

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

December 14, 2022

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

Re: Case No. PU-22-002 (Therm Billing)  
Monthly Report – October 2022

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 2022.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of October 2022.
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 2022.

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-22**

<u>Town</u>	<u>Heat Zone</u>	<u>Therm Factor</u>
MDU-303-ALEXANDER	025	1.1419
MDU-308-ARNEGARD	025	1.1419
MDU-314-APPLE VALLEY	271	1.1492
MDU-318-BEACH	032	1.0424
MDU-319-BELFIELD	032	1.0501
MDU-323-BERTHOLD	262	1.1315
MDU-327-BISMARCK	028	1.1492
MDU-330-BOWMAN	034	0.9687
MDU-337-BURLINGTON	262	1.1559
MDU-343-CARRINGTON	273	1.1521
MDU-344-CLEVELAND	272	1.1411
MDU-364-CAVALIER	273	1.1764
MDU-365-DAWSON	271	1.1411
MDU-368-DES LACS	262	1.1396
MDU-369-DICKINSON	031	1.0305
MDU-374-FT TOTTEN	273	1.1602
MDU-375-DEVILS LAKE	273	1.1602
MDU-379-BARLOW	273	1.1521
MDU-384-EPPING	264	1.1296
MDU-387-ELDRIDGE	272	1.1492
MDU-407-GLADSTONE	031	1.0305
MDU-411-GLEN ULLIN	031	1.0380
MDU-413-GOLVA	032	1.0271
MDU-416-GARRISON	262	1.1396
MDU-417-GRAFTON	273	1.1845
MDU-403-GWINNER	601	1.1429
MDU-429-HEBRON	031	1.0380
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1572
MDU-459-KILLDEER	033	1.1079
MDU-463-LANGDON	273	1.1521
MDU-469-LEFOR	031	1.0305
MDU-474-LIGNITE	263	1.0759
MDU-475-LINTON	802	1.0430
MDU-478-LINCOLN	028	1.1492
MDU-488-MCKENZIE	271	1.1492
MDU-494-MEDINA	271	1.1411
MDU-498-MANDAN	028	1.1492
MDU-500-MARMARTH	034	0.9759
MDU-505-MINOT	262	1.1559
MDU-510-MOTT	031	1.0305
MDU-512-MAX	262	1.1315
MDU-513-MILNOR	601	1.1429
MDU-522-NEW ENGLAND	031	1.0231
MDU-524-NEW SALEM	028	1.1249
MDU-532-NEW ROCKFORD	273	1.1521
MDU-539-PARK RIVER	273	1.1764
MDU-540-PALERMO	262	1.1315
MDU-558-RAY	264	1.1296

MDU-561-REGENT	031	1.0305
MDU-563-RHAME	034	0.9615
MDU-564-RICHARDTON	031	1.0231
MDU-568-ROSS	261	1.1215
MDU-572-RUTHVILLE	262	1.1559
MDU-574-SANBORN	272	1.1572
MDU-583-SENTINEL BUTTE	032	1.0424
MDU-588-SOUTH HEART	031	1.0231
MDU-717-SPIRITWOOD	272	1.1572
MDU-590-SPRINGBROOK	264	1.1296
MDU-591-STANLEY	261	1.1296
MDU-593-STEELE	271	1.1411
MDU-594-STERLING	028	1.1492
MDU-598-SHEYENNE	273	1.1602
MDU-605-SURREY	262	1.1559
MDU-610-TAPPEN	271	1.1411
MDU-611-TAYLOR	031	1.0231
MDU-616-TIOGA	260	1.1009
MDU-619-TURTLE LAKE	262	1.1396
MDU-620-TRENTON	024	1.1301
MDU-624-UNDERWOOD	262	1.1396
MDU-625-VALLEY CITY	272	1.1653
MDU-629-WALHALLA	273	1.1764
MDU-632-WATFORD CITY	610	1.0125
MDU-636-WHEELOCK	264	1.1215
MDU-637-WHITE EARTH	261	1.1296
MDU-642-WILLISTON	024	1.1301
MDU-646-WASHBURN	262	1.1478
MDU-647-WILTON	262	1.1315
MDU-664-RIVERDALE	262	1.1396
MDU-691-FAIRVIEW	241	1.1349
MDU-712-MINOT AFB	262	1.1559
MDU-718-FAIRMOUNT	600	1.1395
MDU-732-NEKOMA	273	1.1521
MDU-732-MSR SITE	273	1.1521

# Source Daily Summary

October 2022

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	0.7352	1184.8	1205.8	1205.1	1.306	3.515	68.614	22.397	3.612	0.172	0.343	0.021	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1406.34
2	0.7401	1193.9	1215.1	1214.3	1.317	3.412	67.382	23.945	3.430	0.158	0.317	0.020	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1412.38
3	0.7386	1192.8	1213.9	1213.1	1.309	3.349	67.637	23.797	3.412	0.153	0.306	0.020	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1412.53
4	0.7393	1192.0	1213.1	1212.2	1.355	3.397	67.667	23.555	3.514	0.158	0.315	0.021	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1410.84
5	0.7274	1184.5	1205.5	1204.7	1.017	3.252	69.087	23.197	3.039	0.125	0.252	0.017	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1413.45
6	0.7251	1181.3	1202.2	1201.5	0.936	3.355	69.297	23.064	2.990	0.113	0.220	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1411.92
7	0.7025	1164.8	1185.4	1184.7	0.274	3.253	71.680	22.758	1.918	0.041	0.071	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1414.40
8	0.6960	1161.6	1182.2	1181.5	0.029	3.208	72.395	22.617	1.716	0.016	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.02
9	0.6973	1163.7	1184.3	1183.6	0.030	3.198	72.227	22.704	1.806	0.016	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.29
10	0.7059	1169.9	1190.7	1189.9	0.286	3.236	71.151	23.162	2.037	0.043	0.077	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1417.26
11	0.6957	1161.5	1182.0	1181.4	0.025	3.195	72.426	22.633	1.688	0.016	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.14
12	0.6973	1163.5	1184.1	1183.4	0.028	3.214	72.236	22.672	1.815	0.016	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.00
13	0.7207	1182.0	1202.9	1202.2	0.703	3.257	69.415	23.753	2.593	0.089	0.172	0.010	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1417.14
14	0.7436	1200.3	1221.6	1220.9	1.336	3.323	66.536	25.013	3.296	0.154	0.307	0.019	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1416.62
15	0.7397	1194.3	1215.5	1214.9	1.325	3.336	67.330	24.187	3.342	0.150	0.297	0.018	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1413.28
16	0.7388	1193.8	1214.9	1214.3	1.311	3.307	67.544	23.966	3.394	0.152	0.297	0.016	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1413.45
17	0.7375	1191.6	1212.7	1212.1	1.316	3.315	67.740	23.828	3.315	0.153	0.301	0.017	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1412.08
18	0.7320	1180.4	1201.4	1200.7	1.316	3.472	68.990	22.326	3.362	0.166	0.331	0.020	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1404.14
19	0.7159	1181.5	1202.5	1201.7	0.380	3.321	70.590	22.296	3.132	0.095	0.171	0.008	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1421.23
20	0.7261	1174.1	1194.9	1194.2	1.258	3.384	70.177	21.278	3.366	0.164	0.332	0.022	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1402.36
21	0.7187	1172.6	1193.4	1192.8	1.092	3.041	71.008	21.438	2.954	0.139	0.290	0.020	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1407.69
22	0.7191	1172.3	1193.0	1192.4	0.926	3.357	70.465	21.983	2.877	0.121	0.242	0.015	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1406.85
23	0.7146	1166.4	1187.1	1186.6	0.812	3.459	70.954	21.742	2.710	0.104	0.199	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1404.31
24	0.7191	1169.8	1190.6	1190.0	0.937	3.484	70.463	21.818	2.933	0.116	0.225	0.013	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1404.01
25	0.7180	1172.0	1192.7	1192.1	0.796	3.471	70.410	22.126	2.855	0.108	0.210	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1407.55
26	0.7240	1179.6	1200.5	1199.9	0.856	3.470	69.932	22.018	3.259	0.144	0.288	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1410.87
27	0.7205	1176.0	1196.9	1196.3	0.825	3.406	70.087	22.402	2.903	0.117	0.233	0.014	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1410.09
28	0.7253	1182.1	1203.1	1202.5	0.979	3.257	69.420	22.949	2.984	0.123	0.254	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1412.63
29	0.7335	1189.1	1210.2	1209.6	1.239	3.201	68.529	23.252	3.261	0.155	0.320	0.021	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1413.03
30	0.7369	1192.6	1213.7	1213.0	1.269	3.270	67.954	23.636	3.342	0.160	0.328	0.021	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1413.81
31	0.7337	1190.4	1211.4	1210.8	1.226	3.167	68.699	22.925	3.448	0.160	0.331	0.022	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1414.26
Avg	0.7232	1180.0	1200.7	1200.1	0.897	3.319	69.614	22.885	2.913	0.116	0.229	0.014	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1412.10

# Source Daily Summary

October 2022

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	0.7079	1167.4	1188.0	1187.4	1.037	2.434	72.544	21.173	2.433	0.105	0.232	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1411.98	
2	0.7109	1172.5	1193.2	1192.5	1.031	2.404	72.307	21.155	2.663	0.122	0.268	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1415.24	
3	0.7084	1170.2	1190.9	1190.2	1.015	2.337	72.551	21.198	2.502	0.111	0.243	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1414.96	
4	0.7082	1170.0	1190.7	1190.0	1.007	2.340	72.468	21.370	2.445	0.104	0.226	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1414.93	
5	0.7126	1174.6	1195.4	1194.7	1.013	2.464	71.901	21.517	2.687	0.117	0.257	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1416.13	
6	0.7132	1179.5	1200.4	1199.7	0.999	2.242	72.187	21.148	2.943	0.137	0.294	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1421.38	
7	0.7149	1175.6	1196.4	1195.7	1.032	2.587	71.565	21.607	2.775	0.120	0.268	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1415.06	
8	0.7167	1169.5	1190.3	1189.5	1.079	3.066	70.840	22.086	2.534	0.103	0.246	0.021	0.026	0.000	0.000	0.000	0.000	0.000	1405.92	
9	0.7169	1169.7	1190.4	1189.8	1.077	3.073	70.835	22.063	2.551	0.105	0.250	0.021	0.026	0.000	0.000	0.000	0.000	0.000	1405.98	
10	0.7153	1175.0	1195.8	1195.2	1.025	2.679	71.438	21.667	2.749	0.120	0.272	0.022	0.027	0.000	0.000	0.000	0.000	0.000	1413.89	
11	0.7132	1177.3	1198.1	1197.5	0.994	2.388	72.034	21.258	2.865	0.130	0.283	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1418.69	
12	0.7108	1176.1	1196.9	1196.3	0.980	2.257	72.348	21.241	2.735	0.125	0.268	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1419.65	
13	0.7101	1171.9	1192.7	1192.1	0.999	2.416	72.181	21.497	2.511	0.110	0.243	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1415.36	
14	0.7100	1174.9	1195.7	1195.1	0.977	2.255	72.344	21.394	2.623	0.115	0.249	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1419.07	
15	0.7093	1173.6	1194.4	1193.9	0.978	2.275	72.430	21.328	2.582	0.115	0.250	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1418.10	
16	0.7096	1173.0	1193.8	1193.3	0.989	2.320	72.391	21.298	2.596	0.115	0.249	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1417.13	
17	0.7100	1172.7	1193.4	1192.9	0.986	2.382	72.261	21.406	2.564	0.112	0.247	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1416.33	
18	0.7137	1177.9	1198.8	1198.2	0.978	2.413	71.899	21.411	2.845	0.127	0.280	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1419.07	
19	0.7134	1177.2	1198.0	1197.3	0.981	2.434	71.893	21.435	2.811	0.124	0.274	0.022	0.025	0.000	0.000	0.000	0.000	0.000	1418.36	
20	0.7105	1176.3	1197.1	1196.5	0.957	2.247	72.326	21.359	2.685	0.121	0.262	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1420.26	
21	0.7115	1176.3	1197.1	1196.6	0.967	2.324	72.163	21.404	2.709	0.122	0.266	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1419.28	
22	0.7095	1175.3	1196.1	1195.6	0.752	2.528	72.096	21.641	2.613	0.106	0.226	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1420.02	
23	0.7134	1172.7	1193.4	1193.1	0.456	3.503	70.904	22.117	2.650	0.107	0.221	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1413.11	
24	0.7163	1173.0	1193.7	1193.2	0.526	3.654	70.667	21.882	2.842	0.123	0.257	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1410.49	
25	0.7183	1173.2	1194.0	1193.4	0.927	3.221	70.718	21.902	2.783	0.120	0.276	0.025	0.029	0.000	0.000	0.000	0.000	0.000	1408.76	
26	0.7173	1170.4	1191.1	1190.6	1.088	3.051	70.818	22.047	2.594	0.106	0.249	0.021	0.026	0.000	0.000	0.000	0.000	0.000	1406.41	
27	0.7148	1170.7	1191.4	1190.9	0.956	3.001	71.154	21.916	2.585	0.105	0.239	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1409.21	
28	0.7125	1172.3	1193.0	1192.6	1.019	2.588	71.834	21.530	2.618	0.114	0.253	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1413.41	
29	0.7149	1173.6	1194.3	1193.8	1.038	2.711	71.494	21.608	2.711	0.118	0.270	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1412.52	
30	0.7151	1175.1	1195.9	1195.3	1.028	2.645	71.591	21.462	2.828	0.123	0.275	0.022	0.027	0.000	0.000	0.000	0.000	0.000	1414.23	
31	0.7105	1170.0	1190.7	1190.1	0.998	2.564	72.887	19.979	3.062	0.143	0.312	0.025	0.029	0.000	0.000	0.000	0.000	0.000	1412.62	
Avg	0.7126	1173.0	1194.2	1193.6	0.964	2.606	71.841	21.487	2.680	0.117	0.258	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1414.76	

