563-RHAME	034	0.9260
MDU-564-RICHARDTON	031	1.0678
MDU-568-ROSS	261	1.1281
MDU-572-RUTHVILLE	262	1.1617
MDU-574-SANBORN	272	1.1699
MDU-583-SENTINEL BUTTE	032	1.0517
MDU-588-SOUTH HEART	031	1.0678
MDU-717-SPIRITWOOD	272	1.1699
MDU-590-SPRINGBROOK	264	1.1391
MDU-591-STANLEY	261	1.1362
MDU-593-STEELE	271	1.1554
MDU-594-STERLING	028	1.1202
MDU-598-SHEYENNE	273	1.1708
MDU-605-SURREY	262	1.1617
MDU-610-TAPPEN	271	1.1554
MDU-611-TAYLOR	031	1.0678
MDU-616-TIOGA	260	1.0962
MDU-619-TURTLE LAKE	262	1.1454
MDU-620-TRENTON	024	1.1358
MDU-624-UNDERWOOD	262	1.1454
MDU-625-VALLEY CITY	272	1.1780
MDU-629-WALHALLA	273	1.1872
MDU-632-WATFORD CITY	610	1.1022
MDU-636-WHEELOCK	264	1.1309
MDU-637-WHITE EARTH	261	1.1362
MDU-642-WILLISTON	024	1.1358
MDU-646-WASHBURN	262	1.1535
MDU-647-WILTON	262	1.1372
MDU-664-RIVERDALE	262	1.1435
MDU-691-FAIRVIEW	241	1.1396
MDU-712-MINOT AFB	262	1.1617
MDU-718-FAIRMOUNT	600	1.1267
MDU-732-NEKOMA	273	1.1627
MDU-732-MSR SITE	273	1.1627

# Source Daily Summary

December 2023

Source #: 251  
Name: SDNY BDR-MNDK JNCTN-SDNY PLT

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7036	1174.6	1195.4	1195.0	0.059	3.080	71.810	22.471	2.468	0.042	0.067	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1425.07	
2	0.7044	1175.8	1196.7	1196.3	0.052	3.095	71.437	22.976	2.378	0.028	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.76	
3	0.6990	1167.7	1188.4	1188.0	0.060	3.065	72.379	22.248	2.177	0.029	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.42	
4	0.7019	1174.0	1194.8	1194.5	0.053	2.967	71.894	22.726	2.292	0.029	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.11	
5	0.7026	1172.5	1193.3	1192.9	0.062	3.113	71.747	22.710	2.303	0.028	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.55	
6	0.7014	1171.3	1192.0	1191.6	0.057	3.078	71.923	22.653	2.228	0.026	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.31	
7	0.7003	1170.5	1191.2	1190.8	0.061	3.018	71.991	22.792	2.084	0.024	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.46	
8	0.7177	1172.7	1193.5	1193.1	0.805	3.378	70.418	22.240	2.867	0.098	0.179	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1408.96	
9	0.7227	1171.1	1191.9	1191.5	1.083	3.528	70.111	21.750	3.135	0.128	0.244	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1402.03	
10	0.7303	1175.2	1196.0	1195.6	1.350	3.585	69.205	22.048	3.325	0.155	0.303	0.016	0.012	0.000	0.000	0.000	0.000	0.000	1399.48	
11	0.7250	1174.6	1195.4	1195.0	1.096	3.511	69.611	22.301	3.089	0.127	0.243	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1404.02	
12	0.7010	1167.2	1187.8	1187.5	0.081	3.256	72.115	22.155	2.319	0.030	0.041	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.70	
13	0.7001	1166.0	1186.6	1186.2	0.050	3.294	72.154	22.196	2.244	0.026	0.035	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.16	
14	0.7013	1167.0	1187.7	1187.3	0.028	3.372	71.746	22.666	2.138	0.022	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.24	
15	0.7003	1166.5	1187.2	1186.8	0.039	3.298	71.840	22.757	2.018	0.022	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.61	
16	0.7007	1166.4	1187.0	1186.7	0.040	3.345	71.706	22.882	1.982	0.021	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.02	
17	0.7006	1166.6	1187.2	1186.9	0.042	3.317	71.794	22.770	2.028	0.023	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.38	
18	0.7042	1172.3	1193.1	1192.8	0.044	3.302	71.285	23.071	2.237	0.027	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.73	
19	0.7130	1170.5	1191.2	1190.8	0.698	3.238	70.926	22.296	2.586	0.083	0.157	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1410.87	
20	0.7223	1168.5	1189.2	1188.8	1.272	3.360	70.411	21.468	3.060	0.136	0.266	0.015	0.012	0.000	0.000	0.000	0.000	0.000	1399.22	
21	0.7290	1172.7	1193.5	1193.1	1.366	3.589	69.410	21.868	3.309	0.150	0.282	0.015	0.011	0.000	0.000	0.000	0.000	0.000	1397.79	
22	0.7157	1176.1	1196.9	1196.5	0.562	3.359	70.321	22.784	2.757	0.075	0.132	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1414.95	
23	0.7047	1173.9	1194.6	1194.3	0.061	3.223	71.510	22.645	2.490	0.031	0.039	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1423.11	
24	0.7069	1177.4	1198.2	1197.9	0.057	3.222	71.112	22.995	2.547	0.030	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.15	
25	0.7238	1175.6	1196.4	1196.1	0.989	3.502	69.572	22.567	3.040	0.110	0.204	0.010	0.007	0.000	0.000	0.000	0.000	0.000	1406.38	
26	0.7289	1172.0	1192.8	1192.4	1.360	3.628	69.237	22.171	3.173	0.140	0.268	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1397.10	
27	0.7227	1174.1	1194.9	1194.6	0.985	3.487	69.645	22.661	2.906	0.105	0.194	0.009	0.007	0.000	0.000	0.000	0.000	0.000	1405.78	
28	0.7022	1169.9	1190.6	1190.3	0.068	3.224	71.774	22.599	2.276	0.027	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.81	
29	0.7189	1175.2	1196.0	1195.7	0.746	3.428	70.187	22.367	3.005	0.092	0.162	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1410.79	
30	0.7280	1171.0	1191.7	1191.3	1.364	3.602	69.440	21.972	3.192	0.141	0.267	0.013	0.009	0.000	0.000	0.000	0.000	0.000	1396.70	
31	0.7279	1170.9	1191.6	1191.2	1.368	3.592	69.429	22.020	3.169	0.138	0.262	0.013	0.009	0.000	0.000	0.000	0.000	0.000	1396.69	
Avg	0.7117	1172.0	1192.3	1192.0	0.515	3.324	70.908	22.446	2.607	0.069	0.121	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1413.56	

# Source Daily Summary

December 2023

Source #: 571  
Name: WILLISTON BDR-CHARBN STN

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7183	1173.7	1194.5	1194.1	1.099	2.921	71.021	21.610	2.912	0.120	0.272	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1409.42	
2	0.7176	1174.5	1195.3	1194.9	1.083	2.837	71.121	21.571	2.932	0.121	0.273	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1410.95	
3	0.7171	1177.5	1198.4	1198.0	1.048	2.656	71.345	21.524	2.975	0.126	0.281	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1415.16	
4	0.7182	1175.3	1196.1	1195.7	1.084	2.840	71.036	21.684	2.924	0.120	0.268	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1411.38	
5	0.7170	1179.1	1200.0	1199.6	1.023	2.590	71.315	21.671	2.952	0.127	0.278	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1417.13	
6	0.7116	1174.7	1195.5	1195.1	0.988	2.408	72.205	21.160	2.819	0.119	0.259	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1417.11	
7	0.7116	1172.9	1193.6	1193.3	1.011	2.476	72.310	20.900	2.875	0.122	0.265	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1415.01	
8	0.7099	1172.7	1193.5	1193.2	0.990	2.358	72.454	21.063	2.733	0.115	0.247	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1416.54	
9	0.7074	1166.6	1187.3	1187.0	0.993	2.490	72.892	20.534	2.697	0.112	0.242	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1411.65	
10	0.7115	1173.2	1194.0	1193.7	1.003	2.460	72.251	21.033	2.837	0.119	0.257	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1415.53	
11	0.7186	1178.3	1199.2	1198.9	1.032	2.616	71.029	21.868	3.019	0.124	0.268	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1414.82	
12	0.7175	1175.6	1196.4	1196.1	1.082	2.759	71.166	21.641	2.925	0.119	0.266	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1412.48	
13	0.7190	1174.3	1195.0	1194.7	1.119	2.923	70.919	21.679	2.912	0.122	0.280	0.022	0.025	0.000	0.000	0.000	0.000	0.000	1409.40	
14	0.7196	1173.8	1194.6	1194.2	1.135	2.984	70.800	21.722	2.916	0.120	0.277	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1408.25	
15	0.7192	1175.6	1196.4	1196.0	1.111	2.876	70.850	21.807	2.927	0.119	0.268	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1410.78	
16	0.7210	1173.8	1194.6	1194.2	1.155	3.087	70.513	21.876	2.934	0.117	0.272	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1406.84	
17	0.7199	1173.4	1194.2	1193.8	1.141	3.028	70.657	21.868	2.882	0.115	0.264	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1407.47	
18	0.7204	1172.8	1193.6	1193.2	1.157	3.093	70.516	21.954	2.863	0.113	0.260	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1406.21	
19	0.7110	1169.2	1189.9	1189.6	1.048	2.593	72.167	21.125	2.674	0.111	0.244	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1411.17	
20	0.7052	1165.0	1185.6	1185.3	1.008	2.362	73.143	20.604	2.511	0.106	0.229	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1411.86	
21	0.7091	1169.9	1190.6	1190.3	1.014	2.420	72.534	20.985	2.654	0.112	0.242	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1413.88	
22	0.7140	1172.1	1192.8	1192.5	1.063	2.672	71.644	21.483	2.741	0.112	0.247	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1411.71	
23	0.7153	1173.6	1194.3	1194.0	1.054	2.724	71.370	21.697	2.750	0.113	0.250	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1412.13	
24	0.7145	1172.1	1192.9	1192.6	1.055	2.730	71.501	21.605	2.709	0.111	0.248	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1411.25	
25	0.7084	1169.9	1190.6	1190.4	0.986	2.396	72.623	20.972	2.633	0.110	0.241	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1414.65	
26	0.7041	1164.6	1185.2	1185.0	0.976	2.333	73.327	20.496	2.490	0.107	0.233	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1412.48	
27	0.7145	1171.3	1192.0	1191.7	1.076	2.751	71.699	21.207	2.838	0.119	0.267	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1410.19	
28	0.7190	1173.7	1194.4	1194.1	1.132	2.947	70.892	21.668	2.930	0.119	0.269	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1408.60	
29	0.7160	1174.0	1194.8	1194.5	1.076	2.723	71.430	21.472	2.875	0.118	0.263	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1412.02	
30	0.7156	1178.3	1199.2	1198.9	1.026	2.503	71.545	21.573	2.916	0.124	0.269	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1417.55	
31	0.7153	1177.8	1198.7	1198.4	1.033	2.494	71.642	21.464	2.925	0.125	0.274	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1417.26	
Avg	0.7148	1173.0	1194.0	1193.6	1.058	2.679	71.610	21.404	2.828	0.117	0.260	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1412.29	

# Gas Composition and Properties

Effective December 1, 2023

Attachment B  
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Source #: 0602160  
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.9490		2.0090
Nitrogen, N2	3.4594		4.6616
Methane, C1	70.3421		54.2827
Ethane, C2	21.8788	5.8556	31.6457
Propane, C3	3.0230	0.8335	6.4122
iso-Butane, iC4	0.1190	0.0390	0.3327
n-Butane, nC4	0.2061	0.0650	0.5762
iso-Pentane, iC5	0.0115	0.0042	0.0399
n-Pentane, nC5	0.0089	0.0032	0.0309
Neo-Pentane, neo			
Hexanes Plus, C6+	0.0022	0.0009	0.0091
Argon, Ar			
Carbon Monoxide, CO			
Hydrogen, H2			
Oxygen, O2			
Helium, He			
Water, H2O			
Hydrogen Sulfide, H2S			
<b>Totals</b>	<b>100.0000</b>	<b>6.8010</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-13.793	
Cricondentherm	-1.731	
HV, Dry @ Base P, T	1191.89	
HV, Sat @ Base P, T	1171.15	
HV, Sat @ Sample P, T	1191.89	
Relative Density	0.7199	
C6+: 100		

**Sample**

Date: 12/01/2023                      Type:

Tech: Tipton, Joshua

Pressure:                      480 psi                      Temp.:                      °F

Gauge:                      Gauge                      H2O:

Atm. Pressure:                      H2S:

Remarks:

**Analysis**

Date: 12/01/2023                      Instrument:

Tech: Tipton, Joshua                      Cylinder:                      384

Remarks:



