

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

November 16, 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 – September 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 October 2023.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of September 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 September 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
Oct-23

<u>Town</u>	<u>Heat Zone</u>	<u>Therm Factor</u>
MDU-303-ALEXANDER	025	1.1428
MDU-308-ARNEGARD	025	1.1428
MDU-314-APPLE VALLEY	271	1.1569
MDU-318-BEACH	032	1.0480
MDU-319-BELFIELD	032	1.0557
MDU-323-BERTHOLD	262	1.1306
MDU-327-BISMARCK	028	1.4570
MDU-330-BOWMAN	034	0.8990
MDU-337-BURLINGTON	262	1.1549
MDU-343-CARRINGTON	273	1.1559
MDU-344-CLEVELAND	272	1.1487
MDU-364-CAVALIER	273	1.1803
MDU-365-DAWSON	271	1.1487
MDU-368-DES LACS	262	1.1387
MDU-369-DICKINSON	031	1.0540
MDU-374-FT TOTTEN	273	1.1640
MDU-375-DEVILS LAKE	273	1.1640
MDU-379-BARLOW	273	1.1559
MDU-384-EPPING	264	1.1287
MDU-387-ELDRIDGE	272	1.1569
MDU-407-GLADSTONE	031	1.0540
MDU-411-GLEN ULLIN	031	1.0616
MDU-413-GOLVA	032	1.0326
MDU-416-GARRISON	262	1.1387
MDU-417-GRAFTON	273	1.1884
MDU-403-GWINNER	601	1.1429
MDU-429-HEBRON	031	1.0616
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1650
MDU-459-KILLDEER	033	1.1155
MDU-463-LANGDON	273	1.1559
MDU-469-LEFOR	031	1.0540
MDU-474-LIGNITE	263	1.0759
MDU-475-LINTON	802	1.0662
MDU-478-LINCOLN	028	1.1569
MDU-488-MCKENZIE	271	1.1569
MDU-494-MEDINA	271	1.1487
MDU-498-MANDAN	028	1.1569
MDU-500-MARMARTH	034	0.9057
MDU-505-MINOT	262	1.1549
MDU-510-MOTT	031	1.0540
MDU-512-MAX	262	1.1306
MDU-513-MILNOR	601	1.1429
MDU-522-NEW ENGLAND	031	1.0464
MDU-524-NEW SALEM	028	1.1325
MDU-532-NEW ROCKFORD	273	1.1559
MDU-539-PARK RIVER	273	1.1803
MDU-540-PALERMO	262	1.1306
MDU-558-RAY	264	1.1287

MDU-561-REGENT	031	1.0464
MDU-563-RHAME	034	0.8923
MDU-564-RICHARDTON	031	1.0464
MDU-568-ROSS	261	1.1168
MDU-572-RUTHVILLE	262	1.1598
MDU-574-SANBORN	272	1.1650
MDU-583-SENTINEL BUTTE	032	1.0480
MDU-588-SOUTH HEART	031	1.0464
MDU-717-SPIRITWOOD	272	1.1650
MDU-590-SPRINGBROOK	264	1.1287
MDU-591-STANLEY	261	1.1249
MDU-593-STEELE	271	1.1487
MDU-594-STERLING	028	1.1569
MDU-598-SHEYENNE	273	1.1640
MDU-605-SURREY	262	1.1549
MDU-610-TAPPEN	271	1.1487
MDU-611-TAYLOR	031	1.0464
MDU-616-TIOGA	260	1.1027
MDU-619-TURTLE LAKE	262	1.0536
MDU-620-TRENTON	024	1.1368
MDU-624-UNDERWOOD	262	1.1387
MDU-625-VALLEY CITY	272	1.1732
MDU-629-WALHALLA	273	1.1803
MDU-632-WATFORD CITY	610	1.0682
MDU-636-WHEELOCK	264	1.1093
MDU-637-WHITE EARTH	261	1.1211
MDU-642-WILLISTON	024	1.1368
MDU-646-WASHBURN	262	1.1468
MDU-647-WILTON	262	1.1353
MDU-664-RIVERDALE	262	1.1435
MDU-691-FAIRVIEW	241	1.1415
MDU-712-MINOT AFB	262	1.1549
MDU-718-FAIRMOUNT	600	1.1395
MDU-732-NEKOMA	273	1.1559
MDU-732-MSR SITE	273	1.1559

