

400 North Fourth Street  
Bismarck, ND 58501  
701-222-7900

December 19, 2023

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

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

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 November 2023.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of October 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 October 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**  
**Nov-23**

<u>Town</u>	<u>Heat Zone</u>	<u>Therm Factor</u>
MDU-303-ALEXANDER	025	1.1447
MDU-308-ARNEGARD	025	1.1447
MDU-314-APPLE VALLEY	271	1.1598
MDU-318-BEACH	032	1.0489
MDU-319-BELFIELD	032	1.0566
MDU-323-BERTHOLD	262	1.1353
MDU-327-BISMARCK	028	1.1598
MDU-330-BOWMAN	034	0.9027
MDU-337-BURLINGTON	262	1.1598
MDU-343-CARRINGTON	273	1.1598
MDU-344-CLEVELAND	272	1.1507
MDU-364-CAVALIER	273	1.1843
MDU-365-DAWSON	271	1.1516
MDU-368-DES LACS	262	1.1435
MDU-369-DICKINSON	031	1.0512
MDU-374-FT TOTTEN	273	1.1679
MDU-375-DEVILS LAKE	273	1.1679
MDU-379-BARLOW	273	1.1598
MDU-384-EPPING	264	1.1173
MDU-387-ELDRIDGE	272	1.1588
MDU-407-GLADSTONE	031	1.0512
MDU-411-GLEN ULLIN	031	1.0588
MDU-413-GOLVA	032	1.0335
MDU-416-GARRISON	262	1.1435
MDU-417-GRAFTON	273	1.1924
MDU-403-GWINNER	601	1.1320
MDU-429-HEBRON	031	1.0588
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1670
MDU-459-KILLDEER	033	1.1117
MDU-463-LANGDON	273	1.1598
MDU-469-LEFOR	031	1.0512
MDU-474-LIGNITE	263	1.0759
MDU-475-LINTON	802	1.0710
MDU-478-LINCOLN	028	1.1598
MDU-488-MCKENZIE	271	1.1598
MDU-494-MEDINA	271	1.1516
MDU-498-MANDAN	028	1.1598
MDU-500-MARMARTH	034	0.9093
MDU-505-MINOT	262	1.1353
MDU-510-MOTT	031	1.0512
MDU-512-MAX	262	1.1353
MDU-513-MILNOR	601	1.1320
MDU-522-NEW ENGLAND	031	1.0436
MDU-524-NEW SALEM	028	1.1353
MDU-532-NEW ROCKFORD	273	1.1598
MDU-539-PARK RIVER	273	1.1843
MDU-540-PALERMO	262	1.1353
MDU-558-RAY	264	1.1173

MDU-561-REGENT	031	1.0436
MDU-563-RHAME	034	0.8960
MDU-564-RICHARDTON	031	1.0436
MDU-568-ROSS	261	1.1131
MDU-572-RUTHVILLE	262	1.1598
MDU-574-SANBORN	272	1.1670
MDU-583-SENTINEL BUTTE	032	1.0489
MDU-588-SOUTH HEART	031	1.0512
MDU-717-SPIRITWOOD	272	1.1670
MDU-590-SPRINGBROOK	264	1.1173
MDU-591-STANLEY	261	1.1211
MDU-593-STEELE	271	1.1516
MDU-594-STERLING	028	1.1598
MDU-598-SHEYENNE	273	1.1679
MDU-605-SURREY	262	1.1598
MDU-610-TAPPEN	271	1.1516
MDU-611-TAYLOR	031	1.0436
MDU-616-TIOGA	260	1.0934
MDU-619-TURTLE LAKE	262	1.1435
MDU-620-TRENTON	024	1.1301
MDU-624-UNDERWOOD	262	1.1435
MDU-625-VALLEY CITY	272	1.1751
MDU-629-WALHALLA	273	1.1843
MDU-632-WATFORD CITY	610	1.0862
MDU-636-WHEELOCK	264	1.1093
MDU-637-WHITE EARTH	261	1.1211
MDU-642-WILLISTON	024	1.1301
MDU-646-WASHBURN	262	1.1516
MDU-647-WILTON	262	1.1353
MDU-664-RIVERDALE	262	1.1435
MDU-691-FAIRVIEW	241	1.1368
MDU-712-MINOT AFB	262	1.1598
MDU-718-FAIRMOUNT	600	1.1297
MDU-732-NEKOMA	273	1.1598
MDU-732-MSR SITE	273	1.1598

# Source Daily Summary

October 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	0.7268	1175.6	1196.5	1195.7	1.181	3.482	69.935	21.476	3.400	0.160	0.326	0.021	0.019	0.000	0.000	0.000	0.000	0.000	1403.42	
2	0.7331	1181.2	1202.1	1201.2	1.297	3.559	68.832	22.314	3.461	0.166	0.332	0.021	0.017	0.000	0.000	0.000	0.000	0.000	1403.98	
3	0.7098	1168.4	1189.1	1188.4	0.515	3.345	71.351	21.950	2.605	0.078	0.142	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1411.52	
4	0.7073	1166.8	1187.5	1186.8	0.442	3.318	71.546	22.070	2.416	0.070	0.126	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1412.10	
5	0.7128	1171.7	1192.5	1191.7	0.616	3.269	70.833	22.499	2.518	0.084	0.161	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1412.60	
6	0.7238	1172.1	1192.9	1192.2	1.230	3.338	70.156	21.747	3.068	0.140	0.283	0.019	0.017	0.000	0.000	0.000	0.000	0.000	1402.16	
7	0.7239	1178.9	1199.7	1199.0	1.028	3.241	70.216	21.778	3.228	0.149	0.314	0.022	0.021	0.000	0.000	0.000	0.000	0.000	1410.09	
8	0.7198	1171.3	1192.1	1191.3	0.940	3.460	70.469	21.725	2.999	0.125	0.250	0.017	0.015	0.000	0.000	0.000	0.000	0.000	1405.01	
9	0.7201	1172.4	1193.1	1192.4	0.925	3.442	70.236	22.138	2.883	0.114	0.231	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1406.04	
10	0.7195	1171.4	1192.1	1191.4	0.959	3.394	70.341	22.088	2.852	0.114	0.225	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1405.46	
11	0.7193	1169.9	1190.6	1189.9	0.965	3.457	70.354	22.020	2.847	0.112	0.219	0.013	0.011	0.000	0.000	0.000	0.000	0.000	1403.84	
12	0.7212	1172.6	1193.3	1192.7	0.986	3.442	70.050	22.280	2.864	0.117	0.234	0.015	0.013	0.000	0.000	0.000	0.000	0.000	1405.19	
13	0.7231	1174.0	1194.8	1194.1	1.070	3.409	69.971	22.128	3.002	0.129	0.260	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1405.01	
14	0.7189	1170.8	1191.5	1190.9	0.979	3.345	70.462	22.022	2.824	0.113	0.228	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1405.31	
15	0.7214	1173.4	1194.2	1193.6	1.013	3.367	70.151	22.135	2.946	0.118	0.240	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1406.01	
16	0.7193	1172.2	1192.9	1192.3	0.983	3.290	70.523	21.910	2.907	0.117	0.239	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1406.59	
17	0.7204	1171.7	1192.5	1191.8	1.021	3.367	70.444	21.761	3.002	0.123	0.250	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1404.91	
18	0.7194	1170.3	1191.0	1190.4	1.005	3.380	70.570	21.700	2.952	0.120	0.243	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1404.22	
19	0.7197	1170.0	1190.7	1190.0	1.119	3.255	70.771	21.426	2.985	0.131	0.276	0.018	0.017	0.000	0.000	0.000	0.000	0.000	1403.57	
20	0.7224	1172.0	1192.8	1192.1	1.205	3.251	70.439	21.573	3.067	0.138	0.288	0.019	0.018	0.000	0.000	0.000	0.000	0.000	1403.38	
21	0.7211	1170.2	1191.0	1190.3	1.196	3.258	70.648	21.386	3.061	0.136	0.281	0.018	0.016	0.000	0.000	0.000	0.000	0.000	1402.44	
22	0.7243	1171.3	1192.0	1191.3	1.264	3.388	70.198	21.514	3.163	0.143	0.294	0.019	0.017	0.000	0.000	0.000	0.000	0.000	1400.63	
23	0.7237	1171.9	1192.6	1192.0	1.245	3.323	70.216	21.670	3.084	0.139	0.287	0.019	0.017	0.000	0.000	0.000	0.000	0.000	1401.92	
24	0.7263	1169.8	1190.5	1189.9	1.336	3.562	69.652	21.948	3.067	0.136	0.269	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1396.86	
25	0.7218	1173.6	1194.4	1193.9	0.989	3.434	70.102	22.026	3.087	0.118	0.224	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1405.94	
26	0.7168	1172.5	1193.3	1192.8	0.759	3.381	70.436	22.365	2.767	0.095	0.180	0.009	0.007	0.000	0.000	0.000	0.000	0.000	1409.59	
27	0.7271	1168.5	1189.2	1188.7	1.344	3.699	69.945	21.143	3.339	0.165	0.329	0.020	0.015	0.000	0.000	0.000	0.000	0.000	1394.58	
28	0.7307	1175.5	1196.3	1195.8	1.352	3.598	69.168	22.062	3.315	0.158	0.313	0.019	0.015	0.000	0.000	0.000	0.000	0.000	1399.49	
29	0.7274	1181.6	1202.6	1202.0	0.966	3.495	69.399	22.375	3.277	0.150	0.303	0.018	0.015	0.000	0.000	0.000	0.000	0.000	1410.14	
30	0.7316	1178.3	1199.1	1198.6	1.301	3.594	68.915	22.358	3.343	0.155	0.303	0.018	0.014	0.000	0.000	0.000	0.000	0.000	1401.93	
31	0.7342	1180.9	1201.9	1201.3	1.345	3.603	68.565	22.560	3.411	0.162	0.320	0.019	0.015	0.000	0.000	0.000	0.000	0.000	1402.66	
Avg	0.7222	1173.0	1193.7	1193.1	1.051	3.411	70.158	21.940	3.024	0.128	0.257	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1404.73	

# Source Daily Summary

October 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	0.7192	1173.4	1194.2	1193.4	1.122	2.993	71.049	21.305	3.060	0.128	0.293	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1408.14	
2	0.7167	1171.6	1192.3	1191.4	1.121	2.865	71.417	21.219	2.922	0.124	0.284	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1408.45	
3	0.6968	1152.7	1173.1	1172.5	1.004	2.335	74.239	20.071	2.038	0.088	0.193	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1405.35	
4	0.6984	1154.0	1174.4	1173.8	1.000	2.406	73.903	20.344	2.042	0.086	0.188	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1405.37	
5	0.7049	1161.1	1181.7	1181.0	1.041	2.519	73.176	20.424	2.464	0.104	0.231	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1407.50	
6	0.7074	1162.9	1183.5	1182.8	1.060	2.623	72.690	20.747	2.508	0.103	0.229	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1407.08	
7	0.7112	1167.3	1188.0	1187.3	1.073	2.691	72.128	21.037	2.678	0.109	0.244	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1408.66	
8	0.7149	1167.8	1188.4	1187.7	1.111	2.948	71.600	21.082	2.836	0.116	0.264	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1405.60	
9	0.7165	1171.8	1192.5	1191.9	1.109	2.853	71.450	21.189	2.950	0.124	0.280	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1408.88	
10	0.7181	1170.4	1191.1	1190.5	1.128	3.069	70.917	21.628	2.843	0.112	0.259	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1405.57	
11	0.7208	1172.4	1193.2	1192.6	1.143	3.169	70.500	21.828	2.930	0.115	0.269	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1405.44	
12	0.7149	1169.6	1190.3	1189.8	1.110	2.839	71.601	21.201	2.826	0.116	0.262	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1407.79	
13	0.7126	1169.5	1190.2	1189.6	1.082	2.675	72.068	20.933	2.812	0.118	0.265	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1409.89	
14	0.7072	1164.2	1184.8	1184.3	1.046	2.545	72.774	20.705	2.560	0.103	0.229	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1408.88	
15	0.7089	1165.6	1186.2	1185.7	1.062	2.590	72.581	20.733	2.642	0.109	0.243	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1408.92	
16	0.7062	1163.1	1183.7	1183.2	1.043	2.523	72.989	20.510	2.562	0.104	0.231	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1408.51	
17	0.7090	1166.8	1187.4	1186.9	1.048	2.552	72.702	20.536	2.745	0.115	0.258	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1410.18	
18	0.7090	1164.8	1185.4	1184.9	1.072	2.640	72.493	20.803	2.612	0.106	0.235	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1407.77	
19	0.7083	1164.4	1185.0	1184.4	1.063	2.614	72.614	20.729	2.601	0.106	0.234	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1407.96	
20	0.7055	1162.4	1183.0	1182.4	1.042	2.493	73.102	20.466	2.534	0.102	0.224	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1408.48	
21	0.7085	1165.5	1186.2	1185.6	1.056	2.564	72.707	20.589	2.690	0.110	0.243	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1409.24	
22	0.7127	1169.1	1189.8	1189.1	1.076	2.715	72.043	20.919	2.824	0.116	0.262	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1409.33	
23	0.7102	1166.9	1187.6	1187.0	1.063	2.636	72.352	20.867	2.684	0.110	0.246	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1409.15	
24	0.7102	1167.3	1188.0	1187.4	1.061	2.616	72.327	20.934	2.665	0.110	0.244	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1409.62	
25	0.7096	1166.7	1187.4	1186.8	1.056	2.603	72.363	20.989	2.612	0.105	0.233	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1409.52	
26	0.7192	1172.5	1193.2	1192.7	1.130	3.040	70.684	21.931	2.802	0.112	0.258	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1407.03	
27	0.7207	1173.0	1193.8	1193.3	1.143	3.125	70.421	22.065	2.830	0.112	0.260	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1406.22	
28	0.7210	1173.6	1194.3	1193.9	1.141	3.125	70.346	22.144	2.830	0.111	0.258	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1406.57	
29	0.7205	1172.5	1193.3	1192.8	1.138	3.143	70.477	21.981	2.842	0.112	0.262	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1405.82	
30	0.7276	1178.6	1199.4	1198.9	1.132	3.451	69.744	21.806	3.284	0.164	0.359	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1406.13	
31	0.7225	1172.8	1193.6	1193.1	1.170	3.267	70.206	21.996	2.908	0.124	0.281	0.023	0.026	0.000	0.000	0.000	0.000	0.000	1404.22	
Avg	0.7126	1168.0	1188.2	1187.6	1.085	2.781	71.925	21.087	2.714	0.112	0.252	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1407.65	