# Gas Composition and Properties

Effective October 1, 2022

Attachment B  
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Source #: 0602160  
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %	Property	Total Sample	C6 Plus Fraction
Carbon Dioxide, CO2	0.9352		1.9691	Pressure Base	14.730	
Nitrogen, N2	3.0723		4.1176	Temperature Base	60.00	
Methane, C1	69.7605		53.5427	HCDP @ Sample Pressure	-13.948	
Ethane, C2	22.7569	6.0910	32.7378	Cricodentherm	1.512	
Propane, C3	3.0607	0.8439	6.4570	HV, Dry @ Base P, T	1204.91	
iso-Butane, iC4	0.1321	0.0433	0.3673	HV, Sat @ Base P, T	1183.94	
n-Butane, nC4	0.2490	0.0786	0.6924	HV, Sat @ Sample P, T	1204.91	
iso-Pentane, iC5	0.0165	0.0060	0.0570	Relative Density	0.7238	
n-Pentane, nC5	0.0151	0.0055	0.0521			
Neo-Pentane, neo						
Hexanes Plus, C6+	0.0017	0.0007	0.0070			
Argon, Ar						
Carbon Monoxide, CO						
Hydrogen, H2						
Oxygen, O2						
Helium, He						
Water, H2O						
Hydrogen Sulfide, H2S						
<b>Totals</b>	<b>100.0000</b>	<b>7.0690</b>	<b>100.0000</b>			

C6+: 100

## Sample

Date: 10/01/2022                      Type:  
Tech: Tipton, Joshua  
Pressure:                      430 psi      Temp.:                      °F  
Gauge:                              Gauge              H2O:  
Atm. Pressure:                      H2S:

Remarks:

## Analysis

Date: 10/01/2022                      Instrument:  
Tech: Tipton, Joshua                      Cylinder:                      2

Remarks:



# Source Daily Summary

October 2022

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	0.6990	1153.3	1173.7	1173.3	0.983	2.546	72.871	21.928	1.529	0.040	0.089	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1403.84	-16.88
2	0.6980	1152.2	1172.6	1172.2	0.978	2.519	73.056	21.805	1.503	0.039	0.087	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1403.58	-17.45
3	0.6979	1151.9	1172.3	1171.9	0.983	2.536	73.039	21.795	1.504	0.040	0.089	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1403.28	-17.38
4	0.6983	1152.5	1172.9	1172.4	0.984	2.527	73.003	21.834	1.509	0.040	0.089	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1403.55	-17.26
5	0.7002	1156.5	1177.0	1176.6	0.978	2.464	72.917	21.748	1.710	0.052	0.113	0.008	0.010	0.000	0.000	0.000	0.000	0.000	1406.56	-14.93
6	0.6994	1155.5	1176.0	1175.6	0.977	2.445	73.342	21.128	1.887	0.063	0.136	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1406.19	-14.08
7	0.7048	1166.8	1187.5	1187.0	0.968	2.275	72.767	21.462	2.231	0.086	0.182	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1414.48	-9.02
8	0.7062	1169.5	1190.2	1189.8	0.958	2.254	72.674	21.421	2.365	0.095	0.201	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1416.40	-7.36
9	0.7063	1170.0	1190.7	1190.3	0.956	2.237	72.706	21.368	2.398	0.096	0.205	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1416.84	-7.05
10	0.7019	1161.6	1182.1	1181.7	0.969	2.325	73.035	21.410	2.002	0.074	0.160	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1411.02	-11.63
11	0.6993	1154.4	1174.8	1174.4	0.974	2.518	73.222	21.309	1.741	0.067	0.146	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1404.84	-14.44
12	0.6937	1144.8	1165.1	1164.7	0.984	2.565	73.737	21.273	1.289	0.043	0.095	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1398.79	-20.04
13	0.6946	1146.7	1167.1	1166.7	0.983	2.530	73.532	21.540	1.265	0.042	0.093	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1400.30	-19.72
14	0.6947	1146.6	1166.9	1166.5	0.994	2.549	73.479	21.556	1.271	0.042	0.095	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1399.99	-19.58
15	0.6948	1146.8	1167.1	1166.7	0.985	2.541	73.525	21.516	1.280	0.043	0.095	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1400.15	-19.59
16	0.6944	1146.1	1166.4	1166.1	0.995	2.525	73.618	21.427	1.283	0.043	0.095	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1399.80	-19.77
17	0.7017	1157.4	1177.9	1177.6	0.979	2.544	73.088	21.106	2.011	0.075	0.170	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1406.14	-12.61
18	0.6979	1153.3	1173.7	1173.3	0.981	2.441	73.287	21.528	1.558	0.058	0.127	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1404.94	-16.05
19	0.6985	1155.5	1176.0	1175.6	0.978	2.368	73.262	21.540	1.631	0.063	0.136	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1407.06	-15.11
20	0.6932	1145.2	1165.5	1165.1	1.008	2.459	73.763	21.435	1.189	0.041	0.090	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1399.76	-20.63
21	0.6942	1145.4	1165.7	1165.3	0.991	2.568	73.645	21.333	1.307	0.044	0.097	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1399.08	-19.70
22	0.7032	1165.1	1185.7	1185.4	0.947	2.262	73.007	21.337	2.136	0.090	0.190	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1414.02	-9.69
23	0.7078	1168.5	1189.2	1188.8	0.966	2.457	72.473	21.301	2.441	0.103	0.222	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1413.55	-6.19
24	0.7080	1169.8	1190.5	1190.1	0.978	2.384	72.541	21.212	2.509	0.107	0.231	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1414.83	-5.57
25	0.7046	1166.0	1186.6	1186.2	0.970	2.304	72.949	21.158	2.278	0.097	0.209	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1413.66	-8.16
26	0.7046	1167.0	1187.7	1187.4	0.951	2.266	72.986	21.131	2.321	0.099	0.213	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1414.99	-7.89
27	0.7054	1167.2	1187.9	1187.5	0.964	2.311	72.841	21.210	2.324	0.100	0.215	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1414.40	-7.59
28	0.6999	1158.9	1179.5	1179.1	0.975	2.295	73.291	21.337	1.837	0.076	0.163	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1409.78	-12.91
29	0.7009	1161.3	1181.9	1181.5	0.964	2.260	73.269	21.246	1.973	0.083	0.177	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1411.65	-11.47
30	0.6997	1157.6	1178.1	1177.7	0.969	2.369	73.678	20.555	2.120	0.090	0.190	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1408.37	-11.28
31	0.6984	1155.7	1176.2	1175.8	0.964	2.368	73.851	20.465	2.053	0.086	0.184	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1407.41	-12.18
Avg	0.7000	1157.0	1177.6	1177.2	0.975	2.420	73.176	21.368	1.821	0.068	0.148	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1407.39	-13.65

\*\*\* End of Report \*\*\*

# Source Daily Summary

October 2022

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	0.7527	1175.0	1195.8	1195.4	0.894	6.380	66.203	20.370	5.557	0.165	0.383	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1378.30	
2	0.7525	1175.2	1196.0	1195.6	0.897	6.337	66.213	20.443	5.529	0.162	0.375	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1378.75	
3	0.7490	1173.6	1194.4	1193.9	0.919	6.080	66.560	20.711	5.181	0.152	0.353	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1380.09	
4	0.7533	1177.4	1198.3	1197.8	0.902	6.273	66.106	20.580	5.539	0.167	0.385	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1380.63	
5	0.7533	1177.9	1198.8	1198.3	0.907	6.239	66.069	20.699	5.477	0.169	0.390	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1381.18	
6	0.7496	1175.6	1196.4	1196.0	0.909	6.034	66.592	20.613	5.270	0.163	0.373	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1381.83	
7	0.7510	1174.7	1195.5	1195.1	0.900	6.229	66.372	20.534	5.395	0.159	0.366	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1379.51	
8	0.7537	1177.0	1197.8	1197.4	0.888	6.363	66.067	20.465	5.611	0.168	0.391	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1379.72	
9	0.7545	1176.5	1197.4	1196.9	0.883	6.472	65.989	20.363	5.661	0.176	0.406	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1378.43	
10	0.7453	1171.1	1191.9	1191.4	0.902	5.905	67.131	20.536	4.978	0.154	0.351	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1380.71	
11	0.7489	1173.1	1193.8	1193.5	0.895	6.140	66.640	20.516	5.244	0.158	0.362	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1379.56	
12	0.7534	1177.9	1198.7	1198.4	0.887	6.282	66.070	20.604	5.555	0.168	0.385	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.03	
13	0.7542	1179.0	1199.8	1199.5	0.888	6.283	66.010	20.595	5.611	0.170	0.394	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1381.62	
14	0.7499	1176.4	1197.2	1196.9	0.908	6.011	66.478	20.800	5.230	0.158	0.370	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1382.58	
15	0.7534	1177.7	1198.6	1198.3	0.886	6.294	66.068	20.595	5.558	0.167	0.385	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1380.84	
16	0.7545	1180.3	1201.2	1200.9	0.897	6.216	65.977	20.698	5.578	0.176	0.407	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1382.93	
17	0.7546	1178.8	1199.6	1199.3	0.882	6.341	66.009	20.475	5.655	0.178	0.408	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1381.02	
18	0.7423	1173.2	1193.9	1193.6	0.908	5.496	67.511	20.828	4.728	0.146	0.339	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1385.91	
19	0.7435	1174.0	1194.8	1194.4	0.908	5.552	67.410	20.755	4.823	0.153	0.353	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1385.92	
20	0.7260	1164.3	1184.9	1184.5	0.947	4.455	69.608	21.043	3.528	0.118	0.265	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1390.91	
21	0.7408	1163.7	1184.4	1184.0	0.859	5.997	67.962	19.684	4.955	0.152	0.347	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1376.10	
22	0.7415	1166.2	1186.8	1186.5	0.912	5.844	67.533	20.504	4.712	0.141	0.317	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1378.34	
23	0.7519	1173.9	1194.7	1194.4	0.888	6.382	66.276	20.355	5.520	0.162	0.372	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1377.75	
24	0.7525	1175.0	1195.9	1195.6	0.886	6.365	66.218	20.393	5.554	0.162	0.378	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1378.59	
25	0.7468	1176.7	1197.5	1197.2	0.913	5.698	66.974	20.778	5.076	0.155	0.362	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1385.72	
26	0.7515	1173.5	1194.3	1194.0	0.889	6.365	66.348	20.311	5.512	0.160	0.372	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1377.67	
27	0.7531	1176.6	1197.5	1197.2	0.890	6.321	66.149	20.468	5.580	0.164	0.382	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1379.84	
28	0.7253	1164.5	1185.1	1184.8	0.947	4.377	69.786	20.941	3.517	0.120	0.274	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1391.65	
29	0.7335	1163.7	1184.3	1184.0	0.930	5.211	68.607	20.687	4.105	0.129	0.293	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1383.11	
30	0.7505	1171.5	1192.3	1191.9	0.886	6.397	66.467	20.234	5.449	0.158	0.366	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1376.25	
31	0.7442	1168.4	1189.1	1188.8	0.903	5.966	67.378	20.187	5.021	0.152	0.351	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1378.49	
Avg	0.7480	1174.0	1194.4	1194.0	0.900	6.010	66.799	20.541	5.184	0.158	0.363	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1381.13	

