

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

May 17, 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 – March 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 April 2023.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of March 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 March 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
Apr-23

<u>Town</u>	<u>Heat Zone</u>	<u>Therm Factor</u>
MDU-303-ALEXANDER	025	1.1334
MDU-308-ARNEGARD	025	1.1334
MDU-314-APPLE VALLEY	271	1.1270
MDU-318-BEACH	032	1.0313
MDU-319-BELFIELD	032	1.0389
MDU-323-BERTHOLD	262	1.1211
MDU-327-BISMARCK	028	1.0758
MDU-330-BOWMAN	034	0.9962
MDU-337-BURLINGTON	262	1.1453
MDU-343-CARRINGTON	273	1.1270
MDU-344-CLEVELAND	272	1.1190
MDU-364-CAVALIER	273	1.1508
MDU-365-DAWSON	271	1.1190
MDU-368-DES LACS	262	1.1292
MDU-369-DICKINSON	031	1.0559
MDU-374-FT TOTTEN	273	1.1349
MDU-375-DEVILS LAKE	273	1.1349
MDU-379-BARLOW	273	1.1270
MDU-384-EPPING	264	1.1410
MDU-387-ELDRIDGE	272	1.1270
MDU-407-GLADSTONE	031	1.0559
MDU-411-GLEN ULLIN	031	1.0692
MDU-413-GOLVA	032	1.0162
MDU-416-GARRISON	262	1.1292
MDU-417-GRAFTON	273	1.1587
MDU-403-GWINNER	601	1.1350
MDU-429-HEBRON	031	1.0635
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1349
MDU-459-KILLDEER	033	1.1098
MDU-463-LANGDON	273	1.1270
MDU-469-LEFOR	031	1.0559
MDU-474-LIGNITE	263	1.0759
MDU-475-LINTON	802	1.0565
MDU-478-LINCOLN	028	1.0758
MDU-488-MCKENZIE	271	1.1270
MDU-494-MEDINA	271	1.1190
MDU-498-MANDAN	028	1.0758
MDU-500-MARMARTH	034	1.0036
MDU-505-MINOT	262	1.1453
MDU-510-MOTT	031	1.0559
MDU-512-MAX	262	1.1211
MDU-513-MILNOR	601	1.1350
MDU-522-NEW ENGLAND	031	1.0482
MDU-524-NEW SALEM	028	1.0758
MDU-532-NEW ROCKFORD	273	1.1270
MDU-539-PARK RIVER	273	1.1508
MDU-540-PALERMO	262	1.1211
MDU-558-RAY	264	1.1410

MDU-561-REGENT	031	1.0482
MDU-563-RHAME	034	0.9889
MDU-564-RICHARDTON	031	1.0482
MDU-568-ROSS	261	1.1103
MDU-572-RUTHVILLE	262	1.1453
MDU-574-SANBORN	272	1.1349
MDU-583-SENTINEL BUTTE	032	1.0313
MDU-588-SOUTH HEART	031	1.0559
MDU-717-SPIRITWOOD	272	1.1349
MDU-590-SPRINGBROOK	264	1.1410
MDU-591-STANLEY	261	1.1183
MDU-593-STEELE	271	1.1190
MDU-594-STERLING	028	1.0758
MDU-598-SHEYENNE	273	1.1349
MDU-605-SURREY	262	1.1453
MDU-610-TAPPEN	271	1.1190
MDU-611-TAYLOR	031	1.0538
MDU-616-TIOGA	260	1.1140
MDU-619-TURTLE LAKE	262	1.1292
MDU-620-TRENTON	024	1.1396
MDU-624-UNDERWOOD	262	1.1292
MDU-625-VALLEY CITY	272	1.1428
MDU-629-WALHALLA	273	1.1508
MDU-632-WATFORD CITY	610	1.0852
MDU-636-WHEELOCK	264	1.1328
MDU-637-WHITE EARTH	261	1.1183
MDU-642-WILLISTON	024	1.1396
MDU-646-WASHBURN	262	1.1292
MDU-647-WILTON	262	1.1211
MDU-664-RIVERDALE	262	1.1292
MDU-691-FAIRVIEW	241	1.1530
MDU-712-MINOT AFB	262	1.1453
MDU-718-FAIRMOUNT	600	1.1326
MDU-732-NEKOMA	273	1.1270
MDU-732-MSR SITE	273	1.1508

Source Daily Summary

March 2023

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

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.6969	1165.0	1185.7	1185.4	0.030	3.081	72.168	23.042	1.640	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.30	
2	0.7362	1194.5	1215.7	1215.4	1.168	3.245	67.288	24.961	2.951	0.128	0.237	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1416.87	
3	0.7426	1198.8	1220.0	1219.7	1.356	3.293	66.566	25.125	3.217	0.146	0.272	0.014	0.011	0.000	0.000	0.000	0.000	0.000	1415.75	
4	0.7411	1195.9	1217.1	1216.8	1.358	3.321	66.987	24.573	3.303	0.151	0.282	0.014	0.011	0.000	0.000	0.000	0.000	0.000	1413.84	
5	0.7424	1198.8	1220.0	1219.7	1.350	3.285	66.620	25.061	3.238	0.147	0.275	0.014	0.010	0.000	0.000	0.000	0.000	0.000	1415.94	
6	0.7414	1197.5	1218.8	1218.5	1.327	3.297	66.826	24.846	3.258	0.147	0.274	0.014	0.010	0.000	0.000	0.000	0.000	0.000	1415.47	
7	0.7033	1170.8	1191.5	1191.2	0.227	3.037	71.341	23.478	1.835	0.031	0.048	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1420.81	
8	0.7376	1193.8	1214.9	1214.6	1.247	3.299	67.285	24.646	3.109	0.138	0.253	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1414.64	
9	0.7411	1196.4	1217.6	1217.3	1.351	3.312	66.896	24.725	3.274	0.147	0.270	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1414.29	
10	0.7391	1192.8	1213.9	1213.6	1.352	3.337	67.298	24.317	3.251	0.147	0.273	0.014	0.010	0.000	0.000	0.000	0.000	0.000	1411.99	
11	0.7365	1188.1	1209.1	1208.9	1.366	3.354	67.853	23.702	3.292	0.145	0.264	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1408.95	
12	0.7392	1192.5	1213.6	1213.3	1.366	3.338	67.304	24.285	3.269	0.146	0.270	0.013	0.009	0.000	0.000	0.000	0.000	0.000	1411.59	
13	0.7410	1196.1	1217.3	1217.0	1.359	3.307	66.849	24.841	3.209	0.145	0.266	0.013	0.009	0.000	0.000	0.000	0.000	0.000	1414.06	
14	0.7412	1196.2	1217.4	1217.1	1.360	3.309	66.899	24.731	3.260	0.146	0.271	0.014	0.011	0.000	0.000	0.000	0.000	0.000	1414.07	
15	0.7202	1181.5	1202.5	1202.2	0.752	3.163	69.354	24.040	2.453	0.082	0.144	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1417.12	
16	0.7365	1190.1	1211.1	1210.8	1.310	3.326	67.636	24.151	3.161	0.139	0.256	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1411.24	
17	0.7386	1195.7	1216.8	1216.5	1.269	3.242	67.164	24.749	3.175	0.134	0.246	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1415.92	
18	0.7376	1197.9	1219.1	1218.8	1.138	3.210	67.142	25.003	3.133	0.125	0.230	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1419.60	
19	0.7237	1183.0	1203.9	1203.6	0.862	3.236	68.923	24.155	2.539	0.095	0.175	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1415.27	
20	0.7194	1181.0	1201.9	1201.7	0.694	3.211	69.350	24.137	2.379	0.078	0.140	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1417.07	
21	0.7170	1178.3	1199.2	1198.9	0.650	3.214	69.715	23.895	2.303	0.075	0.137	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1416.23	
22	0.7154	1174.3	1195.1	1194.9	0.656	3.298	69.985	23.585	2.245	0.077	0.141	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1413.01	
23	0.7173	1180.0	1200.9	1200.6	0.615	3.190	69.675	23.935	2.369	0.073	0.132	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1417.97	
24	0.7206	1179.7	1200.6	1200.3	0.765	3.289	69.536	23.526	2.580	0.096	0.187	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1414.36	
25	0.7218	1183.6	1204.5	1204.3	0.718	3.242	69.193	23.990	2.573	0.092	0.175	0.010	0.008	0.000	0.000	0.000	0.000	0.000	1417.78	
26	0.7194	1182.8	1203.7	1203.4	0.642	3.186	69.302	24.254	2.386	0.077	0.140	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1419.12	
27	0.7180	1183.1	1204.1	1203.8	0.544	3.177	69.436	24.263	2.376	0.070	0.124	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1420.99	
28	0.7145	1178.4	1199.3	1199.0	0.518	3.177	69.879	24.065	2.181	0.062	0.109	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1418.79	
29	0.7159	1180.2	1201.1	1200.8	0.539	3.168	69.761	24.038	2.302	0.065	0.117	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1419.52	
30	0.7163	1180.1	1201.0	1200.7	0.549	3.190	69.675	24.128	2.257	0.068	0.123	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1419.09	
31	0.7175	1181.6	1202.6	1202.3	0.576	3.177	69.543	24.145	2.354	0.069	0.124	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1419.64	
Avg	0.7274	1187.0	1207.7	1207.5	0.936	3.242	68.498	24.271	2.738	0.105	0.193	0.009	0.007	0.000	0.000	0.000	0.000	0.000	1416.17	

Source Daily Summary

March 2023

Source #: 571
Name: WILLISTON BDR-CHARBN STN

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	1175.5	1196.3	1196.0	0.680	3.541	69.708	23.192	2.559	0.101	0.192	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1410.68	
2	0.7363	1180.5	1201.4	1201.1	1.216	4.027	67.777	23.218	3.234	0.165	0.317	0.023	0.022	0.000	0.000	0.000	0.000	0.000	1400.08	
3	0.7381	1183.7	1204.7	1204.4	1.243	3.956	67.567	23.387	3.293	0.172	0.334	0.025	0.024	0.000	0.000	0.000	0.000	0.000	1402.22	
4	0.7297	1178.2	1199.1	1198.8	1.049	3.802	68.726	22.888	3.044	0.151	0.294	0.023	0.022	0.000	0.000	0.000	0.000	0.000	1403.67	
5	0.7184	1172.8	1193.6	1193.3	0.733	3.553	70.013	22.770	2.572	0.110	0.214	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1408.24	
6	0.7084	1168.4	1189.1	1188.8	0.398	3.388	71.148	22.612	2.221	0.071	0.137	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1412.82	
7	0.7076	1168.0	1188.6	1188.4	0.380	3.372	71.217	22.649	2.154	0.070	0.135	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1413.05	
8	0.7005	1162.4	1183.0	1182.7	0.221	3.289	71.894	22.719	1.747	0.043	0.075	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1413.42	
9	0.6993	1162.8	1183.4	1183.1	0.183	3.210	72.000	22.820	1.682	0.036	0.060	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1415.10	
10	0.6990	1162.0	1182.6	1182.3	0.165	3.250	72.035	22.766	1.684	0.034	0.057	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1414.55	
11	0.6997	1163.6	1184.2	1183.9	0.169	3.224	71.837	23.014	1.670	0.030	0.049	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1415.64	
12	0.7002	1165.0	1185.6	1185.4	0.140	3.227	71.726	23.129	1.697	0.029	0.046	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1416.87	
13	0.6987	1161.8	1182.3	1182.0	0.167	3.239	72.117	22.669	1.708	0.034	0.057	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1414.47	
14	0.6994	1160.5	1181.1	1180.7	0.206	3.323	71.988	22.703	1.666	0.038	0.066	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1412.24	
15	0.7016	1164.8	1185.4	1185.1	0.245	3.209	71.665	23.029	1.733	0.038	0.069	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1415.23	
16	0.7087	1167.9	1188.6	1188.3	0.440	3.387	71.239	22.375	2.316	0.072	0.145	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1411.87	
17	0.7089	1173.6	1194.4	1194.1	0.277	3.306	70.813	23.206	2.226	0.055	0.100	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1418.57	
18	0.7093	1170.5	1191.3	1191.0	0.331	3.446	70.846	22.933	2.237	0.065	0.121	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1414.50	
19	0.7070	1162.0	1182.6	1182.3	0.396	3.651	71.247	22.388	2.087	0.070	0.137	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1406.48	
20	0.7049	1161.3	1181.9	1181.6	0.343	3.580	71.448	22.461	1.970	0.061	0.118	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1407.72	
21	0.7265	1181.0	1201.9	1201.7	0.988	3.412	69.758	22.037	3.260	0.147	0.337	0.028	0.033	0.000	0.000	0.000	0.000	0.000	1410.18	
22	0.7311	1189.2	1210.2	1210.0	1.120	3.144	69.590	21.860	3.646	0.167	0.400	0.033	0.039	0.000	0.000	0.000	0.000	0.000	1415.42	
23	0.7299	1187.3	1208.3	1208.1	1.121	3.152	69.751	21.750	3.596	0.164	0.395	0.032	0.039	0.000	0.000	0.000	0.000	0.000	1414.28	
24	0.7318	1189.9	1210.9	1210.7	1.124	3.160	69.658	21.616	3.762	0.177	0.426	0.035	0.043	0.000	0.000	0.000	0.000	0.000	1415.57	
25	0.7325	1190.9	1212.0	1211.7	1.125	3.165	69.568	21.654	3.800	0.179	0.431	0.036	0.043	0.000	0.000	0.000	0.000	0.000	1416.08	
26	0.7333	1192.1	1213.2	1213.0	1.123	3.164	69.555	21.560	3.879	0.185	0.449	0.038	0.046	0.000	0.000	0.000	0.000	0.000	1416.81	
27	0.7328	1190.6	1211.7	1211.5	1.126	3.202	69.584	21.552	3.826	0.183	0.445	0.037	0.045	0.000	0.000	0.000	0.000	0.000	1415.53	
28	0.7219	1176.7	1197.5	1197.3	0.733	3.632	70.339	21.578	3.173	0.148	0.333	0.029	0.034	0.000	0.000	0.000	0.000	0.000	1409.49	
29	0.7244	1183.7	1204.6	1204.4	0.765	3.388	70.660	20.875	3.632	0.177	0.422	0.037	0.044	0.000	0.000	0.000	0.000	0.000	1415.38	
30	0.7179	1174.5	1195.3	1195.0	0.630	3.553	70.600	21.826	2.953	0.122	0.266	0.024	0.027	0.000	0.000	0.000	0.000	0.000	1410.72	
31	0.7362	1190.4	1211.5	1211.2	1.084	3.597	69.825	20.172	4.400	0.239	0.570	0.051	0.060	0.000	0.000	0.000	0.000	0.000	1411.90	
Avg	0.7166	1175.0	1195.4	1195.1	0.643	3.405	70.513	22.368	2.691	0.108	0.232	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1412.22	