# Gas Composition and Properties

Effective October 1, 2023

Attachment B  
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Source #: 0602160  
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.9042		1.9219
Nitrogen, N2	3.2372		4.3798
Methane, C1	71.0941		55.0845
Ethane, C2	21.3493	5.7138	31.0045
Propane, C3	2.9718	0.8193	6.3290
iso-Butane, iC4	0.1416	0.0464	0.3975
n-Butane, nC4	0.2574	0.0812	0.7226
iso-Pentane, iC5	0.0180	0.0066	0.0627
n-Pentane, nC5	0.0182	0.0066	0.0634
Neo-Pentane, neo			
Hexanes Plus, C6+	0.0082	0.0034	0.0341
Argon, Ar			
Carbon Monoxide, CO			
Hydrogen, H2			
Oxygen, O2			
Helium, He			
Water, H2O			
Hydrogen Sulfide, H2S			
<b>Totals</b>	<b>100.0000</b>	<b>6.6770</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-12.678	
Cricondentherm	-0.285	
HV, Dry @ Base P, T	1192.13	
HV, Sat @ Base P, T	1171.38	
HV, Sat @ Sample P, T	1192.13	
Relative Density	0.7170	
C6+: 100		

**Sample**

Date: 10/01/2023                      Type:

Tech: Tipton, Joshua

Pressure:                      440 psi      Temp.:                      °F

Gauge:                      Gauge                      H2O:

Atm. Pressure:                      H2S:

Remarks:

**Analysis**

Date: 10/01/2023                      Instrument:

Tech: Tipton, Joshua                      Cylinder:                      450

Remarks:



# Source Daily Summary

October 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	0.6835	1138.4	1158.6	1158.1	0.896	2.114	76.137	19.164	1.479	0.060	0.128	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1401.44	-21.82
2	0.6827	1138.2	1158.3	1157.9	0.889	2.072	76.237	19.155	1.442	0.058	0.125	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1401.88	-22.32
3	0.6964	1143.3	1163.5	1163.1	0.943	2.961	73.927	20.051	1.837	0.077	0.174	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1394.49	-15.58
4	0.7166	1153.8	1174.3	1173.8	1.020	4.104	70.540	21.502	2.434	0.106	0.252	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1387.13	-4.96
5	0.6913	1150.0	1170.3	1169.9	0.883	2.162	75.854	18.304	2.404	0.109	0.236	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1407.54	-11.68
6	0.6873	1144.7	1165.0	1164.6	0.888	2.101	75.805	19.085	1.895	0.065	0.137	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1405.24	-18.19
7	0.6917	1151.5	1171.9	1171.5	0.880	2.110	75.015	19.751	2.020	0.064	0.137	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1409.14	-15.79
8	0.6906	1150.3	1170.6	1170.2	0.880	2.086	75.208	19.610	1.994	0.064	0.135	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1408.67	-16.32
9	0.6994	1164.5	1185.1	1184.7	0.866	2.075	74.764	18.946	2.893	0.130	0.279	0.022	0.025	0.000	0.000	0.000	0.000	0.000	1417.00	-6.12
10	0.6884	1147.3	1167.6	1167.2	0.883	2.053	75.667	19.198	1.967	0.067	0.141	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1407.28	-17.15
11	0.6905	1149.6	1169.9	1169.5	0.914	2.068	75.350	19.396	2.021	0.072	0.153	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1407.91	-15.81
12	0.6874	1145.1	1165.4	1165.0	0.889	2.090	75.695	19.272	1.837	0.062	0.131	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1405.56	-18.49
13	0.6891	1147.3	1167.7	1167.3	0.883	2.115	75.437	19.429	1.918	0.063	0.133	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1406.67	-17.44
14	0.6895	1147.8	1168.1	1167.7	0.890	2.118	75.449	19.329	1.989	0.065	0.138	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1406.75	-16.83
15	0.6883	1146.5	1166.8	1166.4	0.890	2.099	75.603	19.240	1.941	0.065	0.137	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1406.36	-17.40
16	0.6875	1145.2	1165.4	1165.1	0.885	2.097	75.804	19.045	1.944	0.064	0.137	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1405.59	-17.84
17	0.6870	1145.0	1165.3	1164.9	0.886	2.058	75.834	19.130	1.871	0.063	0.133	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1405.91	-18.34
18	0.6876	1144.7	1165.0	1164.6	0.896	2.116	75.727	19.160	1.879	0.064	0.135	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1404.95	-18.17
19	0.6886	1146.4	1166.7	1166.3	0.891	2.118	75.620	19.168	1.968	0.067	0.142	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1405.95	-17.13
20	0.6882	1145.7	1166.0	1165.6	0.893	2.118	75.643	19.206	1.913	0.065	0.137	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1405.52	-17.68
21	0.6883	1146.2	1166.5	1166.1	0.898	2.087	75.664	19.180	1.944	0.065	0.138	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1406.08	-17.46
22	0.6900	1148.6	1169.0	1168.6	0.893	2.106	75.463	19.243	2.039	0.073	0.156	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1407.32	-15.91
23	0.6910	1150.4	1170.8	1170.4	0.883	2.111	75.238	19.454	2.073	0.070	0.147	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1408.44	-15.57
24	0.6900	1150.1	1170.4	1170.1	0.879	2.047	75.415	19.374	2.044	0.069	0.146	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1408.99	-15.98
25	0.6895	1148.6	1169.0	1168.6	0.886	2.074	75.542	19.200	2.052	0.071	0.149	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1407.77	-16.13
26	0.6930	1152.5	1172.9	1172.6	0.898	2.148	75.015	19.477	2.197	0.076	0.162	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1408.96	-13.95
27	0.6939	1154.5	1174.9	1174.6	0.903	2.100	75.025	19.375	2.301	0.085	0.181	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1410.49	-12.58
28	0.6957	1156.4	1176.9	1176.6	0.913	2.131	74.950	19.170	2.503	0.097	0.204	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1411.07	-10.55
29	0.6934	1153.7	1174.2	1173.8	0.900	2.100	75.155	19.224	2.322	0.087	0.182	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1410.11	-12.63
30	0.6967	1157.8	1178.3	1177.9	0.946	2.109	74.822	19.216	2.558	0.102	0.212	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1411.64	-9.73
31	0.6918	1151.1	1171.5	1171.1	0.924	2.077	75.256	19.352	2.113	0.081	0.169	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1408.49	-14.47
<b>Avg</b>	<b>0.6911</b>	<b>1149.0</b>	<b>1169.2</b>	<b>1168.8</b>	<b>0.899</b>	<b>2.191</b>	<b>75.254</b>	<b>19.336</b>	<b>2.058</b>	<b>0.075</b>	<b>0.160</b>	<b>0.013</b>	<b>0.015</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>1406.46</b>	<b>-15.48</b>

# Source Daily Summary

October 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	0.7547	1178.8	1199.6	1199.1	0.899	6.330	66.462	19.696	5.851	0.210	0.486	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1380.84	
2	0.7467	1173.6	1194.4	1193.9	0.904	5.880	67.394	19.888	5.273	0.182	0.422	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1382.37	
3	0.7205	1158.1	1178.6	1178.3	0.921	4.353	70.715	20.096	3.482	0.121	0.272	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1388.84	
4	0.7556	1178.9	1199.7	1199.4	0.902	6.398	66.105	20.054	5.872	0.186	0.427	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1380.21	
5	0.7540	1176.1	1196.9	1196.6	0.897	6.426	66.341	19.877	5.777	0.191	0.433	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1378.41	
6	0.7608	1188.3	1209.3	1209.0	0.897	6.313	65.336	20.644	6.154	0.183	0.417	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1386.47	
7	0.7622	1190.0	1211.1	1210.6	0.896	6.349	65.165	20.655	6.256	0.186	0.433	0.028	0.032	0.000	0.000	0.000	0.000	0.000	1387.16	
8	0.7577	1181.3	1202.2	1201.8	0.900	6.450	65.685	20.376	5.943	0.186	0.407	0.025	0.028	0.000	0.000	0.000	0.000	0.000	1381.14	
9	0.7563	1179.0	1199.8	1199.5	0.900	6.462	65.850	20.327	5.805	0.193	0.409	0.025	0.028	0.000	0.000	0.000	0.000	0.000	1379.69	
10	0.7574	1181.2	1202.1	1201.8	0.902	6.425	65.679	20.493	5.843	0.193	0.410	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1381.31	
11	0.7582	1182.6	1203.5	1203.2	0.899	6.416	65.599	20.499	5.947	0.182	0.403	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1382.19	
12	0.7559	1181.4	1202.4	1202.0	0.907	6.262	65.843	20.623	5.744	0.173	0.393	0.025	0.028	0.000	0.000	0.000	0.000	0.000	1382.97	
13	0.7583	1183.3	1204.2	1203.9	0.902	6.381	65.615	20.473	5.984	0.179	0.409	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1382.92	
14	0.7589	1183.8	1204.8	1204.5	0.896	6.420	65.536	20.454	6.047	0.179	0.413	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1382.96	
15	0.7587	1184.9	1205.9	1205.5	0.900	6.324	65.611	20.500	5.993	0.185	0.427	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1384.46	
16	0.7576	1181.0	1201.9	1201.5	0.895	6.463	65.801	20.196	5.964	0.188	0.434	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1380.92	
17	0.7583	1182.4	1203.3	1203.0	0.895	6.448	65.724	20.252	5.980	0.195	0.446	0.029	0.033	0.000	0.000	0.000	0.000	0.000	1381.86	
18	0.7598	1185.0	1205.9	1205.6	0.893	6.431	65.639	20.211	6.057	0.212	0.488	0.032	0.036	0.000	0.000	0.000	0.000	0.000	1383.52	
19	0.7602	1187.0	1208.1	1207.7	0.891	6.352	65.495	20.456	6.073	0.200	0.466	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1385.51	
20	0.7599	1186.2	1207.2	1206.8	0.891	6.377	65.558	20.368	6.065	0.203	0.470	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1384.79	
21	0.7598	1185.0	1206.0	1205.6	0.891	6.434	65.559	20.334	6.044	0.203	0.468	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1383.56	
22	0.7583	1182.1	1203.0	1202.7	0.892	6.473	65.695	20.274	5.963	0.195	0.447	0.029	0.033	0.000	0.000	0.000	0.000	0.000	1381.49	
23	0.7576	1181.6	1202.5	1202.2	0.891	6.436	65.771	20.304	5.899	0.195	0.442	0.028	0.032	0.000	0.000	0.000	0.000	0.000	1381.56	
24	0.7601	1186.2	1207.2	1206.9	0.890	6.385	65.490	20.474	6.034	0.202	0.461	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1384.67	
25	0.7568	1181.4	1202.3	1202.0	0.888	6.379	65.901	20.279	5.846	0.198	0.449	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1382.04	
26	0.7604	1187.9	1208.9	1208.7	0.883	6.329	65.526	20.391	6.128	0.206	0.475	0.030	0.034	0.000	0.000	0.000	0.000	0.000	1386.37	
27	0.7627	1192.9	1214.0	1213.8	0.885	6.240	65.262	20.544	6.331	0.198	0.475	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1390.04	
28	0.7568	1180.8	1201.7	1201.4	0.885	6.423	65.898	20.173	5.968	0.177	0.420	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1381.32	
29	0.7552	1179.4	1200.2	1200.0	0.889	6.352	66.087	20.198	5.827	0.179	0.414	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1381.14	
30	0.7568	1181.4	1202.3	1202.1	0.887	6.379	65.865	20.316	5.873	0.190	0.432	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1382.08	
31	0.7585	1183.8	1204.8	1204.5	0.889	6.386	65.716	20.326	5.960	0.200	0.460	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1383.35	
Avg	0.7566	1182.0	1203.0	1202.7	0.895	6.306	65.933	20.315	5.870	0.189	0.433	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1383.10	