# Source Daily Summary

December 2023

Source #: 602  
Name: TIOGA STN-N TIOGA TRANSFER

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6998	1164.2	1184.8	1184.6	0.896	2.069	74.365	19.645	2.620	0.118	0.247	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1416.36	-7.40
2	0.7069	1176.2	1197.0	1196.7	0.874	2.039	73.443	20.093	3.127	0.125	0.260	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1423.71	-2.51
3	0.7036	1170.2	1190.9	1190.7	0.911	2.040	74.197	19.235	3.202	0.121	0.254	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1419.75	-3.55
4	0.6992	1163.0	1183.6	1183.4	0.921	2.049	74.516	19.462	2.667	0.113	0.236	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1415.47	-7.86
5	0.6914	1149.0	1169.4	1169.1	0.916	2.184	75.069	19.640	1.935	0.075	0.157	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1406.30	-16.14
6	0.6900	1147.4	1167.7	1167.5	0.909	2.160	75.462	19.173	2.039	0.075	0.157	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1405.78	-16.04
7	0.6902	1147.8	1168.1	1167.8	0.892	2.180	75.664	18.734	2.253	0.081	0.169	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1406.01	-14.81
8	0.6889	1144.2	1164.5	1164.2	0.897	2.272	75.694	18.801	2.077	0.076	0.158	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1402.98	-16.59
9	0.6805	1132.1	1152.1	1151.9	0.862	2.270	77.348	17.225	2.035	0.076	0.159	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1396.63	-20.05
10	0.6777	1126.9	1146.9	1146.7	0.851	2.332	77.968	16.507	2.073	0.079	0.164	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1393.20	-21.01
11	0.6834	1137.4	1157.5	1157.3	0.883	2.186	76.717	17.976	1.990	0.072	0.150	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1400.22	-19.18
12	0.6931	1153.9	1174.3	1174.1	0.903	2.074	75.127	19.327	2.267	0.088	0.184	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1410.51	-12.97
13	0.6954	1157.5	1178.0	1177.8	0.904	2.054	74.807	19.591	2.308	0.098	0.205	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1412.67	-11.20
14	0.6961	1158.5	1179.0	1178.8	0.907	2.053	74.701	19.678	2.322	0.099	0.207	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1413.18	-10.81
15	0.6957	1159.0	1179.6	1179.3	0.906	1.984	74.750	19.740	2.285	0.098	0.204	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1414.22	-11.11
16	0.6951	1157.4	1177.9	1177.6	0.909	2.029	74.838	19.617	2.276	0.097	0.202	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1412.79	-11.50
17	0.6969	1159.7	1180.3	1180.0	0.903	2.061	74.587	19.734	2.368	0.101	0.212	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1413.84	-10.21
18	0.6984	1161.0	1181.6	1181.4	0.930	2.087	74.407	19.766	2.447	0.106	0.223	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1413.85	-9.13
19	0.6988	1154.4	1174.9	1174.6	0.933	2.525	73.994	19.965	2.255	0.094	0.203	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1405.47	-11.22
20	0.6986	1146.1	1166.4	1166.2	0.903	3.049	74.191	19.059	2.442	0.101	0.223	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1395.75	-11.36
21	0.6861	1141.3	1161.5	1161.3	0.933	2.124	76.160	18.634	1.885	0.077	0.160	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1402.32	-18.17
22	0.6870	1141.5	1161.7	1161.5	0.879	2.283	76.126	18.356	2.057	0.087	0.183	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1401.49	-16.81
23	0.6909	1148.9	1169.2	1169.0	0.922	2.141	75.404	19.142	2.094	0.087	0.181	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1406.71	-14.72
24	0.6875	1143.8	1164.1	1163.8	0.921	2.121	75.961	18.761	1.961	0.081	0.168	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1403.94	-17.11
25	0.6870	1142.8	1163.1	1162.8	0.923	2.133	76.003	18.755	1.918	0.079	0.164	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1403.23	-17.59
26	0.6846	1138.5	1158.6	1158.4	0.930	2.164	76.284	18.614	1.768	0.070	0.146	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1400.34	-19.80
27	0.6869	1142.5	1162.7	1162.5	0.931	2.137	75.938	18.882	1.854	0.075	0.157	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1402.87	-18.09
28	0.6946	1155.6	1176.0	1175.8	0.913	2.088	75.028	19.304	2.311	0.101	0.216	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1411.04	-11.18
29	0.6950	1154.5	1174.9	1174.7	0.894	2.230	74.729	19.554	2.291	0.088	0.185	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1409.37	-12.27
30	0.6925	1149.8	1170.2	1170.0	0.885	2.283	74.954	19.530	2.094	0.075	0.156	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1406.19	-15.08
31	0.6919	1149.1	1169.4	1169.2	0.910	2.237	75.048	19.521	2.028	0.075	0.158	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1405.86	-15.44
Avg	0.6924	1151.0	1171.2	1170.9	0.905	2.182	75.273	19.097	2.234	0.090	0.189	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1407.49	-13.58

# Source Daily Summary

December 2023

Source #: 601  
Name: TIOGA STN-ROBINSON LAKE PLNT

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7580	1180.6	1201.6	1201.3	0.878	6.547	66.105	19.566	6.068	0.243	0.533	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1380.11	
2	0.7546	1175.3	1196.1	1195.9	0.879	6.557	66.514	19.363	5.900	0.229	0.500	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1376.92	
3	0.7558	1177.0	1197.8	1197.6	0.880	6.560	66.325	19.492	5.968	0.227	0.490	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1377.83	
4	0.7560	1177.0	1197.8	1197.6	0.880	6.579	66.341	19.414	5.996	0.231	0.502	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1377.67	
5	0.7559	1178.1	1198.9	1198.7	0.883	6.503	66.298	19.598	5.930	0.230	0.502	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1379.00	
6	0.7557	1176.9	1197.8	1197.5	0.879	6.563	66.331	19.499	5.938	0.231	0.503	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1377.79	
7	0.7574	1179.8	1200.7	1200.5	0.879	6.546	66.260	19.398	6.057	0.246	0.549	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1379.61	
8	0.7557	1183.6	1204.5	1204.3	0.892	6.116	66.399	19.987	5.784	0.234	0.524	0.030	0.034	0.000	0.000	0.000	0.000	0.000	1385.70	
9	0.7571	1182.0	1202.9	1202.8	0.888	6.361	66.137	19.869	5.954	0.230	0.503	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1382.51	
10	0.7608	1186.7	1207.7	1207.5	0.882	6.423	65.775	19.816	6.285	0.236	0.522	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1384.66	
11	0.7594	1183.8	1204.8	1204.6	0.885	6.476	65.961	19.641	6.211	0.239	0.522	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1382.53	
12	0.7608	1187.1	1208.1	1208.0	0.883	6.412	65.781	19.792	6.293	0.242	0.532	0.030	0.034	0.000	0.000	0.000	0.000	0.000	1385.08	
13	0.7618	1188.7	1209.8	1209.6	0.884	6.403	65.642	19.892	6.331	0.243	0.538	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1386.07	
14	0.7606	1185.6	1206.6	1206.4	0.883	6.479	65.889	19.586	6.286	0.250	0.560	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1383.56	
15	0.7268	1166.4	1187.1	1186.8	0.910	4.449	70.310	19.680	4.066	0.164	0.370	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1392.86	
16	0.7298	1163.2	1183.8	1183.6	0.880	4.971	69.975	19.139	4.436	0.173	0.379	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1386.10	
17	0.7607	1187.2	1208.3	1208.1	0.887	6.386	65.759	19.909	6.201	0.247	0.548	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1385.33	
18	0.7606	1186.5	1207.5	1207.3	0.888	6.423	65.742	19.917	6.176	0.247	0.545	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1384.53	
19	0.7605	1186.6	1207.6	1207.4	0.885	6.408	65.740	19.942	6.190	0.244	0.532	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1384.79	
20	0.7560	1185.6	1206.6	1206.4	0.895	6.042	66.272	20.182	5.800	0.233	0.515	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1387.66	
21	0.7574	1180.9	1201.8	1201.6	0.888	6.467	66.101	19.735	6.005	0.235	0.512	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1380.88	
22	0.7530	1177.7	1198.6	1198.3	0.890	6.242	66.646	19.768	5.691	0.223	0.485	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1381.24	
23	0.7571	1179.9	1200.8	1200.6	0.887	6.488	66.130	19.727	5.979	0.232	0.501	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1380.07	
24	0.7576	1181.1	1202.0	1201.8	0.885	6.480	66.054	19.764	6.024	0.233	0.505	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1380.91	
25	0.7560	1178.3	1199.2	1199.0	0.885	6.496	66.243	19.673	5.929	0.228	0.492	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1379.18	
26	0.7558	1178.3	1199.2	1199.0	0.888	6.467	66.274	19.679	5.936	0.223	0.481	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1379.42	
27	0.7561	1178.2	1199.0	1198.8	0.886	6.513	66.231	19.658	5.931	0.229	0.498	0.025	0.028	0.000	0.000	0.000	0.000	0.000	1378.90	
28	0.7555	1177.2	1198.1	1197.9	0.888	6.510	66.356	19.555	5.904	0.229	0.502	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1378.35	
29	0.7563	1178.2	1199.0	1198.9	0.887	6.522	66.258	19.592	5.946	0.232	0.508	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1378.81	
30	0.7577	1180.6	1201.5	1201.3	0.886	6.518	66.186	19.483	6.096	0.238	0.531	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1380.23	
31	0.7579	1179.8	1200.7	1200.5	0.893	6.562	66.234	19.322	6.161	0.235	0.529	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1379.20	
Avg	0.7556	1180.0	1201.2	1201.0	0.886	6.338	66.396	19.666	5.918	0.231	0.507	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1381.85	

# Source Daily Summary

December 2023

Source #: 091  
Name: MNT BRD-PLRMO BRD-BIS STN

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7560	1174.8	1195.6	1195.3	0.889	6.698	66.386	19.211	6.000	0.238	0.518	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1375.11	
2	0.7570	1176.6	1197.4	1197.2	0.889	6.682	66.192	19.389	6.050	0.236	0.504	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1376.29	
3	0.7559	1174.1	1194.8	1194.6	0.889	6.735	66.343	19.242	6.000	0.234	0.500	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1374.31	
4	0.7563	1175.4	1196.3	1196.0	0.893	6.686	66.252	19.396	5.976	0.236	0.505	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1375.53	
5	0.7565	1175.7	1196.5	1196.2	0.892	6.688	66.242	19.388	5.986	0.238	0.510	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1375.66	
6	0.7592	1180.7	1201.6	1201.3	0.891	6.641	66.002	19.431	6.168	0.252	0.552	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1379.02	
7	0.7601	1182.5	1203.5	1203.2	0.886	6.616	65.907	19.499	6.209	0.255	0.563	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1380.40	
8	0.7623	1186.8	1207.8	1207.6	0.884	6.565	65.609	19.691	6.383	0.251	0.550	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1383.39	
9	0.7604	1183.6	1204.5	1204.3	0.888	6.577	65.810	19.623	6.269	0.242	0.529	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1381.34	
10	0.7604	1183.0	1204.0	1203.7	0.889	6.615	65.828	19.538	6.287	0.247	0.533	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1380.66	
11	0.7636	1189.3	1210.3	1210.1	0.894	6.525	65.446	19.806	6.452	0.255	0.556	0.032	0.036	0.000	0.000	0.000	0.000	0.000	1385.05	
12	0.7614	1184.8	1205.8	1205.5	0.892	6.594	65.679	19.667	6.324	0.246	0.534	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1381.83	
13	0.7617	1184.8	1205.8	1205.5	0.895	6.612	65.846	19.354	6.361	0.266	0.595	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1381.59	
14	0.7618	1185.0	1206.0	1205.7	0.896	6.615	65.663	19.632	6.310	0.255	0.563	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1381.68	
15	0.7609	1184.3	1205.3	1205.0	0.895	6.566	65.844	19.523	6.287	0.255	0.566	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1381.80	
16	0.7628	1187.6	1208.6	1208.4	0.895	6.553	65.475	19.872	6.321	0.257	0.563	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1383.81	
17	0.7620	1186.0	1207.0	1206.8	0.897	6.569	65.561	19.842	6.254	0.256	0.558	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1382.71	
18	0.7622	1186.5	1207.5	1207.2	0.891	6.562	65.536	19.854	6.296	0.254	0.546	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1383.13	
19	0.7608	1184.6	1205.6	1205.3	0.896	6.547	65.709	19.794	6.193	0.253	0.548	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1382.13	
20	0.7557	1175.2	1196.0	1195.7	0.896	6.642	66.323	19.404	5.956	0.232	0.495	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1375.75	
21	0.7592	1181.6	1202.5	1202.2	0.897	6.577	65.876	19.716	6.108	0.245	0.525	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1380.07	
22	0.7575	1178.1	1199.0	1198.8	0.894	6.627	66.070	19.597	6.012	0.238	0.508	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1377.66	
23	0.7580	1178.9	1199.7	1199.5	0.893	6.636	66.017	19.593	6.053	0.239	0.512	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1378.01	
24	0.7581	1179.0	1199.9	1199.6	0.893	6.632	66.004	19.603	6.065	0.238	0.509	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1378.13	
25	0.7567	1177.0	1197.8	1197.5	0.896	6.624	66.173	19.523	6.010	0.230	0.491	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1376.97	
26	0.7578	1178.4	1199.3	1199.0	0.894	6.640	66.045	19.578	6.032	0.240	0.515	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1377.69	
27	0.7572	1177.4	1198.3	1198.0	0.900	6.639	66.193	19.417	6.022	0.243	0.527	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1377.02	
28	0.7571	1177.4	1198.2	1198.0	0.900	6.635	66.149	19.511	5.990	0.240	0.518	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1377.06	
29	0.7575	1177.2	1198.1	1197.8	0.897	6.678	66.260	19.225	6.083	0.248	0.546	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1376.57	
30	0.7589	1179.0	1199.9	1199.6	0.911	6.681	66.212	19.026	6.316	0.243	0.547	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1377.36	
31	0.7579	1178.1	1199.0	1198.7	0.900	6.664	66.211	19.231	6.147	0.248	0.541	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1377.19	
Avg	0.7591	1181.0	1201.7	1201.4	0.894	6.623	65.963	19.522	6.159	0.245	0.533	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1379.19	