Gas Composition and Properties

Effective March 1, 2023

Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %	Property	Total Sample	C6 Plus Fraction
Carbon Dioxide, CO2	0.7236		1.5329	Pressure Base	14.730	
Nitrogen, N2	3.2163		4.3370	Temperature Base	60.00	
Methane, C1	69.5838		53.7338	HCDP @ Sample Pressure	-14.480	
Ethane, C2	23.6794	6.3377	34.2734	Cricondentherm	-4.018	
Propane, C3	2.5339	0.6986	5.3784	HV, Dry @ Base P, T	1201.04	
iso-Butane, iC4	0.0923	0.0302	0.2582	HV, Sat @ Base P, T	1180.14	
n-Butane, nC4	0.1578	0.0498	0.4415	HV, Sat @ Sample P, T	1201.04	
iso-Pentane, iC5	0.0073	0.0027	0.0254	Relative Density	0.7194	
n-Pentane, nC5	0.0056	0.0020	0.0194			
Neo-Pentane, neo						
Hexanes Plus, C6+						
Argon, Ar						
Carbon Monoxide, CO						
Hydrogen, H2						
Oxygen, O2						
Helium, He						
Water, H2O						
Hydrogen Sulfide, H2S						
Totals	100.0000	7.1220	100.0000			

C6+: 100

Sample

Date: 03/01/2023 Type:
Tech: Tipton, Joshua
Pressure: 530 psi Temp.: °F
Gauge: Gauge H2O:
Atm. Pressure: H2S:

Remarks:

Analysis

Date: 03/01/2023 Instrument:
Tech: Tipton, Joshua Cylinder: 342

Remarks:

Source Daily Summary

March 2023

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

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.7141	1172.9	1193.7	1193.5	1.029	2.692	71.701	21.351	2.797	0.119	0.267	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1412.57	-2.04
2	0.7125	1171.1	1191.9	1191.7	1.042	2.625	71.807	21.507	2.631	0.107	0.241	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1412.00	-3.76
3	0.7135	1171.4	1192.2	1191.9	1.041	2.706	71.661	21.504	2.693	0.110	0.245	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1411.32	-3.21
4	0.7135	1171.5	1192.3	1192.1	1.033	2.711	71.702	21.423	2.731	0.112	0.248	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1411.46	-3.00
5	0.7125	1170.5	1191.3	1191.1	1.030	2.683	71.833	21.383	2.677	0.110	0.244	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1411.25	-3.60
6	0.7113	1169.9	1190.7	1190.5	1.029	2.606	71.971	21.427	2.590	0.105	0.234	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1411.75	-4.50
7	0.7103	1169.5	1190.2	1190.0	1.028	2.542	72.170	21.306	2.578	0.105	0.233	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1412.21	-4.80
8	0.7119	1171.5	1192.2	1192.0	0.931	2.711	71.740	21.661	2.581	0.104	0.231	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1413.08	-4.33
9	0.7088	1169.1	1189.8	1189.6	0.759	2.810	71.763	21.830	2.477	0.097	0.211	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1413.27	-5.44
10	0.7110	1171.6	1192.4	1192.2	0.795	2.832	71.690	21.780	2.545	0.100	0.220	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1414.09	-4.88
11	0.7116	1172.9	1193.7	1193.5	0.679	2.986	71.393	22.040	2.570	0.095	0.204	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1415.05	-5.01
12	0.7097	1171.7	1192.4	1192.2	0.679	2.881	71.648	22.030	2.445	0.090	0.195	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1415.47	-6.22
13	0.7105	1171.2	1192.0	1191.8	0.742	2.886	71.623	21.919	2.502	0.092	0.200	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1414.14	-5.71
14	0.7103	1170.7	1191.5	1191.3	0.759	2.870	71.710	21.828	2.489	0.096	0.211	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1413.76	-5.59
15	0.7111	1171.2	1191.9	1191.7	0.750	2.933	71.530	21.953	2.494	0.096	0.210	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1413.48	-5.40
16	0.7096	1168.5	1189.2	1189.0	0.966	2.630	72.219	21.274	2.519	0.109	0.242	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1411.66	-5.14
17	0.7115	1171.4	1192.1	1191.9	1.002	2.578	72.121	21.184	2.686	0.119	0.265	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1413.26	-3.12
18	0.7115	1171.2	1191.9	1191.7	1.036	2.535	72.209	21.078	2.699	0.122	0.274	0.022	0.025	0.000	0.000	0.000	0.000	0.000	1413.05	-2.86
19	0.7105	1169.2	1189.9	1189.7	1.035	2.566	72.233	21.169	2.577	0.115	0.259	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1411.63	-4.05
20	0.7126	1171.3	1192.0	1191.8	1.039	2.631	71.953	21.239	2.700	0.120	0.272	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1412.06	-2.70
21	0.6997	1152.2	1172.6	1172.4	0.948	2.720	73.917	19.780	2.261	0.102	0.233	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1401.70	-10.40
22	0.7023	1159.5	1180.0	1179.8	1.001	2.442	73.473	20.456	2.245	0.105	0.236	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1408.05	-8.70
23	0.7089	1167.1	1187.8	1187.6	1.030	2.553	72.454	21.053	2.500	0.113	0.252	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1410.68	-4.97
24	0.7025	1159.4	1180.0	1179.8	1.007	2.453	73.329	20.664	2.196	0.097	0.215	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1407.81	-9.32
25	0.7047	1164.6	1185.3	1185.1	1.015	2.328	73.202	20.661	2.401	0.110	0.240	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1411.91	-6.82
26	0.7068	1166.4	1187.1	1186.9	1.024	2.403	72.866	20.838	2.459	0.111	0.254	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1411.97	-5.68
27	0.7082	1167.9	1188.6	1188.4	1.027	2.438	72.722	20.818	2.571	0.116	0.263	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1412.43	-4.64
28	0.7098	1169.3	1190.0	1189.8	1.022	2.511	72.671	20.576	2.741	0.129	0.298	0.024	0.029	0.000	0.000	0.000	0.000	0.000	1412.47	-2.60
29	0.7092	1167.8	1188.5	1188.3	1.022	2.538	72.899	20.242	2.806	0.133	0.305	0.025	0.030	0.000	0.000	0.000	0.000	0.000	1411.32	-2.41
30	0.7097	1168.7	1189.4	1189.2	1.030	2.521	72.826	20.298	2.833	0.133	0.304	0.025	0.030	0.000	0.000	0.000	0.000	0.000	1411.88	-2.17
31	0.7093	1169.6	1190.3	1190.1	1.020	2.448	72.822	20.440	2.802	0.128	0.290	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1413.32	-2.74
Avg	0.7097	1169.0	1189.4	1189.2	0.953	2.638	72.253	21.184	2.574	0.110	0.245	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1411.94	-4.70

Source Daily Summary

March 2023

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

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.7443	1162.9	1183.5	1183.3	0.901	6.317	67.295	19.867	5.118	0.151	0.321	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1371.77	
2	0.7257	1166.4	1187.1	1186.9	0.993	4.224	69.741	21.129	3.476	0.125	0.275	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1393.63	
3	0.7464	1164.3	1184.9	1184.7	0.891	6.449	67.027	19.806	5.323	0.155	0.322	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1371.48	
4	0.7486	1167.0	1187.7	1187.5	0.891	6.482	66.741	19.921	5.443	0.160	0.333	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1372.73	
5	0.7498	1168.3	1188.9	1188.8	0.881	6.532	66.583	19.948	5.522	0.163	0.341	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1373.10	
6	0.7332	1169.3	1190.0	1189.9	0.958	4.804	68.881	20.733	4.097	0.154	0.335	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1390.02	
7	0.7132	1165.6	1186.3	1186.1	1.029	3.048	71.444	21.579	2.526	0.104	0.234	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1404.68	
8	0.7140	1168.8	1189.5	1189.4	1.026	2.931	71.305	21.828	2.538	0.104	0.232	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1407.77	
9	0.7132	1167.6	1188.3	1188.1	0.925	3.088	71.236	21.930	2.463	0.099	0.223	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1407.11	
10	0.7132	1168.2	1188.9	1188.7	0.829	3.199	71.031	22.189	2.412	0.095	0.211	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1407.75	
11	0.7132	1168.2	1188.9	1188.7	0.829	3.199	71.031	22.189	2.412	0.095	0.211	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1407.75	
12	0.7132	1168.2	1188.9	1188.7	0.829	3.199	71.031	22.189	2.412	0.095	0.211	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1407.75	
13	0.7132	1168.2	1188.9	1188.7	0.829	3.199	71.031	22.189	2.412	0.095	0.211	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1407.75	
14	0.7133	1168.3	1189.0	1188.9	0.830	3.193	71.034	22.185	2.417	0.095	0.212	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1407.88	
15	0.7342	1171.1	1191.8	1191.6	0.825	4.995	68.514	20.993	4.199	0.140	0.300	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1391.19	
16	0.7162	1154.2	1174.6	1174.4	0.852	4.294	71.325	19.801	3.307	0.120	0.266	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1388.16	
17	0.7139	1169.1	1189.8	1189.6	0.972	2.984	71.383	21.678	2.581	0.112	0.250	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1408.21	
18	0.7116	1167.0	1187.7	1187.5	1.000	2.859	71.803	21.438	2.492	0.113	0.252	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1407.91	
19	0.6863	1124.8	1144.7	1144.5	0.797	3.363	75.803	17.900	1.849	0.079	0.181	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1381.69	
20	0.7310	1169.2	1189.9	1189.7	0.935	4.639	68.978	21.134	3.843	0.135	0.298	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1391.86	
21	0.7103	1163.9	1184.5	1184.4	0.976	2.961	72.019	21.153	2.487	0.110	0.252	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1405.43	
22	0.6969	1144.9	1165.2	1165.1	0.879	3.008	74.106	19.594	2.070	0.094	0.214	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1395.65	
23	0.7108	1164.5	1185.1	1184.9	0.973	2.982	71.685	21.667	2.313	0.104	0.235	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1405.61	
24	0.7091	1162.1	1182.7	1182.5	0.975	2.964	71.993	21.417	2.277	0.103	0.232	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1404.43	
25	0.7121	1166.5	1187.1	1187.0	0.971	2.980	71.421	21.937	2.311	0.105	0.234	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1406.81	
26	0.7139	1167.8	1188.5	1188.4	0.984	3.051	71.044	22.243	2.294	0.103	0.240	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1406.62	
27	0.7139	1167.7	1188.4	1188.2	0.994	3.044	71.165	22.025	2.372	0.107	0.250	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1406.47	
28	0.7074	1159.4	1179.9	1179.7	0.957	2.996	72.507	20.746	2.384	0.110	0.257	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1402.79	
29	0.7145	1167.6	1188.3	1188.1	0.983	3.123	71.117	21.926	2.437	0.112	0.257	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1405.73	
30	0.7089	1158.3	1178.8	1178.7	1.003	3.122	72.595	20.154	2.693	0.118	0.270	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1400.11	
31	0.7136	1167.6	1188.3	1188.1	1.009	2.989	71.608	21.343	2.602	0.121	0.279	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1406.71	
Avg	0.7180	1164.0	1184.7	1184.6	0.927	3.749	70.790	21.124	3.003	0.115	0.256	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1398.28	