# Source Daily Summary

October 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	0.7579	1181.8	1202.7	1202.2	0.911	6.424	65.983	19.911	5.991	0.218	0.494	0.032	0.037	0.000	0.000	0.000	0.000	0.000	1381.49	
2	0.7565	1179.9	1200.8	1200.2	0.909	6.410	66.135	19.875	5.910	0.213	0.483	0.030	0.034	0.000	0.000	0.000	0.000	0.000	1380.58	
3	0.7597	1183.8	1204.7	1204.2	0.908	6.474	65.506	20.347	6.071	0.196	0.440	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1382.22	
4	0.7558	1176.8	1197.6	1197.1	0.893	6.555	66.320	19.502	5.964	0.212	0.488	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1377.57	
5	0.7626	1189.4	1210.4	1209.9	0.894	6.428	65.091	20.633	6.262	0.197	0.435	0.028	0.032	0.000	0.000	0.000	0.000	0.000	1386.09	
6	0.7645	1192.3	1213.4	1212.8	0.896	6.425	64.893	20.670	6.403	0.196	0.453	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1387.73	
7	0.7591	1182.3	1203.2	1202.7	0.898	6.528	65.468	20.421	6.032	0.190	0.410	0.025	0.028	0.000	0.000	0.000	0.000	0.000	1381.00	
8	0.7581	1180.0	1200.9	1200.4	0.900	6.566	65.626	20.298	5.935	0.201	0.420	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1379.28	
9	0.7589	1181.8	1202.8	1202.3	0.899	6.533	65.505	20.426	5.955	0.203	0.424	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1380.67	
10	0.7602	1183.8	1204.7	1204.3	0.907	6.528	65.349	20.452	6.098	0.191	0.419	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1381.71	
11	0.7604	1184.2	1205.2	1204.8	0.905	6.521	65.301	20.499	6.122	0.184	0.411	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1382.08	
12	0.7619	1187.4	1208.5	1208.0	0.909	6.459	65.173	20.564	6.209	0.193	0.434	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1384.45	
13	0.7598	1183.4	1204.4	1204.0	0.901	6.518	65.431	20.377	6.112	0.183	0.420	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1381.69	
14	0.7618	1187.0	1208.0	1207.6	0.901	6.488	65.218	20.481	6.211	0.195	0.445	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1384.05	
15	0.7602	1183.8	1204.8	1204.4	0.900	6.532	65.464	20.261	6.145	0.194	0.444	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1381.79	
16	0.7616	1186.0	1207.0	1206.6	0.900	6.522	65.325	20.328	6.180	0.209	0.471	0.030	0.034	0.000	0.000	0.000	0.000	0.000	1383.15	
17	0.7603	1183.5	1204.5	1204.0	0.898	6.565	65.544	20.112	6.117	0.214	0.483	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1381.30	
18	0.7652	1193.9	1215.0	1214.6	0.894	6.397	64.933	20.604	6.355	0.223	0.519	0.035	0.040	0.000	0.000	0.000	0.000	0.000	1388.94	
19	0.7626	1189.2	1210.2	1209.8	0.896	6.440	65.247	20.398	6.241	0.213	0.494	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1385.80	
20	0.7619	1186.8	1207.8	1207.4	0.895	6.515	65.323	20.326	6.162	0.215	0.494	0.033	0.037	0.000	0.000	0.000	0.000	0.000	1383.72	
21	0.7602	1183.3	1204.3	1203.8	0.897	6.567	65.482	20.245	6.070	0.206	0.468	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1381.20	
22	0.7592	1181.6	1202.5	1202.1	0.900	6.568	65.592	20.208	6.009	0.203	0.457	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1380.18	
23	0.7617	1187.2	1208.2	1207.8	0.901	6.467	65.277	20.471	6.129	0.213	0.477	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1384.34	
24	0.7584	1181.5	1202.4	1202.0	0.898	6.513	65.703	20.194	5.968	0.205	0.457	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1380.65	
25	0.7617	1188.0	1209.0	1208.6	0.891	6.435	65.341	20.391	6.172	0.215	0.489	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1385.25	
26	0.7628	1190.3	1211.4	1211.0	0.893	6.385	65.216	20.466	6.296	0.202	0.477	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1387.05	
27	0.7579	1181.0	1201.9	1201.5	0.893	6.501	65.750	20.168	6.017	0.184	0.431	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1380.55	
28	0.7571	1180.8	1201.7	1201.3	0.899	6.434	65.854	20.202	5.927	0.191	0.435	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1380.99	
29	0.7599	1184.6	1205.6	1205.2	0.893	6.468	65.499	20.351	6.061	0.204	0.462	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1382.97	
30	0.7614	1186.8	1207.8	1207.4	0.892	6.475	65.360	20.376	6.128	0.213	0.488	0.032	0.036	0.000	0.000	0.000	0.000	0.000	1384.15	
31	0.7594	1183.3	1204.2	1203.9	0.893	6.498	65.624	20.204	6.040	0.207	0.472	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1381.91	
Avg	0.7603	1185.0	1205.7	1205.2	0.899	6.488	65.469	20.315	6.106	0.203	0.458	0.029	0.033	0.000	0.000	0.000	0.000	0.000	1382.73	

# 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

October 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	0.7131	1150.4	1170.7	1170.3	0.996	4.019	71.113	21.165	2.320	0.103	0.245	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.40	
2	0.7127	1149.8	1170.2	1169.7	1.000	4.013	71.163	21.142	2.294	0.102	0.246	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.10	
3	0.7131	1150.5	1170.9	1170.4	1.010	3.989	71.116	21.198	2.300	0.103	0.244	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.56	
4	0.7143	1151.7	1172.1	1171.7	1.014	4.024	70.894	21.352	2.328	0.103	0.245	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1386.86	
5	0.7140	1151.2	1171.6	1171.1	1.020	4.018	70.956	21.297	2.317	0.104	0.246	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1386.53	
6	0.7134	1151.1	1171.5	1171.0	1.016	3.977	71.087	21.191	2.341	0.103	0.245	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.94	
7	0.7131	1150.8	1171.1	1170.7	1.012	3.975	71.155	21.125	2.343	0.102	0.248	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.83	
8	0.7122	1148.7	1169.1	1168.6	1.011	4.016	71.345	20.884	2.349	0.103	0.249	0.018	0.024	0.000	0.000	0.000	0.000	0.000	1385.24	
9	0.7124	1149.6	1170.0	1169.5	0.998	4.001	71.290	20.972	2.345	0.104	0.248	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1386.11	
10	0.7130	1151.4	1171.8	1171.4	1.006	3.934	71.154	21.195	2.324	0.102	0.244	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1387.71	
11	0.7125	1149.8	1170.2	1169.8	0.998	3.993	71.250	21.041	2.331	0.102	0.244	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.33	
12	0.7115	1147.8	1168.1	1167.7	0.995	4.031	71.402	20.888	2.302	0.101	0.241	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1384.83	
13	0.7127	1147.4	1167.7	1167.3	1.010	4.148	71.193	20.932	2.328	0.102	0.245	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1383.13	
14	0.7134	1150.8	1171.2	1170.8	1.000	4.014	71.036	21.259	2.304	0.102	0.243	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.66	
15	0.7125	1149.1	1169.5	1169.1	1.002	4.026	71.230	21.054	2.301	0.102	0.243	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1385.54	
16	0.7124	1148.5	1168.8	1168.4	1.001	4.057	71.250	21.001	2.305	0.102	0.244	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1384.87	
17	0.7103	1145.8	1166.1	1165.7	0.999	4.029	71.658	20.649	2.277	0.101	0.244	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1383.60	
18	0.7105	1145.9	1166.2	1165.8	0.991	4.057	71.615	20.645	2.309	0.101	0.240	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1383.51	
19	0.7135	1150.4	1170.8	1170.4	1.014	4.026	71.087	21.131	2.351	0.104	0.247	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.08	
20	0.7131	1150.4	1170.7	1170.3	1.020	3.987	71.157	21.109	2.337	0.103	0.246	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1386.36	
21	0.7138	1151.3	1171.7	1171.3	1.018	3.998	71.019	21.229	2.346	0.103	0.245	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1386.82	
22	0.7128	1150.7	1171.0	1170.6	1.007	3.955	71.219	21.097	2.330	0.103	0.247	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1387.06	
23	0.7121	1149.6	1170.0	1169.6	1.007	3.953	71.344	20.991	2.316	0.103	0.245	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1386.47	
24	0.7109	1149.9	1170.2	1169.8	1.006	3.832	71.526	20.999	2.253	0.101	0.242	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1387.90	
25	0.7141	1152.1	1172.5	1172.1	1.011	3.981	70.962	21.315	2.342	0.103	0.245	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1387.55	
26	0.7309	1181.5	1202.4	1202.0	0.973	3.815	69.701	20.606	4.499	0.109	0.257	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1406.43	
27	0.7247	1170.0	1190.8	1190.4	0.975	3.934	70.743	19.667	4.259	0.109	0.266	0.021	0.026	0.000	0.000	0.000	0.000	0.000	1398.69	
28	0.7095	1146.1	1166.4	1166.1	1.003	3.926	72.217	19.826	2.625	0.106	0.251	0.020	0.026	0.000	0.000	0.000	0.000	0.000	1384.77	
29	0.7109	1147.9	1168.2	1167.9	0.998	3.963	71.647	20.617	2.379	0.105	0.250	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1385.51	
30	0.7110	1147.1	1167.4	1167.0	0.996	4.020	71.610	20.618	2.358	0.105	0.250	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1384.47	
31	0.7098	1144.8	1165.1	1164.8	1.000	4.042	71.877	20.297	2.385	0.106	0.251	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1382.90	
Avg	0.7134	1151.0	1171.4	1171.0	1.003	3.992	71.226	20.919	2.468	0.103	0.247	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1386.93	