# Gas Composition and Properties

Effective October 1, 2021

Attachment B  
Page 8 of 24

Source #: 2501030  
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.2283		0.5237
Nitrogen, N2	2.9631		4.3268
Methane, C1	79.4957		66.4767
Ethane, C2	15.2390	4.0765	23.8852
Propane, C3	2.0456	0.5637	4.7019
iso-Butane, iC4	0.0244	0.0080	0.0739
n-Butane, nC4	0.0039	0.0012	0.0118
iso-Pentane, iC5			
n-Pentane, nC5			
Neo-Pentane, neo			
Hexanes Plus, C6+			
Argon, Ar			
Carbon Monoxide, CO			
Hydrogen, H2			
Oxygen, O2			
Helium, He			
Water, H2O			
Hydrogen Sulfide, H2S			
<b>Totals</b>	<b>100.0000</b>	<b>4.6490</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm	-32.804	
HV, Dry @ Base P, T	1130.73	
HV, Sat @ Base P, T	1111.05	
HV, Sat @ Sample P, T	1130.73	
Relative Density	0.6640	
C6+: 100		

**Sample**

Date: 10/01/2021                      Type:

Tech: Wayne Sampson

Pressure:                                      Temp.:

Gauge:    H2O:

Atm. Pressure:                                      H2S:

Remarks:

**Analysis**

Date:    Instrument:

Tech:    Cylinder:

Remarks:



# Source Daily Summary

December 2023

Source #: 603  
Name: TIOGA STN-COUNTY LINE PLANT

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7138	1158.8	1179.3	1179.0	0.956	3.632	71.203	21.313	2.489	0.109	0.255	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1395.84	
2	0.7156	1162.6	1183.2	1182.9	0.956	3.572	70.954	21.508	2.600	0.110	0.256	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1398.63	
3	0.7153	1162.7	1183.3	1183.0	0.959	3.531	71.064	21.400	2.632	0.112	0.260	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1399.07	
4	0.7173	1163.9	1184.5	1184.2	0.961	3.638	70.732	21.560	2.686	0.112	0.266	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1398.56	
5	0.7169	1164.1	1184.7	1184.4	0.964	3.587	70.821	21.506	2.704	0.112	0.263	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1399.19	
6	0.7165	1162.9	1183.5	1183.3	0.955	3.628	70.980	21.254	2.749	0.116	0.274	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1398.26	
7	0.7163	1164.6	1185.2	1185.0	0.956	3.507	70.951	21.474	2.698	0.111	0.260	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1400.40	
8	0.7167	1164.4	1185.0	1184.8	0.964	3.552	70.891	21.440	2.731	0.113	0.265	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1399.74	
9	0.7173	1164.7	1185.3	1185.1	0.969	3.578	70.867	21.351	2.808	0.115	0.269	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1399.56	
10	0.7177	1165.8	1186.4	1186.1	0.973	3.544	70.839	21.379	2.830	0.116	0.275	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1400.44	
11	0.7189	1168.6	1189.3	1189.0	0.971	3.489	70.724	21.421	2.964	0.114	0.270	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1402.66	
12	0.7192	1167.5	1188.2	1187.9	0.971	3.580	70.697	21.319	2.988	0.118	0.280	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1401.09	
13	0.7184	1165.8	1186.5	1186.2	0.972	3.603	70.673	21.512	2.805	0.116	0.274	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1399.83	
14	0.7176	1164.3	1184.9	1184.6	0.965	3.636	70.793	21.390	2.781	0.116	0.274	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1398.72	
15	0.7155	1161.5	1182.1	1181.8	0.968	3.608	71.120	21.185	2.684	0.116	0.274	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1397.45	
16	0.7155	1163.2	1183.8	1183.5	0.969	3.502	71.085	21.373	2.651	0.112	0.264	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1399.48	
17	0.7156	1161.6	1182.1	1181.9	0.967	3.614	71.158	21.084	2.740	0.116	0.275	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1397.43	
18	0.7151	1160.0	1180.6	1180.3	0.967	3.661	71.143	21.148	2.657	0.113	0.267	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1396.07	
19	0.7143	1158.1	1178.6	1178.3	0.968	3.698	71.242	21.078	2.591	0.112	0.266	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1394.56	
20	0.7152	1160.4	1180.9	1180.6	0.967	3.650	71.071	21.278	2.617	0.111	0.262	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1396.38	
21	0.7166	1164.0	1184.6	1184.4	0.971	3.556	70.964	21.319	2.762	0.114	0.269	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1399.37	
22	0.7149	1161.6	1182.2	1181.9	0.966	3.542	71.185	21.252	2.633	0.112	0.265	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1398.22	
23	0.7158	1162.9	1183.5	1183.2	0.969	3.547	70.997	21.434	2.636	0.112	0.262	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1398.82	
24	0.7144	1161.6	1182.2	1181.9	0.957	3.512	71.156	21.425	2.544	0.109	0.255	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1398.65	
25	0.7141	1160.9	1181.4	1181.2	0.970	3.514	71.249	21.300	2.550	0.111	0.262	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1398.05	
26	0.7137	1160.7	1181.3	1181.0	0.967	3.490	71.260	21.378	2.494	0.110	0.258	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1398.27	
27	0.7119	1157.9	1178.4	1178.1	0.965	3.495	71.533	21.203	2.395	0.109	0.257	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1396.61	
28	0.7140	1161.2	1181.8	1181.5	0.974	3.474	71.154	21.548	2.443	0.109	0.255	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1398.61	
29	0.7154	1163.0	1183.6	1183.3	0.973	3.498	71.049	21.456	2.606	0.112	0.263	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1399.35	
30	0.7138	1160.0	1180.6	1180.3	0.975	3.523	71.264	21.321	2.507	0.110	0.258	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1397.40	
31	0.7132	1158.8	1179.3	1179.1	0.978	3.536	71.291	21.378	2.412	0.109	0.255	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1396.47	
Avg	0.7157	1163.0	1183.1	1182.8	0.967	3.564	71.036	21.354	2.658	0.113	0.265	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1398.49	

# Source Daily Summary

December 2023

Source #: 043  
Name: BISMARCK STN-CLEVELAND STN

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7558	1179.0	1199.9	1199.0	0.842	6.501	66.553	19.156	6.113	0.241	0.536	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1380.13	
2	0.7481	1172.5	1193.3	1192.5	0.799	6.240	67.458	19.113	5.652	0.217	0.473	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1379.64	
3	0.7438	1169.7	1190.4	1189.7	0.764	6.058	68.009	19.062	5.406	0.206	0.447	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1380.32	
4	0.7492	1173.2	1193.9	1193.2	0.806	6.288	67.327	19.130	5.686	0.222	0.490	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1379.41	
5	0.7499	1174.1	1194.9	1194.2	0.818	6.279	67.234	19.185	5.717	0.223	0.493	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1379.86	
6	0.7572	1182.3	1203.2	1202.5	0.843	6.425	66.417	19.280	6.162	0.251	0.562	0.030	0.031	0.000	0.000	0.000	0.000	0.000	1382.77	
7	0.7575	1182.1	1203.0	1202.2	0.844	6.465	66.443	19.144	6.207	0.255	0.578	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1382.22	
8	0.7559	1185.7	1206.7	1206.0	0.810	6.148	66.505	19.663	6.024	0.243	0.546	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1387.93	
9	0.7608	1189.1	1210.1	1209.4	0.843	6.348	65.865	19.708	6.390	0.242	0.544	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1387.43	
10	0.7591	1185.7	1206.7	1206.0	0.843	6.395	66.109	19.508	6.299	0.245	0.542	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1385.05	
11	0.7576	1187.2	1208.3	1207.5	0.823	6.198	66.326	19.599	6.210	0.243	0.540	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1388.12	
12	0.7519	1181.9	1202.8	1202.1	0.797	6.025	67.007	19.538	5.856	0.223	0.497	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1387.16	
13	0.7587	1185.3	1206.3	1205.6	0.842	6.386	66.319	19.240	6.308	0.257	0.585	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1384.91	
14	0.7611	1188.4	1209.5	1208.7	0.848	6.407	65.925	19.523	6.396	0.257	0.580	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1386.38	
15	0.7494	1177.8	1198.7	1197.9	0.808	6.020	67.418	19.248	5.713	0.227	0.512	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1384.71	
16	0.7541	1183.0	1203.9	1203.2	0.824	6.121	66.798	19.456	5.972	0.237	0.535	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1386.42	
17	0.7499	1178.5	1199.4	1198.7	0.825	6.004	67.282	19.423	5.671	0.229	0.512	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1385.01	
18	0.7462	1176.1	1196.9	1196.2	0.778	5.874	67.755	19.341	5.508	0.217	0.477	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1385.59	
19	0.7492	1179.4	1200.3	1199.6	0.794	5.928	67.380	19.450	5.670	0.227	0.500	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1386.75	
20	0.7419	1167.1	1187.8	1187.1	0.786	6.010	68.184	19.113	5.232	0.199	0.434	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1378.97	
21	0.7502	1177.5	1198.3	1197.6	0.825	6.098	67.175	19.432	5.705	0.224	0.492	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1383.49	
22	0.7536	1178.4	1199.2	1198.5	0.849	6.320	66.745	19.382	5.907	0.232	0.512	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.46	
23	0.7582	1184.0	1204.9	1204.2	0.849	6.415	66.146	19.571	6.182	0.244	0.537	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1383.75	
24	0.7569	1181.5	1202.5	1201.7	0.848	6.443	66.268	19.530	6.098	0.238	0.521	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1382.10	
25	0.7565	1181.2	1202.1	1201.3	0.851	6.417	66.324	19.521	6.095	0.233	0.509	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1382.11	
26	0.7553	1179.9	1200.8	1200.1	0.850	6.383	66.516	19.440	6.004	0.236	0.519	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1381.72	
27	0.7561	1179.9	1200.8	1199.9	0.851	6.455	66.437	19.374	6.056	0.240	0.532	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1381.00	
28	0.7567	1181.0	1202.0	1201.1	0.851	6.446	66.397	19.357	6.104	0.244	0.544	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1381.74	
29	0.7562	1180.2	1201.1	1200.3	0.850	6.454	66.515	19.226	6.100	0.245	0.552	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1381.18	
30	0.7513	1176.1	1196.9	1196.2	0.845	6.248	67.270	18.913	5.916	0.227	0.523	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1380.88	
31	0.7473	1173.1	1193.8	1193.1	0.839	6.073	67.723	18.951	5.657	0.218	0.489	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1380.97	
Avg	0.7534	1180.0	1200.6	1199.9	0.827	6.254	66.833	19.341	5.936	0.234	0.520	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1383.20	