Source Daily Summary

March 2023

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

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.7470	1161.2	1181.8	1181.6	0.896	6.678	66.972	19.523	5.430	0.157	0.317	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1367.38	
2	0.7497	1165.6	1186.2	1186.0	0.891	6.674	66.585	19.770	5.561	0.162	0.329	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1370.01	
3	0.7500	1166.5	1187.1	1186.9	0.887	6.656	66.544	19.829	5.552	0.166	0.339	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1370.77	
4	0.7492	1164.5	1185.2	1185.0	0.890	6.693	66.700	19.669	5.486	0.175	0.358	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1369.24	
5	0.7474	1161.2	1181.8	1181.6	0.887	6.734	66.922	19.537	5.364	0.172	0.354	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1366.95	
6	0.7468	1159.2	1179.7	1179.5	0.890	6.795	67.015	19.407	5.332	0.173	0.357	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1365.12	
7	0.7466	1159.1	1179.6	1179.4	0.889	6.790	67.021	19.428	5.314	0.172	0.356	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1365.13	
8	0.7465	1159.2	1179.7	1179.5	0.885	6.779	67.034	19.429	5.324	0.170	0.351	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1365.37	
9	0.7456	1157.6	1178.1	1177.9	0.883	6.776	67.001	19.421	5.345	0.172	0.356	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1364.31	
10	0.7485	1162.7	1183.3	1183.1	0.879	6.751	66.801	19.567	5.423	0.177	0.370	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1367.79	
11	0.7497	1165.8	1186.4	1186.2	0.876	6.691	66.676	19.632	5.537	0.181	0.373	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1370.15	
12	0.7310	1171.4	1192.1	1191.9	0.772	4.753	69.458	20.217	4.178	0.170	0.393	0.027	0.031	0.000	0.000	0.000	0.000	0.000	1394.36	
13	0.7487	1172.2	1192.9	1192.7	0.858	6.235	66.767	20.185	5.377	0.176	0.365	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1378.66	
14	0.7531	1170.5	1191.2	1191.0	0.873	6.719	66.155	19.975	5.687	0.182	0.376	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1372.69	
15	0.7555	1175.3	1196.1	1195.9	0.876	6.645	65.789	20.313	5.776	0.183	0.383	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1376.17	
16	0.7545	1174.2	1195.0	1194.8	0.887	6.607	65.935	20.239	5.750	0.178	0.371	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1375.74	
17	0.7511	1167.9	1188.6	1188.4	0.892	6.666	66.314	20.062	5.518	0.168	0.350	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1371.47	
18	0.7522	1169.7	1190.4	1190.2	0.890	6.658	66.202	20.105	5.578	0.172	0.364	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1372.58	
19	0.7510	1168.1	1188.8	1188.5	0.890	6.651	66.346	20.041	5.517	0.170	0.356	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1371.71	
20	0.7506	1166.9	1187.6	1187.4	0.887	6.689	66.385	19.988	5.504	0.168	0.349	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1370.71	
21	0.7510	1167.9	1188.6	1188.4	0.888	6.662	66.374	19.978	5.540	0.172	0.356	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1371.53	
22	0.7517	1169.6	1190.3	1190.1	0.889	6.624	66.316	20.030	5.555	0.177	0.376	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1372.84	
23	0.7484	1168.5	1189.2	1189.0	0.904	6.361	66.748	20.112	5.315	0.169	0.359	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1374.60	
24	0.7495	1172.2	1193.0	1192.8	0.912	6.215	66.632	20.344	5.304	0.175	0.382	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1378.05	
25	0.7469	1166.8	1187.5	1187.3	0.906	6.312	66.854	20.253	5.141	0.161	0.341	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1374.07	
26	0.7475	1167.4	1188.1	1187.9	0.911	6.329	66.788	20.246	5.181	0.165	0.347	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1374.17	
27	0.7492	1167.3	1187.9	1187.7	0.920	6.485	66.640	20.028	5.366	0.169	0.360	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1372.41	
28	0.7472	1166.7	1187.3	1187.1	0.907	6.354	66.899	20.029	5.288	0.161	0.331	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1373.54	
29	0.7453	1165.1	1185.8	1185.6	0.910	6.263	67.142	20.009	5.179	0.154	0.312	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1373.51	
30	0.7450	1164.3	1184.9	1184.7	0.908	6.283	67.243	19.896	5.134	0.165	0.337	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1372.87	
31	0.7452	1163.9	1184.5	1184.3	0.916	6.323	67.248	19.783	5.197	0.165	0.334	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1372.08	
Avg	0.7484	1166.0	1187.1	1186.8	0.889	6.511	66.758	19.905	5.379	0.170	0.355	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1372.13	

Gas Composition and Properties

Effective October 1, 2021

Attachment B
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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			
Totals	100.0000	4.6490	100.0000

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

March 2023

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

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.7166	1151.8	1172.2	1172.0	1.108	4.095	70.455	21.680	2.270	0.100	0.251	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1384.69	
2	0.7204	1158.3	1178.9	1178.6	1.100	4.064	69.674	22.476	2.312	0.100	0.238	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1388.92	
3	0.7198	1156.9	1177.4	1177.2	1.064	4.153	69.772	22.290	2.345	0.101	0.240	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1387.74	
4	0.7210	1157.2	1177.7	1177.5	1.076	4.225	69.488	22.542	2.293	0.100	0.239	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1387.01	
5	0.7210	1153.3	1173.7	1173.5	1.063	4.488	69.457	22.292	2.323	0.100	0.240	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1382.23	
6	0.7196	1150.1	1170.5	1170.3	1.060	4.549	69.779	21.871	2.369	0.100	0.236	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1379.83	
7	0.7185	1156.9	1177.4	1177.2	1.038	4.071	70.025	22.131	2.366	0.100	0.235	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1388.96	
8	0.7220	1166.7	1187.3	1187.1	1.029	3.813	69.303	23.175	2.310	0.100	0.235	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1397.37	
9	0.7206	1164.0	1184.6	1184.4	1.023	3.859	69.564	22.882	2.297	0.101	0.238	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1395.43	
10	0.7206	1163.9	1184.5	1184.3	1.024	3.864	69.572	22.853	2.313	0.101	0.236	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1395.32	
11	0.7183	1157.1	1177.6	1177.4	1.044	4.025	70.035	22.241	2.271	0.101	0.243	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1389.48	
12	0.7072	1142.6	1162.8	1162.6	1.172	3.671	72.503	20.019	2.226	0.105	0.256	0.022	0.027	0.000	0.000	0.000	0.000	0.000	1382.76	
13	0.7169	1156.5	1177.0	1176.8	1.123	3.811	70.532	21.784	2.372	0.099	0.236	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1390.09	
14	0.7194	1162.5	1183.1	1182.9	1.051	3.784	69.933	22.486	2.380	0.101	0.232	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1394.92	
15	0.7198	1166.6	1187.2	1187.0	1.014	3.640	69.783	22.858	2.333	0.100	0.237	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1399.33	
16	0.7172	1158.8	1179.3	1179.1	1.023	3.850	70.274	22.179	2.292	0.102	0.243	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1392.54	
17	0.7183	1164.3	1184.9	1184.7	1.001	3.652	70.066	22.594	2.318	0.101	0.233	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1398.11	
18	0.7176	1164.3	1184.9	1184.7	0.984	3.610	70.196	22.531	2.305	0.102	0.236	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1398.81	
19	0.7182	1167.6	1188.2	1188.0	0.971	3.488	70.018	22.912	2.238	0.101	0.235	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1402.14	
20	0.7178	1167.0	1187.7	1187.5	0.967	3.492	70.104	22.814	2.252	0.100	0.235	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1401.84	
21	0.7181	1169.2	1189.9	1189.7	0.956	3.409	70.053	22.935	2.278	0.101	0.234	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1404.13	
22	0.7186	1171.8	1192.5	1192.3	0.957	3.291	69.949	23.189	2.244	0.100	0.233	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1406.80	
23	0.7189	1171.2	1191.9	1191.7	0.954	3.362	69.858	23.218	2.242	0.100	0.229	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1405.76	
24	0.7185	1169.5	1190.2	1190.0	0.960	3.418	69.910	23.128	2.223	0.099	0.226	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1404.15	
25	0.7179	1168.9	1189.6	1189.5	0.956	3.397	70.082	22.945	2.251	0.101	0.230	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1404.11	
26	0.7178	1169.2	1189.9	1189.8	0.958	3.376	70.072	22.995	2.226	0.100	0.235	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1404.46	
27	0.7177	1168.2	1188.9	1188.7	0.969	3.408	70.100	22.935	2.214	0.099	0.236	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1403.35	
28	0.7176	1168.8	1189.5	1189.3	0.968	3.358	70.146	22.932	2.223	0.100	0.235	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1404.25	
29	0.7174	1167.1	1187.7	1187.5	0.966	3.458	70.175	22.782	2.247	0.102	0.234	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1402.25	
30	0.7106	1154.6	1175.0	1174.8	0.981	3.553	71.891	20.643	2.547	0.105	0.241	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1393.85	
31	0.7161	1164.4	1185.0	1184.8	0.983	3.466	70.562	22.275	2.336	0.102	0.236	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1400.36	
Avg	0.7181	1162.0	1182.8	1182.6	1.017	3.732	70.107	22.471	2.297	0.101	0.237	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1395.84	

Source Daily Summary

March 2023

Source #: 043
Name: BISMARCK STN-CLEVELAND STN

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.7215	1145.3	1165.6	1164.7	0.794	5.412	70.849	18.347	4.192	0.127	0.255	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1372.28	
2	0.7191	1141.7	1161.9	1161.0	0.769	5.443	71.158	18.162	4.090	0.120	0.238	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1370.28	
3	0.7416	1160.4	1181.0	1179.8	0.845	6.302	67.867	19.268	5.220	0.156	0.317	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1371.38	
4	0.7460	1165.5	1186.1	1184.9	0.848	6.404	67.195	19.615	5.416	0.162	0.334	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1373.27	
5	0.7292	1151.5	1171.9	1170.8	0.762	5.815	69.618	18.834	4.498	0.148	0.300	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1372.28	
6	0.7342	1152.8	1173.2	1172.1	0.803	6.140	68.871	18.949	4.748	0.153	0.311	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1369.18	
7	0.7293	1149.4	1169.8	1168.7	0.783	5.917	69.588	18.749	4.490	0.147	0.301	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1369.75	
8	0.7268	1146.3	1166.6	1165.5	0.778	5.881	69.982	18.502	4.400	0.142	0.290	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1368.35	
9	0.7277	1145.9	1166.2	1165.1	0.768	5.987	69.622	18.648	4.496	0.144	0.294	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1367.02	
10	0.7324	1151.3	1171.7	1170.6	0.788	6.082	69.104	18.912	4.630	0.150	0.308	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1369.14	
11	0.7273	1150.0	1170.3	1169.1	0.832	5.616	69.964	18.763	4.356	0.144	0.299	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1372.34	
12	0.7308	1155.0	1175.4	1174.1	0.822	5.659	69.538	18.901	4.560	0.156	0.330	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1374.98	
13	0.7292	1166.9	1187.6	1186.3	0.767	4.857	69.571	20.149	4.122	0.152	0.336	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1390.90	
14	0.7482	1168.9	1189.6	1188.3	0.851	6.392	66.992	19.671	5.507	0.181	0.374	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1375.32	
15	0.7427	1164.8	1185.4	1184.3	0.844	6.138	67.764	19.494	5.217	0.166	0.346	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1375.52	
16	0.7491	1171.4	1192.2	1191.1	0.862	6.307	66.788	19.966	5.517	0.171	0.358	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1377.44	
17	0.7278	1152.0	1172.4	1171.4	0.840	5.533	69.809	19.019	4.369	0.133	0.275	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1374.22	
18	0.7296	1153.0	1173.4	1172.5	0.836	5.640	69.578	19.016	4.485	0.137	0.285	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1373.82	
19	0.7424	1164.3	1184.9	1183.8	0.852	6.127	67.694	19.683	5.127	0.159	0.332	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1375.24	
20	0.7474	1167.0	1187.6	1186.5	0.868	6.413	66.935	19.858	5.387	0.166	0.346	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1373.72	
21	0.7478	1166.1	1186.7	1186.1	0.871	6.500	66.883	19.775	5.437	0.165	0.342	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1372.32	
22	0.7526	1173.4	1194.2	1193.0	0.877	6.490	66.297	20.068	5.665	0.182	0.388	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1376.55	
23	0.7488	1170.3	1191.0	1190.2	0.880	6.319	66.777	20.046	5.409	0.172	0.366	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1376.42	
24	0.7481	1172.1	1192.8	1191.7	0.896	6.125	66.860	20.261	5.271	0.174	0.379	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1379.09	
25	0.7457	1167.4	1188.1	1186.8	0.889	6.196	67.071	20.190	5.121	0.162	0.342	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1375.81	
26	0.7475	1169.1	1189.8	1188.7	0.889	6.256	66.809	20.298	5.201	0.166	0.350	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1376.24	
27	0.7474	1166.3	1187.0	1185.9	0.904	6.400	66.886	19.984	5.277	0.166	0.353	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1372.95	
28	0.7483	1170.7	1191.4	1190.4	0.893	6.236	66.780	20.195	5.352	0.166	0.346	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1377.24	
29	0.7422	1161.5	1182.1	1181.0	0.888	6.235	67.481	19.958	4.968	0.147	0.299	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1372.05	
30	0.7435	1165.9	1186.6	1185.5	0.869	6.114	67.500	19.857	5.134	0.160	0.336	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1376.07	
31	0.7441	1165.5	1186.1	1185.1	0.871	6.193	67.499	19.660	5.235	0.166	0.346	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1374.99	
Avg	0.7387	1160.0	1180.9	1179.8	0.840	6.036	68.236	19.445	4.932	0.156	0.325	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1374.07	