Source Daily Summary

September 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	0.7330	1179.2	1200.1	1199.0	1.341	3.602	68.753	22.448	3.334	0.160	0.320	0.022	0.019	0.000	0.000	0.000	0.000	0.000	1401.72	
2	0.7294	1175.5	1196.4	1195.1	1.280	3.581	69.387	21.913	3.330	0.155	0.315	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1400.83	
3	0.7346	1181.8	1202.7	1201.6	1.338	3.602	68.740	22.195	3.549	0.176	0.354	0.024	0.021	0.000	0.000	0.000	0.000	0.000	1403.17	
4	0.7318	1177.2	1198.1	1197.1	1.341	3.610	68.890	22.405	3.232	0.161	0.321	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1400.53	
5	0.7312	1176.2	1197.1	1196.2	1.335	3.628	68.877	22.502	3.155	0.155	0.309	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1399.90	
6	0.7319	1180.1	1201.0	1200.0	1.262	3.564	68.817	22.549	3.314	0.154	0.304	0.019	0.016	0.000	0.000	0.000	0.000	0.000	1403.91	
7	0.7038	1165.7	1186.3	1185.3	0.300	3.275	71.807	22.267	2.193	0.051	0.095	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1414.19	
8	0.7045	1175.0	1195.8	1194.9	0.062	3.136	71.459	22.890	2.376	0.032	0.044	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1424.66	
9	0.7313	1176.3	1197.1	1196.2	1.347	3.613	68.976	22.304	3.259	0.154	0.308	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1399.88	
10	0.7226	1173.3	1194.1	1193.3	0.981	3.537	69.897	22.215	2.968	0.123	0.246	0.017	0.015	0.000	0.000	0.000	0.000	0.000	1404.72	
11	0.7255	1177.1	1198.0	1197.1	1.011	3.527	69.509	22.437	3.096	0.130	0.258	0.017	0.015	0.000	0.000	0.000	0.000	0.000	1406.52	
12	0.7250	1175.3	1196.1	1195.1	1.039	3.549	69.667	22.212	3.101	0.132	0.265	0.018	0.016	0.000	0.000	0.000	0.000	0.000	1404.78	
13	0.7222	1174.6	1195.5	1194.4	1.001	3.382	70.100	22.089	3.019	0.125	0.251	0.017	0.015	0.000	0.000	0.000	0.000	0.000	1406.76	
14	0.7191	1173.1	1193.9	1193.0	0.911	3.331	70.488	21.947	2.948	0.116	0.229	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1407.82	
15	0.7308	1178.5	1199.3	1198.4	1.254	3.579	68.969	22.443	3.264	0.151	0.301	0.020	0.018	0.000	0.000	0.000	0.000	0.000	1402.91	
16	0.7250	1176.5	1197.3	1196.4	1.055	3.454	69.808	22.056	3.175	0.139	0.277	0.019	0.016	0.000	0.000	0.000	0.000	0.000	1406.18	
17	0.7320	1179.0	1199.9	1198.9	1.269	3.632	68.909	22.291	3.381	0.158	0.318	0.022	0.019	0.000	0.000	0.000	0.000	0.000	1402.42	
18	0.7310	1179.6	1200.5	1199.4	1.210	3.590	68.865	22.605	3.248	0.147	0.296	0.020	0.018	0.000	0.000	0.000	0.000	0.000	1404.12	
19	0.7264	1171.9	1192.6	1191.7	1.223	3.612	69.777	21.681	3.232	0.146	0.292	0.019	0.017	0.000	0.000	0.000	0.000	0.000	1399.28	
20	0.7230	1167.0	1187.6	1186.8	1.247	3.555	70.438	21.131	3.137	0.149	0.303	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1396.70	
21	0.7237	1167.4	1188.1	1187.3	1.268	3.561	70.360	21.143	3.165	0.153	0.310	0.021	0.019	0.000	0.000	0.000	0.000	0.000	1396.58	
22	0.7290	1173.2	1193.9	1193.1	1.322	3.627	69.386	21.928	3.241	0.152	0.305	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1398.35	
23	0.7281	1172.9	1193.7	1192.8	1.303	3.585	69.599	21.751	3.256	0.154	0.311	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1398.91	
24	0.7295	1173.6	1194.4	1193.6	1.330	3.633	69.456	21.710	3.350	0.159	0.320	0.022	0.019	0.000	0.000	0.000	0.000	0.000	1398.38	
25	0.7024	1168.1	1188.8	1187.8	0.131	3.255	71.674	22.763	2.090	0.033	0.051	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1418.46	
26	0.7132	1173.4	1194.2	1193.2	0.490	3.396	70.713	22.468	2.704	0.076	0.138	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1414.20	
27	0.7239	1176.6	1197.4	1196.5	0.985	3.451	69.907	22.049	3.188	0.130	0.258	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1407.47	
28	0.7114	1167.5	1188.1	1187.3	0.592	3.434	71.185	21.915	2.586	0.090	0.176	0.012	0.010	0.000	0.000	0.000	0.000	0.000	1408.85	
29	0.7340	1181.0	1202.0	1201.1	1.321	3.614	68.635	22.472	3.423	0.164	0.329	0.022	0.019	0.000	0.000	0.000	0.000	0.000	1402.96	
30	0.7280	1177.8	1198.6	1197.7	1.192	3.442	70.040	21.118	3.646	0.169	0.347	0.023	0.022	0.000	0.000	0.000	0.000	0.000	1404.82	
Avg	0.7246	1175.0	1195.6	1194.7	1.058	3.512	69.770	22.130	3.099	0.133	0.265	0.018	0.015	0.000	0.000	0.000	0.000	0.000	1404.67	