# Source Daily Summary

October 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	0.7563	1183.1	1204.1	1203.3	0.867	6.261	66.312	19.755	6.036	0.213	0.493	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1384.50	
2	0.7548	1181.0	1201.9	1201.2	0.866	6.250	66.516	19.652	5.956	0.210	0.491	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1383.44	
3	0.7577	1184.5	1205.5	1204.7	0.867	6.309	65.917	20.100	6.120	0.191	0.442	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1384.85	
4	0.7544	1178.5	1199.3	1198.6	0.857	6.375	66.681	19.295	6.004	0.214	0.510	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1380.85	
5	0.7592	1187.4	1208.4	1207.7	0.858	6.289	65.653	20.341	6.176	0.191	0.437	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1386.84	
6	0.7646	1197.0	1218.2	1217.5	0.857	6.206	65.024	20.643	6.547	0.195	0.467	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1393.18	
7	0.7570	1182.8	1203.8	1203.1	0.863	6.349	65.886	20.239	6.000	0.193	0.419	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1383.57	
8	0.7560	1180.3	1201.2	1200.5	0.863	6.407	66.087	19.995	5.967	0.198	0.430	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1381.55	
9	0.7563	1181.7	1202.7	1202.0	0.864	6.348	66.035	20.118	5.946	0.201	0.434	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1382.92	
10	0.7502	1176.6	1197.5	1196.8	0.871	6.079	66.954	19.760	5.713	0.177	0.397	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.56	
11	0.7542	1181.0	1201.9	1201.2	0.864	6.197	66.372	19.987	5.943	0.177	0.408	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1383.99	
12	0.7571	1185.9	1206.9	1206.2	0.866	6.163	66.008	20.205	6.092	0.185	0.428	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1387.10	
13	0.7529	1179.7	1200.6	1199.9	0.865	6.153	66.580	19.886	5.881	0.174	0.410	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1383.62	
14	0.7562	1184.7	1205.7	1205.0	0.863	6.162	66.168	20.071	6.060	0.185	0.436	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1386.46	
15	0.7605	1189.1	1210.1	1209.4	0.857	6.302	65.603	20.224	6.293	0.196	0.465	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1387.67	
16	0.7585	1184.7	1205.6	1205.0	0.856	6.387	65.879	19.990	6.153	0.203	0.471	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1384.34	
17	0.7589	1185.3	1206.3	1205.7	0.857	6.385	65.894	19.921	6.177	0.211	0.492	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1384.68	
18	0.7618	1191.5	1212.6	1212.1	0.852	6.281	65.560	20.178	6.317	0.220	0.521	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1389.30	
19	0.7605	1189.7	1210.8	1210.2	0.853	6.273	65.663	20.183	6.258	0.208	0.497	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1388.38	
20	0.7597	1187.6	1208.6	1208.0	0.853	6.326	65.730	20.176	6.131	0.219	0.498	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1386.64	
21	0.7594	1186.3	1207.3	1206.8	0.853	6.380	65.761	20.074	6.171	0.207	0.490	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1385.39	
22	0.7573	1182.5	1203.4	1202.9	0.854	6.408	65.978	20.002	6.036	0.200	0.464	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1382.94	
23	0.7587	1186.3	1207.3	1206.6	0.854	6.315	65.798	20.200	6.083	0.208	0.480	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1386.00	
24	0.7555	1181.7	1202.6	1201.9	0.852	6.296	66.221	19.996	5.920	0.199	0.459	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1383.56	
25	0.7579	1186.3	1207.3	1206.6	0.851	6.238	66.034	20.011	6.099	0.212	0.493	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1386.81	
26	0.7583	1189.6	1210.6	1209.9	0.848	6.081	66.034	20.084	6.211	0.199	0.481	0.030	0.031	0.000	0.000	0.000	0.000	0.000	1390.24	
27	0.7498	1176.7	1197.5	1196.8	0.835	6.096	67.013	19.706	5.717	0.170	0.412	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1382.91	
28	0.7477	1175.4	1196.2	1195.5	0.848	5.949	67.350	19.647	5.572	0.173	0.410	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1383.44	
29	0.7506	1178.7	1199.6	1198.9	0.842	6.038	66.901	19.875	5.673	0.186	0.432	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1384.54	
30	0.7470	1177.3	1198.2	1197.5	0.807	5.837	67.386	19.869	5.438	0.183	0.427	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1386.26	
31	0.7417	1170.2	1190.9	1190.3	0.796	5.804	67.823	19.615	5.278	0.177	0.414	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1382.79	
Avg	0.7558	1183.0	1204.3	1203.6	0.854	6.224	66.220	19.993	5.999	0.196	0.455	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1385.20	

# Source Daily Summary

October 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	0.7583	1182.8	1203.8	1203.4	0.898	6.412	66.159	19.558	6.146	0.228	0.524	0.035	0.038	0.000	0.000	0.000	0.000	0.000	1382.40	
2	0.7575	1182.4	1203.3	1203.0	0.905	6.363	66.083	19.851	6.026	0.218	0.487	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1382.50	
3	0.7550	1178.4	1199.3	1198.9	0.903	6.372	66.334	19.788	5.882	0.205	0.457	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1380.17	
4	0.7588	1184.0	1205.0	1204.7	0.907	6.373	65.728	20.218	6.076	0.198	0.441	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1383.37	
5	0.7569	1180.4	1201.4	1200.5	0.897	6.430	66.181	19.705	6.028	0.212	0.483	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1380.88	
6	0.7595	1184.6	1205.6	1204.6	0.894	6.424	65.610	20.250	6.133	0.197	0.435	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1383.41	
7	0.7647	1194.4	1215.5	1214.4	0.892	6.327	64.928	20.663	6.490	0.195	0.445	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1389.98	
8	0.7600	1185.3	1206.3	1205.3	0.897	6.430	65.425	20.460	6.127	0.192	0.416	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1383.73	
9	0.7576	1180.2	1201.1	1200.1	0.901	6.505	65.771	20.193	5.961	0.200	0.416	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1379.99	
10	0.7579	1181.7	1202.6	1201.6	0.902	6.448	65.712	20.321	5.939	0.203	0.420	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1381.37	
11	0.7499	1174.5	1195.3	1194.3	0.911	6.123	66.884	19.890	5.594	0.175	0.375	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1380.34	
12	0.7562	1181.7	1202.6	1201.6	0.902	6.284	66.001	20.238	5.942	0.181	0.399	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1382.98	
13	0.7585	1185.5	1206.5	1205.5	0.904	6.266	65.709	20.392	6.075	0.186	0.413	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1385.29	
14	0.7550	1180.6	1201.5	1200.5	0.904	6.238	66.212	20.104	5.908	0.178	0.404	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1382.78	
15	0.7574	1183.8	1204.8	1203.7	0.900	6.268	65.918	20.215	6.037	0.186	0.419	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1384.36	
16	0.7620	1189.1	1210.1	1209.0	0.895	6.392	65.296	20.415	6.293	0.198	0.450	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1386.26	
17	0.7603	1185.1	1206.1	1205.0	0.893	6.474	65.546	20.189	6.168	0.207	0.461	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1383.23	
18	0.7609	1186.2	1207.2	1206.1	0.895	6.464	65.491	20.212	6.187	0.212	0.474	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1383.91	
19	0.7628	1190.5	1211.6	1211.1	0.890	6.384	65.303	20.344	6.285	0.221	0.503	0.034	0.036	0.000	0.000	0.000	0.000	0.000	1387.22	
20	0.7608	1187.3	1208.3	1208.0	0.888	6.392	65.489	20.319	6.175	0.206	0.467	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1385.32	
21	0.7625	1189.9	1211.0	1210.7	0.890	6.385	65.348	20.326	6.265	0.218	0.498	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1386.88	
22	0.7615	1187.2	1208.2	1207.9	0.890	6.460	65.431	20.243	6.217	0.212	0.481	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1384.60	
23	0.7589	1182.3	1203.2	1202.2	0.892	6.516	65.679	20.141	6.057	0.202	0.452	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1381.21	
24	0.7601	1185.8	1206.8	1205.7	0.892	6.415	65.522	20.351	6.084	0.209	0.464	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1384.21	
25	0.7569	1181.1	1202.0	1201.0	0.890	6.400	65.955	20.127	5.924	0.201	0.445	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1381.70	
26	0.7600	1187.2	1208.2	1207.2	0.888	6.330	65.625	20.292	6.105	0.216	0.479	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1385.86	
27	0.7599	1189.6	1210.7	1209.6	0.884	6.179	65.672	20.355	6.180	0.202	0.465	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1388.79	
28	0.7519	1177.5	1198.3	1197.3	0.872	6.187	66.618	19.975	5.723	0.173	0.401	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.94	
29	0.7491	1175.1	1195.9	1194.9	0.885	6.048	67.071	19.803	5.569	0.174	0.398	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1381.72	
30	0.7523	1179.1	1200.0	1198.9	0.879	6.117	66.595	20.061	5.684	0.188	0.421	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1383.45	
31	0.7486	1177.0	1197.8	1196.7	0.843	5.949	67.090	20.025	5.440	0.184	0.414	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1384.42	
Avg	0.7578	1184.0	1204.5	1203.7	0.893	6.334	65.883	20.162	6.023	0.199	0.445	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1383.69	

# Source Daily Summary

October 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	0.7592	1184.6	1205.6	1205.4	0.899	6.392	66.047	19.625	6.198	0.231	0.532	0.036	0.039	0.000	0.000	0.000	0.000	0.000	1383.59	
2	0.7578	1182.8	1203.7	1203.5	0.906	6.362	66.060	19.852	6.042	0.220	0.491	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1382.75	
3	0.7554	1179.1	1200.0	1199.8	0.904	6.367	66.290	19.805	5.906	0.207	0.462	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1380.64	
4	0.7603	1186.6	1207.7	1207.5	0.907	6.355	65.535	20.334	6.156	0.202	0.451	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1385.04	
5	0.7567	1180.3	1201.2	1200.7	0.898	6.426	66.213	19.680	6.022	0.212	0.484	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1380.80	
6	0.7602	1186.4	1207.4	1206.8	0.894	6.388	65.529	20.314	6.172	0.200	0.444	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1384.76	
7	0.7650	1194.8	1216.0	1215.5	0.893	6.324	64.901	20.673	6.504	0.196	0.448	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1390.24	
8	0.7592	1183.9	1204.9	1204.4	0.898	6.440	65.525	20.407	6.076	0.190	0.411	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1382.78	
9	0.7564	1178.0	1198.8	1198.4	0.902	6.530	65.915	20.107	5.890	0.197	0.409	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1378.43	
10	0.7565	1179.5	1200.3	1199.9	0.903	6.452	65.889	20.228	5.861	0.200	0.412	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1380.03	
11	0.7463	1169.5	1190.3	1189.9	0.915	6.080	67.357	19.701	5.377	0.166	0.356	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1377.84	
12	0.7551	1180.0	1200.9	1200.5	0.903	6.286	66.133	20.174	5.880	0.178	0.393	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1381.98	
13	0.7574	1183.7	1204.6	1204.2	0.905	6.277	65.834	20.333	6.010	0.183	0.405	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1384.13	
14	0.7530	1177.0	1197.9	1197.5	0.906	6.268	66.449	19.979	5.787	0.172	0.388	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1380.38	
15	0.7564	1182.0	1202.9	1202.3	0.902	6.281	66.032	20.161	5.975	0.183	0.411	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1383.19	
16	0.7618	1188.8	1209.8	1209.1	0.896	6.392	65.322	20.400	6.282	0.197	0.449	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1386.06	
17	0.7598	1184.1	1205.0	1204.4	0.894	6.492	65.609	20.137	6.143	0.205	0.458	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1382.43	
18	0.7611	1186.4	1207.4	1206.6	0.896	6.465	65.467	20.230	6.193	0.212	0.474	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1383.99	
19	0.7637	1192.1	1213.2	1212.8	0.891	6.371	65.209	20.385	6.334	0.225	0.514	0.034	0.037	0.000	0.000	0.000	0.000	0.000	1388.23	
20	0.7616	1188.7	1209.7	1209.6	0.889	6.381	65.397	20.363	6.221	0.209	0.475	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1386.23	
21	0.7631	1191.1	1212.2	1212.0	0.890	6.375	65.285	20.351	6.303	0.221	0.505	0.034	0.037	0.000	0.000	0.000	0.000	0.000	1387.62	
22	0.7620	1188.0	1209.1	1208.9	0.890	6.455	65.380	20.262	6.243	0.214	0.488	0.033	0.035	0.000	0.000	0.000	0.000	0.000	1385.12	
23	0.7594	1183.2	1204.1	1203.7	0.892	6.509	65.629	20.157	6.090	0.204	0.457	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1381.78	
24	0.7598	1185.2	1206.2	1205.7	0.892	6.425	65.561	20.320	6.067	0.209	0.463	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1383.76	
25	0.7567	1180.6	1201.5	1201.0	0.890	6.412	65.983	20.100	5.912	0.201	0.444	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1381.28	
26	0.7601	1187.3	1208.3	1207.8	0.889	6.331	65.614	20.292	6.112	0.216	0.482	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1385.93	
27	0.7601	1189.8	1210.9	1210.5	0.885	6.175	65.667	20.351	6.189	0.202	0.468	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1388.94	
28	0.7517	1177.0	1197.8	1197.5	0.872	6.192	66.656	19.947	5.708	0.172	0.401	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.62	
29	0.7489	1174.6	1195.4	1195.1	0.886	6.053	67.106	19.776	5.557	0.174	0.397	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.40	
30	0.7519	1178.3	1199.1	1198.8	0.880	6.127	66.651	20.022	5.660	0.187	0.419	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1382.87	
31	0.7489	1177.4	1198.2	1197.9	0.845	5.955	67.052	20.027	5.463	0.185	0.417	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1384.57	
Avg	0.7576	1183.0	1204.2	1203.8	0.894	6.333	65.913	20.145	6.011	0.199	0.445	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1383.50	