Source Daily Summary

March 2023

Source #: 063
Name: CLEVELAND STN-MAPLETON

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.7218	1144.2	1164.4	1164.3	0.795	5.510	70.793	18.299	4.199	0.127	0.255	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1370.60	
2	0.7192	1142.7	1162.9	1162.8	0.794	5.362	71.192	18.181	4.080	0.123	0.244	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1371.27	
3	0.7260	1146.5	1166.8	1166.7	0.788	5.780	70.161	18.390	4.470	0.131	0.258	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1369.35	
4	0.7464	1165.1	1185.7	1185.6	0.861	6.439	67.140	19.626	5.416	0.162	0.328	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1372.51	
5	0.7399	1159.9	1180.4	1180.3	0.825	6.207	68.091	19.294	5.083	0.157	0.317	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1372.34	
6	0.7291	1149.7	1170.1	1169.9	0.770	5.900	69.606	18.784	4.473	0.146	0.295	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1370.28	
7	0.7358	1153.9	1174.3	1174.2	0.815	6.205	68.650	19.009	4.821	0.156	0.317	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1368.99	
8	0.7317	1149.2	1169.6	1169.4	0.802	6.120	69.217	18.787	4.601	0.149	0.301	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1367.32	
9	0.7274	1146.3	1166.6	1166.4	0.778	5.935	69.877	18.549	4.409	0.142	0.287	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1367.81	
10	0.7314	1149.8	1170.2	1170.0	0.788	6.078	69.249	18.840	4.576	0.147	0.298	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1368.28	
11	0.7332	1151.8	1172.2	1172.1	0.790	6.121	68.976	18.984	4.646	0.150	0.307	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1368.99	
12	0.7218	1144.9	1165.2	1165.1	0.849	5.382	70.800	18.460	4.077	0.134	0.274	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1371.53	
13	0.7326	1163.9	1184.5	1184.3	0.802	5.309	69.306	19.512	4.493	0.167	0.365	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1384.01	
14	0.7360	1167.4	1188.1	1187.9	0.801	5.425	68.500	20.209	4.550	0.153	0.325	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1384.92	
15	0.7475	1166.9	1187.6	1187.4	0.862	6.437	67.045	19.637	5.451	0.176	0.361	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1373.56	
16	0.7475	1170.0	1190.7	1190.6	0.856	6.250	67.040	19.874	5.419	0.172	0.357	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1377.27	
17	0.7412	1164.4	1185.0	1184.9	0.861	5.998	67.927	19.604	5.100	0.157	0.324	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1376.47	
18	0.7249	1148.0	1168.4	1168.3	0.839	5.496	70.231	18.808	4.216	0.127	0.260	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1372.33	
19	0.7355	1158.5	1179.1	1178.9	0.849	5.836	68.724	19.339	4.776	0.147	0.304	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1374.85	
20	0.7452	1165.7	1186.4	1186.2	0.868	6.286	67.250	19.817	5.254	0.162	0.336	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1374.26	
21	0.7480	1166.3	1187.0	1186.9	0.878	6.489	66.841	19.848	5.412	0.165	0.341	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1372.48	
22	0.7513	1169.8	1190.6	1190.4	0.881	6.587	66.388	19.983	5.604	0.172	0.356	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1373.51	
23	0.7524	1172.2	1193.0	1192.8	0.884	6.539	66.296	20.045	5.641	0.180	0.381	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1375.29	
24	0.7481	1169.3	1190.0	1189.9	0.892	6.295	66.845	20.082	5.326	0.170	0.358	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1375.91	
25	0.7478	1170.7	1191.4	1191.3	0.902	6.177	66.867	20.242	5.243	0.171	0.366	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1377.69	
26	0.7467	1167.7	1188.3	1188.2	0.896	6.264	66.901	20.252	5.154	0.162	0.339	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1375.20	
27	0.7471	1168.1	1188.8	1188.6	0.904	6.262	66.886	20.219	5.188	0.165	0.345	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1375.34	
28	0.7494	1169.0	1189.7	1189.6	0.908	6.418	66.656	20.043	5.411	0.171	0.361	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1374.28	
29	0.7462	1166.5	1187.2	1187.0	0.894	6.287	67.068	19.976	5.263	0.159	0.323	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1374.32	
30	0.7454	1166.3	1187.0	1186.8	0.904	6.210	67.170	20.007	5.216	0.155	0.311	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1374.84	
31	0.7456	1166.0	1186.6	1186.5	0.903	6.253	67.198	19.911	5.191	0.169	0.343	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1374.21	
Avg	0.7388	1160.0	1180.6	1180.4	0.846	6.060	68.222	19.439	4.928	0.156	0.321	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1373.55	

Source Daily Summary

March 2023

Source #: 061
Name: CLEVELAND STN-GRAFTON BDR

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.7218	1144.2	1164.5	1164.4	0.795	5.513	70.784	18.303	4.201	0.127	0.255	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1370.59	
2	0.7196	1143.3	1163.6	1163.5	0.795	5.360	71.136	18.216	4.099	0.124	0.247	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1371.63	
3	0.7258	1146.3	1166.6	1166.4	0.789	5.771	70.193	18.383	4.456	0.130	0.257	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1369.29	
4	0.7463	1164.9	1185.5	1185.4	0.863	6.445	67.149	19.616	5.410	0.162	0.329	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1372.31	
5	0.7404	1160.2	1180.7	1180.6	0.828	6.231	68.017	19.315	5.111	0.156	0.316	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1372.20	
6	0.7289	1149.7	1170.0	1169.9	0.769	5.887	69.635	18.781	4.459	0.147	0.296	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1370.42	
7	0.7363	1154.3	1174.8	1174.6	0.817	6.218	68.581	19.039	4.842	0.157	0.319	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1369.09	
8	0.7257	1132.9	1152.9	1152.8	1.003	6.250	70.428	17.474	4.332	0.139	0.350	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1353.40	
9	0.7276	1146.5	1166.8	1166.7	0.779	5.936	69.847	18.568	4.416	0.142	0.287	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1367.93	
10	0.7314	1149.8	1170.2	1170.1	0.788	6.082	69.239	18.840	4.580	0.147	0.299	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1368.28	
11	0.7337	1152.1	1172.5	1172.3	0.793	6.147	68.905	18.998	4.670	0.151	0.309	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1368.84	
12	0.7223	1145.4	1165.7	1165.6	0.847	5.398	70.732	18.486	4.100	0.135	0.277	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1371.69	
13	0.7320	1162.3	1182.8	1182.7	0.806	5.344	69.387	19.421	4.473	0.165	0.360	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1382.67	
14	0.7364	1167.6	1188.2	1188.1	0.802	5.449	68.454	20.197	4.580	0.155	0.326	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1384.75	
15	0.7480	1167.3	1187.9	1187.8	0.864	6.453	66.987	19.652	5.473	0.177	0.363	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1373.57	
16	0.7478	1170.4	1191.1	1191.0	0.855	6.257	66.996	19.895	5.433	0.172	0.358	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1377.42	
17	0.7425	1165.5	1186.1	1186.0	0.863	6.049	67.744	19.662	5.166	0.159	0.328	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1376.54	
18	0.7252	1148.7	1169.0	1168.9	0.840	5.492	70.181	18.839	4.236	0.128	0.262	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1372.73	
19	0.7351	1158.1	1178.6	1178.5	0.848	5.827	68.778	19.314	4.759	0.146	0.302	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1374.72	
20	0.7453	1165.8	1186.4	1186.3	0.869	6.285	67.247	19.817	5.256	0.162	0.336	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1374.29	
21	0.7478	1166.2	1186.9	1186.8	0.878	6.479	66.864	19.848	5.399	0.164	0.340	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1372.51	
22	0.7513	1169.7	1190.4	1190.3	0.881	6.593	66.390	19.976	5.603	0.172	0.355	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1373.37	
23	0.7527	1172.8	1193.6	1193.4	0.885	6.533	66.259	20.065	5.660	0.181	0.384	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1375.68	
24	0.7484	1169.7	1190.4	1190.2	0.893	6.306	66.801	20.091	5.348	0.170	0.359	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1375.99	
25	0.7477	1170.4	1191.1	1191.0	0.903	6.185	66.874	20.234	5.235	0.171	0.365	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1377.43	
26	0.7467	1167.7	1188.3	1188.2	0.897	6.262	66.908	20.247	5.153	0.162	0.340	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1375.20	
27	0.7469	1167.9	1188.6	1188.5	0.904	6.260	66.897	20.227	5.173	0.165	0.344	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1375.25	
28	0.7495	1168.9	1189.6	1189.4	0.908	6.431	66.649	20.032	5.414	0.171	0.362	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1374.05	
29	0.7467	1167.2	1187.8	1187.7	0.895	6.290	67.007	20.002	5.290	0.160	0.326	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1374.66	
30	0.7455	1166.3	1187.0	1186.9	0.904	6.217	67.152	20.017	5.215	0.155	0.311	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1374.77	
31	0.7456	1166.0	1186.6	1186.5	0.903	6.249	67.198	19.922	5.186	0.168	0.341	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1374.25	
Avg	0.7387	1160.0	1180.1	1180.0	0.854	6.071	68.239	19.403	4.927	0.156	0.323	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1373.08	