Source Daily Summary

September 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	0.7305	1185.1	1206.1	1205.1	1.086	3.386	69.893	21.171	3.747	0.194	0.439	0.039	0.044	0.000	0.000	0.000	0.000	0.000	1411.16	
2	0.7389	1198.8	1220.0	1218.8	1.038	3.409	68.941	21.549	4.164	0.249	0.547	0.050	0.053	0.000	0.000	0.000	0.000	0.000	1419.33	
3	0.7252	1179.2	1200.1	1199.0	1.135	3.176	70.570	20.976	3.566	0.152	0.359	0.029	0.036	0.000	0.000	0.000	0.000	0.000	1409.23	
4	0.7209	1172.0	1192.8	1192.0	1.137	3.210	70.882	21.063	3.230	0.128	0.299	0.023	0.028	0.000	0.000	0.000	0.000	0.000	1404.85	
5	0.7167	1169.8	1190.5	1189.8	1.123	2.976	71.532	20.863	3.051	0.124	0.282	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1406.23	
6	0.7191	1170.8	1191.6	1190.6	1.130	3.130	71.044	21.163	3.081	0.122	0.282	0.022	0.027	0.000	0.000	0.000	0.000	0.000	1405.13	
7	0.7209	1172.2	1193.0	1192.0	1.138	3.195	70.788	21.261	3.156	0.124	0.289	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1405.10	
8	0.7284	1180.2	1201.1	1200.3	1.109	3.456	70.027	21.157	3.609	0.176	0.396	0.034	0.038	0.000	0.000	0.000	0.000	0.000	1407.37	
9	0.7233	1175.7	1196.6	1195.7	1.129	3.223	70.574	21.216	3.344	0.138	0.319	0.026	0.031	0.000	0.000	0.000	0.000	0.000	1406.92	
10	0.7380	1188.6	1209.7	1209.0	1.036	3.951	68.879	21.198	4.065	0.243	0.525	0.049	0.052	0.000	0.000	0.000	0.000	0.000	1408.10	
11	0.7272	1181.5	1202.5	1201.6	1.067	3.320	70.485	20.734	3.676	0.203	0.436	0.038	0.040	0.000	0.000	0.000	0.000	0.000	1410.21	
12	0.7040	1165.1	1185.8	1184.8	1.042	2.187	73.826	19.738	2.779	0.125	0.262	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1413.27	
13	0.6942	1157.2	1177.7	1176.7	0.940	1.911	75.000	19.581	2.249	0.093	0.194	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1413.44	
14	0.6935	1156.3	1176.7	1175.9	0.929	1.915	75.019	19.673	2.164	0.088	0.182	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1413.05	
15	0.6982	1160.8	1181.3	1180.5	0.959	2.042	74.398	19.842	2.418	0.100	0.208	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1413.73	
16	0.7181	1171.7	1192.5	1191.6	1.117	3.002	71.271	21.022	3.156	0.122	0.270	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1407.17	
17	0.7215	1173.3	1194.1	1193.1	1.142	3.180	70.583	21.516	3.147	0.119	0.272	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1405.80	
18	0.7129	1169.1	1189.8	1188.9	1.071	2.736	72.010	20.908	2.862	0.115	0.258	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1409.24	
19	0.6931	1143.6	1163.8	1163.2	0.905	2.688	75.215	18.528	2.313	0.098	0.216	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1397.89	