# Source Daily Summary

December 2023

Source #: 063  
Name: CLEVELAND STN-MAPLETON

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7608	1184.9	1205.9	1205.7	0.878	6.548	65.843	19.586	6.262	0.259	0.560	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1382.58	
2	0.7566	1177.3	1198.1	1197.4	0.880	6.619	66.363	19.248	6.070	0.242	0.519	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1377.45	
3	0.7508	1173.6	1194.3	1193.3	0.841	6.370	67.030	19.285	5.730	0.223	0.469	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1378.33	
4	0.7447	1168.9	1189.6	1188.6	0.796	6.147	67.809	19.177	5.383	0.207	0.433	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1378.49	
5	0.7490	1171.5	1192.2	1191.2	0.832	6.333	67.287	19.193	5.615	0.221	0.468	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1377.64	
6	0.7514	1173.6	1194.4	1193.4	0.855	6.391	66.941	19.336	5.723	0.225	0.476	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1377.95	
7	0.7572	1179.8	1200.7	1199.7	0.879	6.526	66.244	19.459	6.065	0.245	0.522	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1379.84	
8	0.7601	1183.9	1204.8	1203.9	0.879	6.544	66.013	19.418	6.243	0.262	0.572	0.033	0.035	0.000	0.000	0.000	0.000	0.000	1381.97	
9	0.7564	1183.9	1204.9	1204.0	0.841	6.255	66.376	19.712	5.980	0.245	0.529	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1385.40	
10	0.7618	1188.3	1209.3	1208.4	0.874	6.445	65.693	19.749	6.401	0.246	0.530	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1385.57	
11	0.7601	1184.7	1205.6	1204.7	0.880	6.498	65.921	19.568	6.300	0.247	0.525	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1382.87	
12	0.7592	1186.2	1207.2	1206.2	0.864	6.346	66.054	19.669	6.232	0.246	0.525	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1385.45	
13	0.7512	1179.3	1200.2	1199.3	0.825	6.077	67.019	19.584	5.746	0.221	0.472	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1384.74	
14	0.7590	1183.9	1204.8	1203.9	0.871	6.459	66.149	19.404	6.257	0.251	0.545	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1382.92	
15	0.7626	1188.3	1209.4	1208.4	0.883	6.506	65.654	19.652	6.410	0.261	0.570	0.032	0.033	0.000	0.000	0.000	0.000	0.000	1384.86	
16	0.7529	1179.5	1200.4	1199.4	0.847	6.193	66.837	19.502	5.833	0.231	0.500	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1383.39	
17	0.7542	1181.5	1202.4	1201.4	0.854	6.182	66.722	19.512	5.912	0.238	0.520	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1384.52	
18	0.7515	1178.3	1199.2	1198.1	0.861	6.117	66.997	19.546	5.694	0.232	0.498	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1383.23	
19	0.7473	1175.4	1196.2	1195.2	0.812	5.972	67.528	19.461	5.496	0.218	0.461	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1383.72	
20	0.7507	1179.3	1200.2	1199.2	0.829	6.029	67.100	19.587	5.687	0.229	0.485	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1385.13	
21	0.7431	1166.6	1187.3	1186.3	0.819	6.104	67.926	19.277	5.213	0.200	0.418	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1377.27	
22	0.7504	1175.5	1196.3	1195.3	0.858	6.191	67.060	19.503	5.645	0.222	0.470	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1380.92	
23	0.7536	1176.5	1197.4	1196.5	0.884	6.386	66.631	19.513	5.816	0.230	0.488	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1379.24	
24	0.7585	1181.7	1202.6	1201.9	0.887	6.525	66.007	19.656	6.115	0.242	0.513	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1380.81	
25	0.7590	1182.3	1203.2	1202.3	0.885	6.532	65.950	19.672	6.147	0.243	0.515	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1381.13	
26	0.7579	1180.6	1201.5	1200.5	0.887	6.528	66.076	19.622	6.099	0.237	0.499	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1380.16	
27	0.7551	1177.2	1198.0	1197.0	0.885	6.482	66.441	19.488	5.928	0.233	0.491	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1378.67	
28	0.7578	1180.1	1201.0	1200.0	0.887	6.550	66.098	19.586	6.074	0.241	0.509	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1379.66	
29	0.7580	1180.4	1201.3	1200.3	0.888	6.546	66.185	19.421	6.118	0.248	0.534	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1379.86	
30	0.7576	1179.8	1200.7	1199.7	0.886	6.552	66.247	19.379	6.089	0.248	0.537	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1379.46	
31	0.7533	1176.3	1197.1	1196.1	0.884	6.366	66.911	19.094	5.945	0.231	0.508	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1379.27	
Avg	0.7549	1179.0	1200.2	1199.3	0.862	6.365	66.552	19.479	5.943	0.236	0.505	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1381.37	

# Source Daily Summary

December 2023

Source #: 061  
Name: CLEVELAND STN-GRAFTON BDR

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7614	1186.0	1207.0	1206.8	0.878	6.541	65.766	19.626	6.299	0.261	0.564	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1383.27	
2	0.7571	1178.2	1199.0	1198.6	0.880	6.611	66.296	19.299	6.088	0.244	0.523	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1378.03	
3	0.7504	1172.7	1193.4	1192.9	0.842	6.379	67.090	19.247	5.703	0.221	0.466	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1377.72	
4	0.7447	1168.7	1189.4	1188.7	0.797	6.152	67.812	19.172	5.380	0.207	0.433	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.34	
5	0.7494	1171.7	1192.5	1191.9	0.835	6.350	67.237	19.198	5.634	0.222	0.471	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1377.55	
6	0.7514	1173.7	1194.5	1193.7	0.855	6.389	66.940	19.338	5.722	0.225	0.478	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1378.03	
7	0.7576	1180.6	1201.5	1200.7	0.879	6.520	66.199	19.482	6.087	0.247	0.527	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1380.33	
8	0.7606	1184.8	1205.8	1205.1	0.881	6.538	65.955	19.437	6.274	0.265	0.581	0.034	0.037	0.000	0.000	0.000	0.000	0.000	1382.56	
9	0.7567	1184.4	1205.4	1204.7	0.843	6.259	66.335	19.723	5.999	0.247	0.532	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1385.61	
10	0.7619	1188.4	1209.5	1208.8	0.874	6.445	65.684	19.750	6.405	0.247	0.532	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1385.64	
11	0.7603	1185.0	1206.0	1205.3	0.881	6.495	65.900	19.577	6.311	0.248	0.527	0.030	0.031	0.000	0.000	0.000	0.000	0.000	1383.09	
12	0.7593	1186.4	1207.4	1206.9	0.864	6.342	66.043	19.674	6.240	0.247	0.527	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1385.65	
13	0.7518	1180.2	1201.1	1200.4	0.827	6.074	66.951	19.608	5.780	0.224	0.478	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1385.28	
14	0.7593	1184.3	1205.3	1204.5	0.872	6.456	66.116	19.424	6.270	0.251	0.547	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1383.18	
15	0.7627	1188.4	1209.4	1208.7	0.884	6.508	65.647	19.649	6.413	0.262	0.572	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1384.86	
16	0.7531	1179.7	1200.6	1199.9	0.849	6.192	66.835	19.485	5.845	0.233	0.504	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1383.48	
17	0.7547	1182.0	1203.0	1202.5	0.856	6.191	66.650	19.550	5.933	0.239	0.522	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1384.73	
18	0.7513	1177.9	1198.8	1198.4	0.861	6.118	67.031	19.525	5.680	0.232	0.498	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1383.00	
19	0.7474	1175.4	1196.2	1195.8	0.811	5.979	67.523	19.447	5.505	0.219	0.464	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1383.69	
20	0.7507	1179.1	1200.0	1199.5	0.830	6.031	67.117	19.572	5.681	0.229	0.486	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1385.00	
21	0.7432	1166.8	1187.5	1186.9	0.819	6.103	67.917	19.280	5.216	0.201	0.421	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1377.38	
22	0.7507	1175.9	1196.8	1196.1	0.858	6.185	67.035	19.514	5.659	0.224	0.473	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.26	
23	0.7541	1177.2	1198.1	1197.4	0.885	6.381	66.584	19.535	5.838	0.232	0.492	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1379.69	
24	0.7589	1182.3	1203.3	1202.7	0.888	6.522	65.961	19.675	6.136	0.244	0.518	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1381.20	
25	0.7591	1182.4	1203.4	1202.7	0.887	6.532	65.939	19.673	6.152	0.244	0.517	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1381.17	
26	0.7581	1180.9	1201.8	1201.1	0.887	6.529	66.053	19.630	6.105	0.239	0.503	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1380.33	
27	0.7558	1178.1	1199.0	1198.3	0.886	6.489	66.353	19.519	5.969	0.235	0.496	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1379.14	
28	0.7569	1178.6	1199.4	1198.7	0.887	6.564	66.193	19.540	6.022	0.238	0.502	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1378.64	
29	0.7584	1181.1	1202.1	1201.3	0.889	6.540	66.150	19.428	6.142	0.250	0.540	0.030	0.031	0.000	0.000	0.000	0.000	0.000	1380.32	
30	0.7579	1180.3	1201.2	1200.7	0.888	6.552	66.207	19.393	6.110	0.249	0.540	0.030	0.031	0.000	0.000	0.000	0.000	0.000	1379.71	
31	0.7529	1175.7	1196.5	1196.2	0.883	6.364	66.974	19.053	5.928	0.231	0.508	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1378.99	
Avg	0.7551	1180.0	1200.5	1199.9	0.863	6.366	66.532	19.485	5.952	0.237	0.508	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1381.51	

# Source Daily Summary

December 2023

Source #: 041  
Name: BISMARCK STN-GLEN ULLIN STN

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6988	1136.2	1156.3	1155.8	0.490	4.309	73.823	18.236	2.820	0.096	0.204	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1383.20	
2	0.6839	1126.4	1146.3	1145.9	0.373	3.684	75.674	18.161	1.925	0.057	0.114	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1386.24	
3	0.6743	1117.6	1137.4	1137.0	0.303	3.431	76.926	17.814	1.418	0.036	0.065	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1385.09	
4	0.6729	1114.1	1133.9	1133.4	0.314	3.493	77.265	17.357	1.457	0.038	0.068	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1382.20	
5	0.6751	1114.3	1134.0	1133.6	0.481	3.435	76.773	17.944	1.279	0.030	0.053	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1380.18	
6	0.7016	1133.8	1153.9	1153.4	0.685	4.417	73.372	18.448	2.755	0.096	0.205	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1377.66	
7	0.6938	1131.5	1151.6	1151.1	0.543	4.040	74.301	18.555	2.301	0.077	0.165	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1382.56	
8	0.6780	1125.7	1145.6	1145.2	0.339	3.233	75.886	19.339	1.130	0.024	0.044	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1391.30	
9	0.6744	1119.1	1138.9	1138.5	0.298	3.354	76.590	18.533	1.149	0.025	0.045	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1386.88	
10	0.6903	1134.9	1155.0	1154.6	0.333	3.830	74.529	18.992	2.111	0.063	0.128	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1390.41	
11	0.6768	1120.2	1140.1	1139.7	0.382	3.387	76.322	18.540	1.280	0.030	0.053	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1385.77	
12	0.6758	1116.2	1136.0	1135.6	0.446	3.436	76.553	18.234	1.248	0.028	0.050	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1381.91	
13	0.6826	1121.1	1140.9	1140.5	0.508	3.688	75.706	18.315	1.629	0.047	0.096	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1380.91	
14	0.6749	1117.2	1137.0	1136.6	0.399	3.365	76.698	18.212	1.238	0.029	0.053	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1384.00	
15	0.6768	1115.8	1135.5	1135.1	0.506	3.471	76.552	18.014	1.340	0.037	0.072	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1380.30	
16	0.6778	1113.3	1133.0	1132.6	0.593	3.573	76.617	17.603	1.472	0.044	0.088	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1376.34	
17	0.6918	1124.8	1144.7	1144.3	0.673	4.067	74.811	17.920	2.261	0.080	0.170	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1376.52	
18	0.6775	1115.5	1135.2	1134.8	0.465	3.616	76.720	17.408	1.637	0.049	0.095	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1379.25	
19	0.6730	1112.7	1132.4	1132.0	0.446	3.387	77.246	17.497	1.318	0.035	0.064	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1380.38	
20	0.6732	1114.8	1134.6	1134.2	0.404	3.345	76.940	18.090	1.136	0.028	0.052	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1382.78	
21	0.6758	1112.5	1132.2	1131.8	0.587	3.450	76.667	17.987	1.220	0.030	0.054	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1377.26	
22	0.6740	1103.8	1123.4	1123.0	0.785	3.503	77.332	16.988	1.286	0.035	0.064	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1368.38	
23	0.6751	1103.4	1122.9	1122.5	0.801	3.617	77.274	16.747	1.437	0.040	0.075	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.63	
24	0.6951	1121.4	1141.2	1140.9	0.811	4.372	74.671	17.210	2.629	0.092	0.193	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1369.05	
25	0.6873	1113.5	1133.2	1132.9	0.838	4.085	75.648	17.085	2.117	0.069	0.143	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1366.99	
26	0.6721	1101.2	1120.7	1120.4	0.758	3.531	77.751	16.491	1.362	0.036	0.065	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1367.02	
27	0.7306	1156.5	1176.9	1176.5	0.808	5.562	69.774	18.685	4.577	0.175	0.380	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1377.11	
28	0.6856	1119.2	1139.0	1138.6	0.700	3.792	75.530	17.958	1.836	0.057	0.115	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1375.55	
29	0.6724	1103.0	1122.5	1122.2	0.758	3.456	77.345	17.297	1.065	0.027	0.048	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1368.89	
30	0.6760	1106.5	1126.1	1125.7	0.748	3.586	76.924	17.316	1.308	0.037	0.074	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1369.72	
31	0.6775	1110.8	1130.4	1130.1	0.700	3.548	76.655	17.574	1.402	0.038	0.074	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1373.37	
Avg	0.6821	1119.0	1138.4	1138.0	0.557	3.712	75.964	17.889	1.714	0.051	0.102	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1378.51	