Source Daily Summary

March 2023

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

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.6687	1104.8	1124.3	1124.1	0.627	3.189	78.750	15.683	1.571	0.059	0.105	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1374.90	
2	0.6674	1103.2	1122.7	1122.4	0.569	3.251	78.859	15.654	1.502	0.054	0.097	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1374.26	
3	0.6563	1085.0	1104.2	1104.0	0.437	3.517	80.570	14.142	1.210	0.041	0.072	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1362.99	
4	0.6629	1098.5	1117.9	1117.7	0.387	3.390	79.204	15.668	1.235	0.038	0.067	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1373.10	
5	0.6669	1103.6	1123.2	1122.9	0.416	3.414	78.524	16.185	1.331	0.043	0.076	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1375.32	
6	0.6671	1103.4	1122.9	1122.7	0.451	3.397	78.592	16.034	1.388	0.046	0.081	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1374.77	
7	0.6717	1109.6	1129.3	1129.0	0.486	3.389	77.863	16.583	1.529	0.050	0.088	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1377.89	
8	0.6669	1101.8	1121.3	1121.1	0.490	3.409	78.772	15.723	1.452	0.050	0.089	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1373.07	
9	0.6661	1103.1	1122.6	1122.4	0.388	3.409	78.674	16.060	1.346	0.041	0.071	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1375.52	
10	0.6693	1107.7	1127.3	1127.1	0.414	3.388	78.106	16.576	1.384	0.044	0.077	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1377.98	
11	0.6678	1104.7	1124.2	1124.0	0.644	3.084	78.540	16.342	1.269	0.040	0.071	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1375.75	
12	0.6604	1094.0	1113.3	1113.1	0.797	2.815	79.964	15.277	1.048	0.033	0.059	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1369.95	
13	0.6600	1093.7	1113.0	1112.8	0.706	2.932	79.926	15.303	1.038	0.032	0.057	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1370.02	
14	0.6628	1098.5	1117.9	1117.7	0.604	3.052	79.278	15.896	1.078	0.031	0.054	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1373.19	
15	0.6588	1091.3	1110.7	1110.4	0.737	2.909	80.127	15.157	0.986	0.028	0.050	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1368.40	
16	0.6653	1100.9	1120.4	1120.2	0.782	2.865	79.040	16.093	1.117	0.035	0.061	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1373.71	
17	0.6640	1098.9	1118.3	1118.1	0.761	2.908	79.201	15.965	1.068	0.032	0.057	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1372.38	
18	0.6987	1127.8	1147.7	1147.5	0.788	4.361	74.151	17.493	2.918	0.089	0.183	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1373.47	
19	0.7047	1138.4	1158.5	1158.2	0.820	4.229	73.289	18.186	3.147	0.102	0.205	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1380.49	
20	0.7193	1147.6	1167.9	1167.6	0.819	5.034	71.089	18.758	3.902	0.123	0.252	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1377.57	
21	0.6747	1105.9	1125.5	1125.2	0.829	3.376	77.908	15.906	1.805	0.056	0.108	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1370.50	
22	0.7228	1146.3	1166.6	1166.2	0.890	5.336	70.762	18.379	4.189	0.134	0.285	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1372.48	
23	0.7160	1138.1	1158.2	1157.9	0.932	5.131	71.700	18.071	3.779	0.118	0.248	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1368.97	
24	0.7362	1160.8	1181.4	1181.0	0.916	5.668	68.667	19.531	4.695	0.155	0.337	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1376.89	
25	0.7016	1125.1	1145.0	1144.7	0.940	4.562	73.871	17.245	3.071	0.095	0.199	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1367.19	
26	0.6733	1098.2	1117.7	1117.3	0.992	3.464	78.137	15.612	1.639	0.049	0.099	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1362.15	
27	0.6713	1095.5	1114.9	1114.6	1.003	3.421	78.420	15.490	1.526	0.044	0.089	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1361.01	
28	0.6529	1078.7	1097.8	1097.5	1.004	2.719	81.304	14.201	0.714	0.019	0.035	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1358.67	
29	0.6513	1078.6	1097.7	1097.4	0.988	2.605	81.579	14.092	0.690	0.015	0.028	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1360.12	
30	0.6533	1080.5	1099.6	1099.3	0.948	2.735	81.348	14.020	0.884	0.021	0.040	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1360.44	
31	0.6834	1107.4	1127.0	1126.7	0.939	3.934	76.805	15.739	2.356	0.070	0.144	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1363.65	
Avg	0.6762	1107.0	1127.1	1126.8	0.726	3.577	77.517	16.163	1.834	0.058	0.112	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1370.86	

Source Daily Summary

March 2023

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

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	1105.9	1125.5	1125.3	0.586	3.104	78.834	15.752	1.547	0.058	0.102	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1377.19	
2	0.6589	1092.1	1111.5	1111.2	0.435	3.335	80.100	14.736	1.265	0.044	0.075	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1369.17	
3	0.6619	1099.4	1118.9	1118.7	0.354	3.293	79.324	15.714	1.206	0.037	0.064	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1375.24	
4	0.6653	1103.7	1123.3	1123.1	0.387	3.300	78.761	16.145	1.287	0.041	0.072	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1377.14	
5	0.6656	1103.5	1123.1	1122.9	0.397	3.325	78.764	16.052	1.331	0.044	0.076	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1376.54	
6	0.6679	1106.6	1126.2	1126.0	0.427	3.301	78.432	16.297	1.407	0.046	0.081	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1378.10	
7	0.6685	1106.7	1126.3	1126.1	0.474	3.287	78.451	16.157	1.479	0.051	0.090	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1377.50	
8	0.6646	1101.9	1121.4	1121.3	0.393	3.331	78.999	15.794	1.353	0.044	0.076	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1375.62	
9	0.6679	1108.1	1127.8	1127.6	0.382	3.285	78.282	16.588	1.338	0.042	0.074	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1379.91	
10	0.6764	1120.5	1140.3	1140.1	0.477	3.183	76.950	17.679	1.551	0.055	0.093	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1386.48	
11	0.6803	1126.6	1146.6	1146.4	0.390	3.309	75.992	18.631	1.533	0.049	0.086	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1390.12	
12	0.6744	1117.2	1136.9	1136.8	0.337	3.415	76.966	17.743	1.404	0.045	0.079	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1384.42	
13	0.6780	1124.8	1144.7	1144.5	0.293	3.351	76.186	18.642	1.408	0.041	0.071	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1390.25	
14	0.6817	1129.2	1149.2	1149.0	0.466	3.172	75.940	18.615	1.649	0.054	0.092	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1391.80	
15	0.6810	1130.0	1150.0	1149.8	0.452	3.079	75.948	18.842	1.529	0.051	0.088	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1393.51	
16	0.6797	1128.5	1148.5	1148.3	0.454	3.042	76.191	18.664	1.504	0.049	0.085	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1393.05	
17	0.6797	1128.4	1148.4	1148.2	0.404	3.123	76.104	18.736	1.502	0.046	0.077	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1392.93	
18	0.6802	1127.0	1146.9	1146.7	0.557	3.018	76.539	17.953	1.748	0.061	0.107	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1390.68	
19	0.6840	1131.5	1151.5	1151.3	0.600	3.040	75.861	18.501	1.801	0.066	0.115	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1392.33	
20	0.6793	1126.9	1146.8	1146.6	0.536	2.983	76.435	18.348	1.528	0.057	0.099	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1391.38	
21	0.6824	1133.8	1153.9	1153.7	0.301	3.205	75.232	19.813	1.338	0.039	0.065	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1396.84	
22	0.6827	1139.1	1159.3	1159.1	0.186	3.094	74.663	20.967	1.013	0.028	0.046	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1403.01	
23	0.6830	1141.9	1162.2	1162.0	0.157	2.990	74.483	21.374	0.932	0.024	0.039	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1406.23	
24	0.6759	1125.6	1145.5	1145.3	0.405	2.942	76.218	19.423	0.942	0.025	0.043	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1393.21	
25	0.6518	1079.4	1098.5	1098.3	0.968	2.631	81.505	14.108	0.733	0.020	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1360.65	
26	0.6542	1081.9	1101.1	1100.9	0.977	2.689	81.027	14.512	0.739	0.020	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1361.31	
27	0.6556	1083.6	1102.8	1102.6	0.967	2.728	80.759	14.723	0.768	0.020	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1362.08	
28	0.6531	1081.3	1100.5	1100.3	0.953	2.658	81.220	14.388	0.726	0.020	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1361.74	
29	0.6523	1084.9	1104.1	1103.8	0.861	2.513	81.187	14.768	0.628	0.016	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1366.90	
30	0.6505	1080.3	1099.4	1099.2	0.923	2.518	81.683	14.150	0.678	0.017	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1363.20	
31	0.6730	1128.4	1148.4	1148.2	0.334	2.603	76.285	20.236	0.516	0.010	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1399.70	
Avg	0.6703	1112.0	1131.9	1131.7	0.511	3.060	77.849	17.227	1.238	0.039	0.068	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1382.52	

Source Daily Summary

March 2023

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

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6662	1099.6	1119.0	1118.1	0.654	3.227	79.378	14.905	1.649	0.061	0.110	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1371.01	
2	0.6544	1081.5	1100.6	1099.6	0.480	3.484	81.110	13.502	1.292	0.043	0.077	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1360.56	
3	0.6588	1090.4	1109.7	1108.8	0.447	3.403	80.189	14.528	1.306	0.042	0.075	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1367.26	
4	0.6593	1090.5	1109.8	1108.9	0.487	3.383	80.185	14.465	1.344	0.045	0.080	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1366.86	
5	0.6569	1087.1	1106.3	1105.5	0.515	3.327	80.681	14.024	1.316	0.045	0.080	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1364.97	
6	0.6698	1106.6	1126.2	1125.4	0.499	3.375	78.289	16.133	1.552	0.050	0.090	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1376.04	
7	0.6708	1108.0	1127.6	1126.8	0.528	3.337	78.160	16.234	1.584	0.052	0.093	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1376.83	
8	0.6666	1103.2	1122.7	1121.8	0.469	3.325	78.808	15.795	1.463	0.046	0.081	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1375.14	
9	0.6672	1103.1	1122.7	1121.7	0.443	3.422	78.643	15.898	1.453	0.046	0.083	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1374.48	
10	0.6789	1119.5	1139.3	1138.4	0.525	3.407	76.671	17.489	1.732	0.058	0.104	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1382.72	
11	0.6741	1111.0	1130.7	1129.8	0.460	3.568	77.485	16.657	1.664	0.055	0.098	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1377.16	
12	0.6772	1118.7	1138.5	1137.4	0.398	3.489	76.737	17.577	1.650	0.049	0.087	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1383.50	
13	0.6840	1127.9	1147.9	1146.8	0.580	3.287	75.948	18.051	1.946	0.062	0.110	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1387.92	
14	0.6776	1117.7	1137.5	1136.5	0.615	3.250	77.169	16.961	1.817	0.062	0.110	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1381.91	
15	0.6740	1113.3	1133.0	1132.1	0.563	3.270	77.638	16.702	1.659	0.055	0.098	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1379.99	
16	0.6753	1116.5	1136.3	1135.3	0.445	3.369	77.108	17.360	1.585	0.045	0.078	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1382.74	
17	0.6723	1110.3	1130.0	1129.4	0.557	3.294	78.085	16.149	1.741	0.057	0.101	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1378.11	
18	0.6718	1109.7	1129.3	1128.7	0.532	3.320	78.104	16.181	1.695	0.056	0.098	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1377.90	
19	0.6795	1119.1	1139.0	1138.3	0.552	3.443	76.618	17.440	1.764	0.061	0.108	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1381.68	
20	0.6839	1128.8	1148.8	1147.7	0.530	3.299	75.753	18.426	1.818	0.058	0.102	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1389.18	
21	0.6834	1127.2	1147.1	1145.9	0.559	3.308	75.941	18.156	1.852	0.061	0.108	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1387.65	
22	0.6892	1137.5	1157.7	1156.5	0.545	3.242	74.759	19.407	1.869	0.060	0.105	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1394.52	
23	0.6916	1141.1	1161.3	1160.1	0.617	3.143	74.557	19.449	2.034	0.066	0.117	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1396.40	
24	0.6958	1147.2	1167.5	1166.9	0.660	3.100	73.836	20.092	2.102	0.070	0.123	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1399.65	
25	0.7020	1154.4	1174.8	1174.4	0.905	2.867	73.385	20.089	2.473	0.092	0.165	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1402.19	
26	0.6905	1138.4	1158.5	1158.1	0.870	2.816	74.956	19.247	1.921	0.063	0.111	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1394.25	
27	0.6857	1132.0	1152.0	1151.6	0.827	2.827	75.577	18.923	1.691	0.052	0.091	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1391.19	
28	0.6796	1124.5	1144.5	1144.1	0.754	2.823	76.357	18.571	1.374	0.041	0.071	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1388.21	
29	0.6828	1129.0	1149.0	1148.7	0.735	2.877	75.909	18.758	1.591	0.044	0.076	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1390.49	
30	0.6811	1126.4	1146.4	1146.0	0.703	2.923	76.072	18.731	1.446	0.042	0.074	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1389.04	
31	0.6800	1124.1	1144.0	1143.1	0.696	2.971	76.412	18.232	1.558	0.045	0.077	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1387.29	
Avg	0.6768	1118.0	1137.3	1136.5	0.586	3.232	77.114	17.230	1.676	0.054	0.096	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1382.48	