# Source Daily Summary

October 2022

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	0.7528	1172.7	1193.5	1192.9	0.901	6.516	66.186	20.234	5.559	0.169	0.387	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1375.53	
2	0.7534	1174.5	1195.3	1194.7	0.899	6.471	66.096	20.322	5.618	0.166	0.382	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1377.02	
3	0.7534	1174.8	1195.6	1195.1	0.910	6.431	66.081	20.398	5.584	0.168	0.382	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1377.48	
4	0.7552	1176.8	1197.7	1197.1	0.904	6.490	65.848	20.467	5.661	0.178	0.402	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1378.14	
5	0.7566	1179.7	1200.5	1200.0	0.903	6.443	65.722	20.531	5.747	0.183	0.418	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1380.24	
6	0.7551	1177.4	1198.2	1197.7	0.894	6.463	65.847	20.506	5.673	0.173	0.395	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1378.85	
7	0.7548	1176.9	1197.7	1197.2	0.891	6.466	65.927	20.413	5.678	0.175	0.401	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1378.60	
8	0.7536	1173.4	1194.2	1193.7	0.888	6.573	66.094	20.200	5.619	0.177	0.401	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1375.57	
9	0.7515	1170.3	1191.0	1190.5	0.888	6.560	66.343	20.125	5.487	0.170	0.381	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1373.90	
10	0.7534	1174.2	1195.0	1194.5	0.888	6.500	66.100	20.299	5.605	0.172	0.389	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1376.77	
11	0.7550	1178.2	1199.1	1198.6	0.887	6.410	65.910	20.480	5.683	0.177	0.403	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1379.97	
12	0.7550	1178.0	1198.8	1198.3	0.890	6.416	65.928	20.450	5.684	0.177	0.404	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1379.70	
13	0.7558	1179.0	1199.9	1199.4	0.889	6.427	65.825	20.484	5.739	0.177	0.407	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.24	
14	0.7542	1175.9	1196.7	1196.2	0.886	6.480	65.984	20.403	5.629	0.173	0.397	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1377.94	
15	0.7563	1179.6	1200.5	1200.0	0.892	6.439	65.784	20.485	5.734	0.186	0.426	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1380.40	
16	0.7550	1176.9	1197.8	1197.3	0.891	6.483	65.923	20.374	5.694	0.177	0.407	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1378.43	
17	0.7540	1175.1	1195.9	1195.4	0.888	6.501	66.052	20.308	5.623	0.177	0.402	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1377.25	
18	0.7533	1173.4	1194.1	1193.7	0.902	6.523	66.126	20.244	5.594	0.172	0.392	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1375.83	
19	0.7530	1172.2	1193.0	1192.5	0.900	6.572	66.155	20.195	5.560	0.175	0.395	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1374.72	
20	0.7539	1173.7	1194.5	1194.0	0.906	6.548	66.043	20.259	5.638	0.172	0.387	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1375.75	
21	0.7530	1173.2	1194.0	1193.6	0.894	6.512	66.175	20.222	5.592	0.171	0.388	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1375.98	
22	0.7539	1174.4	1195.2	1194.7	0.892	6.529	66.071	20.236	5.657	0.173	0.395	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1376.52	
23	0.7529	1172.7	1193.5	1193.0	0.884	6.555	66.170	20.172	5.628	0.166	0.379	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1375.41	
24	0.7554	1177.3	1198.2	1197.7	0.909	6.464	65.894	20.370	5.733	0.177	0.407	0.023	0.022	0.000	0.000	0.000	0.000	0.000	1378.60	
25	0.7535	1172.1	1192.9	1192.4	0.916	6.591	66.089	20.203	5.593	0.172	0.393	0.022	0.021	0.000	0.000	0.000	0.000	0.000	1374.24	
26	0.7531	1171.5	1192.3	1191.9	0.920	6.588	66.112	20.223	5.556	0.170	0.388	0.022	0.021	0.000	0.000	0.000	0.000	0.000	1373.88	
27	0.7518	1168.6	1189.3	1188.9	0.918	6.649	66.254	20.116	5.477	0.166	0.378	0.021	0.020	0.000	0.000	0.000	0.000	0.000	1371.62	
28	0.7515	1168.2	1188.9	1188.4	0.913	6.649	66.296	20.100	5.461	0.165	0.375	0.021	0.020	0.000	0.000	0.000	0.000	0.000	1371.45	
29	0.7517	1168.6	1189.3	1188.9	0.913	6.647	66.307	20.045	5.486	0.171	0.389	0.022	0.021	0.000	0.000	0.000	0.000	0.000	1371.73	
30	0.7510	1167.8	1188.4	1188.0	0.916	6.628	66.414	19.987	5.464	0.168	0.382	0.021	0.020	0.000	0.000	0.000	0.000	0.000	1371.37	
31	0.7510	1167.5	1188.2	1187.8	0.912	6.649	66.405	19.988	5.452	0.169	0.384	0.022	0.020	0.000	0.000	0.000	0.000	0.000	1371.08	
Avg	0.7537	1174.0	1194.8	1194.3	0.900	6.522	66.070	20.285	5.610	0.173	0.394	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1376.26	

# Gas Composition and Properties

Effective October 1, 2021

Attachment B  
Page 8 of 24

Source #: 2501030  
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %	Property	Total Sample	C6 Plus Fraction
Carbon Dioxide, CO2	0.2283		0.5237	Pressure Base	14.730	
Nitrogen, N2	2.9631		4.3268	Temperature Base	60.00	
Methane, C1	79.4957		66.4767	HCDP @ Sample Pressure		
Ethane, C2	15.2390	4.0765	23.8852	Cricondentherm	-32.804	
Propane, C3	2.0456	0.5637	4.7019	HV, Dry @ Base P, T	1130.73	
iso-Butane, iC4	0.0244	0.0080	0.0739	HV, Sat @ Base P, T	1111.05	
n-Butane, nC4	0.0039	0.0012	0.0118	HV, Sat @ Sample P, T	1130.73	
iso-Pentane, iC5				Relative Density	0.6640	
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						
				C6+: 100		
<b>Totals</b>	<b>100.0000</b>	<b>4.6490</b>	<b>100.0000</b>			

## 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 2022

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	0.7158	1158.8	1179.4	1178.9	1.179	3.479	70.372	22.626	2.035	0.085	0.195	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1393.97	
2	0.7151	1157.2	1177.7	1177.3	1.180	3.515	70.506	22.452	2.035	0.084	0.196	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1392.69	
3	0.7159	1158.3	1178.8	1178.4	1.175	3.529	70.322	22.653	2.007	0.085	0.199	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1393.25	
4	0.7155	1159.0	1179.6	1179.1	1.149	3.491	70.340	22.721	1.989	0.083	0.195	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1394.46	
5	0.7165	1159.2	1179.7	1179.3	1.173	3.536	70.215	22.734	2.027	0.085	0.199	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1393.69	
6	0.7167	1159.4	1179.9	1179.5	1.155	3.574	70.167	22.732	2.060	0.086	0.198	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1393.73	
7	0.7171	1159.2	1179.8	1179.4	1.146	3.633	70.149	22.634	2.112	0.089	0.206	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1393.15	
8	0.7151	1155.8	1176.2	1175.8	1.155	3.636	70.574	22.215	2.088	0.090	0.210	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1391.01	
9	0.7169	1158.9	1179.4	1179.0	1.140	3.641	70.211	22.571	2.096	0.090	0.215	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1392.99	
10	0.7171	1159.3	1179.8	1179.4	1.141	3.637	70.113	22.717	2.057	0.089	0.211	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1393.24	
11	0.7161	1157.6	1178.1	1177.7	1.128	3.666	70.268	22.574	2.039	0.087	0.206	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1392.16	
12	0.7176	1159.6	1180.1	1179.7	1.116	3.709	69.870	22.978	2.017	0.084	0.196	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1393.05	
13	0.7190	1161.7	1182.2	1181.8	1.105	3.727	69.675	23.084	2.087	0.088	0.204	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1394.22	
14	0.7178	1159.3	1179.9	1179.5	1.124	3.726	69.956	22.779	2.089	0.088	0.208	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1392.61	
15	0.7168	1157.9	1178.4	1178.0	1.123	3.720	70.199	22.517	2.102	0.091	0.214	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1391.86	
16	0.7170	1158.2	1178.7	1178.3	1.125	3.718	70.296	22.320	2.176	0.096	0.230	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1392.00	
17	0.7173	1158.7	1179.2	1178.9	1.123	3.711	70.368	22.171	2.237	0.101	0.245	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1392.38	
18	0.7183	1161.2	1181.7	1181.4	1.111	3.680	69.932	22.795	2.143	0.091	0.214	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1394.31	
19	0.7174	1159.6	1180.1	1179.8	1.119	3.682	69.988	22.826	2.067	0.086	0.201	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1393.29	
20	0.7170	1158.6	1179.1	1178.7	1.124	3.694	70.010	22.857	2.002	0.084	0.197	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1392.49	
21	0.7169	1158.4	1178.9	1178.6	1.132	3.679	70.044	22.827	2.008	0.084	0.195	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1392.45	
22	0.7177	1159.6	1180.2	1179.8	1.142	3.667	69.929	22.907	2.043	0.085	0.197	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1393.11	
23	0.7185	1161.8	1182.3	1182.0	1.154	3.598	69.778	23.115	2.044	0.086	0.196	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1394.85	
24	0.7199	1163.6	1184.2	1183.8	1.151	3.618	69.643	23.078	2.199	0.085	0.197	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1395.70	
25	0.7208	1163.8	1184.5	1184.1	1.151	3.687	69.531	23.044	2.277	0.085	0.197	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1395.16	
26	0.7199	1162.5	1183.1	1182.7	1.144	3.696	69.608	23.065	2.173	0.086	0.199	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1394.40	
27	0.7195	1161.9	1182.5	1182.1	1.129	3.714	69.703	22.942	2.198	0.086	0.198	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1394.04	
28	0.7188	1160.7	1181.2	1180.9	1.134	3.722	69.913	22.680	2.206	0.093	0.219	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1393.23	
29	0.7191	1161.1	1181.7	1181.4	1.141	3.712	69.894	22.676	2.223	0.095	0.225	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1393.51	
30	0.7188	1160.8	1181.4	1181.1	1.148	3.690	69.974	22.606	2.225	0.095	0.225	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1393.44	
31	0.7192	1161.3	1181.8	1181.5	1.147	3.697	69.896	22.685	2.220	0.095	0.225	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1393.63	
Avg	0.7176	1160.0	1180.3	1179.9	1.141	3.651	70.047	22.728	2.106	0.088	0.207	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1393.36	

# Source Daily Summary

October 2022

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	0.7526	1174.8	1195.6	1194.5	0.880	6.408	66.278	20.203	5.628	0.169	0.388	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1378.13	
2	0.7528	1175.5	1196.3	1195.2	0.880	6.380	66.241	20.262	5.642	0.167	0.383	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1378.81	
3	0.7529	1176.1	1197.0	1195.8	0.888	6.340	66.221	20.329	5.623	0.169	0.385	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1379.45	
4	0.7552	1179.2	1200.1	1198.9	0.882	6.375	65.959	20.406	5.737	0.181	0.411	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.95	
5	0.7567	1182.2	1203.1	1201.8	0.881	6.335	65.802	20.487	5.832	0.185	0.425	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1383.06	
6	0.7550	1179.3	1200.2	1199.2	0.874	6.360	65.919	20.511	5.718	0.174	0.396	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.32	
7	0.7549	1179.2	1200.1	1199.0	0.872	6.364	66.021	20.332	5.783	0.176	0.405	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.21	
8	0.7535	1175.1	1196.0	1194.9	0.872	6.479	66.207	20.122	5.686	0.180	0.407	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1377.74	
9	0.7519	1172.8	1193.6	1192.5	0.873	6.465	66.394	20.072	5.586	0.173	0.391	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1376.53	
10	0.7525	1174.5	1195.3	1194.1	0.874	6.425	66.326	20.123	5.636	0.175	0.395	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1377.86	
11	0.7556	1180.9	1201.8	1200.6	0.874	6.324	65.904	20.488	5.768	0.181	0.412	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.54	
12	0.7544	1178.8	1199.7	1198.6	0.874	6.334	66.030	20.449	5.690	0.176	0.400	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.28	
13	0.7553	1180.2	1201.1	1200.0	0.873	6.335	65.973	20.396	5.788	0.178	0.409	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1382.05	
14	0.7550	1179.2	1200.1	1199.0	0.871	6.377	65.969	20.397	5.759	0.175	0.405	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.11	
15	0.7566	1182.3	1203.2	1202.1	0.873	6.330	65.814	20.495	5.821	0.187	0.428	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1383.29	
16	0.7547	1178.7	1199.5	1198.5	0.871	6.375	66.026	20.363	5.731	0.177	0.408	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1380.81	
17	0.7546	1178.2	1199.1	1198.1	0.870	6.393	66.067	20.294	5.737	0.180	0.411	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1380.41	
18	0.7521	1173.9	1194.7	1193.7	0.873	6.426	66.369	20.109	5.613	0.172	0.392	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.52	
19	0.7538	1176.3	1197.1	1196.1	0.871	6.440	66.195	20.145	5.702	0.183	0.414	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1378.81	
20	0.7539	1176.2	1197.0	1195.9	0.879	6.445	66.144	20.189	5.722	0.177	0.398	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.56	
21	0.7517	1172.9	1193.7	1192.7	0.879	6.435	66.458	19.999	5.629	0.170	0.386	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1376.80	
22	0.7530	1174.7	1195.5	1194.5	0.875	6.455	66.309	20.024	5.723	0.173	0.396	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.68	
23	0.7522	1173.2	1194.0	1192.9	0.871	6.475	66.321	20.108	5.639	0.166	0.379	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1376.71	
24	0.7551	1179.9	1200.8	1199.7	0.872	6.336	66.003	20.360	5.808	0.174	0.401	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1381.88	
25	0.7538	1177.0	1197.8	1196.8	0.874	6.388	66.149	20.256	5.723	0.171	0.394	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1379.67	
26	0.7535	1176.7	1197.5	1196.5	0.876	6.385	66.181	20.239	5.714	0.169	0.391	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1379.49	
27	0.7520	1173.1	1193.9	1192.9	0.875	6.456	66.352	20.114	5.617	0.165	0.378	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1376.75	
28	0.7510	1171.5	1192.2	1191.2	0.870	6.474	66.463	20.050	5.567	0.163	0.372	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1375.73	
29	0.7517	1172.7	1193.4	1192.4	0.871	6.466	66.404	20.060	5.601	0.169	0.386	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1376.46	
30	0.7505	1170.8	1191.5	1190.5	0.874	6.457	66.613	19.907	5.556	0.168	0.384	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1375.44	
31	0.7507	1171.1	1191.8	1191.2	0.872	6.465	66.516	20.031	5.526	0.166	0.380	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1375.55	
Avg	0.7535	1176.0	1197.2	1196.1	0.875	6.403	66.182	20.236	5.687	0.174	0.397	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1379.15	