# Source Daily Summary

October 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	0.7564	1183.3	1204.2	1203.3	0.867	6.257	66.306	19.758	6.041	0.214	0.495	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1384.64	
2	0.7548	1181.0	1201.9	1201.2	0.866	6.250	66.511	19.654	5.959	0.210	0.490	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1383.43	
3	0.7583	1185.7	1206.7	1205.9	0.868	6.286	65.866	20.134	6.147	0.194	0.450	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1385.74	
4	0.7545	1178.8	1199.7	1199.0	0.858	6.361	66.644	19.359	6.002	0.211	0.504	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1381.20	
5	0.7563	1183.3	1204.3	1203.6	0.861	6.261	66.140	20.012	6.026	0.195	0.449	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1384.75	
6	0.6683	1097.8	1117.2	1116.7	0.995	3.019	78.824	15.722	1.328	0.033	0.071	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.66	
7	0.6644	1093.5	1112.8	1112.2	0.989	2.925	79.520	15.227	1.237	0.032	0.064	0.003	0.004	0.000	0.000	0.000	0.000	0.000	1365.26	
8	0.6957	1123.7	1143.6	1143.0	0.941	4.092	74.988	16.760	2.912	0.091	0.194	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1371.13	
9	0.6654	1094.8	1114.2	1113.6	0.972	2.965	79.393	15.234	1.320	0.036	0.072	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1365.89	
10	0.6544	1085.0	1104.2	1103.6	0.962	2.546	81.082	14.526	0.829	0.018	0.034	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1364.95	
11	0.6549	1084.7	1103.9	1103.2	0.975	2.593	80.992	14.546	0.843	0.017	0.032	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1364.04	
12	0.6544	1082.9	1102.0	1101.4	0.980	2.647	81.037	14.498	0.788	0.017	0.031	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1362.28	
13	0.6537	1081.9	1101.1	1100.4	0.981	2.633	81.182	14.380	0.773	0.017	0.031	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1361.88	
14	0.6551	1083.4	1102.6	1102.0	0.990	2.663	80.952	14.522	0.807	0.021	0.041	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1362.28	
15	0.7106	1138.2	1158.3	1157.6	0.923	4.629	72.804	17.580	3.666	0.110	0.256	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1374.47	
16	0.7453	1172.2	1192.9	1192.1	0.875	5.881	67.804	19.330	5.457	0.181	0.418	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1381.94	
17	0.7592	1185.8	1206.8	1205.9	0.858	6.379	65.861	19.942	6.192	0.212	0.493	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1385.02	
18	0.7623	1192.5	1213.6	1212.8	0.853	6.270	65.493	20.220	6.349	0.221	0.525	0.034	0.036	0.000	0.000	0.000	0.000	0.000	1390.00	
19	0.7609	1190.5	1211.5	1210.7	0.853	6.266	65.618	20.206	6.280	0.210	0.501	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1388.87	
20	0.7611	1190.0	1211.1	1210.3	0.852	6.310	65.613	20.155	6.274	0.215	0.512	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1388.20	
21	0.7599	1187.0	1208.1	1207.3	0.853	6.376	65.715	20.092	6.196	0.209	0.494	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1385.86	
22	0.7576	1183.0	1204.0	1203.2	0.854	6.404	65.942	20.018	6.056	0.201	0.466	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1383.28	
23	0.7172	1144.0	1164.2	1163.5	0.907	4.923	71.826	17.925	3.948	0.131	0.301	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1375.07	
24	0.6550	1082.5	1101.6	1101.0	1.003	2.698	80.837	14.709	0.707	0.015	0.029	0.001	0.002	0.000	0.000	0.000	0.000	0.000	1361.13	
25	0.6547	1081.0	1100.2	1099.6	1.005	2.746	80.879	14.639	0.688	0.014	0.027	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1359.73	
26	0.6586	1090.3	1109.6	1109.1	0.879	2.740	80.006	15.608	0.716	0.016	0.031	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1367.27	
27	0.6630	1103.7	1123.3	1122.7	0.646	2.690	78.836	17.103	0.680	0.014	0.028	0.001	0.002	0.000	0.000	0.000	0.000	0.000	1379.55	
28	0.6960	1129.1	1149.1	1148.5	0.820	3.977	74.746	17.337	2.806	0.087	0.201	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1377.71	
29	0.6613	1098.0	1117.5	1116.9	0.719	2.769	79.463	16.116	0.870	0.020	0.038	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1374.14	
30	0.6686	1111.5	1131.2	1130.7	0.569	2.861	77.889	17.671	0.944	0.022	0.041	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1383.45	
31	0.6722	1116.4	1136.2	1135.6	0.565	2.908	77.398	17.892	1.142	0.031	0.057	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1385.76	
Avg	0.7036	1133.0	1153.5	1152.8	0.875	4.333	73.747	17.447	3.225	0.104	0.238	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1375.66	

# Source Daily Summary

October 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	0.6723	1102.1	1121.6	1120.9	1.006	3.124	78.038	16.342	1.369	0.038	0.076	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1367.82	
2	0.6669	1097.1	1116.5	1116.0	1.004	2.922	78.868	15.995	1.115	0.031	0.061	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1367.17	
3	0.6658	1097.9	1117.3	1116.9	0.989	2.786	79.039	16.039	1.058	0.028	0.056	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1369.34	
4	0.6696	1104.6	1124.2	1123.8	0.968	2.770	78.498	16.373	1.283	0.035	0.069	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1373.78	
5	0.6629	1093.9	1113.3	1113.0	0.998	2.743	79.446	15.832	0.924	0.021	0.035	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1367.40	
6	0.6606	1090.4	1109.7	1109.3	1.018	2.719	79.836	15.536	0.836	0.020	0.034	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1365.24	
7	0.6585	1089.0	1108.3	1107.9	1.004	2.617	80.315	15.145	0.862	0.021	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1365.81	
8	0.6573	1087.7	1106.9	1106.6	0.996	2.602	80.470	15.082	0.800	0.018	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1365.33	
9	0.6582	1089.5	1108.8	1108.4	0.984	2.593	80.283	15.282	0.807	0.018	0.031	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1366.70	
10	0.6564	1087.9	1107.1	1106.7	0.966	2.555	80.627	14.999	0.805	0.018	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1366.45	
11	0.6775	1135.0	1155.1	1154.6	0.262	2.745	75.436	20.838	0.692	0.010	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1403.15	
12	0.6789	1137.4	1157.5	1157.0	0.254	2.737	75.191	21.069	0.713	0.013	0.021	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1404.68	
13	0.6879	1156.0	1176.4	1176.0	0.000	2.837	73.111	23.272	0.754	0.009	0.016	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.45	
14	0.6869	1154.9	1175.3	1174.8	0.000	2.815	73.190	23.332	0.641	0.008	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.07	
15	0.6868	1154.7	1175.1	1174.7	0.000	2.814	73.223	23.288	0.658	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.99	
16	0.6869	1154.9	1175.3	1174.8	0.000	2.808	73.230	23.274	0.663	0.009	0.015	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.17	
17	0.6665	1105.8	1125.4	1125.0	0.733	2.768	78.226	17.493	0.732	0.017	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.31	
18	0.6601	1087.7	1107.0	1106.6	1.017	2.830	79.820	15.552	0.725	0.019	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1362.52	
19	0.6557	1084.1	1103.3	1102.8	0.995	2.679	80.607	15.032	0.640	0.016	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1362.41	
20	0.6565	1086.2	1105.5	1105.0	0.986	2.632	80.662	14.834	0.820	0.022	0.042	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1364.33	
21	0.6563	1085.7	1104.9	1104.5	0.984	2.642	80.622	14.948	0.751	0.018	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1363.95	
22	0.6559	1085.2	1104.4	1104.0	0.983	2.643	80.662	14.934	0.728	0.017	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1363.64	
23	0.6711	1118.7	1138.5	1138.1	0.520	2.741	77.032	18.966	0.705	0.013	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1389.48	
24	0.6862	1153.7	1174.1	1173.7	0.000	2.821	73.339	23.174	0.641	0.009	0.015	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1417.33	
25	0.6856	1153.1	1173.6	1173.2	0.000	2.800	73.397	23.188	0.598	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.28	
26	0.6850	1146.2	1166.5	1166.2	0.138	2.947	73.985	22.006	0.875	0.018	0.030	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1409.48	
27	0.6851	1141.9	1162.1	1161.7	0.190	3.138	74.322	21.116	1.163	0.027	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1404.03	
28	0.6849	1142.4	1162.7	1162.3	0.181	3.098	74.308	21.227	1.121	0.024	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1404.94	
29	0.6861	1143.2	1163.4	1163.1	0.214	3.113	74.192	21.215	1.185	0.029	0.051	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1404.64	
30	0.6860	1140.6	1160.8	1160.5	0.314	3.113	74.532	20.571	1.362	0.038	0.065	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1401.51	
31	0.6932	1148.1	1168.4	1168.1	0.722	2.705	74.160	20.435	1.769	0.068	0.123	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1403.39	
Avg	0.6725	1118.0	1137.7	1137.3	0.594	2.802	77.054	18.593	0.897	0.021	0.037	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1387.19	

# Source Daily Summary

October 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	0.6847	1127.7	1147.7	1147.0	0.470	3.532	75.694	18.133	1.977	0.063	0.118	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1386.97	
2	0.6838	1127.4	1147.3	1146.0	0.504	3.416	75.667	18.481	1.760	0.055	0.105	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1387.49	
3	0.6722	1112.3	1132.0	1131.4	0.513	3.237	77.383	17.523	1.253	0.030	0.054	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1380.69	
4	0.6687	1109.3	1129.0	1128.4	0.231	3.519	77.843	16.963	1.385	0.023	0.034	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1380.55	
5	0.6679	1107.1	1126.7	1126.1	0.555	3.085	78.218	16.884	1.195	0.023	0.037	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1378.59	
6	0.6597	1093.1	1112.4	1111.8	0.450	3.328	79.573	15.565	1.029	0.020	0.032	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1369.52	
7	0.6798	1117.1	1136.9	1136.2	0.815	3.200	76.654	17.583	1.552	0.060	0.120	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1378.85	
8	0.6852	1127.2	1147.2	1146.5	0.645	3.344	75.822	18.035	1.914	0.073	0.147	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1385.83	
9	0.6823	1125.4	1145.3	1144.7	0.540	3.340	75.890	18.404	1.674	0.049	0.091	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1386.62	
10	0.6817	1125.5	1145.5	1144.9	0.543	3.275	75.925	18.521	1.594	0.046	0.085	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1387.35	
11	0.6818	1122.6	1142.4	1141.8	0.491	3.543	75.871	18.298	1.654	0.047	0.085	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1383.60	
12	0.6865	1130.2	1150.2	1149.6	0.403	3.653	74.906	19.140	1.757	0.047	0.085	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1388.24	
13	0.6877	1132.6	1152.6	1151.9	0.402	3.628	74.901	18.948	1.951	0.055	0.102	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1389.85	
14	0.6850	1126.4	1146.3	1145.7	0.456	3.666	75.524	18.226	1.945	0.059	0.110	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1385.02	
15	0.6848	1126.0	1145.9	1145.3	0.461	3.665	75.575	18.169	1.948	0.059	0.110	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1384.72	
16	0.6858	1128.5	1148.5	1147.9	0.431	3.645	75.277	18.583	1.895	0.055	0.101	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1386.87	
17	0.6856	1135.9	1156.0	1155.4	0.542	3.011	75.547	19.048	1.665	0.051	0.123	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1396.09	
18	0.6671	1106.9	1126.5	1125.9	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
19	0.6671	1106.9	1126.5	1125.9	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
20	0.6671	1106.9	1126.5	1125.9	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
21	0.6671	1106.9	1126.5	1126.0	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
22	0.6671	1106.9	1126.5	1125.9	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
23	0.6671	1106.9	1126.5	1126.1	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
24	0.6671	1106.9	1126.5	1126.1	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
25	0.6671	1106.9	1126.5	1125.8	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
26	0.6671	1106.9	1126.5	1125.8	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
27	0.6671	1106.9	1126.5	1125.7	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
28	0.6671	1106.9	1126.5	1125.7	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
29	0.6671	1106.9	1126.5	1125.7	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
30	0.6671	1106.9	1126.5	1126.2	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
31	0.6671	1106.9	1126.5	1126.2	0.175	3.600	78.167	16.554	1.447	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1379.20	
Avg	0.6743	1115.0	1134.9	1134.3	0.352	3.499	77.116	17.363	1.561	0.037	0.065	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1382.12	