Source Daily Summary

March 2023

Source #: 111
Name: LITTLE KNIFE PLANT

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.6868	1156.3	1176.8	1175.0	0.000	2.718	72.993	23.846	0.428	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.98	-26.40
2	0.6863	1155.6	1176.1	1174.3	0.000	2.712	73.105	23.737	0.432	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.66	-26.64
3	0.6866	1155.7	1176.2	1174.2	0.000	2.734	73.049	23.763	0.439	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.48	-26.51
4	0.6869	1156.3	1176.7	1174.7	0.000	2.733	72.987	23.819	0.445	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.77	-26.32
5	0.6871	1156.4	1176.9	1175.1	0.000	2.745	72.923	23.892	0.425	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.72	-26.31
6	0.6858	1152.8	1173.2	1172.2	0.000	2.831	73.166	23.586	0.402	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.77	-27.29
7	0.6860	1152.8	1173.3	1171.9	0.000	2.856	73.167	23.503	0.457	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.51	-27.00
8	0.6867	1154.3	1174.7	1173.2	0.000	2.834	73.085	23.549	0.514	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.56	-26.37
9	0.6874	1155.9	1176.4	1174.5	0.000	2.784	72.907	23.637	0.633	0.008	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.87	-25.05
10	0.6846	1150.5	1170.9	1169.5	0.000	2.864	73.688	22.743	0.683	0.009	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.11	-26.88
11	0.6853	1151.6	1172.0	1171.0	0.000	2.888	73.996	22.420	0.674	0.009	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.75	-27.78
12	0.6859	1152.6	1173.0	1171.6	0.000	2.888	73.996	22.420	0.674	0.009	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.34	-27.78
13	0.6866	1153.7	1174.1	1172.8	0.000	2.858	73.065	23.587	0.473	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.98	-26.64
14	0.6879	1156.5	1177.0	1175.4	0.000	2.802	72.910	23.709	0.560	0.008	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.17	-25.55
15	0.6889	1158.5	1179.0	1177.4	0.000	2.783	72.772	23.795	0.630	0.008	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.44	-24.72
16	0.6898	1159.8	1180.4	1178.8	0.000	2.780	72.633	23.905	0.661	0.009	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.24	-24.16
17	0.6893	1158.6	1179.1	1177.5	0.000	2.814	72.678	23.867	0.621	0.008	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.17	-24.62
18	0.6878	1156.3	1176.8	1174.7	0.000	2.807	72.835	23.871	0.471	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.02	-25.95
19	0.6873	1155.8	1176.3	1174.7	0.000	2.789	72.891	23.880	0.426	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.92	-26.34
20	0.6879	1157.3	1177.8	1176.5	0.000	2.760	72.762	24.041	0.423	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.07	-25.96
21	0.6877	1156.7	1177.1	1175.2	0.000	2.785	72.805	23.961	0.433	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.43	-26.07
22	0.6880	1157.9	1178.4	1176.2	0.000	2.730	72.791	24.007	0.457	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.71	-25.74
23	0.6878	1157.9	1178.4	1176.4	0.000	2.719	72.823	23.983	0.461	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.83	-25.77
24	0.6874	1157.5	1178.0	1176.1	0.000	2.697	72.926	23.902	0.461	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.86	-25.98
25	0.6875	1157.6	1178.1	1176.3	0.000	2.708	72.877	23.941	0.460	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.79	-25.89
26	0.6873	1157.0	1177.5	1175.8	0.000	2.717	72.935	23.876	0.457	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.37	-26.08
27	0.6874	1157.6	1178.1	1176.5	0.000	2.695	72.917	23.912	0.461	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.92	-25.95
28	0.6869	1156.8	1177.3	1175.0	0.000	2.697	73.009	23.824	0.456	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.47	-26.22
29	0.6875	1157.6	1178.1	1175.8	0.000	2.704	72.886	23.936	0.460	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.86	-25.90
30	0.6868	1156.6	1177.1	1175.0	0.000	2.696	73.024	23.821	0.444	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.40	-26.32
31	0.6871	1156.9	1177.4	1175.3	0.000	2.703	72.971	23.861	0.451	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.49	-26.17
Avg	0.6872	1156.0	1176.5	1174.8	0.000	2.769	73.018	23.697	0.499	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.28	-26.14

Source Daily Summary

March 2023

Source #: 351
Name: BADLANDS PLANT

Pressure Base:	14.730	Contract Day:	1
Temperature Base:	60	Contract Hour:	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	0.6349	1050.0	1068.6	1068.3	0.538	3.483	84.765	10.164	0.939	0.036	0.065	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1341.09	
2	0.6345	1049.5	1068.1	1067.8	0.534	3.485	84.824	10.111	0.935	0.036	0.064	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1340.86	
3	0.6348	1050.1	1068.7	1068.5	0.535	3.470	84.778	10.167	0.937	0.036	0.064	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1341.37	
4	0.6349	1050.4	1069.0	1068.7	0.538	3.459	84.761	10.192	0.938	0.036	0.064	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1341.61	
5	0.6348	1050.2	1068.8	1068.6	0.537	3.459	84.783	10.173	0.936	0.036	0.064	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1341.52	
6	0.6350	1050.9	1069.5	1069.3	0.537	3.445	84.736	10.232	0.938	0.036	0.064	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1342.05	
7	0.6344	1049.7	1068.3	1068.1	0.532	3.460	84.853	10.116	0.930	0.035	0.064	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1341.32	
8	0.6336	1048.3	1066.8	1066.6	0.528	3.477	85.003	9.962	0.919	0.035	0.063	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1340.31	
9	0.6335	1048.2	1066.8	1066.6	0.524	3.480	85.009	9.958	0.919	0.035	0.063	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1340.34	
10	0.6359	1052.7	1071.3	1071.1	0.515	3.443	84.570	10.402	0.956	0.036	0.065	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1343.55	
11	0.6353	1052.0	1070.6	1070.4	0.515	3.431	84.669	10.332	0.941	0.036	0.063	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1343.25	
12	0.6360	1052.9	1071.6	1071.3	0.509	3.449	84.537	10.436	0.957	0.036	0.064	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1343.72	
13	0.6359	1052.8	1071.4	1071.1	0.501	3.465	84.538	10.427	0.958	0.036	0.064	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1343.58	
14	0.6367	1054.5	1073.2	1072.9	0.513	3.419	84.411	10.567	0.977	0.037	0.065	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1344.93	
15	0.6375	1056.0	1074.7	1074.4	0.513	3.404	84.273	10.703	0.991	0.038	0.066	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1345.94	
16	0.6357	1052.5	1071.1	1070.9	0.501	3.464	84.585	10.377	0.960	0.037	0.065	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1343.44	
17	0.6355	1052.4	1071.0	1070.8	0.492	3.472	84.602	10.368	0.956	0.036	0.063	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1343.44	
18	0.6373	1055.5	1074.2	1074.0	0.513	3.404	84.273	10.703	0.992	0.038	0.066	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1345.59	
19	0.6390	1058.7	1077.4	1077.1	0.498	3.378	83.775	11.228	1.009	0.037	0.064	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1347.80	
20	0.6408	1061.8	1080.6	1080.4	0.498	3.378	83.775	11.228	1.009	0.037	0.064	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1349.90	
21	0.6380	1057.4	1076.1	1075.9	0.503	3.374	84.156	10.874	0.982	0.036	0.063	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1347.30	
22	0.6446	1068.1	1087.0	1086.7	0.487	3.373	82.881	12.070	1.075	0.038	0.066	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1353.88	
23	0.6648	1101.1	1120.6	1120.3	0.451	3.316	79.060	15.655	1.394	0.041	0.073	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1374.22	
24	0.6829	1128.3	1148.2	1147.9	0.376	3.481	75.534	18.811	1.662	0.045	0.081	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1389.43	
25	0.6906	1139.7	1159.9	1159.6	0.488	3.333	74.400	19.728	1.870	0.059	0.108	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1395.74	
26	0.6810	1127.0	1147.0	1146.7	0.675	2.917	76.385	18.203	1.644	0.057	0.104	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1389.80	
27	0.6488	1077.5	1096.6	1096.3	0.545	3.098	82.364	12.588	1.262	0.048	0.083	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1361.47	
28	0.5952	997.3	1015.0	1014.7	0.219	3.443	91.791	4.093	0.386	0.020	0.025	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1315.13	
29	0.5723	962.5	979.6	979.3	0.108	3.578	95.994	0.296	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.86	
30	0.5723	962.6	979.6	979.4	0.108	3.571	96.003	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.99	
31	0.5722	962.6	979.7	979.4	0.108	3.568	96.006	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.05	
Avg	0.6348	1053.0	1071.3	1071.1	0.466	3.419	84.713	10.347	0.949	0.035	0.061	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1344.43	

March-23

ZONE 550

MANDAN BORDER

		NBPL - St Anthony			WBI-MandanBorder			Weighted	
Start Date	End Date	MCF	DK	BTU	MCF	DK	BTU Zone 28	AVG BTU	
3/1/2023	3/2/2023	2490	2740	1100.6	5,221	5,874	1124.3	1116.647	3/1/2023
3/2/2023	3/3/2023	1604	1764	1099.5	4,152	4,663	1122.7	1116.235	3/2/2023
3/3/2023	3/4/2023	1620	1781	1099.6	3,171	3,514	1104.2	1102.645	3/3/2023
3/4/2023	3/5/2023	1621	1786	1101.8	3,091	3,459	1117.9	1112.361	3/4/2023
3/5/2023	3/6/2023	1658	1837	1107.7	3,911	4,393	1123.2	1118.585	3/5/2023
3/6/2023	3/7/2023	1664	1843	1107.4	5,471	6,144	1122.9	1119.285	3/6/2023
3/7/2023	3/8/2023	1602	1772	1105.9	5,772	6,520	1129.3	1124.216	3/7/2023
3/8/2023	3/9/2023	1597	1753	1097.9	4,970	5,573	1121.3	1115.609	3/8/2023
3/9/2023	3/10/2023	1590	1747	1099	4,503	5,057	1122.6	1116.441	3/9/2023
3/10/2023	3/11/2023	1608	1763	1096.1	4,184	4,718	1127.3	1118.638	3/10/2023
3/11/2023	3/12/2023	1623	1777	1095.1	3,718	4,179	1123.8	1115.079	3/11/2023
3/12/2023	3/13/2023	1587	1732	1091.4	5,115	5,686	1113.3	1108.114	3/12/2023
3/13/2023	3/14/2023	1580	1721	1089.1	4,915	5,470	1113	1107.186	3/13/2023
3/14/2023	3/15/2023	1649	1800	1091.5	3,243	3,625	1117.9	1109.001	3/14/2023
3/15/2023	3/16/2023	1659	1811	1091.5	3,743	4,156	1110.7	1104.804	3/15/2023
3/16/2023	3/17/2023	1661	1817	1094.3	4,119	4,613	1120.4	1112.900	3/16/2023
3/17/2023	3/18/2023	1637	1787	1091.5	6,056	6,773	1118.3	1112.597	3/17/2023
3/18/2023	3/19/2023	1610	1753	1089	4,743	5,470	1147.7	1132.824	3/18/2023
3/19/2023	3/20/2023	1620	1764	1088.9	3,745	4,373	1158.5	1137.484	3/19/2023
3/20/2023	3/21/2023	1619	1763	1088.8	4,576	5,377	1167.9	1147.228	3/20/2023
3/21/2023	3/22/2023	1642	1798	1094.9	4,587	5,165	1125.5	1117.434	3/21/2023
3/22/2023	3/23/2023	2338	2566	1097.5	4,200	4,924	1166.6	1141.890	3/22/2023
3/23/2023	3/24/2023	1639	1796	1096.1	3,873	4,495	1158.2	1139.734	3/23/2023
3/24/2023	3/25/2023	1627	1778	1093.2	3,322	3,926	1181.4	1152.404	3/24/2023
3/25/2023	3/26/2023	1638	1800	1098.7	4,165	4,748	1145	1131.931	3/25/2023
3/26/2023	3/27/2023	1625	1785	1098.6	3,714	4,147	1117.7	1111.887	3/26/2023
3/27/2023	3/28/2023	1639	1800	1098.5	3,899	4,349	1114.9	1110.046	3/27/2023
3/28/2023	3/29/2023	1615	1767	1094.7	5,018	5,507	1097.8	1097.045	3/28/2023
3/29/2023	3/30/2023	1593	1747	1096.3	4,454	4,888	1097.7	1097.331	3/29/2023
3/30/2023	3/31/2023	1620	1772	1094.2	3,360	3,694	1099.6	1097.843	3/30/2023
3/31/2023	4/1/2023	1656	1817	1097.3	4,039	4,589	1127	1118.364	3/31/2023
		51,931	56,937	1096.3419	133,050	150,069	1127.0516	1118.1868	