# Source Daily Summary

October 2022

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	0.7527	1174.8	1195.6	1195.2	0.880	6.408	66.278	20.203	5.628	0.169	0.388	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1378.13	
2	0.7528	1175.5	1196.3	1195.9	0.880	6.381	66.241	20.262	5.642	0.167	0.383	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1378.80	
3	0.7529	1176.1	1197.0	1196.6	0.888	6.341	66.221	20.329	5.623	0.169	0.385	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1379.45	
4	0.7552	1179.2	1200.1	1199.8	0.882	6.375	65.959	20.406	5.736	0.181	0.410	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.95	
5	0.7567	1182.2	1203.1	1202.8	0.881	6.335	65.802	20.487	5.832	0.185	0.425	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1383.06	
6	0.7550	1179.3	1200.2	1200.0	0.874	6.360	65.919	20.511	5.718	0.174	0.396	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.32	
7	0.7549	1179.2	1200.1	1199.8	0.872	6.364	66.021	20.332	5.783	0.176	0.405	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.21	
8	0.7535	1175.1	1195.9	1195.7	0.872	6.479	66.207	20.122	5.686	0.180	0.407	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1377.74	
9	0.7519	1172.8	1193.6	1193.4	0.873	6.465	66.394	20.072	5.586	0.174	0.391	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1376.53	
10	0.7525	1174.5	1195.3	1195.0	0.874	6.425	66.326	20.123	5.636	0.175	0.395	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1377.86	
11	0.7556	1180.9	1201.8	1201.5	0.874	6.324	65.904	20.488	5.768	0.181	0.412	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.54	
12	0.7544	1178.8	1199.7	1199.5	0.874	6.334	66.030	20.449	5.690	0.176	0.400	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.28	
13	0.7553	1180.2	1201.1	1200.9	0.873	6.335	65.973	20.396	5.788	0.178	0.409	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1382.05	
14	0.7550	1179.2	1200.1	1199.8	0.871	6.377	65.969	20.397	5.759	0.175	0.405	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.11	
15	0.7566	1182.4	1203.3	1203.0	0.873	6.330	65.808	20.498	5.824	0.187	0.428	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1383.35	
16	0.7547	1178.7	1199.5	1199.3	0.871	6.375	66.026	20.363	5.731	0.177	0.408	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1380.81	
17	0.7546	1178.2	1199.1	1198.9	0.870	6.393	66.067	20.294	5.737	0.180	0.411	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1380.41	
18	0.7521	1173.9	1194.7	1194.4	0.873	6.426	66.369	20.109	5.613	0.172	0.392	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.52	
19	0.7538	1176.3	1197.1	1196.9	0.871	6.440	66.195	20.145	5.702	0.183	0.414	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1378.81	
20	0.7533	1174.3	1195.1	1194.9	0.882	6.495	66.237	20.090	5.668	0.181	0.400	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1376.96	
21	0.7543	1176.7	1197.5	1197.3	0.887	6.440	66.060	20.277	5.723	0.174	0.392	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.79	
22	0.7528	1173.9	1194.7	1194.5	0.885	6.469	66.248	20.157	5.647	0.169	0.381	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1376.97	
23	0.7540	1175.5	1196.3	1196.1	0.881	6.487	66.092	20.214	5.724	0.171	0.387	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.77	
24	0.7532	1174.1	1194.9	1194.7	0.879	6.498	66.189	20.164	5.678	0.168	0.380	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1376.88	
25	0.7555	1180.1	1201.0	1200.8	0.881	6.350	65.964	20.343	5.843	0.175	0.399	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1381.75	
26	0.7535	1175.4	1196.2	1196.0	0.883	6.442	66.184	20.196	5.694	0.169	0.387	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1378.10	
27	0.7534	1175.3	1196.1	1195.9	0.884	6.437	66.172	20.232	5.684	0.167	0.381	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1378.10	
28	0.7522	1172.4	1193.2	1193.0	0.881	6.507	66.298	20.125	5.611	0.164	0.372	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1375.80	
29	0.7522	1172.7	1193.5	1193.3	0.878	6.493	66.326	20.097	5.620	0.166	0.377	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1376.12	
30	0.7509	1170.1	1190.9	1190.6	0.878	6.528	66.502	19.967	5.543	0.165	0.374	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1374.29	
31	0.7515	1171.8	1192.6	1192.4	0.882	6.473	66.480	19.970	5.595	0.170	0.386	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1375.76	
Avg	0.7538	1176.0	1197.3	1197.0	0.878	6.416	66.144	20.252	5.694	0.174	0.396	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1379.04	

# Source Daily Summary

October 2022

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	0.7559	1179.0	1199.9	1199.6	0.891	6.433	65.964	20.235	5.807	0.186	0.429	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1380.17	
2	0.7538	1175.8	1196.6	1196.1	0.889	6.439	66.141	20.240	5.676	0.174	0.394	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1378.26	
3	0.7533	1175.3	1196.1	1195.6	0.890	6.426	66.156	20.286	5.650	0.167	0.380	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1378.09	
4	0.7543	1177.8	1198.7	1198.4	0.894	6.357	66.036	20.423	5.679	0.173	0.390	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1380.15	
5	0.7562	1179.9	1200.8	1200.6	0.890	6.415	65.808	20.467	5.776	0.182	0.410	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1380.85	
6	0.7565	1181.2	1202.1	1202.0	0.886	6.368	65.786	20.521	5.795	0.183	0.411	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1382.10	
7	0.7556	1179.6	1200.5	1200.4	0.881	6.394	65.853	20.489	5.770	0.173	0.394	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.04	
8	0.7547	1177.7	1198.6	1198.4	0.880	6.424	66.011	20.327	5.737	0.176	0.398	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1379.66	
9	0.7550	1176.7	1197.5	1197.4	0.880	6.510	65.997	20.233	5.739	0.182	0.410	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1378.22	
10	0.7523	1173.0	1193.7	1193.6	0.879	6.491	66.293	20.149	5.585	0.172	0.385	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1376.26	
11	0.7550	1178.3	1199.2	1199.0	0.883	6.414	65.971	20.367	5.735	0.178	0.403	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1380.03	
12	0.7546	1178.4	1199.3	1199.1	0.882	6.371	66.004	20.424	5.702	0.175	0.395	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1380.55	
13	0.7554	1179.9	1200.7	1200.6	0.883	6.354	65.939	20.432	5.761	0.178	0.404	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1381.53	
14	0.7565	1181.5	1202.4	1202.3	0.881	6.364	65.798	20.480	5.839	0.179	0.409	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.38	
15	0.7555	1179.1	1200.0	1199.9	0.880	6.412	65.896	20.421	5.766	0.176	0.401	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1380.59	
16	0.7560	1180.4	1201.3	1201.2	0.879	6.382	65.890	20.405	5.790	0.185	0.418	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.63	
17	0.7559	1179.9	1200.8	1200.7	0.878	6.404	65.881	20.393	5.803	0.180	0.411	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1381.15	
18	0.7533	1175.1	1195.9	1195.8	0.878	6.453	66.182	20.231	5.642	0.174	0.393	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1377.91	
19	0.7541	1176.2	1197.1	1196.9	0.881	6.453	66.101	20.244	5.696	0.177	0.400	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.49	
20	0.7544	1176.3	1197.1	1197.0	0.882	6.483	66.092	20.180	5.719	0.184	0.410	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1378.20	
21	0.7544	1176.7	1197.6	1197.4	0.888	6.442	66.055	20.274	5.727	0.174	0.393	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.78	
22	0.7528	1173.9	1194.7	1194.5	0.885	6.473	66.247	20.154	5.647	0.169	0.381	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1376.89	
23	0.7540	1175.5	1196.3	1196.1	0.881	6.488	66.098	20.206	5.723	0.171	0.388	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.71	
24	0.7530	1173.7	1194.5	1194.4	0.880	6.505	66.209	20.151	5.667	0.167	0.379	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1376.58	
25	0.7553	1179.6	1200.5	1200.4	0.881	6.360	65.993	20.319	5.830	0.174	0.398	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1381.35	
26	0.7538	1175.7	1196.5	1196.4	0.882	6.461	66.126	20.215	5.712	0.170	0.388	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1378.10	
27	0.7534	1175.4	1196.2	1196.1	0.885	6.440	66.166	20.230	5.687	0.167	0.382	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1378.07	
28	0.7521	1172.2	1192.9	1192.8	0.881	6.513	66.315	20.109	5.605	0.164	0.371	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1375.57	
29	0.7520	1172.4	1193.2	1193.1	0.878	6.499	66.344	20.080	5.613	0.166	0.377	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1375.88	
30	0.7509	1170.2	1190.9	1190.8	0.879	6.530	66.499	19.962	5.547	0.166	0.375	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1374.28	
31	0.7515	1171.9	1192.6	1192.5	0.882	6.476	66.475	19.969	5.599	0.170	0.386	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1375.73	
Avg	0.7542	1177.0	1197.5	1197.4	0.883	6.437	66.075	20.278	5.710	0.175	0.396	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.91	