20	0.6881	1134.5	1154.5	1154.0	0.873	2.823	76.009	17.806	2.143	0.095	0.214	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1391.78	
21	0.6885	1136.2	1156.3	1155.8	0.886	2.735	75.829	18.146	2.084	0.089	0.197	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1393.53	
22	0.6901	1139.0	1159.2	1158.6	0.901	2.692	75.463	18.605	2.025	0.088	0.194	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1395.36	
23	0.7016	1156.2	1176.6	1175.9	1.001	2.571	73.459	20.424	2.215	0.092	0.204	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1404.81	
24	0.7116	1166.1	1186.7	1185.9	1.078	2.795	71.995	21.110	2.630	0.108	0.243	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1406.77	
25	0.7221	1175.2	1196.0	1195.1	1.126	3.147	70.479	21.686	3.091	0.126	0.294	0.023	0.028	0.000	0.000	0.000	0.000	0.000	1407.50	
26	0.7206	1176.3	1197.2	1196.3	1.107	2.962	70.903	21.394	3.144	0.133	0.306	0.024	0.028	0.000	0.000	0.000	0.000	0.000	1410.36	
27	0.6938	1140.7	1160.9	1160.2	0.935	2.878	75.243	18.152	2.407	0.106	0.239	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1393.75	
28	0.7125	1168.2	1188.9	1188.1	1.076	2.752	72.008	20.988	2.754	0.116	0.262	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1408.45	
29	0.7164	1172.2	1193.0	1192.2	1.095	2.843	71.521	21.114	2.962	0.127	0.289	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1409.46	
30	0.7181	1174.6	1195.4	1194.5	1.107	2.833	71.411	21.037	3.118	0.135	0.307	0.024	0.028	0.000	0.000	0.000	0.000	0.000	1410.68	
Avg	0.7129	1167.0	1187.7	1186.8	1.047	2.904	72.175	20.454	2.945	0.131	0.293	0.024	0.027	0.000	0.000	0.000	0.000	0.000	1406.66	

Gas Composition and Properties

Effective September 1, 2023

Attachment B
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Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.0057		2.1274
Nitrogen, N2	3.2298		4.3489
Methane, C1	70.6632		54.4889
Ethane, C2	21.5016	5.7547	31.0764
Propane, C3	3.1511	0.8688	6.6788
iso-Butane, iC4	0.1403	0.0459	0.3920
n-Butane, nC4	0.2705	0.0853	0.7557
iso-Pentane, iC5	0.0189	0.0069	0.0655
n-Pentane, nC5	0.0176	0.0064	0.0610
Neo-Pentane, neo			
Hexanes Plus, C6+	0.0013	0.0005	0.0054
Argon, Ar			
Carbon Monoxide, CO			
Hydrogen, H2			
Oxygen, O2			
Helium, He			
Water, H2O			
Hydrogen Sulfide, H2S			
Totals	100.0000	6.7690	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm	0.736	
HV, Dry @ Base P, T	1195.11	
HV, Sat @ Base P, T	1174.31	
HV, Sat @ Sample P, T	1195.11	
Relative Density	0.7204	
C6+: 100		