Alliance Pipeline

DAILY ANALYSIS --- USA
 ND07MD1 --- Hankinson Sales
 March 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	1,153.320	0.6578	84.9506	9.2183	3.6402	0.3459	0.5498	0.0603	0.0474	0.0231	0.7976	0.3562	0.0106
2	1,154.255	0.6583	84.9142	9.1580	3.7610	0.3411	0.5329	0.0596	0.0487	0.0232	0.8033	0.3477	0.0106
3	1,153.773	0.6584	84.8383	9.2002	3.7649	0.3380	0.5274	0.0578	0.0447	0.0222	0.8549	0.3409	0.0106
4	1,153.811	0.6585	84.8154	9.2899	3.6690	0.3435	0.5546	0.0589	0.0458	0.0209	0.8420	0.3493	0.0107
5	1,153.698	0.6578	84.9515	9.2488	3.5779	0.3576	0.5877	0.0577	0.0440	0.0234	0.7956	0.3459	0.0099
6	1,155.037	0.6589	84.8054	9.2751	3.6781	0.3536	0.5930	0.0561	0.0424	0.0211	0.8205	0.3446	0.0099
7	1,151.936	0.6573	84.9495	9.2571	3.5722	0.3403	0.5707	0.0526	0.0400	0.0182	0.8295	0.3599	0.0099
8	1,153.093	0.6579	84.8934	9.2674	3.6361	0.3431	0.5657	0.0520	0.0403	0.0184	0.8146	0.3586	0.0105
9	1,152.769	0.6580	84.8883	9.2560	3.6021	0.3478	0.5736	0.0557	0.0438	0.0202	0.8439	0.3582	0.0103
10	1,152.256	0.6572	84.9463	9.3125	3.5230	0.3464	0.5721	0.0544	0.0448	0.0204	0.8193	0.3503	0.0105
11	1,151.270	0.6564	85.0658	9.2866	3.3899	0.3533	0.6140	0.0552	0.0443	0.0208	0.8235	0.3358	0.0108
12	1,140.800	0.6470	86.2380	8.9744	2.9502	0.3148	0.4882	0.0505	0.0413	0.0226	0.5855	0.3230	0.0115
13	1,145.177	0.6521	85.5842	9.1142	3.1732	0.3355	0.5490	0.0539	0.0412	0.0235	0.7752	0.3390	0.0111
14	1,143.859	0.6518	85.4994	9.2533	3.1138	0.3231	0.5253	0.0522	0.0410	0.0202	0.8075	0.3534	0.0111
15	1,153.038	0.6572	85.0419	9.2157	3.5465	0.3527	0.5934	0.0541	0.0425	0.0231	0.7674	0.3520	0.0106
16	1,149.689	0.6554	85.1443	9.2207	3.5283	0.3246	0.5123	0.0504	0.0396	0.0200	0.7983	0.3510	0.0106
17	1,148.548	0.6545	85.1996	9.2627	3.4677	0.3184	0.4891	0.0516	0.0410	0.0191	0.7884	0.3517	0.0108
18	1,147.133	0.6536	85.2870	9.2543	3.4105	0.3120	0.4771	0.0511	0.0389	0.0192	0.7933	0.3456	0.0110
19	1,147.623	0.6542	85.2040	9.2652	3.4410	0.3136	0.4828	0.0517	0.0400	0.0205	0.8280	0.3426	0.0108
20	1,146.624	0.6535	85.2600	9.2758	3.4051	0.3045	0.4674	0.0503	0.0403	0.0205	0.8280	0.3377	0.0104
21	1,148.420	0.6546	85.1476	9.3212	3.4326	0.3152	0.5037	0.0506	0.0377	0.0199	0.8197	0.3413	0.0105
22	1,149.458	0.6554	85.1245	9.2792	3.3887	0.3364	0.5760	0.0509	0.0387	0.0201	0.8337	0.3411	0.0107
23	1,149.422	0.6556	85.1863	9.1487	3.4026	0.3436	0.5986	0.0552	0.0414	0.0210	0.8479	0.3438	0.0108
24	1,148.665	0.6550	85.2720	9.1118	3.3554	0.3459	0.6009	0.0555	0.0428	0.0213	0.8434	0.3403	0.0107
25	1,145.212	0.6527	85.5037	9.0619	3.2326	0.3304	0.5705	0.0530	0.0397	0.0201	0.8427	0.3347	0.0108
26	1,144.052	0.6515	85.6523	9.0484	3.1712	0.3244	0.5505	0.0521	0.0404	0.0200	0.7989	0.3310	0.0108
27	1,142.206	0.6498	85.9334	8.8597	3.1164	0.3273	0.5509	0.0515	0.0397	0.0200	0.7648	0.3252	0.0110
28	1,143.205	0.6506	85.8433	8.8976	3.1348	0.3311	0.5632	0.0535	0.0426	0.0210	0.7790	0.3235	0.0106
29	1,145.052	0.6521	85.6533	8.9656	3.1980	0.3382	0.5811	0.0549	0.0446	0.0208	0.8016	0.3311	0.0107
30	1,145.925	0.6530	85.4597	9.1025	3.2721	0.3291	0.5479	0.0551	0.0430	0.0202	0.8306	0.3295	0.0104
31	1,145.752	0.6531	85.3939	9.1299	3.3589	0.3152	0.5007	0.0532	0.0416	0.0190	0.8420	0.3353	0.0103
Volume	1,148.876	0.6548	85.2478	9.1769	3.4179	0.3337	0.5471	0.0539	0.0421	0.0208	0.8068	0.3425	0.0106
Weight Avg Energy	1,148.890	0.6548	85.2466	9.1772	3.4186	0.3337	0.5472	0.0539	0.0421	0.0208	0.8069	0.3425	0.0106



Alliance Pipeline

DAILY ANALYSIS --- USA
 ND14MD1 --- Milnor Sales
 March 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	1,153.627	0.6580	84.9422	9.1917	3.6646	0.3479	0.5529	0.0611	0.0486	0.0231	0.8016	0.3557	0.0107
2	1,154.250	0.6583	84.9036	9.1702	3.7615	0.3403	0.5310	0.0591	0.0481	0.0232	0.8057	0.3467	0.0105
3	1,153.714	0.6584	84.8321	9.2173	3.7554	0.3376	0.5271	0.0574	0.0444	0.0220	0.8563	0.3398	0.0106
4	1,153.664	0.6581	84.8889	9.2447	3.6459	0.3469	0.5637	0.0595	0.0464	0.0218	0.8232	0.3484	0.0107
5	1,154.111	0.6583	84.8900	9.2508	3.6065	0.3594	0.5964	0.0573	0.0432	0.0229	0.8164	0.3472	0.0098
6	1,155.017	0.6589	84.7896	9.3001	3.6734	0.3518	0.5907	0.0558	0.0423	0.0205	0.8188	0.3471	0.0099
7	1,152.091	0.6574	84.9475	9.2506	3.5808	0.3416	0.5715	0.0526	0.0401	0.0183	0.8294	0.3578	0.0099
8	1,152.821	0.6577	84.9087	9.2623	3.6278	0.3418	0.5629	0.0520	0.0403	0.0185	0.8156	0.3594	0.0106
9	1,152.572	0.6579	84.9038	9.2485	3.5876	0.3487	0.5748	0.0563	0.0448	0.0205	0.8440	0.3606	0.0104
10	1,152.371	0.6573	84.9419	9.3163	3.5200	0.3475	0.5767	0.0541	0.0446	0.0204	0.8195	0.3486	0.0105
11	1,150.249	0.6555	85.1663	9.2764	3.3410	0.3490	0.5990	0.0548	0.0444	0.0214	0.7990	0.3377	0.0109
12	1,140.276	0.6466	86.2817	8.9534	2.9361	0.3132	0.4845	0.0503	0.0408	0.0219	0.5848	0.3218	0.0115
13	1,145.354	0.6526	85.5056	9.1422	3.1750	0.3384	0.5578	0.0543	0.0410	0.0243	0.8077	0.3427	0.0111
14	1,145.205	0.6525	85.4314	9.2563	3.1792	0.3258	0.5321	0.0525	0.0415	0.0196	0.7968	0.3538	0.0110
15	1,152.821	0.6571	85.0509	9.2169	3.5397	0.3513	0.5900	0.0539	0.0422	0.0237	0.7709	0.3501	0.0106
16	1,149.214	0.6551	85.1552	9.2327	3.5191	0.3205	0.5009	0.0500	0.0396	0.0192	0.8010	0.3513	0.0106
17	1,148.508	0.6545	85.2031	9.2687	3.4617	0.3181	0.4882	0.0517	0.0411	0.0191	0.7869	0.3506	0.0109
18	1,146.901	0.6535	85.2996	9.2541	3.3983	0.3115	0.4765	0.0510	0.0388	0.0191	0.7949	0.3452	0.0109
19	1,147.639	0.6543	85.2005	9.2593	3.4478	0.3125	0.4821	0.0516	0.0403	0.0211	0.8330	0.3411	0.0108
20	1,146.899	0.6536	85.2515	9.2825	3.4095	0.3056	0.4699	0.0508	0.0402	0.0204	0.8225	0.3367	0.0104
21	1,148.705	0.6549	85.1310	9.3187	3.4336	0.3185	0.5144	0.0507	0.0378	0.0200	0.8231	0.3416	0.0105
22	1,149.117	0.6552	85.1522	9.2617	3.3849	0.3347	0.5713	0.0507	0.0386	0.0202	0.8330	0.3418	0.0107
23	1,149.596	0.6558	85.1776	9.1412	3.4042	0.3457	0.6052	0.0560	0.0422	0.0212	0.8522	0.3438	0.0108
24	1,148.057	0.6547	85.3020	9.1114	3.3362	0.3424	0.5942	0.0546	0.0420	0.0211	0.8455	0.3400	0.0107
25	1,144.929	0.6525	85.5293	9.0616	3.2194	0.3290	0.5663	0.0527	0.0395	0.0202	0.8391	0.3321	0.0108
26	1,143.884	0.6512	85.6804	9.0434	3.1609	0.3244	0.5482	0.0519	0.0404	0.0196	0.7876	0.3324	0.0108
27	1,142.341	0.6499	85.9362	8.8550	3.1157	0.3287	0.5541	0.0520	0.0401	0.0205	0.7645	0.3223	0.0110
28	1,143.656	0.6510	85.7898	8.9121	3.1571	0.3322	0.5682	0.0533	0.0425	0.0205	0.7900	0.3238	0.0105
29	1,145.024	0.6520	85.6619	8.9733	3.1879	0.3382	0.5793	0.0554	0.0452	0.0212	0.7973	0.3296	0.0107
30	1,145.966	0.6531	85.4240	9.1147	3.2957	0.3262	0.5403	0.0545	0.0422	0.0198	0.8383	0.3338	0.0104
31	1,146.136	0.6532	85.3701	9.1483	3.3677	0.3157	0.5009	0.0535	0.0423	0.0192	0.8381	0.3339	0.0104
Volume	1,148.770	0.6547	85.2565	9.1730	3.4132	0.3335	0.5472	0.0539	0.0421	0.0208	0.8067	0.3426	0.0106
Weight Avg Energy	1,148.787	0.6548	85.2550	9.1733	3.4141	0.3336	0.5472	0.0539	0.0421	0.0208	0.8069	0.3426	0.0106

March-23

ZONE 610

Watford City

		Watford City West Border			Watford City East Border			Weighted	
Start Date	End Date	MCF	DK	BTU Zone 25	MCF	DK	BTU Zone 43	AVG BTU	
3/1/2023	3/2/2023	459	544	1183.4	1,017	1,134	1115.9	1136.891	3/1/2023
3/2/2023	3/3/2023	338	400	1183.4	825	921	1115.9	1135.517	3/2/2023
3/3/2023	3/4/2023	341	404	1183.4	852	951	1115.9	1135.194	3/3/2023
3/4/2023	3/5/2023	332	393	1183.4	748	835	1115.9	1136.650	3/4/2023
3/5/2023	3/6/2023	431	511	1183.4	961	1,073	1115.9	1136.800	3/5/2023
3/6/2023	3/7/2023	513	607	1183.4	1,165	1,300	1115.9	1136.536	3/6/2023
3/7/2023	3/8/2023	509	603	1183.4	1,203	1,342	1115.9	1135.969	3/7/2023
3/8/2023	3/9/2023	473	559	1183.4	1,174	1,310	1115.9	1135.285	3/8/2023
3/9/2023	3/10/2023	454	537	1183.4	1,045	1,166	1115.9	1136.344	3/9/2023
3/10/2023	3/11/2023	443	525	1183.4	923	1,030	1115.9	1137.791	3/10/2023
3/11/2023	3/12/2023	421	498	1183.4	853	952	1115.9	1138.206	3/11/2023
3/12/2023	3/13/2023	462	546	1183.4	1,047	1,169	1115.9	1136.566	3/12/2023
3/13/2023	3/14/2023	398	471	1183.4	868	968	1115.9	1137.120	3/13/2023
3/14/2023	3/15/2023	271	321	1183.4	624	697	1115.9	1136.339	3/14/2023
3/15/2023	3/16/2023	387	458	1183.4	796	889	1115.9	1137.982	3/15/2023
3/16/2023	3/17/2023	383	453	1183.4	856	955	1115.9	1136.766	3/16/2023
3/17/2023	3/18/2023	526	623	1183.4	1,142	1,275	1115.9	1137.186	3/17/2023
3/18/2023	3/19/2023	401	475	1183.4	885	987	1115.9	1136.948	3/18/2023
3/19/2023	3/20/2023	362	428	1183.4	834	931	1115.9	1136.331	3/19/2023
3/20/2023	3/21/2023	410	485	1183.4	841	938	1115.9	1138.022	3/20/2023
3/21/2023	3/22/2023	378	447	1183.4	866	966	1115.9	1136.410	3/21/2023
3/22/2023	3/23/2023	415	492	1183.4	951	1,061	1115.9	1136.407	3/22/2023
3/23/2023	3/24/2023	315	373	1183.4	714	797	1115.9	1136.563	3/23/2023
3/24/2023	3/25/2023	259	306	1183.4	613	684	1115.9	1135.949	3/24/2023
3/25/2023	3/26/2023	311	368	1183.4	713	795	1115.9	1136.400	3/25/2023
3/26/2023	3/27/2023	332	393	1183.4	704	786	1115.9	1137.531	3/26/2023
3/27/2023	3/28/2023	356	421	1183.4	785	876	1115.9	1136.960	3/27/2023
3/28/2023	3/29/2023	437	517	1183.4	1,005	1,122	1115.9	1136.356	3/28/2023
3/29/2023	3/30/2023	345	409	1183.4	780	870	1115.9	1136.600	3/29/2023
3/30/2023	3/31/2023	320	379	1183.4	707	789	1115.9	1136.932	3/30/2023
3/31/2023	4/1/2023	300	355	1183.4	639	713	1115.9	1137.465	3/31/2023
		12,082	14,301	1183.4000	27,136	30,282	1115.9000	1136.7102	