# Source Daily Summary

October 2022

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	0.7528	1175.1	1195.9	1195.1	0.880	6.405	66.267	20.205	5.637	0.170	0.390	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.31	
2	0.7528	1175.4	1196.2	1195.4	0.880	6.382	66.250	20.256	5.638	0.167	0.382	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1378.71	
3	0.7530	1176.3	1197.1	1196.3	0.888	6.339	66.211	20.336	5.628	0.169	0.385	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1379.54	
4	0.7551	1179.0	1199.9	1199.1	0.883	6.376	65.968	20.404	5.730	0.180	0.409	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.83	
5	0.7568	1182.4	1203.4	1202.6	0.881	6.331	65.785	20.499	5.840	0.186	0.426	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1383.26	
6	0.7551	1179.5	1200.4	1199.7	0.876	6.355	65.922	20.503	5.718	0.177	0.401	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.45	
7	0.6722	1094.9	1114.3	1113.6	0.942	3.635	78.882	14.160	2.167	0.062	0.137	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1359.30	
8	0.7376	1159.0	1179.5	1178.7	0.887	5.951	68.686	18.929	4.995	0.157	0.354	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1373.53	
9	0.7520	1173.1	1193.9	1193.2	0.873	6.465	66.376	20.078	5.596	0.174	0.393	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1376.69	
10	0.7523	1174.1	1194.9	1194.2	0.874	6.430	66.348	20.110	5.626	0.174	0.393	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.61	
11	0.7558	1181.2	1202.1	1201.4	0.874	6.324	65.880	20.494	5.782	0.181	0.415	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.72	
12	0.7536	1177.5	1198.4	1197.6	0.875	6.340	66.094	20.476	5.591	0.177	0.400	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1380.45	
13	0.7385	1163.0	1183.6	1182.8	0.886	5.789	68.558	19.187	5.037	0.153	0.350	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1377.39	
14	0.7363	1160.0	1180.6	1179.8	0.888	5.767	68.851	19.045	4.920	0.148	0.340	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1375.91	
15	0.7566	1182.3	1203.3	1202.5	0.873	6.329	65.806	20.503	5.822	0.186	0.427	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1383.34	
16	0.7542	1178.3	1199.1	1198.4	0.872	6.350	66.111	20.324	5.711	0.177	0.407	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1380.82	
17	0.6961	1119.6	1139.4	1138.7	0.931	4.395	75.145	16.043	3.150	0.096	0.214	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1365.75	
18	0.6865	1108.7	1128.4	1127.7	0.942	4.133	76.573	15.395	2.683	0.079	0.175	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1362.02	
19	0.7349	1157.5	1178.0	1177.2	0.890	5.782	69.123	18.809	4.851	0.155	0.350	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1374.30	
20	0.7543	1177.0	1197.8	1197.0	0.878	6.436	66.090	20.228	5.741	0.178	0.402	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1379.14	
21	0.7523	1174.0	1194.8	1194.1	0.878	6.428	66.383	20.040	5.664	0.171	0.390	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.48	
22	0.7529	1174.5	1195.3	1194.6	0.875	6.453	66.324	20.018	5.716	0.172	0.395	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.59	
23	0.7520	1172.9	1193.7	1193.0	0.871	6.477	66.345	20.095	5.628	0.165	0.377	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1376.50	
24	0.6708	1093.5	1112.9	1112.3	0.983	3.528	78.980	14.395	1.925	0.054	0.121	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1358.93	
25	0.6575	1081.6	1100.8	1100.2	0.989	2.994	81.204	13.229	1.446	0.041	0.088	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1357.56	
26	0.6564	1080.2	1099.3	1098.8	0.969	3.010	81.401	13.019	1.463	0.041	0.087	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1357.04	
27	0.6990	1120.9	1140.8	1140.2	0.927	4.585	74.660	16.204	3.292	0.095	0.214	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1364.77	
28	0.7267	1147.9	1168.3	1167.6	0.899	5.583	70.277	18.293	4.492	0.130	0.294	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1370.76	
29	0.7465	1167.0	1187.7	1187.1	0.877	6.308	67.188	19.712	5.353	0.159	0.362	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1374.67	
30	0.7398	1160.4	1181.0	1180.4	0.888	6.065	68.253	19.194	5.067	0.151	0.344	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1373.14	
31	0.7297	1150.3	1170.6	1170.0	0.899	5.725	69.763	18.560	4.576	0.136	0.307	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1370.60	
Avg	0.7319	1155.0	1175.2	1174.5	0.898	5.660	69.539	18.669	4.725	0.144	0.327	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1373.87	

# Source Daily Summary

October 2022

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	0.6679	1091.3	1110.7	1110.3	0.914	3.489	79.631	13.747	2.007	0.061	0.135	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1359.05	
2	0.6679	1091.3	1110.7	1110.3	0.914	3.489	79.631	13.747	2.007	0.061	0.135	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1359.05	
3	0.6657	1090.4	1109.7	1109.2	0.902	3.364	79.802	13.947	1.813	0.051	0.110	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1360.11	
4	0.6457	1071.2	1090.1	1089.6	0.914	2.639	82.952	12.470	0.952	0.025	0.047	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1356.62	
5	0.6617	1088.0	1107.3	1106.7	0.892	3.144	80.529	13.565	1.707	0.049	0.104	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1361.25	
6	0.6783	1129.3	1149.3	1148.8	0.376	2.988	76.071	19.212	1.240	0.032	0.070	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1395.26	
7	0.6827	1145.0	1165.3	1164.7	0.140	2.802	74.478	21.654	0.877	0.017	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.30	
8	0.6639	1107.1	1126.8	1126.3	0.534	2.740	78.829	16.884	0.942	0.023	0.046	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1382.63	
9	0.6446	1070.2	1089.2	1088.7	0.945	2.543	83.037	12.630	0.790	0.020	0.035	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1356.64	
10	0.6434	1068.5	1087.5	1087.0	0.970	2.500	83.276	12.431	0.768	0.019	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1355.69	
11	0.6500	1083.2	1102.4	1102.0	0.784	2.513	81.712	14.189	0.753	0.018	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1367.11	
12	0.6512	1084.6	1103.8	1103.4	0.780	2.546	81.504	14.338	0.777	0.019	0.035	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1367.55	
13	0.6420	1066.4	1085.3	1084.9	0.962	2.507	83.488	12.295	0.698	0.018	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1354.49	
14	0.6413	1065.7	1084.6	1084.2	0.940	2.521	83.563	12.254	0.678	0.016	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1354.35	
15	0.6423	1067.8	1086.7	1086.3	0.950	2.472	83.442	12.357	0.731	0.017	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1355.92	
16	0.6412	1066.8	1085.7	1085.3	0.935	2.444	83.664	12.183	0.724	0.018	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1355.91	
17	0.6425	1068.1	1087.1	1086.7	0.952	2.463	83.428	12.365	0.740	0.019	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1356.20	
18	0.6419	1066.6	1085.5	1085.2	0.935	2.532	83.458	12.331	0.696	0.017	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1354.81	
19	0.6415	1066.9	1085.8	1085.4	0.937	2.474	83.567	12.264	0.706	0.018	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1355.58	
20	0.6420	1067.6	1086.5	1086.2	0.924	2.490	83.541	12.219	0.769	0.020	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1356.05	
21	0.6411	1066.0	1084.9	1084.6	0.923	2.501	83.637	12.188	0.703	0.017	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1355.02	
22	0.6414	1066.6	1085.5	1085.2	0.931	2.485	83.565	12.283	0.689	0.016	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1355.41	
23	0.6424	1066.9	1085.8	1085.5	0.958	2.526	83.337	12.473	0.660	0.016	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1354.65	
24	0.6429	1068.0	1087.0	1086.6	0.985	2.458	83.338	12.465	0.701	0.019	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1355.63	
25	0.6386	1065.3	1084.2	1083.8	0.956	2.261	84.185	11.880	0.667	0.018	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1356.76	
26	0.6399	1065.6	1084.5	1084.1	0.939	2.391	83.947	11.947	0.723	0.019	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1355.73	
27	0.6429	1069.4	1088.3	1088.0	0.947	2.435	83.379	12.408	0.775	0.020	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1357.31	
28	0.6451	1071.9	1090.9	1090.5	0.964	2.462	82.975	12.738	0.802	0.021	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1358.21	
29	0.6447	1072.0	1091.0	1090.6	0.962	2.419	83.047	12.727	0.788	0.020	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1358.77	
30	0.6431	1069.8	1088.8	1088.3	0.952	2.420	83.321	12.497	0.757	0.019	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1357.67	
31	0.6433	1070.1	1089.1	1088.7	0.956	2.410	83.323	12.474	0.779	0.020	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1357.86	
Avg	0.6491	1078.0	1096.8	1096.4	0.873	2.627	82.182	13.328	0.917	0.024	0.047	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1361.21	

# Source Daily Summary

October 2022

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	0.6672	1098.4	1117.8	1117.1	0.552	3.555	78.768	15.460	1.526	0.045	0.085	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1368.47	
2	0.6795	1116.5	1136.2	1135.4	0.477	3.723	76.513	17.294	1.824	0.054	0.102	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1378.33	
3	0.6818	1118.5	1138.3	1137.5	0.526	3.732	76.115	17.624	1.831	0.055	0.104	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1378.65	
4	0.6714	1106.9	1126.5	1125.7	0.400	3.654	77.663	16.696	1.465	0.040	0.073	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1374.88	
5	0.6789	1118.7	1138.6	1137.8	0.474	3.530	76.381	17.885	1.584	0.047	0.087	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1381.81	
6	0.6648	1097.2	1116.7	1116.3	0.650	3.248	79.299	15.229	1.450	0.041	0.073	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1369.51	
7	0.6578	1088.6	1107.9	1107.6	0.572	3.229	80.423	14.402	1.291	0.029	0.047	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1366.02	
8	0.6374	1051.3	1069.9	1069.5	0.513	3.677	84.142	10.606	0.989	0.026	0.042	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1339.92	
9	0.6477	1073.8	1092.8	1092.2	0.164	3.813	81.459	13.665	0.867	0.013	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1357.70	
10	0.6550	1087.6	1106.8	1106.3	0.375	3.335	80.411	14.833	0.998	0.017	0.027	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1367.54	
11	0.6639	1105.2	1124.7	1124.2	0.593	2.766	78.932	16.658	0.981	0.023	0.041	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1380.41	
12	0.6692	1116.7	1136.4	1135.9	0.451	2.781	77.663	18.088	0.955	0.021	0.037	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1389.20	
13	0.6524	1084.5	1103.7	1103.2	0.571	2.979	81.044	14.508	0.852	0.016	0.027	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1366.46	
14	0.6667	1105.1	1124.7	1124.1	0.551	3.094	78.607	16.369	1.294	0.029	0.051	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1377.45	
15	0.6650	1103.5	1123.0	1122.5	0.570	3.007	78.832	16.363	1.144	0.028	0.050	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1377.15	
16	0.6623	1100.6	1120.1	1119.6	0.565	2.938	79.398	15.850	1.171	0.027	0.047	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1376.35	
17	0.6729	1112.9	1132.6	1132.0	0.428	3.397	77.474	17.035	1.557	0.038	0.065	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1380.64	
18	0.6632	1096.3	1115.7	1115.1	0.361	3.593	79.217	15.300	1.433	0.034	0.056	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1370.00	
19	0.6670	1095.6	1115.0	1114.4	0.453	3.844	79.194	14.379	1.940	0.064	0.113	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1365.26	
20	0.6679	1100.9	1120.3	1119.8	0.345	3.774	78.792	15.055	1.872	0.056	0.097	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1370.93	
21	0.6768	1114.4	1134.1	1133.6	0.608	3.388	77.162	16.974	1.678	0.060	0.114	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1378.62	
22	0.6824	1123.0	1142.9	1142.4	0.501	3.551	76.111	17.751	1.890	0.062	0.118	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1383.59	
23	0.6806	1123.5	1143.4	1142.8	0.373	3.559	76.009	18.214	1.722	0.042	0.073	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1385.88	
24	0.6829	1127.0	1147.0	1146.4	0.336	3.615	75.642	18.411	1.880	0.041	0.069	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1387.91	
25	0.6776	1117.1	1136.8	1136.3	0.330	3.730	76.538	17.577	1.703	0.042	0.072	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1381.04	
26	0.6630	1100.3	1119.8	1119.2	0.838	2.603	79.785	15.379	1.272	0.040	0.073	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1375.23	
27	0.6583	1092.6	1112.0	1111.5	0.942	2.473	80.670	14.701	1.102	0.036	0.066	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1370.49	
28	0.6607	1094.8	1114.2	1113.7	1.000	2.472	80.364	14.848	1.192	0.040	0.073	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1370.79	
29	0.6635	1101.8	1121.3	1120.7	0.873	2.507	79.550	15.838	1.127	0.035	0.063	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1376.60	
30	0.6640	1101.3	1120.8	1120.2	0.951	2.464	79.689	15.527	1.244	0.040	0.074	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1375.46	
31	0.6670	1102.0	1121.6	1121.1	1.168	2.365	79.750	14.976	1.560	0.058	0.107	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1373.33	
Avg	0.6667	1102.0	1122.0	1121.4	0.565	3.239	78.761	15.919	1.400	0.039	0.069	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1374.05	