# Source Daily Summary

December 2023

Source #: 271  
Name: DCKSN BRD-BLFD TSF-G.U. STN

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6782	1124.0	1143.9	1143.7	0.308	3.397	76.175	18.556	1.454	0.039	0.068	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1389.06	
2	0.6759	1120.3	1140.1	1139.9	0.287	3.446	76.515	18.268	1.384	0.036	0.061	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1386.71	
3	0.6746	1117.2	1137.0	1136.8	0.301	3.485	76.828	17.873	1.405	0.038	0.065	0.003	0.001	0.000	0.000	0.000	0.000	0.000	1384.29	
4	0.6768	1119.8	1139.7	1139.4	0.373	3.425	76.292	18.541	1.286	0.031	0.051	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1385.28	
5	0.6774	1116.9	1136.7	1136.4	0.528	3.426	76.163	18.661	1.150	0.026	0.044	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1381.04	
6	0.6797	1128.8	1148.8	1148.5	0.321	3.232	75.476	19.789	1.115	0.024	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1393.38	
7	0.6784	1126.0	1145.9	1145.7	0.324	3.280	75.695	19.556	1.076	0.025	0.043	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1391.22	
8	0.6752	1120.4	1140.2	1139.9	0.286	3.377	76.341	18.812	1.115	0.026	0.042	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1387.56	
9	0.6770	1123.5	1143.4	1143.2	0.274	3.371	76.067	19.001	1.213	0.028	0.046	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1389.63	
10	0.6774	1121.5	1141.4	1141.1	0.363	3.396	76.072	18.880	1.213	0.028	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.74	
11	0.6778	1120.3	1140.2	1139.9	0.400	3.443	76.073	18.762	1.243	0.030	0.049	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1384.93	
12	0.6762	1116.5	1136.3	1136.0	0.459	3.437	76.336	18.560	1.135	0.027	0.045	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1381.82	
13	0.6764	1120.1	1139.9	1139.7	0.377	3.369	76.286	18.694	1.195	0.029	0.050	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1385.99	
14	0.6757	1114.9	1134.7	1134.4	0.512	3.404	76.476	18.427	1.106	0.027	0.047	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1380.43	
15	0.6748	1113.4	1133.2	1132.9	0.514	3.412	76.743	18.065	1.177	0.032	0.054	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1379.41	
16	0.6744	1110.0	1129.6	1129.4	0.598	3.452	76.835	17.924	1.106	0.030	0.052	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1375.62	
17	0.6723	1108.8	1128.4	1128.2	0.504	3.479	77.285	17.416	1.222	0.033	0.058	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1376.16	
18	0.6742	1114.6	1134.3	1134.1	0.424	3.417	76.923	17.849	1.288	0.035	0.061	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1381.51	
19	0.6759	1120.3	1140.2	1139.9	0.364	3.326	76.324	18.771	1.134	0.029	0.051	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1386.82	
20	0.6764	1113.3	1133.0	1132.7	0.571	3.483	76.441	18.261	1.164	0.030	0.050	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1377.62	
21	0.6753	1106.4	1126.0	1125.7	0.767	3.504	76.943	17.462	1.229	0.034	0.058	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1370.16	
22	0.6736	1103.4	1122.9	1122.6	0.775	3.510	77.275	17.138	1.216	0.032	0.053	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1368.24	
23	0.6722	1099.5	1119.0	1118.7	0.781	3.610	77.589	16.681	1.245	0.034	0.058	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1364.80	
24	0.6713	1098.0	1117.5	1117.2	0.816	3.559	77.681	16.731	1.134	0.029	0.049	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1363.91	
25	0.6727	1102.9	1122.4	1122.1	0.738	3.521	77.483	16.883	1.283	0.034	0.057	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1368.42	
26	0.6764	1111.4	1131.1	1130.9	0.667	3.454	76.584	17.994	1.218	0.031	0.051	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1375.28	
27	0.6767	1113.2	1132.9	1132.7	0.632	3.425	76.421	18.296	1.147	0.029	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.22	
28	0.6730	1103.1	1122.6	1122.4	0.774	3.477	77.160	17.507	1.012	0.026	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1368.47	
29	0.6732	1105.5	1125.1	1124.9	0.711	3.447	77.045	17.722	1.006	0.026	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1371.22	
30	0.6748	1108.1	1127.7	1127.5	0.697	3.462	76.856	17.762	1.146	0.029	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.77	
31	0.6761	1113.5	1133.2	1133.0	0.597	3.397	76.634	18.045	1.239	0.033	0.055	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1378.25	
Avg	0.6755	1114.0	1133.8	1133.5	0.518	3.433	76.613	18.158	1.195	0.030	0.051	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.48	

# Source Daily Summary

December 2023

Source #: 051  
Name: CABIN CRK STN-BELFIELD TRSFR

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6778	1116.7	1136.4	1135.1	0.417	3.642	76.819	17.120	1.837	0.054	0.100	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1380.32	
2	0.6775	1116.2	1136.0	1134.6	0.412	3.650	76.867	17.074	1.834	0.054	0.099	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1380.06	
3	0.6774	1116.0	1135.8	1134.5	0.410	3.654	76.883	17.058	1.833	0.053	0.098	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1379.94	
4	0.6772	1115.6	1135.4	1134.9	0.415	3.645	76.922	17.043	1.814	0.053	0.097	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1379.73	
5	0.6763	1114.3	1134.1	1133.2	0.400	3.666	77.065	16.907	1.805	0.052	0.095	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1379.01	
6	0.6750	1112.5	1132.2	1131.3	0.436	3.605	77.260	16.834	1.716	0.049	0.089	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1378.00	
7	0.6762	1114.1	1133.9	1132.9	0.395	3.674	77.092	16.867	1.813	0.052	0.095	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1378.89	
8	0.6760	1113.9	1133.7	1132.6	0.397	3.669	77.109	16.867	1.801	0.052	0.094	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1378.78	
9	0.6765	1114.6	1134.3	1133.6	0.405	3.661	77.032	16.933	1.810	0.052	0.095	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1379.13	
10	0.6763	1114.4	1134.1	1133.5	0.401	3.665	77.065	16.899	1.811	0.052	0.096	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1379.02	
11	0.6763	1114.2	1134.0	1133.5	0.403	3.664	77.074	16.894	1.806	0.052	0.095	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1378.91	
12	0.6762	1114.1	1133.8	1133.0	0.400	3.669	77.086	16.880	1.806	0.052	0.095	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1378.82	
13	0.6760	1113.8	1133.5	1132.8	0.399	3.670	77.122	16.849	1.803	0.052	0.094	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1378.67	
14	0.6758	1113.6	1133.3	1132.4	0.401	3.666	77.146	16.836	1.796	0.051	0.094	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1378.57	
15	0.6757	1113.4	1133.1	1132.7	0.404	3.660	77.166	16.827	1.788	0.051	0.093	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1378.48	
16	0.6755	1113.1	1132.8	1132.4	0.401	3.663	77.203	16.793	1.785	0.051	0.093	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1378.32	
17	0.6753	1112.8	1132.5	1131.4	0.401	3.664	77.233	16.767	1.780	0.051	0.093	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1378.14	
18	0.6751	1112.5	1132.2	1131.1	0.400	3.663	77.276	16.733	1.775	0.051	0.092	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1377.97	
19	0.6744	1111.2	1130.9	1130.5	0.423	3.637	77.399	16.659	1.732	0.049	0.090	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1377.15	
20	0.6749	1112.2	1131.9	1131.6	0.409	3.648	77.315	16.715	1.761	0.050	0.092	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1377.80	
21	0.6748	1112.2	1131.9	1131.6	0.415	3.635	77.318	16.729	1.752	0.050	0.091	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1377.86	
22	0.6740	1110.0	1129.7	1129.3	0.488	3.581	77.458	16.661	1.669	0.047	0.086	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1375.99	
23	0.6746	1112.0	1131.7	1131.3	0.420	3.617	77.356	16.724	1.733	0.049	0.090	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1377.84	
24	0.6736	1108.9	1128.6	1128.2	0.501	3.583	77.544	16.585	1.646	0.046	0.084	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1375.12	
25	0.6745	1111.9	1131.6	1131.2	0.418	3.617	77.367	16.719	1.729	0.049	0.090	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1377.82	
26	0.6740	1110.7	1130.3	1130.0	0.462	3.576	77.460	16.682	1.676	0.048	0.087	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1376.85	
27	0.6717	1108.6	1128.3	1128.0	0.619	3.251	77.832	16.745	1.430	0.040	0.074	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1376.62	
28	0.6721	1109.7	1129.4	1129.1	0.581	3.273	77.762	16.795	1.463	0.041	0.075	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1377.65	
29	0.6727	1106.6	1126.1	1125.7	0.590	3.514	77.699	16.515	1.554	0.043	0.077	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1373.04	
30	0.6737	1109.4	1129.0	1128.6	0.466	3.627	77.501	16.583	1.680	0.047	0.085	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1375.48	
31	0.6740	1111.4	1131.0	1130.5	0.399	3.631	77.432	16.674	1.717	0.049	0.088	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1377.69	
Avg	0.6752	1113.0	1132.3	1131.7	0.435	3.614	77.254	16.805	1.740	0.050	0.091	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1377.99	

# Source Daily Summary

December 2023

Source #: 111  
Name: LITTLE KNIFE PLANT

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6849	1152.7	1173.1	1171.2	0.000	2.761	73.487	23.200	0.537	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.46	-27.11
2	0.6835	1150.6	1171.0	1169.1	0.000	2.742	73.591	23.124	0.508	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.40	-27.39
3	0.6854	1154.0	1174.4	1172.5	0.000	2.731	73.448	23.212	0.585	0.008	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.49	-26.48
4	0.6856	1154.5	1175.0	1173.2	0.000	2.709	73.429	23.255	0.579	0.008	0.016	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1419.05	-26.22
5	0.6859	1155.0	1175.4	1173.6	0.000	2.716	73.443	23.140	0.680	0.008	0.013	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1419.22	-25.86
6	0.6861	1155.1	1175.6	1173.8	0.000	2.723	73.416	23.140	0.704	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.23	-25.78
7	0.6847	1152.7	1173.1	1171.3	0.000	2.739	73.631	22.985	0.623	0.007	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.69	-26.77
8	0.6821	1145.3	1165.6	1164.2	0.000	2.938	74.038	22.484	0.521	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.38	-29.00
9	0.6823	1145.5	1165.8	1163.9	0.000	2.946	74.007	22.492	0.536	0.007	0.011	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1411.41	-28.85
10	0.6827	1146.4	1166.7	1164.7	0.000	2.932	73.957	22.528	0.563	0.007	0.011	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1412.02	-28.51
11	0.6819	1144.9	1165.2	1163.2	0.000	2.953	74.069	22.427	0.533	0.007	0.011	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1410.98	-29.06
12	0.6815	1144.0	1164.2	1162.1	0.000	2.967	74.156	22.327	0.536	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.29	-29.41
13	0.6833	1147.9	1168.2	1166.0	0.001	2.899	73.884	22.577	0.619	0.007	0.012	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1413.25	-27.86
14	0.6826	1146.3	1166.6	1164.5	0.000	2.923	73.982	22.515	0.560	0.007	0.011	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1412.12	-28.56
15	0.6817	1145.2	1165.5	1163.5	0.000	2.915	74.121	22.413	0.533	0.006	0.010	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1411.55	-29.10
16	0.6819	1145.4	1165.7	1163.8	0.000	2.918	74.094	22.426	0.543	0.007	0.011	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1411.66	-28.95
17	0.6812	1144.2	1164.5	1162.8	0.000	2.928	74.166	22.398	0.495	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.86	-29.61
18	0.6814	1144.6	1164.9	1163.0	0.000	2.921	74.128	22.447	0.486	0.006	0.010	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1411.18	-29.44
19	0.6819	1145.1	1165.4	1163.7	0.000	2.933	74.053	22.494	0.503	0.006	0.010	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1411.34	-29.17
20	0.6820	1145.3	1165.6	1163.9	0.000	2.931	74.025	22.531	0.495	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.46	-29.16
21	0.6828	1146.9	1167.3	1165.9	0.000	2.912	73.869	22.699	0.502	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.59	-28.65
22	0.6831	1147.2	1167.5	1166.1	0.000	2.924	73.788	22.790	0.480	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.59	-28.61
23	0.6840	1147.7	1168.0	1166.5	0.000	2.987	73.506	23.074	0.417	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.18	-28.49
24	0.6839	1149.2	1169.6	1168.1	0.000	2.877	73.547	23.155	0.405	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.26	-28.38
25	0.6834	1148.7	1169.0	1167.5	0.000	2.862	73.657	23.057	0.408	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.11	-28.58
26	0.6841	1148.8	1169.2	1167.6	0.000	2.916	73.705	22.767	0.585	0.009	0.016	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1413.59	-27.53
27	0.6828	1146.5	1166.8	1164.6	0.000	2.940	73.793	22.808	0.445	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.03	-28.96
28	0.6831	1147.2	1167.5	1165.4	0.000	2.928	73.703	22.939	0.416	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.55	-28.89
29	0.6828	1146.4	1166.7	1164.8	0.000	2.952	73.748	22.882	0.405	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.82	-29.15
30	0.6830	1147.0	1167.3	1165.6	0.000	2.932	73.704	22.948	0.404	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.40	-28.98
31	0.6826	1146.2	1166.5	1164.5	0.000	2.938	73.794	22.851	0.404	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.90	-29.23
Avg	0.6832	1148.0	1168.3	1166.5	0.000	2.884	73.805	22.777	0.516	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.45	-28.31