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	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/1/2023	3/2/2023	1100	0.6517	-46.6	1362.601381	0.9441	2.5405	81.4542	14.2104	0.7646	0.0166	0.0292	0.0009	0.0006	N/A	0	0.0146	0.0245	6.9618	0.0024	0.0008	0.478
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/2/2023	3/3/2023	1099	0.651	-47.4	1362.094371	0.9478	2.507	81.5657	14.1845	0.7125	0.0159	0.0278	0.0006	0.0003	N/A	0	0.0146	0.0235	6.9618	0.0033	0.0009	0.4107
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/3/2023	3/4/2023	1099	0.6507	-47.4	1362.408326	0.941	2.4988	81.6148	14.1481	0.7107	0.0167	0.0301	0.0011	0.0006	N/A	0	0.0145	0.0237	6.9618	0.0031	0.0009	0.4278
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/4/2023	3/5/2023	1102	0.6541	-45.4	1362.572187	0.9604	2.6112	80.9689	14.6271	0.7403	0.0178	0.0323	0.0015	0.0012	N/A	0	0.015	0.0246	6.9618	0.0032	0.0009	0.4554
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/5/2023	3/6/2023	1107	0.6604	-41.7	1362.210077	1.0062	2.8164	79.7846	15.4603	0.8296	0.0205	0.0378	0.0017	0.0015	N/A	0	0.0157	0.0259	6.9618	0.0028	0.0008	0.485
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/6/2023	3/7/2023	1107	0.6606	-41.8	1362.003853	1.0186	2.9417	79.7303	15.5017	0.8045	0.0204	0.0374	0.0018	0.0016	N/A	0	0.0161	0.026	6.9618	0.0028	0.0008	0.4461
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/7/2023	3/8/2023	1105	0.6592	-42.9	1360.986065	1.0163	2.8404	79.9693	15.3144	0.7581	0.0193	0.0367	0.0018	0.0015	N/A	0	0.016	0.0264	6.9618	0.0028	0.0007	0.4223
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/8/2023	3/9/2023	1097	0.6525	-47.1	1358.051907	0.9973	2.6989	81.2532	14.259	0.7056	0.0157	0.0279	0.0011	0.0008	N/A	0	0.0154	0.0253	6.9618	0.0028	0.0007	0.4261
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/9/2023	3/10/2023	1099	0.6527	-46.3	1360.319382	0.9824	2.6475	81.2917	14.2341	0.7473	0.0192	0.0353	0.0016	0.0013	N/A	0	0.015	0.0245	6.9618	0.0025	0.0007	0.4478
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/10/2023	3/11/2023	1096	0.6512	-47.6	1358.167576	0.9886	2.6411	81.5515	14.023	0.7033	0.0178	0.0327	0.0013	0.001	N/A	0	0.0151	0.0248	6.9618	0.0027	0.0008	0.4384
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/11/2023	3/12/2023	1095	0.6487	-48.9	1359.540565	0.9709	2.5248	82.0375	13.6936	0.6836	0.0174	0.0314	0.0011	0.0007	N/A	0	0.0146	0.0244	6.9618	0.0028	0.0008	0.4682
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/12/2023	3/13/2023	1090	0.6444	-51.3	1357.840418	0.9626	2.4084	82.8945	12.991	0.6534	0.0181	0.0328	0.0013	0.0009	N/A	0	0.0141	0.0231	6.9618	0.0028	0.0007	0.4924
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/13/2023	3/14/2023	1089	0.6438	-52.2	1357.226696	0.9457	2.4475	82.9531	12.9397	0.6327	0.0155	0.0274	0.0005	0.0003	N/A	0.0001	0.0143	0.0233	6.9618	0.0026	0.0007	0.4779
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/14/2023	3/15/2023	1091	0.6471	-49.8	1356.247812	0.9743	2.5759	82.3206	13.3038	0.6964	0.019	0.0351	0.0013	0.0008	N/A	0	0.0487	0.0243	6.9618	0.0032	0.001	0.487
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/15/2023	3/16/2023	1093	0.6469	-49.7	1358.944081	0.962	2.5052	82.3862	13.3464	0.6899	0.0194	0.0331	0.0019	0.0015	N/A	0	0.0308	0.024	6.9618	0.0028	0.0008	0.4959
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/16/2023	3/17/2023	1094	0.6498	-48.5	1357.148805	0.9883	2.6398	81.6882	13.8028	0.6792	0.0167	0.0296	0.0012	0.0006	N/A	0	0.0693	0.0246	6.9618	0.0031	0.0009	0.4959
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/17/2023	3/18/2023	1092	0.6474	-49.3	1357.176374	0.9906	2.5663	82.2091	13.3837	0.6953	0.0187	0.0341	0.0015	0.0014	N/A	0.0003	0.0748	0.0243	6.9618	0.0028	0.0008	0.4959
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/18/2023	3/19/2023	1089	0.644	-51.6	1357.015931	0.9474	2.4658	82.7982	12.9641	0.6574	0.0171	0.0285	0.0013	0.0008	N/A	0	0.0965	0.023	6.9618	0.0028	0.0008	0.4959
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/19/2023	3/20/2023	1089	0.644	-51.9	1357.015931	0.952	2.4891	82.7597	12.9949	0.643	0.0153	0.0271	0.0004	0.0002	N/A	0	0.0949	0.0236	6.9618	0.003	0.0009	0.4959
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/20/2023	3/21/2023	1085	0.6417	-53.7	1354.452311	0.9496	2.4649	83.2683	12.5922	0.606	0.0142	0.0253	0.0004	0.0005	N/A	0	0.0552	0.0235	6.9618	0.0024	0.0007	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/21/2023	3/22/2023	1094	0.6484	-48.9	1358.613166	0.9686	2.5333	82.1141	13.5486	0.7345	0.0171	0.0296	0.0007	0.0003	N/A	0	0.0292	0.0242	6.9618	0.0025	0.0008	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/22/2023	3/23/2023	1097	0.6534	-46.5	1357.116287	1.0152	2.7523	81.1162	14.2704	0.746	0.017	0.0302	0.0008	0.0004	N/A	0	0.0261	0.0256	6.9618	0.0029	0.0008	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/23/2023	3/24/2023	1095	0.6519	-47.3	1356.199652	1.0119	2.7273	81.3521	14.0425	0.7337	0.0171	0.0305	0.001	0.0009	N/A	0	0.0579	0.0251	6.9618	0.0032	0.0009	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/24/2023	3/25/2023	1093	0.6484	-49	1357.371289	0.9807	2.5967	82.0524	13.5337	0.7147	0.0177	0.0321	0.0012	0.0001	N/A	0	0.0458	0.0242	6.9618	0.0034	0.0009	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/25/2023	3/26/2023	1099	0.6535	-45.9	1359.486491	1.0018	2.7048	81.0679	14.3355	0.756	0.0195	0.0356	0.0015	0.0014	N/A	0	0.0511	0.0251	6.9618	0.0032	0.0008	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/26/2023	3/27/2023	1099	0.6542	-45.5	1358.758965	1.0124	2.7471	80.851	14.455	0.7671	0.0186	0.0335	0.0011	0.001	N/A	0	0.0882	0.0252	6.9618	0.0032	0.0009	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/27/2023	3/28/2023	1098	0.6535	-45.6	1358.24947	0.9995	2.719	81.0233	14.3157	0.7727	0.0203	0.0374	0.0017	0.0014	N/A	0	0.0842	0.025	6.9618	0.0032	0.0009	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/28/2023	3/29/2023	1095	0.6488	-48.9	1359.435787	0.9775	2.5388	81.8204	13.8399	0.6594	0.0163	0.0286	0.0011	0.0007	N/A	0	0.0938	0.0236	N/A	0.003	0.0008	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/29/2023	3/30/2023	1096	0.6498	-47.9	1359.629881	0.9681	2.5741	81.7079	13.8667	0.7334	0.0162	0.0293	0.0011	0.0007	N/A	0	0.0787	0.0239	N/A	0.0028	0.0008	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/30/2023	3/31/2023	1094	0.6497	-48.2	1357.253245	0.9864	2.6579	81.8255	13.6505	0.7601	0.0171	0.0308	0.0011	0.0008	N/A	0	0.0451	0.0248	N/A	0.0028	0.0008	0.4936
NBPL	2/27/2023 0:00	4/1/2023 0:00	GLNU1 - GLEN ULLIN	3/31/2023	4/1/2023	1097	0.6556	-45.3	1354.837333	1.0558	2.9091	80.7187	14.4251	0.7791	0.0185	0.0338	0.0014	0.0013	N/A	0	0.0308	0.0265	N/A	0.0031	0.0009	0.4936

NORTH DAKOTA HEATING VALUE ZONES		
ZONES	MEASURING DEVICE	LOCATION
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	MAR23	FEB23	JAN23	DEC22	NOV22	OCT22	SEP22	AUG22	JUL22	JUN22	MAY22	APR22	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1199	1208	1191	1203	1206	1202	1201	1198	1205	1200	1198	1185	1191	211
ND	24	Williston Border - Charbonneau Station	1193	1195	1198	1197	1193	1198	1194	1188	1192	1195	1187	1185	1188	24
ND	25	Watford City West Border	1201	1183	1200	1195	1202	1207	1210	1209	1210	1201	1199	1195	1200	25
ND	28	Bismarck Station - Glen Ullin Station	1156	1127	1115	1118	1133	1126	1175	1191	1198	1202	1204	1196	1087	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1113	1132	1126	1132	1140	1131	1097	1099	1087	1094	1105	1100	1108	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1128	1137	1116	1125	1139	1132	1122	1128	1129	1115	1124	1138	1126	32
ND	33	Little Knife Plant	1176	1177	1175	1176	1176	1176	1179	1173	1174	1177	1175	1175	1176	33
ND	34	Badlands Plant/Bowman Border	1047	1071	1086	1079	1086	1077	989	1056	1031	1033	1014	1019	1021	34
ND	43	Watford City East Border	1076	1116	1128	1143	1133	1054	1050	1051	1057	1062	1044	1036	1042	43
ND/MT	241	Fairview Border	1199	1201	1212	1218	1201	1210	1205	1193	1197	1199	1186	1178	1191	241
ND	267	North Tioga Transfer - Nesson Plant	1179	1189	1188	1181	1176	1176	1178	1174	1184	1184	1173	1172	1176	267
ND	261	Tioga Comp Station - Robinson Lake Plan	1190	1185	1184	1176	1176	1182	1194	1196	1196	1201	1200	1200	1191	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1195	1187	1187	1188	1189	1186	1195	1198	1196	1203	1205	1202	1202	262
ND	263	Lignite Plant	1131	1131	1131	1131	1131	1131	1131	1131	1131	1130	1131	1131	1131	263
ND	264	Epping Border	1195	1200	1208	1202	1198	1194	1198	1196	1192	1188	1182	1188	1188	264
ND	265	Tioga Comp Station - County Line Plant	1177	1183	1181	1182	1169	1182	1180	1178	1178	1180	1176	1163	1170	265
ND	266	County Line Plant	1178	1183	1180	1183	1168	1181	1180	1180	1182	1179	1179	1167	1173	266
ND	271	Bismarck Station - Cleveland Station	1186	1181	1168	1168	1176	1181	1197	1191	1198	1202	1205	1205	1164	271
ND	272	Cleveland Station - Mapleton	1187	1181	1168	1168	1176	1181	1197	1191	1198	1202	1205	1204	1175	272
ND	273	Cleveland Station - Grafton Border	1187	1180	1168	1168	1176	1181	1198	1194	1198	1200	1205	1202	1168	273
ND	550	Mandan Border / NBPL-St Anthony	1149	1118	1109	1109	1127	1107	1173	1189	1194	1182	1201	1189	1087	550
ND	610	MDU-Watford City BTU	1105	1137	1149	1159	1155	1102	1113	1072	1068	1065	1063	1086	1093	610
ND	802	NBPL - Linton	1085	1097	1095	1093	1090	1087	1084	1081	1083	1086	1084	1074	1067	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1153	1149	1152	1148	1143	1149	1159	1159	1157	1160	1153	1151	1155	600
ND	601	Alliance Pipeline - Milnor	1153	1149	1152	1148	1143	1149	1159	1160	1157	1160	1153	1151	1154	602

THERMAL ZONE VARIANCE DOCUMENTATION		
March 2023		
<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
32	21	Operational