# Source Daily Summary

October 2022

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	0.6845	1152.3	1172.7	1171.1	0.000	2.746	73.467	23.344	0.428	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.40	-27.67
2	0.6852	1153.1	1173.5	1171.9	0.000	2.760	73.335	23.453	0.437	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.71	-27.31
3	0.6852	1154.8	1175.2	1173.7	0.000	2.662	73.513	23.213	0.587	0.009	0.015	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1419.71	-26.38
4	0.6839	1151.1	1171.5	1169.9	0.000	2.760	73.808	22.772	0.637	0.008	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1416.57	-27.14
5	0.6829	1149.1	1169.4	1167.9	0.000	2.785	73.937	22.694	0.569	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.17	-28.13
6	0.6883	1158.9	1179.4	1177.7	0.000	2.701	73.031	23.504	0.729	0.011	0.020	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.57	-24.27
7	0.6882	1158.1	1178.7	1177.1	0.000	2.731	73.085	23.398	0.750	0.012	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.82	-24.31
8	0.6891	1159.3	1179.9	1178.4	0.000	2.748	72.922	23.509	0.786	0.012	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.30	-23.75
9	0.6896	1159.7	1180.2	1178.8	0.000	2.770	72.852	23.527	0.815	0.012	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.25	-23.47
10	0.6893	1160.0	1180.6	1179.1	0.000	2.724	72.935	23.462	0.854	0.010	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.94	-23.55
11	0.6897	1160.1	1180.6	1179.3	0.000	2.761	72.993	23.236	0.964	0.015	0.029	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.54	-22.72
12	0.6888	1159.9	1180.5	1179.1	0.000	2.679	73.210	23.086	0.985	0.013	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.35	-23.02
13	0.6897	1160.8	1181.3	1179.9	0.000	2.715	72.980	23.314	0.953	0.013	0.023	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.45	-22.77
14	0.6906	1162.0	1182.6	1181.2	0.000	2.726	72.874	23.329	1.031	0.014	0.025	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.99	-22.05
15	0.6908	1161.9	1182.5	1181.3	0.000	2.750	72.747	23.495	0.979	0.011	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.72	-22.37
16	0.6903	1160.9	1181.4	1180.0	0.000	2.762	72.882	23.345	0.971	0.013	0.025	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.98	-22.51
17	0.6884	1157.8	1178.3	1176.9	0.000	2.771	73.039	23.385	0.780	0.010	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.20	-24.39
18	0.6902	1160.8	1181.3	1179.8	0.000	2.760	72.841	23.440	0.922	0.013	0.023	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.96	-22.77
19	0.6906	1161.2	1181.8	1180.5	0.000	2.773	72.836	23.352	0.999	0.013	0.025	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.05	-22.27
20	0.6903	1160.8	1181.4	1180.0	0.000	2.765	72.873	23.343	0.992	0.011	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.95	-22.62
21	0.6898	1160.0	1180.5	1179.1	0.000	2.772	72.936	23.322	0.931	0.013	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.38	-22.90
22	0.6896	1159.5	1180.0	1178.8	0.000	2.780	72.961	23.307	0.914	0.013	0.023	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.03	-23.11
23	0.6895	1159.6	1180.2	1179.1	0.000	2.767	72.939	23.382	0.873	0.013	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.24	-23.23
24	0.6881	1157.7	1178.2	1177.0	0.000	2.750	73.182	23.200	0.832	0.012	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.34	-24.12
25	0.6883	1156.7	1177.1	1175.7	0.000	2.831	73.031	23.360	0.754	0.009	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.90	-24.69
26	0.6859	1153.5	1173.9	1172.1	0.000	2.802	73.352	23.226	0.600	0.008	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.46	-26.41
27	0.6861	1154.0	1174.4	1172.6	0.000	2.794	73.324	23.245	0.618	0.008	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.82	-26.21
28	0.6893	1159.2	1179.7	1178.2	0.000	2.772	72.995	23.311	0.888	0.012	0.021	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.93	-23.39
29	0.6897	1160.2	1180.7	1179.3	0.000	2.753	72.958	23.307	0.947	0.012	0.021	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.71	-22.89
30	0.6897	1159.8	1180.3	1179.0	0.000	2.775	72.959	23.276	0.963	0.011	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.25	-23.04
31	0.6886	1159.0	1179.5	1178.2	0.000	2.718	73.057	23.384	0.807	0.011	0.021	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.43	-23.91
Avg	0.6884	1158.0	1178.6	1177.2	0.000	2.754	73.092	23.307	0.816	0.011	0.019	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1420.55	-24.11

# Source Daily Summary

October 2022

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	0.6183	1028.7	1046.9	1046.2	0.635	3.068	87.987	7.548	0.684	0.027	0.044	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1331.46	
2	0.6206	1031.3	1049.5	1048.7	0.661	3.088	87.558	7.909	0.708	0.026	0.043	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1332.31	
3	0.6192	1029.0	1047.2	1046.5	0.647	3.115	87.799	7.681	0.683	0.026	0.042	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1330.91	
4	0.6054	1009.8	1027.7	1026.9	0.491	3.231	90.215	5.512	0.494	0.021	0.031	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1320.73	
5	0.5739	964.4	981.5	980.7	0.123	3.588	95.711	0.531	0.037	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.63	
6	0.5738	964.2	981.2	980.7	0.121	3.595	95.728	0.511	0.035	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.43	
7	0.5896	986.7	1004.2	1003.5	0.307	3.428	92.971	2.997	0.264	0.014	0.016	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1307.73	
8	0.5723	962.4	979.5	978.7	0.107	3.588	95.987	0.294	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.69	
9	0.5723	962.4	979.4	978.6	0.107	3.591	95.986	0.293	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.64	
10	0.5723	962.3	979.4	978.6	0.106	3.594	95.983	0.293	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.59	
11	0.5723	962.3	979.3	978.7	0.106	3.599	95.979	0.293	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.52	
12	0.5724	962.2	979.2	978.7	0.105	3.611	95.968	0.293	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.32	
13	0.5730	962.8	979.9	979.2	0.111	3.619	95.864	0.374	0.023	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.50	
14	0.5729	962.9	980.0	979.3	0.111	3.606	95.878	0.374	0.023	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.73	
15	0.5728	962.7	979.8	979.2	0.110	3.615	95.886	0.359	0.022	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.52	
16	0.5725	962.3	979.3	978.8	0.106	3.614	95.945	0.310	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.34	
17	0.5727	962.6	979.7	979.1	0.109	3.612	95.903	0.348	0.020	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.52	
18	0.5728	962.8	979.9	979.3	0.110	3.603	95.898	0.360	0.021	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.73	
19	0.5734	963.7	980.8	980.1	0.117	3.595	95.790	0.458	0.031	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.25	
20	0.5736	964.1	981.1	980.4	0.120	3.587	95.763	0.487	0.034	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.48	
21	0.5743	964.9	981.9	981.3	0.129	3.593	95.635	0.590	0.043	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.74	
22	0.5727	962.6	979.7	979.1	0.112	3.606	95.911	0.343	0.020	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.52	
23	0.5725	962.6	979.6	979.1	0.109	3.598	95.943	0.324	0.018	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.63	
24	0.5723	962.4	979.4	979.0	0.107	3.590	95.984	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.65	
25	0.5736	964.0	981.1	980.6	0.121	3.588	95.763	0.484	0.033	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.42	
26	0.5724	962.2	979.3	978.7	0.108	3.607	95.968	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.35	
27	0.5723	962.3	979.4	978.9	0.107	3.596	95.979	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.56	
28	0.5723	962.4	979.4	978.8	0.106	3.595	95.981	0.294	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.59	
29	0.5723	962.3	979.4	978.9	0.107	3.594	95.982	0.294	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.59	
30	0.5723	962.3	979.3	978.8	0.106	3.601	95.976	0.293	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.49	
31	0.5758	966.7	983.8	983.2	0.143	3.603	95.361	0.815	0.065	0.009	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.49	
Avg	0.5790	972.0	989.0	988.3	0.183	3.533	94.816	1.340	0.111	0.011	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1299.65	



October-22

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	
10/1/2022	10/2/2022	0	0	0	927	1,109	1195.9	1195.900	10/1/2022
10/2/2022	10/3/2022	0	0	0	939	1,124	1196.2	1196.200	10/2/2022
10/3/2022	10/4/2022	0	0	0	1,214	1,454	1197.1	1197.100	10/3/2022
10/4/2022	10/5/2022	0	0	0	1,075	1,290	1199.9	1199.900	10/4/2022
10/5/2022	10/6/2022	791	856	1081.9	1,177	1,417	1203.4	1154.565	10/5/2022
10/6/2022	10/7/2022	0	0	0	2,547	3,058	1200.4	1200.400	10/6/2022
10/7/2022	10/8/2022	0	0	0	2,581	2,865	1114.3	1114.300	10/7/2022
10/8/2022	10/9/2022	0	0	0	1,564	1,836	1179.5	1179.500	10/8/2022
10/9/2022	10/10/2022	0	0	0	1,467	1,755	1193.9	1193.900	10/9/2022
10/10/2022	10/11/2022	0	0	0	1,346	1,611	1194.9	1194.900	10/10/2022
10/11/2022	10/12/2022	0	0	0	1,838	2,211	1202.1	1202.100	10/11/2022
10/12/2022	10/13/2022	0	0	0	2,748	3,295	1198.4	1198.400	10/12/2022
10/13/2022	10/14/2022	0	0	0	2,857	3,383	1183.6	1183.600	10/13/2022
10/14/2022	10/15/2022	0	0	0	2,653	3,132	1180.6	1180.600	10/14/2022
10/15/2022	10/16/2022	0	0	0	2,667	3,208	1203.3	1203.300	10/15/2022
10/16/2022	10/17/2022	0	0	0	3,115	3,736	1199.1	1199.100	10/16/2022
10/17/2022	10/18/2022	0	0	0	3,637	4,128	1139.4	1139.400	10/17/2022
10/18/2022	10/19/2022	0	0	0	3,269	3,681	1128.4	1128.400	10/18/2022
10/19/2022	10/20/2022	631	682	1083.8	1,940	2,274	1178	1154.881	10/19/2022
10/20/2022	10/21/2022	0	0	0	1,557	1,867	1197.8	1197.800	10/20/2022
10/21/2022	10/22/2022	0	0	0	1,865	2,229	1194.8	1194.800	10/21/2022
10/22/2022	10/23/2022	0	0	0	2,186	2,612	1195.3	1195.300	10/22/2022
10/23/2022	10/24/2022	0	0	0	2,061	2,462	1193.7	1193.700	10/23/2022
10/24/2022	10/25/2022	0	0	0	4,127	4,592	1112.9	1112.900	10/24/2022
10/25/2022	10/26/2022	0	0	0	3,636	3,999	1100.8	1100.800	10/25/2022
10/26/2022	10/27/2022	0	0	0	2,839	3,113	1099.3	1099.300	10/26/2022
10/27/2022	10/28/2022	0	0	0	2,522	2,856	1140.8	1140.800	10/27/2022
10/28/2022	10/29/2022	0	0	0	2,514	2,936	1168.3	1168.300	10/28/2022
10/29/2022	10/30/2022	0	0	0	2,543	3,021	1187.7	1187.700	10/29/2022
10/30/2022	10/31/2022	0	0	0	2,421	2,859	1181	1181.000	10/30/2022
10/31/2022	11/1/2022	0	0	0	2,373	2,775	1170.6	1170.600	10/31/2022
		1,422	1,538	69.8613	70,205	81,888	1175.2065	1172.8854	