# Source Daily Summary

October 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	0.6862	1154.0	1174.4	1172.8	0.000	2.797	73.378	23.131	0.671	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1417.76	-25.94
2	0.6857	1153.1	1173.5	1171.8	0.000	2.809	73.435	23.098	0.637	0.008	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1417.15	-26.33
3	0.6856	1152.5	1172.9	1171.3	0.000	2.828	73.448	23.080	0.622	0.007	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1416.63	-26.50
4	0.6854	1152.3	1172.7	1171.1	0.000	2.822	73.471	23.082	0.604	0.007	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1416.59	-26.66
5	0.6847	1152.6	1173.0	1171.4	0.000	2.748	73.577	23.075	0.585	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.53	-27.00
6	0.6851	1154.4	1174.8	1173.0	0.000	2.669	73.611	23.040	0.659	0.007	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.40	-26.30
7	0.6842	1152.9	1173.3	1171.6	0.000	2.675	73.755	22.923	0.626	0.008	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.54	-26.86
8	0.6852	1153.1	1173.5	1171.6	0.000	2.761	73.522	23.081	0.615	0.007	0.013	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1417.66	-26.58
9	0.6860	1153.6	1174.0	1172.4	0.000	2.801	73.387	23.148	0.644	0.007	0.012	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1417.52	-26.18
10	0.6859	1153.1	1173.5	1171.9	0.000	2.821	73.454	23.011	0.691	0.008	0.013	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1417.02	-26.09
11	0.6849	1151.5	1171.9	1170.0	0.000	2.833	73.578	22.941	0.627	0.007	0.012	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1415.98	-26.85
12	0.6897	1159.1	1179.6	1177.9	0.000	2.812	72.954	23.239	0.978	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.44	-23.30
13	0.6857	1152.8	1173.2	1171.5	0.000	2.830	73.434	23.074	0.639	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1416.74	-26.35
14	0.6858	1153.2	1173.6	1171.8	0.000	2.812	73.431	23.077	0.658	0.007	0.013	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1417.14	-26.22
15	0.6860	1153.5	1174.0	1172.4	0.000	2.805	73.431	23.058	0.685	0.008	0.013	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1417.44	-26.02
16	0.6862	1153.7	1174.2	1172.4	0.000	2.811	73.402	23.059	0.704	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1417.48	-25.84
17	0.6856	1152.8	1173.2	1171.4	0.000	2.813	73.470	23.038	0.662	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.95	-26.42
18	0.6854	1152.4	1172.8	1171.2	0.000	2.823	73.503	23.006	0.646	0.008	0.013	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1416.62	-26.49
19	0.6869	1155.0	1175.4	1173.6	0.000	2.802	73.341	23.056	0.778	0.008	0.015	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.29	-25.19
20	0.6863	1154.4	1174.8	1173.1	0.000	2.782	73.410	23.059	0.726	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1418.17	-25.65
21	0.6853	1153.0	1173.4	1171.8	0.000	2.772	73.563	22.971	0.672	0.008	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1417.50	-26.33
22	0.6860	1153.8	1174.2	1172.3	0.000	2.796	73.443	23.030	0.709	0.008	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.69	-25.88
23	0.6854	1152.4	1172.8	1171.1	0.000	2.820	73.495	23.013	0.655	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.65	-26.55
24	0.6855	1152.8	1173.3	1171.5	0.000	2.808	73.491	23.025	0.653	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1417.02	-26.34
25	0.6835	1149.8	1170.2	1168.4	0.000	2.807	73.700	22.999	0.481	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.34	-28.15
26	0.6826	1148.0	1168.4	1166.5	0.000	2.822	73.825	22.932	0.409	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.19	-28.97
27	0.6836	1149.3	1169.7	1168.0	0.000	2.840	73.728	22.901	0.513	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.70	-28.00
28	0.6843	1150.8	1171.2	1169.5	0.000	2.816	73.620	22.991	0.559	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.82	-27.46
29	0.6837	1150.4	1170.8	1168.9	0.000	2.785	73.759	22.890	0.547	0.007	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.90	-27.69
30	0.6824	1148.2	1168.5	1167.1	0.000	2.791	73.991	22.686	0.513	0.007	0.011	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1414.60	-28.51
31	0.6840	1151.0	1171.4	1169.6	0.000	2.770	73.711	22.939	0.561	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.43	-27.46
Avg	0.6852	1153.0	1173.0	1171.3	0.000	2.796	73.526	23.021	0.636	0.007	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.00	-26.58

# Source Daily Summary

October 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	0.5722	962.8	979.9	979.8	0.109	3.546	96.023	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.43	
2	0.5722	962.9	979.9	979.7	0.110	3.542	96.027	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.49	
3	0.5722	962.9	979.9	979.8	0.109	3.546	96.022	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.44	
4	0.5722	962.8	979.9	979.8	0.110	3.547	96.022	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.39	
5	0.5722	962.9	979.9	979.8	0.110	3.542	96.027	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.49	
6	0.5723	962.6	979.7	979.6	0.109	3.566	96.004	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.05	
7	0.5724	962.3	979.3	979.0	0.107	3.605	95.968	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.40	
8	0.5722	962.7	979.8	979.4	0.108	3.558	96.014	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.23	
9	0.5722	962.8	979.9	979.5	0.108	3.549	96.022	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.38	
10	0.5722	962.8	979.9	979.5	0.109	3.550	96.020	0.298	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.36	
11	0.5722	962.8	979.9	979.8	0.109	3.549	96.021	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.38	
12	0.5722	962.9	979.9	979.9	0.109	3.542	96.026	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.50	
13	0.5721	963.0	980.0	979.9	0.109	3.535	96.034	0.299	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.64	
14	0.5722	962.8	979.9	979.8	0.109	3.551	96.018	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.35	
15	0.5722	962.8	979.8	979.7	0.109	3.553	96.016	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.32	
16	0.5722	962.9	979.9	979.6	0.109	3.542	96.028	0.298	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.51	
17	0.5722	962.9	980.0	979.7	0.109	3.538	96.031	0.298	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.57	
18	0.5721	962.9	980.0	979.9	0.109	3.537	96.032	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.61	
19	0.5721	963.0	980.0	979.3	0.110	3.535	96.032	0.299	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.62	
20	0.5721	963.0	980.0	979.3	0.110	3.531	96.037	0.299	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.69	
21	0.5722	962.9	980.0	979.4	0.109	3.538	96.030	0.298	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.56	
22	0.5722	962.9	979.9	979.3	0.109	3.542	96.026	0.299	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.49	
23	0.5722	962.9	979.9	979.4	0.110	3.543	96.025	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.47	
24	0.5722	962.9	979.9	979.5	0.109	3.544	96.024	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.46	
25	0.5722	962.8	979.8	979.5	0.109	3.552	96.017	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.32	
26	0.5722	962.9	979.9	979.6	0.110	3.545	96.024	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.44	
27	0.5722	962.8	979.9	979.6	0.109	3.547	96.021	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.40	
28	0.5722	962.8	979.9	979.6	0.110	3.547	96.022	0.298	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.40	
29	0.5722	962.8	979.9	979.6	0.109	3.548	96.021	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.38	
30	0.5723	962.8	979.9	979.6	0.110	3.558	95.998	0.309	0.018	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.28	
31	0.5867	979.6	997.0	996.6	0.146	3.836	93.318	2.419	0.249	0.014	0.015	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1301.50	
Avg	0.5727	963.0	980.4	980.2	0.110	3.557	95.934	0.367	0.023	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.60	



October-23

ZONE 550

MANDAN BORDER

		NBPL - St Anthony			WBI - Mandan Border			Weighted	
Start Date	End Date	MCF	DK	BTU	MCF	DK	BTU Zone 28	AVG BTU	
10/1/2023	10/2/2023	0	0	0	771	927	1204.2	1204.200	10/1/2023
10/2/2023	10/3/2023	0	0	0	963	1,157	1201.9	1201.900	10/2/2023
10/3/2023	10/4/2023	0	0	0	938	1,132	1206.7	1206.700	10/3/2023
10/4/2023	10/5/2023	0	0	0	1,089	1,306	1199.7	1199.700	10/4/2023
10/5/2023	10/6/2023	0	0	0	1,931	2,324	1204.3	1204.300	10/5/2023
10/6/2023	10/7/2023	0	0	0	2,652	2,960	1117.2	1117.200	10/6/2023
10/7/2023	10/8/2023	0	0	0	1,445	1,610	1112.8	1112.800	10/7/2023
10/8/2023	10/9/2023	0	0	0	1,417	1,613	1143.6	1143.600	10/8/2023
10/9/2023	10/10/2023	3,785	4,189	1107.8	1,803	2,008	1114.2	1109.865	10/9/2023
10/10/2023	10/11/2023	6,925	7,652	1105	1,894	2,090	1104.2	1104.828	10/10/2023
10/11/2023	10/12/2023	960	1,060	1105.8	1,856	2,048	1103.9	1104.548	10/11/2023
10/12/2023	10/13/2023	314	346	1104.2	2,315	2,551	1102	1102.263	10/12/2023
10/13/2023	10/14/2023	0	0	0	2,243	2,470	1101.1	1101.100	10/13/2023
10/14/2023	10/15/2023	7,006	7,741	1104.9	2,068	2,280	1102.6	1104.376	10/14/2023
10/15/2023	10/16/2023	8,799	9,722	1105	2,110	2,442	1158.3	1115.309	10/15/2023
10/16/2023	10/17/2023	9,500	10,509	1107.4	1,625	1,932	1192.9	1119.889	10/16/2023
10/17/2023	10/18/2023	0	0	0	1,503	1,816	1206.8	1206.800	10/17/2023
10/18/2023	10/19/2023	0	0	0	1,861	2,259	1213.6	1213.600	10/18/2023
10/19/2023	10/20/2023	0	0	0	1,564	1,897	1211.5	1211.500	10/19/2023
10/20/2023	10/21/2023	598	660	1105.2	1,429	1,732	1211.1	1179.858	10/20/2023
10/21/2023	10/22/2023	3,375	3,724	1104.5	1,607	1,942	1208.1	1137.917	10/21/2023
10/22/2023	10/23/2023	2,883	3,192	1107.2	1,562	1,881	1204	1141.216	10/22/2023
10/23/2023	10/24/2023	11,921	13,169	1104.8	2,394	2,777	1164.2	1114.734	10/23/2023
10/24/2023	10/25/2023	13,818	15,235	1102.6	2,773	3,055	1101.6	1102.433	10/24/2023
10/25/2023	10/26/2023	135	149	1102.8	3,572	3,929	1100.2	1100.295	10/25/2023
10/26/2023	10/27/2023	12	14	1100.9	5,322	5,910	1109.6	1109.580	10/26/2023
10/27/2023	10/28/2023	37	40	1101.1	5,782	6,490	1123.3	1123.159	10/27/2023
10/28/2023	10/29/2023	58	64	1099.3	5,358	6,179	1149.1	1148.567	10/28/2023
10/29/2023	10/30/2023	53	59	1099.4	5,214	5,827	1117.5	1117.318	10/29/2023
10/30/2023	10/31/2023	2,108	2,312	1098.8	6,007	6,798	1131.2	1122.784	10/30/2023
10/31/2023	11/1/2023	1,550	1,702	1098.8	5,421	6,161	1136.2	1127.884	10/31/2023
		73,837	81,539	676.3065	78,489	89,503	1153.4710	1142.2652	