Sample

Date: 09/01/2023 Type:
Tech: Sampson, Wayne
Pressure: Temp.:
Gauge: H2O:
Atm. Pressure: H2S:

Remarks:

Analysis

Date: 09/01/2023 Instrument:
Tech: Sampson, Wayne Cylinder:

Remarks:

Gas Composition and Properties

January 18, 2038 21:14

Attachment B
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Source #: 0602225
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.0454		2.1643
Nitrogen, N2	3.6187		4.7687
Methane, C1	69.3243		52.3169
Ethane, C2	21.0418	5.6324	29.7636
Propane, C3	4.0697	1.1222	8.4419
iso-Butane, iC4	0.2414	0.0791	0.6600
n-Butane, nC4	0.5431	0.1714	1.4849
iso-Pentane, iC5	0.0510	0.0187	0.1731
n-Pentane, nC5	0.0535	0.0194	0.1816
Neo-Pentane, neo			
Hexanes Plus, C6+	0.0111	0.0046	0.0450
Argon, Ar			
Carbon Monoxide, CO			
Hydrogen, H2			
Oxygen, O2			
Helium, He			
Water, H2O			
Hydrogen Sulfide, H2S			
Totals	100.0000	7.0470	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm	15.811	
HV, Dry @ Base P, T	1212.19	
HV, Sat @ Base P, T	1191.09	
HV, Sat @ Sample P, T	1212.19	
Relative Density	0.7362	
C6+:		

Sample

Date: 09/01/2023 Type:

Tech: Sampson, Wayne

Pressure: Temp.:

Gauge: H2O:

Atm. Pressure: H2S:

Remarks:

Analysis

Date: 09/01/2023 Instrument:

 Cylinder:

Tech: Sampson, Wayne

Remarks:

Source Daily Summary

September 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	0.6966	1156.7	1177.2	1176.7	0.916	2.207	74.372	19.990	2.221	0.084	0.181	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1410.38	-11.99
2	0.6978	1156.9	1177.3	1176.8	0.934	2.278	74.216	19.985	2.290	0.084	0.182	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1409.41	-11.35
3	0.6891	1148.7	1169.0	1168.5	0.862	2.080	75.233	19.822	1.801	0.058	0.122	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1408.25	-18.01
4	0.6867	1145.9	1166.2	1165.8	0.849	2.034	75.647	19.551	1.724	0.056	0.117	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1407.33	-19.38
5	0.6869	1145.9	1166.1	1165.7	0.854	2.048	75.574	19.640	1.696	0.054	0.113	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1407.05	-19.60
6	0.6896	1149.3	1169.6	1169.1	0.889	2.052	75.338	19.571	1.912	0.069	0.144	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1408.45	-16.69
7	0.6949	1154.0	1174.5	1174.0	0.941	2.165	74.714	19.711	2.179	0.084	0.177	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1408.92	-12.91
8	0.7000	1157.5	1178.0	1177.5	0.958	2.407	74.073	19.732	2.488	0.096	0.211	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1407.98	-9.22
9	0.6964	1156.3	1176.7	1176.3	0.923	2.201	74.505	19.779	2.294	0.085	0.182	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1410.09	-11.74
10	0.6880	1147.1	1167.5	1167.0	0.860	2.059	75.519	19.538	1.819	0.059	0.124	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1407.54	-18.39
11	0.6896	1149.6	1169.9	1169.5	0.851	2.075	75.303	19.635	1.921	0.062	0.130	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1408.90	-17.10
12	0.6889	1147.7	1168.0	1167.5	0.864	2.109	75.454	19.434	1.919	0.063	0.133	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1407.22	-17.40
13	0.6894	1149.3	1169.6	1169.2	0.865	2.059	75.330	19.631	1.901	0.062	0.129	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1408.65	-17.29
14	0.6894	1149.0	1169.4	1168.9	0.857	2.087	75.304	19.646	1.896	0.061	0.128	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1408.35	-17.42
15	0.6899	1147.7	1168.0	1167.5	0.851	2.224	75.343	19.339	2.003	0.068	0.145	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1406.16	-16.45
16	0.6915	1152.0	1172.4	1172.0	0.896	2.041	75.237	19.466	2.093	0.076	0.162	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1409.87	-14.70
17	0.6951	1156.7	1177.2	1176.7	0.921	2.052	74.725	19.777	2.237	0.084	0.175	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1411.95	-12.40
18	0.6915	1151.9	1172.3	1171.8	0.886	2.064	75.096	19.692	2.024	0.069	0.145	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1409.71	-15.52
19	0.6975	1137.3	1157.4	1157.0	0.881	3.522	73.926	19.229	2.119	0.087	0.202	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1385.88	-13.92
20	0.6928	1124.5	1144.4	1144.0	0.847	3.910	74.796	18.020	2.090	0.090	0.212	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1374.86	-16.67
21	0.7056	1140.5	1160.6	1160.2	0.914	4.046	72.658	19.549	2.457	0.101	0.238	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1381.64	-9.41
22	0.7062	1142.7	1163.0	1162.5	0.944	3.913	72.443	20.020	2.307	0.100	0.235	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1383.87	-9.57
23	0.7035	1150.5	1170.8	1170.4	0.954	3.172	72.765	20.720	2.076	0.085	0.196	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1396.17	-11.63
24	0.6845	1140.7	1160.9	1160.4	0.876	2.108	75.815	19.578	1.428	0.056	0.118	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1403.12	-21.81
25	0.6850	1142.6	1162.8	1162.4	0.891	2.009	75.757	19.723	1.421	0.057	0.121	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1405.04	-21.37
26	0.6851	1141.9	1162.1	1161.6	0.888	2.073	75.740	19.654	1.443	0.058	0.122	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1403.98	-21.29
27	0.6647	1102.7	1122.2	1121.6	0.696	2.830	79.637	15.183	1.436	0.061	0.135	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1376.17	-32.43
28	0.6835	1139.2	1159.4	1158.9	0.889	2.086	76.069	19.308	1.445	0.058	0.123	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1402.29	-22.04
29	0.6856	1142.3	1162.5	1162.1	0.900	2.076	75.769	19.511	1.526	0.062	0.134	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1403.98	-20.46
30	0.6830	1138.3	1158.5	1158.0	0.894	2.080	76.143	19.272	1.415	0.056	0.120	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1401.81	-22.50
Avg	0.6909	1146.0	1165.8	1165.3	0.885	2.402	75.083	19.457	1.919	0.072	0.155	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1402.50	-16.69