# Alliance Pipeline

DAILY ANALYSIS --- USA  
 ND07MD1 --- Hankinson Sales  
 October 2022

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	1,157.065	0.6618	84.4887	9.4385	3.5427	0.3883	0.6696	0.0778	0.0604	0.0315	0.9117	0.3814	0.0093
2	1,156.428	0.6608	84.5505	9.5175	3.4982	0.3792	0.6460	0.0740	0.0570	0.0279	0.8673	0.3733	0.0091
3	1,155.902	0.6608	84.4768	9.6254	3.4547	0.3767	0.6298	0.0746	0.0566	0.0281	0.8755	0.3922	0.0097
4	1,158.660	0.6631	84.4440	9.3676	3.5762	0.4046	0.7043	0.0851	0.0671	0.0360	0.9044	0.4010	0.0096
5	1,158.056	0.6625	84.5700	9.2693	3.5428	0.4090	0.7054	0.0889	0.0718	0.0400	0.8979	0.3945	0.0103
6	1,159.149	0.6632	84.4437	9.3877	3.5661	0.4099	0.7011	0.0876	0.0708	0.0375	0.8876	0.3979	0.0101
7	1,159.861	0.6636	84.4371	9.3741	3.5792	0.4124	0.7096	0.0906	0.0731	0.0398	0.8598	0.4144	0.0099
8	1,162.007	0.6652	84.2680	9.4090	3.6770	0.4215	0.7245	0.0913	0.0724	0.0390	0.8631	0.4247	0.0095
9	1,161.710	0.6645	84.3012	9.4486	3.6442	0.4172	0.7137	0.0897	0.0729	0.0398	0.8706	0.3928	0.0093
10	1,159.411	0.6635	84.3936	9.3941	3.5825	0.4063	0.7103	0.0875	0.0712	0.0383	0.9163	0.3898	0.0099
11	1,159.472	0.6632	84.4011	9.4470	3.5654	0.4018	0.7056	0.0859	0.0700	0.0361	0.9006	0.3765	0.0100
12	1,160.391	0.6641	84.3046	9.4771	3.5991	0.4069	0.7061	0.0880	0.0726	0.0388	0.8969	0.3997	0.0102
13	1,158.256	0.6630	84.4284	9.4132	3.5384	0.4002	0.6954	0.0849	0.0694	0.0413	0.9092	0.4097	0.0100
14	1,158.122	0.6623	84.4647	9.4857	3.5159	0.3907	0.6782	0.0819	0.0670	0.0385	0.8789	0.3886	0.0097
15	1,162.144	0.6648	84.1929	9.5667	3.6653	0.4102	0.7088	0.0838	0.0683	0.0336	0.8727	0.3879	0.0096
16	1,159.490	0.6631	84.3312	9.5243	3.6836	0.3841	0.6394	0.0788	0.0627	0.0296	0.8499	0.4073	0.0089
17	1,156.012	0.6607	84.5163	9.5262	3.5587	0.3698	0.6047	0.0738	0.0567	0.0264	0.8768	0.3812	0.0095
18	1,156.409	0.6610	84.4076	9.6522	3.5544	0.3654	0.5964	0.0720	0.0546	0.0251	0.8820	0.3807	0.0096
19	1,157.503	0.6619	84.3057	9.6687	3.6041	0.3729	0.6035	0.0694	0.0553	0.0286	0.9047	0.3784	0.0088
20	1,157.098	0.6615	84.4032	9.6192	3.5706	0.3756	0.6073	0.0702	0.0566	0.0295	0.8742	0.3844	0.0094
21	1,159.051	0.6627	84.3263	9.5797	3.6275	0.3889	0.6379	0.0781	0.0629	0.0289	0.8798	0.3810	0.0091
22	1,156.476	0.6615	84.4229	9.5415	3.5702	0.3750	0.6192	0.0760	0.0587	0.0270	0.9117	0.3882	0.0095
23	1,156.836	0.6618	84.4461	9.4784	3.5965	0.3818	0.6246	0.0765	0.0602	0.0291	0.9037	0.3936	0.0095
24	1,159.265	0.6626	84.3680	9.5446	3.6391	0.3929	0.6325	0.0799	0.0627	0.0310	0.8674	0.3725	0.0095
25	1,162.664	0.6646	84.1710	9.5820	3.7793	0.4059	0.6557	0.0809	0.0630	0.0295	0.8448	0.3785	0.0095
26	1,159.978	0.6634	84.2512	9.5650	3.7067	0.3947	0.6326	0.0778	0.0620	0.0283	0.8968	0.3752	0.0097
27	1,159.715	0.6636	84.1845	9.5854	3.7503	0.3861	0.6177	0.0740	0.0595	0.0278	0.9300	0.3751	0.0097
28	1,159.075	0.6626	84.3249	9.5644	3.6836	0.3846	0.6187	0.0727	0.0596	0.0290	0.8763	0.3761	0.0099
29	1,160.733	0.6640	84.1259	9.6483	3.8127	0.3828	0.5901	0.0731	0.0585	0.0277	0.8759	0.3952	0.0098
30	1,158.545	0.6624	84.3022	9.5769	3.7470	0.3759	0.5775	0.0699	0.0552	0.0249	0.8807	0.3796	0.0101
31	1,157.853	0.6624	84.2781	9.5712	3.7378	0.3723	0.5767	0.0705	0.0546	0.0258	0.9242	0.3788	0.0101
<b>Volume</b>	<b>1,158.824</b>	<b>0.6628</b>	<b>84.3640</b>	<b>9.5128</b>	<b>3.6193</b>	<b>0.3916</b>	<b>0.6525</b>	<b>0.0794</b>	<b>0.0633</b>	<b>0.0320</b>	<b>0.8868</b>	<b>0.3886</b>	<b>0.0096</b>
<b>Weight Avg Energy</b>	<b>1,158.828</b>	<b>0.6628</b>	<b>84.3638</b>	<b>9.5128</b>	<b>3.6194</b>	<b>0.3916</b>	<b>0.6525</b>	<b>0.0794</b>	<b>0.0633</b>	<b>0.0320</b>	<b>0.8867</b>	<b>0.3887</b>	<b>0.0096</b>



# Alliance Pipeline

DAILY ANALYSIS --- USA  
 ND14MD1 --- Milnor Sales  
 October 2022

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	1,157.140	0.6619	84.4812	9.4427	3.5479	0.3865	0.6703	0.0774	0.0601	0.0317	0.9113	0.3813	0.0096
2	1,156.019	0.6606	84.5817	9.4713	3.5090	0.3788	0.6454	0.0735	0.0553	0.0268	0.8731	0.3759	0.0092
3	1,156.083	0.6610	84.4598	9.6431	3.4480	0.3783	0.6346	0.0745	0.0567	0.0280	0.8743	0.3930	0.0097
4	1,159.422	0.6636	84.3962	9.3618	3.6014	0.4091	0.7147	0.0868	0.0689	0.0376	0.9141	0.3996	0.0098
5	1,158.181	0.6626	84.5497	9.3017	3.5363	0.4084	0.7036	0.0888	0.0718	0.0401	0.8953	0.3941	0.0102
6	1,159.049	0.6631	84.4667	9.3667	3.5669	0.4098	0.7016	0.0877	0.0709	0.0374	0.8830	0.3990	0.0102
7	1,160.209	0.6638	84.4136	9.3802	3.5926	0.4139	0.7119	0.0908	0.0730	0.0399	0.8580	0.4162	0.0099
8	1,160.732	0.6644	84.3790	9.3467	3.6449	0.4190	0.7158	0.0902	0.0711	0.0388	0.8528	0.4322	0.0095
9	1,161.622	0.6645	84.3144	9.4295	3.6481	0.4169	0.7160	0.0892	0.0726	0.0395	0.8732	0.3912	0.0094
10	1,158.932	0.6631	84.4312	9.3906	3.5650	0.4034	0.7042	0.0863	0.0711	0.0383	0.9150	0.3851	0.0098
11	1,159.240	0.6631	84.3899	9.4649	3.5581	0.3996	0.7003	0.0857	0.0698	0.0363	0.9044	0.3807	0.0102
12	1,159.782	0.6638	84.3564	9.4413	3.5795	0.4069	0.7063	0.0877	0.0722	0.0393	0.8975	0.4028	0.0102
13	1,158.452	0.6632	84.4011	9.4296	3.5479	0.3994	0.6955	0.0843	0.0690	0.0413	0.9132	0.4087	0.0100
14	1,158.116	0.6622	84.4584	9.5021	3.5113	0.3911	0.6762	0.0819	0.0667	0.0376	0.8767	0.3883	0.0097
15	1,161.769	0.6645	84.1865	9.6091	3.6491	0.4062	0.6946	0.0832	0.0678	0.0335	0.8705	0.3899	0.0096
16	1,158.815	0.6626	84.3654	9.5392	3.6489	0.3824	0.6333	0.0777	0.0613	0.0287	0.8536	0.4007	0.0089
17	1,155.982	0.6607	84.5065	9.5527	3.5523	0.3676	0.6008	0.0732	0.0563	0.0265	0.8757	0.3791	0.0095
18	1,156.518	0.6612	84.3885	9.6615	3.5581	0.3656	0.5980	0.0718	0.0544	0.0251	0.8871	0.3804	0.0095
19	1,156.955	0.6614	84.3819	9.6403	3.5836	0.3712	0.5968	0.0688	0.0553	0.0288	0.8868	0.3777	0.0089
20	1,157.486	0.6619	84.3518	9.6346	3.5851	0.3775	0.6115	0.0710	0.0572	0.0297	0.8854	0.3870	0.0094
21	1,159.243	0.6628	84.3053	9.5946	3.6355	0.3880	0.6386	0.0778	0.0623	0.0284	0.8798	0.3806	0.0091
22	1,155.900	0.6612	84.4569	9.5313	3.5510	0.3721	0.6137	0.0758	0.0584	0.0278	0.9160	0.3873	0.0095
23	1,157.323	0.6620	84.4137	9.4928	3.6120	0.3831	0.6272	0.0768	0.0604	0.0295	0.9035	0.3916	0.0095
24	1,158.690	0.6622	84.4114	9.5338	3.6222	0.3906	0.6263	0.0788	0.0617	0.0304	0.8641	0.3712	0.0094
25	1,163.111	0.6650	84.1379	9.5898	3.7914	0.4084	0.6613	0.0817	0.0637	0.0296	0.8483	0.3784	0.0095
26	1,159.411	0.6632	84.2505	9.5761	3.7011	0.3904	0.6218	0.0764	0.0611	0.0279	0.9102	0.3749	0.0096
27	1,159.903	0.6635	84.2069	9.5779	3.7454	0.3879	0.6222	0.0738	0.0594	0.0282	0.9138	0.3747	0.0098
28	1,158.234	0.6622	84.3713	9.5406	3.6654	0.3807	0.6109	0.0723	0.0594	0.0289	0.8850	0.3757	0.0099
29	1,161.066	0.6642	84.1289	9.6270	3.8156	0.3878	0.5950	0.0759	0.0612	0.0289	0.8767	0.3929	0.0100
30	1,158.393	0.6624	84.3109	9.5625	3.7393	0.3763	0.5802	0.0708	0.0559	0.0260	0.8876	0.3804	0.0101
31	1,157.680	0.6623	84.2812	9.5765	3.7327	0.3706	0.5733	0.0703	0.0546	0.0258	0.9261	0.3786	0.0103
<b>Volume</b>	<b>1,158.583</b>	<b>0.6626</b>	<b>84.3756</b>	<b>9.5199</b>	<b>3.6042</b>	<b>0.3898</b>	<b>0.6509</b>	<b>0.0793</b>	<b>0.0633</b>	<b>0.0324</b>	<b>0.8867</b>	<b>0.3883</b>	<b>0.0097</b>
<b>Weight Avg Energy</b>	<b>1,158.588</b>	<b>0.6626</b>	<b>84.3753</b>	<b>9.5200</b>	<b>3.6042</b>	<b>0.3899</b>	<b>0.6510</b>	<b>0.0793</b>	<b>0.0633</b>	<b>0.0324</b>	<b>0.8866</b>	<b>0.3884</b>	<b>0.0097</b>

October-22

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		
10/1/2022	10/2/2022	70	85	1209.9	160	168	1049.8	1098.526	10/1/2022
10/2/2022	10/3/2022	64	77	1209.9	156	164	1049.8	1096.375	10/2/2022
10/3/2022	10/4/2022	94	113	1209.9	164	172	1049.8	1108.131	10/3/2022
10/4/2022	10/5/2022	53	64	1209.9	161	169	1049.8	1089.451	10/4/2022
10/5/2022	10/6/2022	108	130	1209.9	208	218	1049.8	1104.518	10/5/2022
10/6/2022	10/7/2022	249	301	1209.9	347	364	1049.8	1116.687	10/6/2022
10/7/2022	10/8/2022	212	256	1209.9	250	263	1049.8	1123.266	10/7/2022
10/8/2022	10/9/2022	132	159	1209.9	167	176	1049.8	1120.480	10/8/2022
10/9/2022	10/10/2022	121	147	1209.9	183	192	1049.8	1113.524	10/9/2022
10/10/2022	10/11/2022	100	121	1209.9	159	167	1049.8	1111.615	10/10/2022
10/11/2022	10/12/2022	184	223	1209.9	207	217	1049.8	1125.141	10/11/2022
10/12/2022	10/13/2022	250	302	1209.9	293	308	1049.8	1123.511	10/12/2022
10/13/2022	10/14/2022	248	300	1209.9	259	272	1049.8	1128.113	10/13/2022
10/14/2022	10/15/2022	198	240	1209.9	207	217	1049.8	1128.071	10/14/2022
10/15/2022	10/16/2022	260	314	1209.9	347	364	1049.8	1118.377	10/15/2022
10/16/2022	10/17/2022	274	332	1209.9	390	409	1049.8	1115.865	10/16/2022
10/17/2022	10/18/2022	273	330	1209.9	382	401	1049.8	1116.529	10/17/2022
10/18/2022	10/19/2022	222	268	1209.9	287	302	1049.8	1119.628	10/18/2022
10/19/2022	10/20/2022	171	207	1209.9	255	268	1049.8	1114.065	10/19/2022
10/20/2022	10/21/2022	149	181	1209.9	222	233	1049.8	1114.099	10/20/2022
10/21/2022	10/22/2022	223	270	1209.9	282	296	1049.8	1120.498	10/21/2022
10/22/2022	10/23/2022	219	265	1209.9	296	311	1049.8	1117.881	10/22/2022
10/23/2022	10/24/2022	262	317	1209.9	434	455	1049.8	1110.068	10/23/2022
10/24/2022	10/25/2022	346	418	1209.9	621	652	1049.8	1107.085	10/24/2022
10/25/2022	10/26/2022	306	370	1209.9	556	584	1049.8	1106.634	10/25/2022
10/26/2022	10/27/2022	261	316	1209.9	510	536	1049.8	1103.997	10/26/2022
10/27/2022	10/28/2022	266	322	1209.9	463	486	1049.8	1108.218	10/27/2022
10/28/2022	10/29/2022	231	280	1209.9	338	355	1049.8	1114.797	10/28/2022
10/29/2022	10/30/2022	233	282	1209.9	350	368	1049.8	1113.785	10/29/2022
10/30/2022	10/31/2022	246	297	1209.9	393	412	1049.8	1111.435	10/30/2022
10/31/2022	11/1/2022	229	277	1209.9	352	369	1049.8	1112.903	10/31/2022
		6,254	7,564	1209.9000	9,399	9,868	1049.8000	1113.3313	