# Source Daily Summary

December 2023

Source #: 351  
Name: BADLANDS PLANT

<b>Pressure Base:</b>	14.730	<b>Contract Day:</b>	1
<b>Temperature Base:</b>	60	<b>Contract Hour:</b>	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6662	1094.9	1114.3	1113.9	0.470	3.798	78.778	15.375	1.442	0.043	0.082	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1365.15	
2	0.6671	1095.8	1115.2	1114.9	0.479	3.812	78.604	15.523	1.445	0.043	0.083	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1365.42	
3	0.6663	1095.2	1114.5	1114.2	0.478	3.781	78.741	15.443	1.424	0.043	0.081	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1365.39	
4	0.6669	1096.1	1115.5	1115.2	0.482	3.771	78.632	15.549	1.432	0.043	0.081	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1365.99	
5	0.6561	1080.9	1100.0	1099.6	0.438	3.747	80.609	13.823	1.265	0.038	0.071	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1357.96	
6	0.5822	976.9	994.2	993.9	0.145	3.574	94.177	1.917	0.164	0.012	0.009	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1303.02	
7	0.5744	966.0	983.1	982.7	0.115	3.555	95.612	0.659	0.048	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1297.11	
8	0.5722	962.9	979.9	979.7	0.107	3.549	96.016	0.305	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.45	
9	0.5722	963.0	980.0	979.8	0.107	3.540	96.026	0.304	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.61	
10	0.5721	963.0	980.1	979.8	0.108	3.533	96.033	0.303	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.73	
11	0.6329	1041.5	1059.9	1059.6	0.341	4.110	84.895	9.584	0.961	0.034	0.065	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1332.30	
12	0.6497	1072.1	1091.1	1090.8	0.440	3.682	81.799	12.810	1.160	0.036	0.065	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1353.47	
13	0.5722	962.9	980.0	979.7	0.108	3.546	96.016	0.306	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.50	
14	0.5722	963.0	980.1	979.8	0.108	3.535	96.029	0.304	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.68	
15	0.6274	1033.6	1051.9	1051.7	0.330	4.089	85.887	8.736	0.861	0.031	0.057	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1328.09	
16	0.6629	1089.1	1108.4	1108.1	0.505	3.788	79.379	14.845	1.354	0.041	0.077	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1361.35	
17	0.6613	1088.1	1107.4	1107.1	0.507	3.697	79.673	14.683	1.317	0.040	0.074	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1361.71	
18	0.6601	1087.5	1106.7	1106.4	0.511	3.615	79.901	14.568	1.286	0.039	0.071	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1362.17	
19	0.6633	1092.4	1111.7	1111.4	0.538	3.572	79.311	15.150	1.308	0.039	0.073	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1365.06	
20	0.6666	1098.0	1117.5	1117.1	0.576	3.485	78.696	15.799	1.326	0.038	0.072	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1368.67	
21	0.6655	1096.4	1115.9	1115.5	0.567	3.495	78.882	15.631	1.306	0.038	0.072	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1367.78	
22	0.6646	1094.5	1113.9	1113.6	0.562	3.529	79.065	15.422	1.302	0.038	0.072	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1366.38	
23	0.6619	1090.3	1109.6	1109.3	0.545	3.557	79.564	14.945	1.271	0.038	0.071	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1363.88	
24	0.6621	1092.1	1111.5	1111.2	0.550	3.453	79.537	15.081	1.264	0.037	0.069	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.01	
25	0.6613	1091.1	1110.4	1110.1	0.551	3.444	79.686	14.949	1.257	0.037	0.068	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1365.48	
26	0.6625	1092.6	1112.0	1111.7	0.549	3.464	79.467	15.124	1.280	0.037	0.069	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.18	
27	0.6633	1093.9	1113.3	1113.0	0.568	3.436	79.305	15.305	1.272	0.037	0.068	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.94	
28	0.6627	1092.6	1111.9	1111.6	0.558	3.472	79.419	15.167	1.270	0.037	0.068	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1365.94	
29	0.6627	1093.1	1112.4	1112.1	0.558	3.442	79.428	15.186	1.272	0.037	0.068	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.56	
30	0.6648	1096.9	1116.4	1116.1	0.560	3.404	79.040	15.570	1.311	0.037	0.069	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1369.17	
31	0.6627	1094.2	1113.6	1113.3	0.575	3.347	79.423	15.305	1.240	0.036	0.066	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1367.96	
Avg	0.6406	1060.0	1078.5	1078.2	0.420	3.607	83.472	11.409	0.997	0.032	0.056	0.003	0.004	0.000	0.000	0.000	0.000	0.000	1347.20	



December-23

ZONE 550

MANDAN BORDER

Start Date	End Date	NBPL - St Anthony			WBI - Mandan			Weighted AVG BTU	
		MCF	DK	BTU	MCF	DK	BTU Zone 28		
12/1/2023	12/2/2023	0	0	0	4,773	5,519	1156.3	1156.300	12/1/2023
12/2/2023	12/3/2023	0	0	0	4,598	5,267	1146.3	1146.300	12/2/2023
12/3/2023	12/4/2023	0	0	0	4,520	5,141	1137.4	1137.400	12/3/2023
12/4/2023	12/5/2023	0	0	0	4,581	5,191	1133.9	1133.900	12/4/2023
12/5/2023	12/6/2023	0	0	0	4,047	4,589	1134	1134.000	12/5/2023
12/6/2023	12/7/2023	0	0	0	2,872	3,312	1153.9	1153.900	12/6/2023
12/7/2023	12/8/2023	0	0	0	3,390	3,902	1151.6	1151.600	12/7/2023
12/8/2023	12/9/2023	0	0	0	5,022	5,753	1145.6	1145.600	12/8/2023
12/9/2023	12/10/2023	0	0	0	5,259	5,990	1138.9	1138.900	12/9/2023
12/10/2023	12/11/2023	0	0	0	5,344	6,176	1155	1155.000	12/10/2023
12/11/2023	12/12/2023	0	0	0	5,712	6,513	1140.1	1140.100	12/11/2023
12/12/2023	12/13/2023	0	0	0	6,081	6,907	1136	1136.000	12/12/2023
12/13/2023	12/14/2023	0	0	0	4,801	5,478	1140.9	1140.900	12/13/2023
12/14/2023	12/15/2023	0	0	0	4,272	4,858	1137	1137.000	12/14/2023
12/15/2023	12/16/2023	0	0	0	5,011	5,695	1135.5	1135.500	12/15/2023
12/16/2023	12/17/2023	0	0	0	4,527	5,136	1133	1133.000	12/16/2023
12/17/2023	12/18/2023	0	0	0	5,206	5,994	1144.7	1144.700	12/17/2023
12/18/2023	12/19/2023	0	0	0	5,376	6,111	1135.2	1135.200	12/18/2023
12/19/2023	12/20/2023	851	955	1120.5	4,723	5,349	1132.4	1130.583	12/19/2023
12/20/2023	12/21/2023	0	0	0	4,928	5,589	1134.6	1134.600	12/20/2023
12/21/2023	12/22/2023	0	0	0	4,236	4,794	1132.2	1132.200	12/21/2023
12/22/2023	12/23/2023	0	0	0	4,057	4,559	1123.4	1123.400	12/22/2023
12/23/2023	12/24/2023	0	0	0	4,014	4,508	1122.9	1122.900	12/23/2023
12/24/2023	12/25/2023	13	14	1106.3	5,541	6,347	1141.2	1141.118	12/24/2023
12/25/2023	12/26/2023	0	0	0	5,592	6,346	1133.2	1133.200	12/25/2023
12/26/2023	12/27/2023	0	0	0	5,071	5,684	1120.7	1120.700	12/26/2023
12/27/2023	12/28/2023	0	0	0	4,952	5,817	1176.9	1176.900	12/27/2023
12/28/2023	12/29/2023	0	0	0	4,763	5,425	1139	1139.000	12/28/2023
12/29/2023	12/30/2023	0	0	0	4,233	4,750	1122.5	1122.500	12/29/2023
12/30/2023	12/31/2023	0	0	0	5,303	5,974	1126.1	1126.100	12/30/2023
12/31/2023	1/1/2024	0	0	0	5,457	6,173	1130.4	1130.400	12/31/2023
		864	969	71.8323	148,262	168,847	1138.4129	1138.3517	



# Alliance Pipeline

DAILY ANALYSIS --- USA  
 ND07MD1 --- Hankinson Sales  
 December 2023

DAY	Heating Value (BTU/ft3)	Relative Density	C1 Mol%	C2 Mol%	C3 Mol%	IC4 Mol%	NC4 Mol%	IC5 Mol%	NC5 Mol%	C6+ Mol%	N2 Mol%	CO2 Mol%	Hel Mol%
1	1,147.257	0.6557	84.8801	9.6426	3.1713	0.3349	0.5389	0.0599	0.0472	0.0176	0.8957	0.4016	0.0102
2	1,146.778	0.6550	85.0184	9.5579	3.1412	0.3356	0.5486	0.0603	0.0475	0.0180	0.8648	0.3974	0.0103
3	1,145.801	0.6543	85.0376	9.5890	3.1110	0.3298	0.5319	0.0581	0.0458	0.0169	0.8851	0.3847	0.0102
4	1,146.750	0.6552	84.9459	9.6236	3.1350	0.3367	0.5402	0.0605	0.0471	0.0169	0.8884	0.3957	0.0101
5	1,148.875	0.6564	84.7741	9.7184	3.2042	0.3357	0.5532	0.0603	0.0473	0.0174	0.8864	0.3927	0.0104
6	1,148.671	0.6570	84.6763	9.7357	3.2159	0.3353	0.5583	0.0605	0.0477	0.0174	0.9461	0.3966	0.0102
7	1,148.767	0.6570	84.7127	9.6737	3.2316	0.3402	0.5711	0.0589	0.0461	0.0170	0.9391	0.3990	0.0105
8	1,147.842	0.6563	84.8567	9.5850	3.1914	0.3415	0.5743	0.0601	0.0461	0.0174	0.9119	0.4052	0.0103
9	1,143.723	0.6528	85.2994	9.4199	3.0639	0.3230	0.5233	0.0577	0.0451	0.0173	0.8294	0.4100	0.0109
10	1,143.731	0.6533	85.1505	9.5464	3.0703	0.3180	0.5044	0.0565	0.0441	0.0169	0.8681	0.4143	0.0105
11	1,144.798	0.6541	85.0530	9.5907	3.0968	0.3220	0.5157	0.0575	0.0452	0.0169	0.8765	0.4156	0.0101
12	1,145.013	0.6542	85.0583	9.5819	3.1127	0.3210	0.5167	0.0570	0.0435	0.0171	0.8587	0.4229	0.0103
13	1,144.693	0.6544	85.0080	9.5921	3.1043	0.3239	0.5217	0.0567	0.0430	0.0169	0.8981	0.4254	0.0100
14	1,144.458	0.6540	85.0704	9.5755	3.0950	0.3207	0.5144	0.0565	0.0434	0.0169	0.8755	0.4213	0.0103
15	1,143.487	0.6522	85.3524	9.4528	3.0519	0.3180	0.4995	0.0564	0.0443	0.0168	0.7982	0.3995	0.0102
16	1,145.910	0.6538	85.1577	9.5115	3.1235	0.3304	0.5309	0.0579	0.0447	0.0172	0.8325	0.3834	0.0104
17	1,147.076	0.6545	85.0283	9.6410	3.1347	0.3299	0.5307	0.0571	0.0439	0.0166	0.8129	0.3944	0.0105
18	1,145.066	0.6534	85.1254	9.6382	3.0328	0.3273	0.5217	0.0574	0.0441	0.0167	0.8377	0.3883	0.0104
19	1,146.213	0.6543	85.0320	9.6424	3.0906	0.3312	0.5302	0.0590	0.0458	0.0169	0.8626	0.3790	0.0103
20	1,148.666	0.6558	84.8893	9.6722	3.1741	0.3376	0.5449	0.0623	0.0519	0.0206	0.8664	0.3712	0.0096
21	1,148.802	0.6555	84.9243	9.6847	3.1358	0.3474	0.5512	0.0632	0.0508	0.0208	0.8462	0.3661	0.0096
22	1,149.723	0.6560	84.8695	9.6935	3.1989	0.3466	0.5488	0.0618	0.0490	0.0198	0.8361	0.3666	0.0095
23	1,146.548	0.6544	85.0159	9.6611	3.1079	0.3309	0.5251	0.0577	0.0454	0.0163	0.8503	0.3791	0.0102
24	1,146.667	0.6543	85.0160	9.6890	3.0854	0.3340	0.5285	0.0580	0.0448	0.0161	0.8399	0.3778	0.0105
25	1,147.785	0.6550	84.9622	9.6855	3.1365	0.3384	0.5367	0.0586	0.0442	0.0164	0.8298	0.3811	0.0107
26	1,150.664	0.6575	84.4963	10.0396	3.1738	0.3385	0.5457	0.0588	0.0450	0.0164	0.8854	0.3902	0.0103
27	1,146.683	0.6549	84.9258	9.7035	3.1173	0.3331	0.5299	0.0566	0.0432	0.0155	0.8687	0.3960	0.0105
28	1,145.158	0.6539	85.0215	9.6922	3.0518	0.3244	0.5195	0.0560	0.0435	0.0157	0.8728	0.3921	0.0105
29	1,146.936	0.6543	85.0249	9.6961	3.1054	0.3270	0.5244	0.0567	0.0438	0.0161	0.8033	0.3916	0.0106
30	1,147.791	0.6553	84.8140	9.8463	3.1232	0.3257	0.5247	0.0558	0.0425	0.0159	0.8506	0.3908	0.0105
31	1,144.284	0.6535	85.0791	9.6489	3.0500	0.3200	0.5096	0.0550	0.0412	0.0149	0.8709	0.4000	0.0104
<b>Volume</b>	<b>1,146.603</b>	<b>0.6548</b>	<b>84.9765</b>	<b>9.6467</b>	<b>3.1237</b>	<b>0.3309</b>	<b>0.5327</b>	<b>0.0583</b>	<b>0.0454</b>	<b>0.0171</b>	<b>0.8639</b>	<b>0.3945</b>	<b>0.0103</b>
<b>Weight Avg Energy</b>	<b>1,146.605</b>	<b>0.6548</b>	<b>84.9763</b>	<b>9.6468</b>	<b>3.1237</b>	<b>0.3309</b>	<b>0.5327</b>	<b>0.0583</b>	<b>0.0454</b>	<b>0.0171</b>	<b>0.8639</b>	<b>0.3945</b>	<b>0.0103</b>