Source Daily Summary

September 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	0.7459	1174.7	1195.5	1194.7	0.909	5.732	67.208	20.483	5.100	0.157	0.362	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1384.40	
2	0.7547	1179.7	1200.6	1199.6	0.897	6.270	65.966	20.584	5.680	0.170	0.382	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1382.04	
3	0.7462	1172.7	1193.5	1192.6	0.907	5.893	67.127	20.394	5.102	0.164	0.364	0.023	0.026	0.000	0.000	0.000	0.000	0.000	1381.63	
4	0.7534	1173.6	1194.4	1193.8	0.888	6.530	66.537	19.563	5.748	0.205	0.466	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1376.07	
5	0.7467	1172.1	1192.8	1192.4	0.896	5.995	67.030	20.344	5.184	0.156	0.350	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1380.46	
6	0.7521	1177.1	1197.9	1197.4	0.900	6.181	66.316	20.529	5.477	0.170	0.378	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1381.32	
7	0.7432	1171.6	1192.4	1191.7	0.905	5.675	67.553	20.367	4.972	0.147	0.335	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1383.29	
8	0.7564	1181.5	1202.4	1201.9	0.894	6.326	65.762	20.591	5.818	0.167	0.391	0.024	0.027	0.000	0.000	0.000	0.000	0.000	1382.59	
9	0.7560	1181.9	1202.8	1202.3	0.897	6.257	65.800	20.690	5.737	0.172	0.395	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1383.45	
10	0.7565	1181.5	1202.4	1201.9	0.897	6.323	65.690	20.723	5.770	0.168	0.382	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1382.48	
11	0.7579	1184.2	1205.2	1204.7	0.893	6.310	65.498	20.806	5.888	0.169	0.388	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1384.30	
12	0.7483	1175.8	1196.6	1196.1	0.904	5.907	66.811	20.549	5.276	0.154	0.355	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1383.37	
13	0.7498	1176.3	1197.1	1196.5	0.908	6.004	66.530	20.714	5.286	0.162	0.352	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1382.57	
14	0.7528	1175.5	1196.3	1195.8	0.902	6.345	66.319	20.192	5.614	0.177	0.400	0.024	0.027	0.000	0.000	0.000	0.000	0.000	1378.81	
15	0.7500	1174.2	1195.0	1194.5	0.899	6.169	66.690	20.214	5.417	0.172	0.388	0.024	0.027	0.000	0.000	0.000	0.000	0.000	1379.84	
16	0.7347	1160.9	1181.5	1181.0	0.875	5.580	68.802	19.687	4.549	0.144	0.320	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1378.42	
17	0.7531	1177.0	1197.9	1197.2	0.904	6.274	66.120	20.575	5.549	0.167	0.364	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1380.32	
18	0.7521	1174.0	1194.8	1194.2	0.902	6.369	66.302	20.294	5.549	0.171	0.368	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.73	
19	0.7310	1160.5	1181.0	1180.5	0.892	5.232	69.203	20.051	4.110	0.144	0.323	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1381.53	
20	0.6990	1116.9	1136.7	1136.3	0.693	5.185	74.705	15.509	3.492	0.116	0.264	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1359.70	
21	0.7023	1120.6	1140.5	1140.0	0.757	5.172	73.902	16.460	3.309	0.113	0.253	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1360.97	
22	0.7254	1144.1	1164.3	1163.9	0.801	5.843	70.715	17.534	4.529	0.161	0.367	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1367.14	
23	0.7553	1182.5	1203.4	1202.9	0.906	6.143	66.003	20.603	5.687	0.181	0.419	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1384.75	
24	0.7574	1183.5	1204.4	1203.9	0.903	6.285	65.700	20.605	5.853	0.180	0.417	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1383.96	
25	0.7363	1168.8	1189.5	1189.0	0.926	5.175	68.430	20.579	4.373	0.143	0.327	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1386.42	
26	0.7541	1177.1	1197.9	1197.4	0.905	6.367	66.243	20.107	5.706	0.191	0.425	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1379.45	
27	0.6494	1060.4	1079.2	1078.7	0.412	4.391	83.202	9.485	2.214	0.083	0.186	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1339.41	
28	0.7380	1159.1	1179.6	1179.1	0.863	6.010	68.746	18.792	4.950	0.180	0.406	0.025	0.028	0.000	0.000	0.000	0.000	0.000	1373.13	
29	0.7487	1172.7	1193.4	1192.9	0.904	6.129	67.098	19.816	5.353	0.193	0.445	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1379.27	
30	0.7383	1168.0	1188.7	1188.1	0.906	5.432	68.516	19.835	4.691	0.169	0.394	0.026	0.030	0.000	0.000	0.000	0.000	0.000	1383.67	
Avg	0.7415	1166.0	1186.6	1186.0	0.868	5.917	68.017	19.556	5.066	0.162	0.366	0.023	0.026	0.000	0.000	0.000	0.000	0.000	1378.08	