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	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/1/2022	10/2/2022	1082	0.6411	-52.6	1351.339191	0.9665	2.599	83.4332	11.9762	0.7946	0.0187	0.0347	0.0017	0.0016	N/A	0.0001	0.1494	0.0244	0.4331	0.0035	0.0012	0.0012
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/2/2022	10/3/2022	1084	0.6427	-51.9	1352.150809	0.9691	2.605	83.0861	12.345	0.7711	0.0178	0.0329	0.0016	0.0015	N/A	0	0.1457	0.0244	0.4217	0.0035	0.0013	0.0012
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/3/2022	10/4/2022	1083	0.641	-52.6	1352.693621	0.9601	2.55	83.4149	12.0587	0.7836	0.0182	0.0333	0.0016	0.0013	N/A	0.0001	0.1544	0.024	0.4322	0.0032	0.0011	0.0011
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/4/2022	10/5/2022	1084	0.6412	-51.6	1353.731471	0.9567	2.5188	83.4699	11.9626	0.8495	0.0214	0.0401	0.0022	0.0021	N/A	0.0001	0.1529	0.0239	0.4315	0.0034	0.0012	0.0012
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/5/2022	10/6/2022	1082	0.6398	-53.5	1353.769755	0.9433	2.4302	83.9047	11.7123	0.7796	0.0191	0.0358	0.002	0.002	N/A	0.0001	0.1478	0.0233	0.4264	0.0034	0.0011	0.0012
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/6/2022	10/7/2022	1081	0.6401	-53.2	1351.144446	0.9655	2.5505	83.5657	11.8951	0.7748	0.0177	0.0325	0.0016	0.0017	N/A	0.0001	0.1697	0.0242	0.4006	0.0031	0.0008	0.001
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/7/2022	10/8/2022	1082	0.6393	-53.5	1353.240256	0.9451	2.4676	83.8305	11.7627	0.7853	0.0184	0.0336	0.0017	0.0016	N/A	0.0001	0.1297	0.024	0.4052	0.0034	0.001	0.0007
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/8/2022	10/9/2022	1085	0.6431	-51.4	1352.977217	0.9675	2.5743	83.1106	12.3594	0.7995	0.0186	0.034	0.0017	0.0017	N/A	0	0.1082	0.0246	0.4101	0.0035	0.0011	0.001
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/9/2022	10/10/2022	1084	0.6418	-52.3	1353.098541	0.9579	2.5268	83.3679	12.2006	0.7733	0.0181	0.033	0.0018	0.0018	N/A	0.0001	0.0944	0.0245	0.4159	0.0034	0.0011	0.0012
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/10/2022	10/11/2022	1084	0.641	-52.5	1353.942645	0.9552	2.5023	83.4362	12.1096	0.7742	0.0182	0.033	0.0018	0.0016	N/A	0.0001	0.1439	0.024	0.406	0.0035	0.0012	0.0012
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/11/2022	10/12/2022	1082	0.6404	-53.3	1352.077542	0.9636	2.535	83.3885	12.0986	0.7341	0.0165	0.0302	0.0014	0.0011	N/A	0	0.2073	0.0239	0.7798	0.0033	0.0007	0.1794
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/12/2022	10/13/2022	1081	0.6402	-53.8	1351.038917	0.9639	2.5663	83.462	12.0668	0.7008	0.0162	0.0296	0.0013	0.0013	N/A	0	0.1679	0.0241	2.3189	0.0032	0.0007	0.3258
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/13/2022	10/14/2022	1081	0.6398	-53.9	1351.461182	0.9637	2.5227	83.4704	12.0662	0.7019	0.0161	0.0292	0.001	0.0007	N/A	0	0.2046	0.0237	3.6623	0.0032	0.0007	0.354
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/14/2022	10/15/2022	1082	0.6403	-53.4	1352.183119	0.9699	2.5353	83.4372	12.0495	0.7366	0.0166	0.0299	0.0012	0.0009	N/A	0	0.1996	0.0237	4.3216	0.0035	0.0008	0.2887
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/15/2022	10/16/2022	1083	0.6411	-53	1352.588119	0.9856	2.4845	83.364	12.208	0.7292	0.0164	0.0295	0.0012	0.0011	N/A	0	0.1567	0.024	5.002	0.0033	0.0007	0.3154
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/16/2022	10/17/2022	1083	0.6403	-53.1	1353.432826	0.9732	2.4725	83.5159	12.0374	0.7523	0.018	0.0325	0.0014	0.0014	N/A	0	0.172	0.0236	5.4158	0.0032	0.0008	0.34
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/17/2022	10/18/2022	1083	0.6412	-52.8	1352.482641	0.9723	2.5521	83.3048	12.188	0.731	0.0175	0.0323	0.0016	0.0016	N/A	0	0.1749	0.024	5.6305	0.0031	0.0006	0.3741
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/18/2022	10/19/2022	1083	0.641	-53.1	1352.693621	0.9625	2.5516	83.3542	12.1819	0.7181	0.0168	0.0311	0.0015	0.0016	N/A	0	0.1567	0.0241	6.1185	0.0034	0.0007	0.3694
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/19/2022	10/20/2022	1082	0.6403	-52.3	1352.183119	0.9532	2.5021	83.5926	12.0267	0.7314	0.018	0.033	0.0015	0.0016	N/A	0	0.1161	0.0239	6.7228	0.0037	0.0008	0.3303
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/20/2022	10/21/2022	1083	0.6407	-53.7	1353.010275	0.9634	2.5172	83.4668	12.0338	0.7741	0.0192	0.035	0.0016	0.0015	N/A	0	0.1633	0.0242	6.8881	0.0036	0.0009	0.3147
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/21/2022	10/22/2022	1082	0.6402	-53.5	1352.288721	0.9668	2.5274	83.4632	12.07	0.7228	0.0165	0.03	0.0013	0.0009	N/A	0	0.182	0.0242	6.8881	0.0036	0.0008	0.3537
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/22/2022	10/23/2022	1082	0.6413	-53.4	1351.128456	0.9895	2.5697	83.2233	12.087	0.6789	0.0157	0.0288	0.0012	0.0009	N/A	0	0.1791	0.0242	6.8881	0.0035	0.0007	0.3894
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/23/2022	10/24/2022	1084	0.6427	-52.2	1352.150809	1.0065	2.5701	83.0231	12.4486	0.71	0.017	0.0315	0.0016	0.0015	N/A	0	0.166	0.0244	6.8881	0.0034	0.0007	0.4364
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/24/2022	10/25/2022	1082	0.6396	-53.7	1352.922854	0.9963	2.3835	83.6812	12.0123	0.6964	0.018	0.0332	0.0016	0.0014	N/A	0	0.1534	0.0228	6.8881	0.003	0.0006	0.4802
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/25/2022	10/26/2022	1081	0.638	-54.4	1353.366289	0.9727	2.3519	83.9987	11.7214	0.7146	0.0183	0.0339	0.0016	0.0014	N/A	0	0.1631	0.0226	6.8881	0.0033	0.0006	0.4802
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/26/2022	10/27/2022	1082	0.6398	-53.2	1352.711378	0.9722	2.456	83.5986	11.9468	0.7552	0.0185	0.0336	0.0015	0.0014	N/A	0	0.1928	0.0234	6.8881	0.0034	0.0008	0.4061
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/27/2022	10/28/2022	1088	0.6445	-50.5	1355.243817	1.0042	2.4922	83.022	12.5381	0.813	0.02	0.0368	0.0017	0.0017	N/A	0	0.0458	0.0247	6.8881	0.0034	0.0007	0.4061
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/28/2022	10/29/2022	1089	0.6449	-50.1	1356.686988	1.0112	2.4465	82.9726	12.6283	0.822	0.0201	0.0369	0.0017	0.0016	N/A	0	0.0351	0.0241	6.8881	0.0034	0.0007	0.3936
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/29/2022	10/30/2022	1088	0.6441	-50.8	1355.664569	0.9994	2.468	83.1019	12.523	0.7915	0.0191	0.0351	0.0017	0.0017	N/A	0	0.0346	0.0243	6.8881	0.0033	0.0007	0.3741
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/30/2022	10/31/2022	1086	0.6429	-51.5	1354.483487	0.9991	2.44	83.3216	12.3302	0.7873	0.0189	0.0352	0.0016	0.0017	N/A	0	0.0407	0.0239	6.8881	0.0034	0.0007	0.342
NBPL	9/28/2022 0:00	12/1/2022 0:00	GLNU1 - GLEN ULLIN	10/31/2022	11/1/2022	1087	0.6429	-51.3	1355.682004	0.9942	2.4299	83.3723	12.2841	0.7997	0.0205	0.0384	0.0019	0.0017	N/A	0	0.0336	0.0239	6.8881	0.0034	0.0007	0.3048

<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	OCT22	SEP22	AUG22	JUL22	JUN22	MAY22	APR22	MAR22	FEB22	JAN22	DEC21	NOV21	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1197	1201	1198	1205	1200	1198	1185	1191	1196	1196	1171	1215	1208	211
ND	24	Williston Border - Charbonneau Station	1181	1194	1188	1192	1195	1187	1185	1188	1189	1180	1155	1152	1161	24
ND	25	Watford City West Border	1202	1210	1209	1210	1201	1199	1195	1200	1197	1200	1198	1202	1208	25
ND	28	Bismarck Station - Glen Ullin Station	1160	1175	1191	1198	1202	1204	1196	1087	1131	1131	1126	1142	1135	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1114	1097	1099	1087	1094	1105	1100	1108	1130	1132	1132	1143	1141	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1124	1122	1128	1129	1115	1124	1138	1126	1095	1122	1127	1131	1129	32
ND	33	Little Knife Plant	1176	1179	1173	1174	1177	1175	1175	1176	1178	1176	1173	1176	1182	33
ND	34	Badlands Plant/Bowman Border	1041	989	1056	1031	1033	1014	1019	1021	1070	1087	1097	1093	981	34
ND	43	Watford City East Border	1056	1050	1051	1057	1062	1044	1036	1042	1042	1108	1094	1042	1047	43
ND/MT	241	Fairview Border	1195	1205	1193	1197	1199	1186	1178	1191	1191	1197	1200	1208	1197	241
ND	267	North Tioga Transfer - Nesson Plant	1163	1178	1174	1184	1184	1173	1172	1176	1172	1157	1122	1122	1137	267
ND	261	Tioga Comp Station - Robinson Lake Plan	1186	1194	1196	1196	1201	1200	1200	1191	1191	1155	1175	1161	1176	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1197	1195	1198	1196	1203	1205	1202	1202	1194	1187	1180	1199	1198	262
ND	263	Lignite Plant	1131	1131	1131	1131	1130	1131	1131	1131	1131	1131	1131	1131	1131	263
ND	264	Epping Border	1178	1198	1196	1192	1188	1182	1188	1188	1185	1173	1145	1147	1152	264
ND	265	Tioga Comp Station - County Line Plant	1168	1180	1178	1178	1180	1176	1163	1170	1167	1150	1157	1152	1159	265
ND	266	County Line Plant	1176	1180	1180	1182	1179	1179	1167	1173	1172	1166	1175	1178	1183	266
ND	271	Bismarck Station - Cleveland Station	1189	1197	1191	1198	1202	1205	1205	1164	1185	1169	1162	1188	1198	271
ND	272	Cleveland Station - Mapleton	1189	1197	1191	1198	1202	1205	1204	1175	1184	1167	1161	1189	1198	272
ND	273	Cleveland Station - Grafton Border	1188	1198	1194	1198	1200	1205	1202	1168	1176	1166	1161	1188	1198	273
ND	550	Mandan Border / NBPL-St Anthony	1152	1173	1189	1194	1182	1201	1189	1087	1103	1119	1116	1136	1135	550
ND	610	MDU-Watford City BTU	1093	1113	1072	1068	1065	1063	1086	1093	1087	1138	1129	1095	1110	610
ND	802	NBPL - Linton	1082	1084	1081	1083	1086	1084	1074	1067	1073	1088	1091	1085	1086	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1155	1159	1159	1157	1160	1153	1151	1155	1157	1152	1149	1155	1158	600
ND	601	Alliance Pipeline - Milnor	1155	1159	1160	1157	1160	1153	1151	1154	1157	1152	1149	1154	1157	602

<b>THERMAL ZONE VARIANCE DOCUMENTATION</b>		
<b>October 2022</b>		
<b><i>ZONE</i></b>	<b><i>BTU VARIANCE</i></b>	<b><i>REASON</i></b>
34	-67	Blend
610	41	Blend