# Alliance Pipeline

DAILY ANALYSIS --- USA  
 ND14MD1 --- Milnor Sales  
 December 2023

DAY	Heating Value (BTU/ft3)	Relative Density	C1 Mol%	C2 Mol%	C3 Mol%	IC4 Mol%	NC4 Mol%	IC5 Mol%	NC5 Mol%	C6+ Mol%	N2 Mol%	CO2 Mol%	Hel Mol%
1	1,147.374	0.6557	84.8905	9.6271	3.1770	0.3360	0.5415	0.0601	0.0473	0.0178	0.8932	0.3993	0.0102
2	1,146.434	0.6547	85.0544	9.5371	3.1292	0.3356	0.5479	0.0602	0.0474	0.0180	0.8650	0.3950	0.0102
3	1,145.664	0.6543	85.0336	9.6027	3.1041	0.3284	0.5280	0.0582	0.0458	0.0168	0.8864	0.3856	0.0103
4	1,147.269	0.6555	84.9034	9.6450	3.1517	0.3379	0.5432	0.0606	0.0472	0.0169	0.8876	0.3964	0.0101
5	1,149.132	0.6567	84.7505	9.7242	3.2129	0.3367	0.5563	0.0607	0.0475	0.0176	0.8909	0.3923	0.0103
6	1,149.133	0.6573	84.6525	9.7451	3.2295	0.3368	0.5627	0.0606	0.0477	0.0173	0.9421	0.3954	0.0102
7	1,148.733	0.6570	84.7235	9.6709	3.2265	0.3404	0.5715	0.0589	0.0462	0.0172	0.9370	0.3973	0.0105
8	1,147.722	0.6562	84.8659	9.5823	3.1878	0.3411	0.5731	0.0600	0.0459	0.0172	0.9121	0.4042	0.0102
9	1,143.213	0.6525	85.3319	9.4093	3.0522	0.3205	0.5156	0.0573	0.0449	0.0175	0.8275	0.4124	0.0110
10	1,143.945	0.6535	85.1190	9.5599	3.0768	0.3190	0.5073	0.0567	0.0441	0.0167	0.8796	0.4106	0.0103
11	1,145.336	0.6544	85.0125	9.6130	3.1103	0.3238	0.5195	0.0578	0.0454	0.0171	0.8737	0.4168	0.0102
12	1,145.443	0.6544	85.0171	9.6135	3.1212	0.3215	0.5187	0.0570	0.0434	0.0167	0.8593	0.4211	0.0103
13	1,144.984	0.6545	84.9946	9.5966	3.1171	0.3240	0.5221	0.0568	0.0431	0.0169	0.8977	0.4213	0.0099
14	1,144.469	0.6539	85.0797	9.5756	3.0941	0.3203	0.5134	0.0563	0.0434	0.0168	0.8710	0.4191	0.0103
15	1,143.448	0.6521	85.3601	9.4454	3.0508	0.3185	0.4997	0.0566	0.0444	0.0170	0.7993	0.3979	0.0103
16	1,145.991	0.6539	85.1431	9.5271	3.1253	0.3302	0.5297	0.0575	0.0444	0.0168	0.8322	0.3833	0.0104
17	1,147.067	0.6545	85.0238	9.6547	3.1308	0.3279	0.5279	0.0574	0.0443	0.0170	0.8123	0.3933	0.0105
18	1,144.879	0.6533	85.1417	9.6303	3.0233	0.3279	0.5224	0.0573	0.0441	0.0164	0.8402	0.3858	0.0104
19	1,146.571	0.6545	85.0129	9.6488	3.1028	0.3321	0.5312	0.0593	0.0464	0.0175	0.8606	0.3781	0.0102
20	1,148.473	0.6555	84.9215	9.6614	3.1660	0.3369	0.5427	0.0620	0.0516	0.0206	0.8581	0.3698	0.0096
21	1,148.769	0.6555	84.9282	9.6825	3.1340	0.3476	0.5513	0.0632	0.0508	0.0208	0.8472	0.3648	0.0096
22	1,149.735	0.6560	84.8827	9.6890	3.1965	0.3472	0.5486	0.0618	0.0490	0.0199	0.8313	0.3646	0.0094
23	1,146.600	0.6544	85.0055	9.6697	3.1083	0.3312	0.5249	0.0576	0.0453	0.0164	0.8504	0.3805	0.0103
24	1,146.502	0.6542	85.0357	9.6753	3.0814	0.3334	0.5285	0.0580	0.0448	0.0161	0.8387	0.3776	0.0105
25	1,148.164	0.6552	84.9255	9.7102	3.1443	0.3395	0.5386	0.0587	0.0443	0.0165	0.8310	0.3807	0.0107
26	1,150.548	0.6575	84.4831	10.0603	3.1667	0.3371	0.5432	0.0583	0.0449	0.0161	0.8882	0.3919	0.0102
27	1,146.380	0.6546	84.9607	9.6941	3.1014	0.3323	0.5276	0.0568	0.0434	0.0155	0.8620	0.3957	0.0106
28	1,145.459	0.6540	85.0016	9.7113	3.0585	0.3241	0.5195	0.0559	0.0435	0.0158	0.8710	0.3884	0.0104
29	1,147.410	0.6545	85.0079	9.7128	3.1156	0.3281	0.5258	0.0567	0.0439	0.0162	0.7917	0.3907	0.0106
30	1,147.797	0.6554	84.8068	9.8510	3.1249	0.3256	0.5242	0.0555	0.0421	0.0158	0.8534	0.3900	0.0105
31	1,144.076	0.6533	85.0953	9.6428	3.0413	0.3196	0.5080	0.0551	0.0414	0.0151	0.8708	0.4002	0.0104
<b>Volume</b>	<b>1,146.630</b>	<b>0.6548</b>	<b>84.9719</b>	<b>9.6462</b>	<b>3.1259</b>	<b>0.3309</b>	<b>0.5329</b>	<b>0.0585</b>	<b>0.0456</b>	<b>0.0172</b>	<b>0.8659</b>	<b>0.3948</b>	<b>0.0102</b>
<b>Weight Avg Energy</b>	<b>1,146.638</b>	<b>0.6548</b>	<b>84.9712</b>	<b>9.6465</b>	<b>3.1262</b>	<b>0.3309</b>	<b>0.5330</b>	<b>0.0585</b>	<b>0.0456</b>	<b>0.0172</b>	<b>0.8660</b>	<b>0.3948</b>	<b>0.0102</b>

December-23

ZONE 610

Watford City		01325 Watford City West Border WBI Meter #0602225			01312 Watford City East Border WBI Meter #2702230			Weighted	
Start Date	End Date	MCF	DK	BTU Zone 25	MCF	DK	BTU Zone 43	AVG BTU	
12/1/2023	12/2/2023	346	414	1197.1	926	1,048	1131.6	1149.417	12/1/2023
12/2/2023	12/3/2023	315	377	1197.1	827	935	1131.6	1149.667	12/2/2023
12/3/2023	12/4/2023	316	379	1197.1	856	969	1131.6	1149.260	12/3/2023
12/4/2023	12/5/2023	362	433	1197.1	961	1,087	1131.6	1149.522	12/4/2023
12/5/2023	12/6/2023	277	331	1197.1	687	778	1131.6	1150.421	12/5/2023
12/6/2023	12/7/2023	217	259	1197.1	576	651	1131.6	1149.524	12/6/2023
12/7/2023	12/8/2023	279	334	1197.1	751	849	1131.6	1149.342	12/7/2023
12/8/2023	12/9/2023	393	470	1197.1	890	1,007	1131.6	1151.664	12/8/2023
12/9/2023	12/10/2023	381	456	1197.1	940	1,064	1131.6	1150.491	12/9/2023
12/10/2023	12/11/2023	361	432	1197.1	819	926	1131.6	1151.639	12/10/2023
12/11/2023	12/12/2023	408	489	1197.1	949	1,074	1131.6	1151.293	12/11/2023
12/12/2023	12/13/2023	398	476	1197.1	951	1,076	1131.6	1150.925	12/12/2023
12/13/2023	12/14/2023	328	392	1197.1	853	965	1131.6	1149.791	12/13/2023
12/14/2023	12/15/2023	329	394	1197.1	987	1,117	1131.6	1147.975	12/14/2023
12/15/2023	12/16/2023	372	446	1197.1	1,119	1,266	1131.6	1147.942	12/15/2023
12/16/2023	12/17/2023	309	370	1197.1	773	875	1131.6	1150.306	12/16/2023
12/17/2023	12/18/2023	383	459	1197.1	969	1,096	1131.6	1150.155	12/17/2023
12/18/2023	12/19/2023	344	412	1197.1	762	862	1131.6	1151.973	12/18/2023
12/19/2023	12/20/2023	331	397	1197.1	842	953	1131.6	1150.083	12/19/2023
12/20/2023	12/21/2023	335	401	1197.1	878	994	1131.6	1149.689	12/20/2023
12/21/2023	12/22/2023	298	356	1197.1	837	947	1131.6	1148.797	12/21/2023
12/22/2023	12/23/2023	306	367	1197.1	668	756	1131.6	1152.178	12/22/2023
12/23/2023	12/24/2023	325	389	1197.1	660	747	1131.6	1153.212	12/23/2023
12/24/2023	12/25/2023	417	500	1197.1	967	1,095	1131.6	1151.335	12/24/2023
12/25/2023	12/26/2023	412	494	1197.1	905	1,024	1131.6	1152.091	12/25/2023
12/26/2023	12/27/2023	428	513	1197.1	947	1,072	1131.6	1151.988	12/26/2023
12/27/2023	12/28/2023	400	479	1197.1	898	1,016	1131.6	1151.785	12/27/2023
12/28/2023	12/29/2023	348	417	1197.1	706	799	1131.6	1153.226	12/28/2023
12/29/2023	12/30/2023	327	391	1197.1	693	784	1131.6	1152.599	12/29/2023
12/30/2023	12/31/2023	377	451	1197.1	813	921	1131.6	1152.351	12/30/2023
12/31/2023	1/1/2024	380	455	1197.1	832	941	1131.6	1152.136	12/31/2023
		10,802	12,933	1197.1000	26,242	29,694	1131.6000	1150.7347	