# Alliance Pipeline

DAILY ANALYSIS --- USA  
 ND07MD1 --- Hankinson Sales  
 October 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	1,144.767	0.6553	84.9146	9.4897	3.1801	0.3187	0.5607	0.0579	0.0405	0.0142	1.0109	0.4032	0.0097
2	1,144.846	0.6553	84.8486	9.5811	3.1846	0.3115	0.5427	0.0558	0.0394	0.0134	1.0154	0.3977	0.0099
3	1,143.569	0.6540	85.0373	9.5124	3.1224	0.3088	0.5327	0.0549	0.0398	0.0145	0.9749	0.3920	0.0105
4	1,151.316	0.6590	84.4444	9.7399	3.3655	0.3332	0.6065	0.0593	0.0431	0.0142	1.0178	0.3657	0.0104
5	1,152.164	0.6592	84.5143	9.6461	3.3853	0.3446	0.6225	0.0642	0.0467	0.0156	0.9759	0.3754	0.0096
6	1,151.650	0.6578	84.7376	9.5717	3.3620	0.3433	0.5994	0.0628	0.0464	0.0157	0.8891	0.3625	0.0095
7	1,152.832	0.6588	84.5809	9.6799	3.3864	0.3435	0.6023	0.0629	0.0482	0.0166	0.9006	0.3692	0.0096
8	1,154.579	0.6604	84.4125	9.6595	3.4742	0.3559	0.6245	0.0653	0.0527	0.0203	0.9668	0.3599	0.0086
9	1,155.069	0.6601	84.4538	9.6707	3.4540	0.3545	0.6327	0.0648	0.0543	0.0226	0.9547	0.3293	0.0086
10	1,155.877	0.6602	84.4720	9.6755	3.4549	0.3608	0.6344	0.0671	0.0567	0.0239	0.9289	0.3175	0.0083
11	1,155.774	0.6602	84.4251	9.7468	3.4516	0.3531	0.6263	0.0656	0.0536	0.0216	0.9214	0.3261	0.0088
12	1,155.852	0.6605	84.3899	9.7333	3.4665	0.3538	0.6328	0.0662	0.0540	0.0220	0.9419	0.3306	0.0089
13	1,154.866	0.6597	84.5336	9.6418	3.4211	0.3554	0.6318	0.0679	0.0564	0.0252	0.9245	0.3331	0.0091
14	1,153.508	0.6588	84.6261	9.6053	3.3943	0.3478	0.6221	0.0637	0.0529	0.0235	0.9214	0.3338	0.0090
15	1,155.474	0.6607	84.3887	9.6939	3.4584	0.3574	0.6429	0.0667	0.0541	0.0233	0.9568	0.3491	0.0086
16	1,155.715	0.6604	84.4208	9.7046	3.4554	0.3539	0.6342	0.0686	0.0566	0.0239	0.9556	0.3177	0.0086
17	1,157.190	0.6614	84.3209	9.7116	3.5036	0.3626	0.6601	0.0703	0.0581	0.0212	0.9723	0.3102	0.0091
18	1,154.921	0.6599	84.4393	9.7047	3.4366	0.3480	0.6348	0.0652	0.0583	0.0185	0.9744	0.3108	0.0094
19	1,154.080	0.6596	84.5166	9.6127	3.4372	0.3503	0.6384	0.0652	0.0527	0.0191	0.9720	0.3267	0.0090
20	1,154.900	0.6597	84.4680	9.6941	3.4467	0.3485	0.6312	0.0644	0.0516	0.0190	0.9589	0.3085	0.0091
21	1,154.669	0.6595	84.4525	9.7568	3.4302	0.3434	0.6190	0.0616	0.0497	0.0186	0.9443	0.3142	0.0095
22	1,157.166	0.6615	84.2513	9.7952	3.5193	0.3578	0.6459	0.0643	0.0511	0.0200	0.9561	0.3305	0.0085
23	1,155.739	0.6609	84.2503	9.8716	3.4363	0.3531	0.6322	0.0635	0.0512	0.0192	0.9747	0.3389	0.0089
24	1,154.602	0.6597	84.4088	9.7866	3.4171	0.3432	0.6237	0.0626	0.0498	0.0184	0.9579	0.3226	0.0092
25	1,155.419	0.6608	84.2274	9.8621	3.4608	0.3439	0.6327	0.0613	0.0487	0.0179	1.0190	0.3171	0.0090
26	1,152.579	0.6585	84.6784	9.5284	3.4094	0.3568	0.6242	0.0566	0.0451	0.0187	0.9378	0.3353	0.0093
27	1,152.979	0.6586	84.9240	9.0961	3.5701	0.3862	0.6499	0.0535	0.0414	0.0186	0.8978	0.3526	0.0096
28	1,153.517	0.6595	84.8009	9.0875	3.6462	0.3819	0.6571	0.0535	0.0405	0.0176	0.9518	0.3536	0.0093
29	1,153.865	0.6597	84.5423	9.4980	3.5589	0.3615	0.6077	0.0558	0.0427	0.0173	0.9541	0.3523	0.0095
30	1,153.387	0.6591	84.4341	9.8103	3.4594	0.3338	0.5627	0.0575	0.0423	0.0155	0.9252	0.3498	0.0094
31	1,152.281	0.6582	84.5488	9.7657	3.3973	0.3286	0.5659	0.0588	0.0444	0.0161	0.9209	0.3435	0.0099
<b>Volume</b>	<b>1,153.394</b>	<b>0.6593</b>	<b>84.5309</b>	<b>9.6430</b>	<b>3.4243</b>	<b>0.3482</b>	<b>0.6172</b>	<b>0.0622</b>	<b>0.0491</b>	<b>0.0189</b>	<b>0.9540</b>	<b>0.3430</b>	<b>0.0092</b>
<b>Weight Avg Energy</b>	<b>1,153.404</b>	<b>0.6593</b>	<b>84.5304</b>	<b>9.6431</b>	<b>3.4245</b>	<b>0.3483</b>	<b>0.6173</b>	<b>0.0622</b>	<b>0.0491</b>	<b>0.0189</b>	<b>0.9539</b>	<b>0.3429</b>	<b>0.0092</b>



# Alliance Pipeline

DAILY ANALYSIS --- USA  
 ND14MD1 --- Milnor Sales  
 October 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	1,144.637	0.6553	84.9264	9.4742	3.1843	0.3176	0.5598	0.0578	0.0404	0.0140	1.0095	0.4064	0.0096
2	1,144.692	0.6551	84.8532	9.6027	3.1760	0.3095	0.5350	0.0548	0.0391	0.0135	1.0095	0.3967	0.0101
3	1,143.772	0.6540	85.0522	9.4961	3.1275	0.3100	0.5370	0.0554	0.0401	0.0144	0.9706	0.3862	0.0104
4	1,151.959	0.6593	84.4000	9.7677	3.3822	0.3349	0.6094	0.0595	0.0433	0.0143	1.0106	0.3677	0.0104
5	1,152.275	0.6593	84.5038	9.6497	3.3903	0.3448	0.6232	0.0643	0.0466	0.0154	0.9769	0.3755	0.0095
6	1,151.687	0.6576	84.7648	9.5587	3.3635	0.3440	0.5980	0.0625	0.0462	0.0157	0.8756	0.3615	0.0095
7	1,153.434	0.6591	84.5503	9.6910	3.3985	0.3468	0.6095	0.0635	0.0488	0.0168	0.9014	0.3637	0.0096
8	1,154.604	0.6606	84.3970	9.6531	3.4741	0.3571	0.6313	0.0652	0.0531	0.0207	0.9789	0.3610	0.0086
9	1,155.289	0.6601	84.4579	9.6730	3.4553	0.3551	0.6332	0.0654	0.0548	0.0230	0.9493	0.3243	0.0086
10	1,156.092	0.6603	84.4365	9.7055	3.4612	0.3601	0.6330	0.0668	0.0562	0.0236	0.9298	0.3191	0.0084
11	1,155.593	0.6600	84.4469	9.7289	3.4480	0.3527	0.6267	0.0657	0.0537	0.0216	0.9212	0.3257	0.0089
12	1,154.621	0.6598	84.4736	9.6818	3.4374	0.3500	0.6257	0.0654	0.0533	0.0219	0.9476	0.3343	0.0089
13	1,154.675	0.6596	84.5470	9.6375	3.4143	0.3545	0.6297	0.0677	0.0566	0.0257	0.9234	0.3345	0.0091
14	1,153.379	0.6588	84.6266	9.6042	3.3930	0.3473	0.6222	0.0634	0.0522	0.0229	0.9240	0.3352	0.0091
15	1,155.128	0.6607	84.3802	9.6917	3.4554	0.3566	0.6421	0.0660	0.0534	0.0227	0.9714	0.3517	0.0087
16	1,155.764	0.6603	84.4341	9.6880	3.4584	0.3556	0.6371	0.0688	0.0563	0.0237	0.9547	0.3146	0.0087
17	1,157.288	0.6614	84.3034	9.7267	3.5096	0.3623	0.6593	0.0707	0.0551	0.0213	0.9725	0.3102	0.0090
18	1,154.647	0.6598	84.4588	9.6968	3.4346	0.3478	0.6344	0.0652	0.0514	0.0189	0.9681	0.3146	0.0094
19	1,154.404	0.6598	84.4932	9.6261	3.4461	0.3515	0.6409	0.0658	0.0516	0.0190	0.9723	0.3245	0.0090
20	1,155.051	0.6598	84.4609	9.7003	3.4488	0.3486	0.6316	0.0648	0.0520	0.0193	0.9575	0.3072	0.0092
21	1,154.537	0.6595	84.4531	9.7511	3.4295	0.3439	0.6189	0.0613	0.0494	0.0186	0.9454	0.3193	0.0095
22	1,156.954	0.6615	84.2529	9.7848	3.5169	0.3577	0.6456	0.0645	0.0515	0.0202	0.9635	0.3342	0.0083
23	1,155.705	0.6608	84.2582	9.8760	3.4334	0.3520	0.6307	0.0635	0.0508	0.0190	0.9718	0.3356	0.0090
24	1,154.355	0.6596	84.4307	9.7725	3.4125	0.3422	0.6225	0.0623	0.0496	0.0183	0.9585	0.3219	0.0091
25	1,155.122	0.6607	84.2377	9.8485	3.4548	0.3440	0.6333	0.0612	0.0484	0.0178	1.0275	0.3178	0.0091
26	1,152.848	0.6585	84.7026	9.4871	3.4323	0.3612	0.6264	0.0559	0.0446	0.0189	0.9223	0.3393	0.0094
27	1,153.159	0.6587	84.9155	9.0914	3.5772	0.3876	0.6531	0.0538	0.0417	0.0186	0.8995	0.3520	0.0096
28	1,153.743	0.6596	84.7796	9.1065	3.6520	0.3821	0.6563	0.0530	0.0404	0.0176	0.9498	0.3534	0.0093
29	1,153.158	0.6592	84.4902	9.6558	3.4986	0.3482	0.5762	0.0568	0.0427	0.0167	0.9550	0.3504	0.0095
30	1,153.911	0.6593	84.4149	9.8193	3.4654	0.3346	0.5716	0.0582	0.0434	0.0158	0.9167	0.3507	0.0095
31	1,151.881	0.6580	84.5771	9.7466	3.3884	0.3277	0.5642	0.0587	0.0440	0.0159	0.9272	0.3405	0.0099
<b>Volume</b>	<b>1,154.028</b>	<b>0.6596</b>	<b>84.4922</b>	<b>9.6674</b>	<b>3.4398</b>	<b>0.3495</b>	<b>0.6217</b>	<b>0.0623</b>	<b>0.0490</b>	<b>0.0190</b>	<b>0.9544</b>	<b>0.3354</b>	<b>0.0092</b>
<b>Weight Avg Energy</b>	<b>1,154.033</b>	<b>0.6596</b>	<b>84.4920</b>	<b>9.6673</b>	<b>3.4399</b>	<b>0.3496</b>	<b>0.6218</b>	<b>0.0623</b>	<b>0.0491</b>	<b>0.0190</b>	<b>0.9544</b>	<b>0.3354</b>	<b>0.0092</b>

October-23

ZONE 610

Watford City

Watford City West Border

Watford City East Border

Weighted

Start Date	End Date	BTU			BTU			AVG BTU	
		MCF	DK	Zone 25	MCF	DK	Zone 43		
10/1/2023	10/2/2023	32	39	1206.9	138	154	1118.7	1135.302	10/1/2023
10/2/2023	10/3/2023	57	69	1206.9	132	148	1118.7	1145.300	10/2/2023
10/3/2023	10/4/2023	105	127	1206.9	196	219	1118.7	1149.467	10/3/2023
10/4/2023	10/5/2023	153	184	1206.9	214	240	1118.7	1155.470	10/4/2023
10/5/2023	10/6/2023	242	292	1206.9	294	328	1118.7	1158.522	10/5/2023
10/6/2023	10/7/2023	251	303	1206.9	335	375	1118.7	1156.478	10/6/2023
10/7/2023	10/8/2023	117	141	1206.9	199	223	1118.7	1151.356	10/7/2023
10/8/2023	10/9/2023	82	99	1206.9	176	197	1118.7	1146.733	10/8/2023
10/9/2023	10/10/2023	132	160	1206.9	198	222	1118.7	1153.980	10/9/2023
10/10/2023	10/11/2023	127	153	1206.9	192	215	1118.7	1153.814	10/10/2023
10/11/2023	10/12/2023	169	205	1206.9	195	218	1118.7	1159.650	10/11/2023
10/12/2023	10/13/2023	206	249	1206.9	280	313	1118.7	1156.085	10/12/2023
10/13/2023	10/14/2023	214	258	1206.9	292	327	1118.7	1156.002	10/13/2023
10/14/2023	10/15/2023	227	274	1206.9	310	347	1118.7	1155.984	10/14/2023
10/15/2023	10/16/2023	205	247	1206.9	278	311	1118.7	1156.135	10/15/2023
10/16/2023	10/17/2023	131	159	1206.9	183	205	1118.7	1155.497	10/16/2023
10/17/2023	10/18/2023	160	193	1206.9	232	259	1118.7	1154.700	10/17/2023
10/18/2023	10/19/2023	194	234	1206.9	229	256	1118.7	1159.151	10/18/2023
10/19/2023	10/20/2023	122	148	1206.9	182	204	1118.7	1154.096	10/19/2023
10/20/2023	10/21/2023	163	197	1206.9	207	232	1118.7	1157.556	10/20/2023
10/21/2023	10/22/2023	184	222	1206.9	212	237	1118.7	1159.682	10/21/2023
10/22/2023	10/23/2023	180	217	1206.9	225	252	1118.7	1157.900	10/22/2023
10/23/2023	10/24/2023	238	287	1206.9	401	448	1118.7	1151.551	10/23/2023
10/24/2023	10/25/2023	278	335	1206.9	550	615	1118.7	1148.313	10/24/2023
10/25/2023	10/26/2023	386	466	1206.9	756	846	1118.7	1148.512	10/25/2023
10/26/2023	10/27/2023	439	530	1206.9	915	1,024	1118.7	1147.297	10/26/2023
10/27/2023	10/28/2023	453	546	1206.9	1,008	1,128	1118.7	1146.047	10/27/2023
10/28/2023	10/29/2023	429	518	1206.9	833	932	1118.7	1148.682	10/28/2023
10/29/2023	10/30/2023	418	504	1206.9	866	969	1118.7	1147.413	10/29/2023
10/30/2023	10/31/2023	477	575	1206.9	1,177	1,317	1118.7	1144.136	10/30/2023
10/31/2023	11/1/2023	389	469	1206.9	1,024	1,145	1118.7	1142.982	10/31/2023
		6,960	8,400	1206.9000	12,429	13,906	1118.7000	1152.0578	

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	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/1/2023	10/2/2023	1112	0.6633	-40.1	1365.368215	1.0196	2.8003	79.2276	16.0029	0.8541	0.018	0.0328	0.0015	0.0013	0	0	0.0163	0.0258	0.2702	0.1342	0.0847	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/2/2023	10/3/2023	1111	0.6626	-40.5	1364.860745	1.011	2.7755	79.3457	15.9415	0.827	0.019	0.0355	0.0017	0.0016	0	0	0.0161	0.0255	0.2796	0.1367	0.0882	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/3/2023	10/4/2023	1119	0.6547	-36.6	1372.515457	0.9659	2.5999	79.23	15.9824	1.0841	0.031	0.0613	0.003	0.0026	0	0	0.0158	0.0241	0.2644	0.1312	0.0804	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/4/2023	10/5/2023	1117	0.6655	-37.8	1369.23863	0.9864	2.7473	78.9134	16.2412	1.0091	0.021	0.0373	0.0015	0.0012	0	0	0.0165	0.0253	0.2533	0.1236	0.071	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/5/2023	10/6/2023	1112	0.6637	-39.9	1364.956712	1.0102	2.8514	79.1449	16.0192	0.876	0.0191	0.0345	0.0013	0.001	0	0	0.0167	0.0258	0.2302	0.0998	0.054	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/6/2023	10/7/2023	1108	0.6598	-42.1	1364.060412	1.005	2.7457	79.9075	15.4233	0.8227	0.0187	0.0336	0.0014	0.0009	0	0	0.0162	0.0252	0.243	0.0887	0.0489	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/7/2023	10/8/2023	1108	0.659	-42.1	1364.888118	0.9978	2.6867	80.1256	15.2148	0.8759	0.0204	0.0368	0.0011	0.0005	0	0	0.0158	0.0248	0.2744	0.1006	0.0581	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/8/2023	10/9/2023	1107	0.6582	-43	1364.484737	0.9875	2.6733	80.2055	15.2327	0.8103	0.0177	0.031	0.001	0.0007	0	0	0.0157	0.0247	0.2656	0.1032	0.0597	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/9/2023	10/10/2023	1107	0.658	-43	1364.692089	0.975	2.6384	80.2359	15.2547	0.807	0.0174	0.0305	0.0008	0.0004	0	0	0.0155	0.0245	0.2595	0.0992	0.0567	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/10/2023	10/11/2023	1106	0.6566	-43.6	1364.912112	0.9685	2.6153	80.5306	14.9669	0.8287	0.0177	0.031	0.0008	0.0005	0	0	0.0158	0.0243	0.2542	0.0934	0.0524	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/11/2023	10/12/2023	1105	0.6573	-43.9	1362.951888	0.9841	2.7263	80.3402	15.0792	0.7831	0.0165	0.0291	0.0005	0.0001	0	0	0.0159	0.025	0.2587	0.0917	0.0534	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/12/2023	10/13/2023	1103	0.6564	-44.6	1361.417178	0.9863	2.7244	80.4908	14.9598	0.7517	0.0164	0.0289	0.0006	0.0003	0	0	0.016	0.025	0.2841	0.0888	0.0495	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/12/2023	10/14/2023	1103	0.6564	-44.6	1361.417178	0.9863	2.7244	80.4908	14.9598	0.7517	0.0164	0.0289	0.0006	0.0003	0	0	0.016	0.025	0.2841	0.0888	0.0495	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/14/2023	10/15/2023	1105	0.6587	-42.5	1361.50251	1.0023	2.7797	80.1571	15.1315	0.8194	0.022	0.0424	0.0023	0.0022	0	0	0.0161	0.0253	0.2652	0.0901	0.0526	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/14/2023	10/16/2023	1105	0.6587	-42.5	1361.50251	1.0023	2.7797	80.1571	15.1315	0.8194	0.022	0.0424	0.0023	0.0022	0	0	0.0161	0.0253	0.2652	0.0901	0.0526	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/16/2023	10/17/2023	1107	0.66	-42.1	1362.622805	1.0053	2.7975	79.8429	15.4661	0.7834	0.0197	0.0384	0.0022	0.0023	0	0	0.0163	0.026	0.2631	0.0957	0.0576	0.011
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/17/2023	10/18/2023	1108	0.6617	-41.5	1362.100628	1.0229	2.9058	79.4423	15.7712	0.7538	0.0189	0.0372	0.0023	0.0025	0	0	0.0167	0.0266	0.2864	0.0982	0.0595	0.001
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/18/2023	10/19/2023	1103	0.6571	-44.7	1360.691835	1.0047	2.7838	80.2589	15.2117	0.65	0.0153	0.0301	0.0019	0.002	0	0	0.0161	0.0257	0.2847	0.0926	0.0556	0.0009
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/18/2023	10/20/2023	1103	0.6571	-44.7	1360.691835	1.0047	2.7838	80.2589	15.2117	0.65	0.0153	0.0301	0.0019	0.002	0	0	0.0161	0.0257	0.2847	0.0926	0.0556	0.0009
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/20/2023	10/21/2023	1105	0.6573	-43.7	1362.951688	0.9908	2.7204	80.3513	15.0809	0.7592	0.0176	0.0341	0.0021	0.0022	0	0	0.0161	0.0253	0.2773	0.0776	0.0443	0.0007
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/21/2023	10/22/2023	1104	0.6567	-44.3	1362.340179	0.9905	2.7237	80.421	15.0456	0.7271	0.0163	0.0312	0.0018	0.0019	0	0	0.0159	0.0252	0.2747	0.0873	0.052	0.011
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/21/2023	10/23/2023	1104	0.6567	-44.3	1362.340179	0.9905	2.7237	80.421	15.0456	0.7271	0.0163	0.0312	0.0018	0.0019	0	0	0.0159	0.0252	0.2747	0.0873	0.052	0.011
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/23/2023	10/24/2023	1104	0.6579	-44	1361.097167	1.0059	2.7804	80.1624	15.252	0.7097	0.0157	0.0295	0.0013	0.0014	0	0	0.0161	0.0257	0.2563	0.0823	0.0495	0.0112
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/24/2023	10/25/2023	1102	0.6569	-45.2	1359.665142	1.0082	2.8018	80.2834	15.1657	0.6603	0.0138	0.0243	0	0	0	0	0.0166	0.026	0.2494	0.1403	0.05	0.011
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/25/2023	10/26/2023	1104	0.659	-43.6	1359.960724	1.0166	2.8586	79.9396	15.3814	0.7132	0.0162	0.0297	0.0008	0.0009	0	0	0.0167	0.0264	0.2355	0.0816	0.044	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/26/2023	10/27/2023	1101	0.6555	-45.4	1359.881204	0.994	2.7446	80.6102	14.891	0.6674	0.0166	0.0315	0.0018	0.0017	0	0	0.0162	0.0252	0.2455	0.0784	0.0397	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/27/2023	10/28/2023	1101	0.6543	-45.6	1361.127658	0.9882	2.6769	80.9267	14.5912	0.7215	0.0178	0.0338	0.0018	0.0018	0	0	0.0158	0.0247	0.2568	0.0702	0.0348	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/28/2023	10/29/2023	1099	0.653	-46.7	1360.066869	0.9855	2.6755	81.1357	14.435	0.6774	0.0163	0.0305	0.0017	0.0016	0	0	0.016	0.0251	0.2561	0.0709	0.0357	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/29/2023	10/30/2023	1099	0.6524	-46.9	1360.632111	0.9808	2.6241	81.2369	14.3957	0.6665	0.0162	0.0305	0.0017	0.0016	0	0	0.0215	0.0247	0.2641	0.0721	0.0371	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/30/2023	10/31/2023	1098	0.6529	-47.1	1358.873426	1.003	2.666	81.1252	14.4837	0.6319	0.0156	0.0292	0.0016	0.0015	0	0	0.0175	0.025	0.256	0.0719	0.038	0.0005
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	10/31/2023	11/1/2023	1099	0.6528	-46.7	1360.915187	0.9977	2.6389	81.1905	14.4081	0.6717	0.0171	0.0322	0.0018	0.0018	0	0	0.0156	0.0248	0.27	0.0715	0.0377	0.0006

<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	OCT23	SEP23	AUG23	JUL23	JUN23	MAY23	APR23	MAR23	FEB23	JAN23	DEC22	NOV22	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1200	1194	1196	1198	1199	1195	1200	1204	1208	1191	1203	1206	1124	211
ND	24	Williston Border - Charbonneau Station	1195	1188	1188	1195	1195	1196	1198	1194	1195	1198	1197	1193	1207	24
ND	25	Watford City West Border	1199	1207	1212	1210	1210	1190	1189	1180	1183	1200	1195	1202	1126	25
ND	28	Bismarck Station - Glen Ullin Station	1156	1154	1202	1199	1194	1195	1192	1118	1127	1115	1118	1133	1107	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1121	1138	1121	1124	1118	1107	1086	1100	1132	1126	1132	1140	1132	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1128	1135	1135	1134	1124	1124	1111	1119	1137	1116	1125	1139	1176	32
ND	33	Little Knife Plant	1177	1173	1177	1181	1174	1180	1182	1179	1177	1175	1176	1176	1077	33
ND	34	Badlands Plant/Bowman Border	1032	980	984	980	980	1040	1021	1005	1071	1086	1079	1086	1054	34
ND	43	Watford City East Border	1105	1119	1124	1120	1118	1081	1042	1083	1116	1128	1143	1133	1102	43
ND/MT	241	Fairview Border	1201	1192	1195	1200	1193	1189	1200	1196	1201	1212	1218	1201	1176	241
ND	267	North Tioga Transfer - Nesson Plant	1180	1169	1166	1176	1181	1185	1188	1187	1189	1188	1181	1176	1182	267
ND	261	Tioga Comp Station - Robinson Lake Plan	1186	1203	1187	1191	1186	1189	1188	1184	1185	1184	1176	1176	1186	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1192	1206	1202	1197	1192	1193	1190	1189	1187	1187	1188	1189	1131	262
ND	263	Lignite Plant	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1194	263
ND	264	Epping Border	1195	1191	1183	1195	1190	1181	1195	1202	1200	1208	1202	1198	1182	264
ND	265	Tioga Comp Station - County Line Plant	1175	1171	1174	1170	1165	1168	1176	1182	1183	1181	1182	1169	1181	265
ND	266	County Line Plant	1176	1172	1179	1171	1166	1168	1178	1182	1183	1180	1183	1168	1181	266
ND	271	Bismarck Station - Cleveland Station	1187	1204	1202	1199	1194	1195	1192	1189	1181	1168	1168	1176	1181	271
ND	272	Cleveland Station - Mapleton	1187	1205	1201	1199	1194	1194	1191	1188	1181	1168	1168	1176	1181	272
ND	273	Cleveland Station - Grafton Border	1187	1204	1202	1198	1194	1194	1192	1187	1180	1168	1168	1176	1145	273
ND	550	Mandan Border / NBPL-St Anthony	1133	1142	1188	1173	1172	1160	1085	1101	1118	1109	1109	1127	1131	550
ND	610	MDU-Watford City BTU	1127	1152	1150	1131	1123	1091	1065	1111	1137	1149	1159	1155	1044	610
ND	802	NBPL - Linton	1096	1106	1110	1105	1104	1102	1080	1085	1097	1095	1093	1090	2549	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	1149	903
ND	600	Alliance Pipeline - Hankinson	1152	1153	1149	1159	1155	1157	1154	1153	1149	1152	1148	1143	1149	600
ND	601	Alliance Pipeline - Milnor	1152	1154	1149	1160	1155	1157	1155	1154	1149	1152	1148	1143	0	601

<b>THERMAL ZONE VARIANCE DOCUMENTATION</b>		
<b>October 2023</b>		
<b><i>ZONE</i></b>	<b><i>BTU VARIANCE</i></b>	<b><i>REASON</i></b>
28	-48	Operational
550	-46	Operational