Tsp	EffDate	EndDate	Device	GasDay	EndDt	BTU	SpecGrav	CriconTherm	WobbeIndex	CO2	N2	Methane	Ethane	Propane	IButane	NButane	IPentane	NPentane	NeoPentane	C6Plus	Hydrogen	Helium	WaterVapor	TotalSulfur	HydrogenSulfur	Oxygen
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/1/2023	12/2/2023	1123	0.6697	-35.7	1372.270119	0.9836	2.7874	77.9911	17.1965	0.9299	0.0221	0.0424	0.0023	0.0023	0	0	0.0162	0.0262	0.2343	0.1447	0.079	0.0008
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/2/2023	12/3/2023	1120	0.668	-37	1370.344596	0.9833	2.7961	78.1696	17.0526	0.8574	0.0198	0.0378	0.0021	0.0022	0	0	0.0533	0.0259	0.252	0.1446	0.0818	0.0008
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/3/2023	12/4/2023	1118	0.6674	-37.7	1368.512291	0.9895	2.8548	78.1692	17.0306	0.7904	0.0194	0.0373	0.0021	0.0021	0	0	0.0791	0.0257	0.2575	0.1441	0.0829	0.0008
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/4/2023	12/5/2023	1118	0.6671	-37.9	1368.819972	0.9898	2.8321	78.3134	16.9342	0.8014	0.0189	0.0365	0.0021	0.0021	0	0	0.0435	0.0262	0.241	0.1406	0.0819	0.0008
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/5/2023	12/6/2023	1119	0.6675	-37.7	1369.833757	1.001	2.7811	78.2906	17.0226	0.799	0.0187	0.0357	0.0019	0.0019	0	0	0.022	0.0256	0.2479	0.1396	0.0844	0.0008
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/6/2023	12/7/2023	1120	0.668	-37.7	1370.344596	1.0096	2.7886	78.1675	17.1301	0.7551	0.0179	0.0351	0.002	0.0021	0	0	0.0164	0.0256	0.2672	0.1443	0.0919	0.0011
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/7/2023	12/8/2023	1120	0.6675	-37.8	1370.857737	1.0075	2.7387	78.2747	17.1154	0.7628	0.0186	0.0363	0.0019	0.0018	0	0	0.0162	0.026	0.2557	0.1398	0.0877	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/8/2023	12/9/2023	1119	0.6676	-37.8	1369.531175	1.0054	2.8212	78.1686	17.0895	0.7726	0.0189	0.0367	0.002	0.0021	0	0	0.0568	0.0264	0.2726	0.1255	0.0783	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/9/2023	12/10/2023	1114	0.6646	-39.4	1366.485483	0.9907	2.8236	78.6272	16.6162	0.7419	0.0184	0.0364	0.0021	0.0021	0	0	0.1153	0.0261	0.2766	0.124	0.0727	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/10/2023	12/11/2023	1115	0.6644	-39.3	1367.917972	0.9864	2.7812	78.6716	16.5817	0.7634	0.0187	0.0371	0.0021	0.0022	0	0	0.1308	0.0251	0.2797	0.1304	0.077	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/11/2023	12/12/2023	1116	0.6648	-38.6	1368.732846	0.9812	2.7551	78.6512	16.5687	0.8294	0.019	0.037	0.0021	0.0022	0	0	0.1292	0.0251	0.2614	0.1295	0.074	0.001
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/12/2023	12/13/2023	1113	0.663	-39.9	1366.905214	0.9795	2.7672	78.8154	16.4155	0.7499	0.0186	0.0365	0.0021	0.0021	0	0	0.1883	0.0251	0.2854	0.1377	0.0771	0.0011
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/13/2023	12/14/2023	1115	0.6648	-38.8	1367.506383	0.99	2.7871	78.5804	16.6038	0.7989	0.019	0.0371	0.0021	0.0022	0	0	0.1543	0.0252	0.2937	0.1402	0.0841	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/14/2023	12/15/2023	1116	0.666	-38.3	1367.499197	0.9986	2.8615	78.3352	16.7784	0.7902	0.0197	0.039	0.0022	0.0024	0	0	0.1471	0.0258	0.2822	0.1369	0.0824	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/15/2023	12/16/2023	1117	0.6665	-38.3	1368.211058	1.0052	2.8525	78.2155	16.9602	0.7471	0.0189	0.0373	0.0021	0.0022	0	0	0.1335	0.0256	0.2675	0.1316	0.0781	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/16/2023	12/17/2023	1118	0.6665	-38.2	1369.425956	0.9981	2.8058	78.1723	17.0557	0.7354	0.0185	0.0363	0.002	0.0021	0	0	0.1486	0.0253	0.2769	0.1397	0.0847	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/17/2023	12/18/2023	1117	0.6661	-38.4	1368.621809	0.9948	2.8255	78.3301	16.8753	0.7586	0.0199	0.0392	0.0023	0.0023	0	0	0.1267	0.0255	0.2707	0.1364	0.0784	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/18/2023	12/19/2023	1118	0.6671	-37.8	1368.819972	0.9967	2.8337	78.1915	16.9982	0.7888	0.0195	0.0378	0.0021	0.0022	0	0	0.1036	0.0259	0.2569	0.1338	0.0762	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/19/2023	12/20/2023	1118	0.6685	-37.4	1367.385901	1.0329	2.8932	78.1288	17.0145	0.8171	0.0198	0.0385	0.0021	0.0021	0	0	0.0249	0.0262	0.2449	0.1354	0.0796	0.0013
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/20/2023	12/21/2023	1113	0.6663	-39	1363.51606	1.0497	2.9791	78.521	16.5382	0.7863	0.0194	0.0382	0.0021	0.0022	0	0	0.0371	0.0268	0.2507	0.1333	0.0791	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/21/2023	12/22/2023	1111	0.6645	-39.7	1362.90808	1.0386	2.9293	78.9398	16.1067	0.8126	0.0201	0.0393	0.0022	0.0023	0	0	0.0258	0.027	0.2673	0.1351	0.0837	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/22/2023	12/23/2023	1111	0.6638	-39.9	1363.626508	1.0262	2.9247	78.9569	16.1067	0.8125	0.0201	0.0398	0.0023	0.0024	0	0	0.0819	0.0268	0.2787	0.1387	0.0813	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/23/2023	12/24/2023	1107	0.6603	-41.8	1362.313224	1.0011	2.8268	79.5436	15.6539	0.7753	0.0188	0.0363	0.0019	0.0021	0	0	0.1144	0.0259	0.2887	0.1412	0.0806	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/24/2023	12/25/2023	1105	0.6591	-42.6	1361.089307	0.9956	2.8396	79.7236	15.4807	0.7474	0.0182	0.0353	0.0018	0.0021	0	0	0.1303	0.0258	0.2885	0.1411	0.0746	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/25/2023	12/26/2023	1111	0.6633	-40.2	1364.140366	1.03	2.8524	78.9804	16.1818	0.7785	0.0188	0.0363	0.002	0.002	0	0	0.102	0.026	0.2524	0.1395	0.0775	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/26/2023	12/27/2023	1106	0.6598	-42.3	1361.598209	1.0103	2.8218	79.6272	15.6116	0.7304	0.0186	0.0364	0.0021	0.0021	0	0	0.1137	0.0261	0.2847	0.1357	0.0762	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/27/2023	12/28/2023	1104	0.6577	-43.4	1361.3041	0.998	2.7909	79.9914	15.3001	0.7093	0.0184	0.0368	0.0022	0.0023	0	0	0.125	0.0256	0.3013	0.1347	0.0744	0.0012
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/28/2023	12/29/2023	1108	0.6605	-41.9	1363.337402	1.0161	2.7688	79.6267	15.7149	0.739	0.0182	0.0359	0.0021	0.0021	0	0	0.0505	0.0258	0.2922	0.1303	0.0805	0.0011
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/29/2023	12/30/2023	1109	0.6602	-41.3	1364.877851	1.0118	2.7213	79.6654	15.587	0.8238	0.0196	0.038	0.0022	0.0023	0	0.0001	0.1034	0.0253	0.3065	0.1195	0.0778	0.0008
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/30/2023	12/31/2023	1106	0.6582	-42.6	1363.25214	1.0043	2.7092	80.057	15.2586	0.7867	0.0198	0.0389	0.0022	0.0023	0	0	0.0959	0.0253	0.2927	0.118	0.0759	0.0008
NBPL	10/31/2023 0:00	2/1/2024 0:00	GLNU1 - GLEN ULLIN	12/31/2023	1/1/2024	1106	0.6583	-42.8	1363.148592	0.9977	2.7311	79.9742	15.3595	0.7498	0.0189	0.0372	0.0022	0.0022	0	0	0.1023	0.0251	0.2917	0.1197	0.0756	0.0012

<b>NORTH DAKOTA HEATING VALUE ZONES</b>		
<b>ZONES</b>	<b>MEASURING DEVICE</b>	<b>LOCATION</b>
211	Chromatograph	Sidney Border
24	Chromatograph	Williston Border
241	Accumulated Sample	Fairview Border
25	Accumulated Sample	Watford City West Border
260	Chromatograph	North Tioga Transfer
261	Chromatograph	Tioga Comp Station – Robinson Lake Plant
262	Chromatograph	Minot Border
263	Accumulated Sample	Lignite Plant
264	Accumulated Sample	Epping Border
265	Chromatograph	Tioga Comp Station – County Line Plant
271	Chromatograph	Bismarck – Cleveland
272	Chromatograph	Cleveland – Mapleton
273	Chromatograph	Cleveland – Grafton
28	Chromatograph	Bismarck Station
31	Chromatograph	Dickinson Border
32	Chromatograph	Cabin Creek Station
33	Chromatograph	Little Knife Plant
34	Chromatograph	Bowman Border
43	Accumulated Sample	Watford City East Border
550	Accumulated Sample & Chromatograph	Mandan Border
600	Chromatograph	Hankinson Area
601	Chromatograph	Milnor Area
610	Accumulated Sample & Chromatograph	Watford City
802	Chromatograph	Linton

MONTANA DAKOTA UTILITIES CO  
NORTH DAKOTA  
HEATING VALUE DATA

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	DEC23	NOV23	OCT23	SEP23	AUG23	JUL23	JUN23	MAY23	APR23	MAR23	FEB23	JAN23	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1198	1192	1195	1194	1196	1198	1199	1195	1200	1204	1208	1191	1203	211
ND	24	Williston Border - Charbonneau Station	1194	1194	1194	1188	1188	1195	1195	1196	1198	1194	1195	1198	1197	24
ND	25	Watford City West Border	1198	1197	1198	1207	1212	1210	1210	1190	1189	1180	1183	1200	1195	25
ND	28	Bismarck Station - Glen Ullin Station	1159	1138	1161	1154	1202	1199	1194	1195	1192	1118	1127	1115	1118	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1122	1134	1147	1138	1121	1124	1118	1107	1086	1100	1132	1126	1132	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1128	1132	1138	1135	1135	1134	1124	1124	1111	1119	1137	1116	1125	32
ND	33	Little Knife Plant	1176	1168	1174	1173	1177	1181	1174	1180	1182	1179	1177	1175	1176	33
ND	34	Badlands Plant/Bowman Border	1027	1079	1017	980	984	980	980	1040	1021	1005	1071	1086	1079	34
ND	43	Watford City East Border	1113	1132	1154	1119	1124	1120	1118	1081	1042	1083	1116	1128	1143	43
ND/MT	241	Fairview Border	1199	1192	1198	1192	1195	1200	1193	1189	1200	1196	1201	1212	1218	241
ND	267	North Tioga Transfer - Nesson Plant	1179	1171	1169	1169	1166	1176	1181	1185	1188	1187	1189	1188	1181	267
ND	261	Tioga Comp Station - Robinson Lake Plan	1190	1201	1203	1203	1187	1191	1186	1189	1188	1184	1185	1184	1176	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1195	1202	1204	1206	1202	1197	1192	1193	1190	1189	1187	1187	1188	262
ND	263	Lignite Plant	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	263
ND	264	Epping Border	1197	1206	1206	1191	1183	1195	1190	1181	1195	1202	1200	1208	1202	264
ND	265	Tioga Comp Station - County Line Plant	1176	1183	1175	1171	1174	1170	1165	1168	1176	1182	1183	1181	1182	265
ND	266	County Line Plant	1177	1184	1177	1172	1179	1171	1166	1168	1178	1182	1183	1180	1183	266
ND	271	Bismarck Station - Cleveland Station	1192	1201	1206	1204	1202	1199	1194	1195	1192	1189	1181	1168	1168	271
ND	272	Cleveland Station - Mapleton	1191	1200	1204	1205	1201	1199	1194	1194	1191	1188	1181	1168	1168	272
ND	273	Cleveland Station - Grafton Border	1191	1201	1205	1204	1202	1198	1194	1194	1192	1187	1180	1168	1168	273
ND	550	Mandan Border / NBPL-St Anthony	1138	1138	1161	1142	1188	1173	1172	1160	1085	1101	1118	1109	1109	550
ND	610	MDU-Watford City BTU	1132	1151	1167	1152	1150	1131	1123	1091	1065	1111	1137	1149	1159	610
ND	802	NBPL - Linton	1100	1114	1104	1106	1110	1105	1104	1102	1080	1085	1097	1095	1093	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1152	1147	1146	1153	1149	1159	1155	1157	1154	1153	1149	1152	1148	600
ND	601	Alliance Pipeline - Milnor	1152	1147	1147	1154	1149	1160	1155	1157	1155	1154	1149	1152	1148	601

<b>THERMAL ZONE VARIANCE DOCUMENTATION</b>		
<b>December 2023</b>		
<b><i>ZONE</i></b>	<b><i>BTU VARIANCE</i></b>	<b><i>REASON</i></b>
28	-23	Operational
34	62	Blend
43	-22	Operational/Blend
550	-23	Operational