Source Daily Summary

September 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	0.7583	1182.2	1203.2	1202.5	0.904	6.445	65.519	20.563	5.932	0.181	0.404	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1381.68	
2	0.7574	1180.1	1201.0	1200.3	0.904	6.492	65.680	20.384	5.884	0.187	0.414	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1380.00	
3	0.7563	1176.7	1197.6	1196.9	0.899	6.601	66.042	19.842	5.891	0.204	0.459	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1377.04	
4	0.7571	1179.3	1200.2	1199.6	0.905	6.510	65.675	20.415	5.863	0.179	0.400	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1379.34	
5	0.7582	1181.0	1201.9	1201.4	0.905	6.509	65.540	20.478	5.922	0.183	0.409	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1380.35	
6	0.7572	1179.9	1200.8	1200.2	0.905	6.489	65.673	20.417	5.886	0.175	0.402	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1379.88	
7	0.7584	1182.3	1203.2	1202.6	0.894	6.468	65.512	20.532	5.956	0.175	0.409	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1381.63	
8	0.7589	1183.5	1204.5	1203.9	0.898	6.428	65.473	20.578	5.971	0.181	0.416	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1382.67	
9	0.7589	1183.3	1204.3	1203.7	0.900	6.441	65.405	20.668	5.954	0.177	0.402	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1382.39	
10	0.7585	1182.8	1203.7	1203.1	0.895	6.445	65.445	20.655	5.936	0.175	0.399	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1382.15	
11	0.7560	1179.7	1200.6	1200.0	0.904	6.385	65.781	20.542	5.779	0.173	0.388	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1380.81	
12	0.7571	1182.1	1203.0	1202.4	0.907	6.343	65.628	20.691	5.801	0.181	0.398	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1382.54	
13	0.7538	1175.8	1196.6	1196.0	0.909	6.412	66.196	20.167	5.670	0.187	0.409	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1378.19	
14	0.7562	1178.8	1199.7	1199.1	0.906	6.455	65.946	20.172	5.842	0.191	0.432	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1379.57	
15	0.7561	1179.2	1200.1	1199.5	0.904	6.427	65.798	20.458	5.790	0.180	0.393	0.024	0.027	0.000	0.000	0.000	0.000	0.000	1380.09	
16	0.7579	1182.7	1203.7	1203.1	0.906	6.371	65.537	20.696	5.859	0.183	0.396	0.024	0.027	0.000	0.000	0.000	0.000	0.000	1382.65	
17	0.7550	1177.1	1198.0	1197.4	0.905	6.448	65.923	20.383	5.730	0.180	0.383	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1378.70	
18	0.7563	1179.5	1200.4	1199.8	0.904	6.425	65.867	20.313	5.830	0.191	0.416	0.025	0.028	0.000	0.000	0.000	0.000	0.000	1380.31	
19	0.7610	1187.8	1208.8	1208.2	0.913	6.350	65.297	20.653	6.069	0.201	0.455	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1385.63	
20	0.7572	1180.3	1201.2	1200.6	0.913	6.451	65.735	20.379	5.858	0.189	0.421	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1380.34	
21	0.7585	1180.0	1200.9	1200.4	0.912	6.580	65.875	19.853	5.978	0.224	0.509	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1378.95	
22	0.7604	1185.9	1206.9	1206.3	0.910	6.412	65.441	20.450	6.053	0.203	0.466	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1383.98	
23	0.7615	1188.2	1209.3	1208.7	0.908	6.376	65.201	20.706	6.098	0.196	0.451	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1385.73	
24	0.7593	1184.2	1205.2	1204.6	0.911	6.406	65.471	20.562	5.964	0.192	0.435	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1383.08	
25	0.7570	1180.4	1201.3	1200.7	0.913	6.418	65.816	20.300	5.891	0.188	0.419	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1380.74	
26	0.7574	1181.4	1202.3	1201.7	0.909	6.405	65.822	20.267	5.891	0.203	0.443	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1381.47	
27	0.7568	1179.4	1200.3	1199.7	0.905	6.474	65.902	20.127	5.902	0.199	0.435	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1379.74	
28	0.7569	1178.1	1198.9	1198.3	0.904	6.564	66.188	19.579	5.955	0.226	0.516	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1378.07	
29	0.7588	1182.4	1203.3	1202.7	0.904	6.481	65.883	19.871	6.074	0.220	0.500	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1381.37	
30	0.7588	1182.7	1203.7	1203.1	0.902	6.457	66.014	19.681	6.132	0.224	0.517	0.034	0.038	0.000	0.000	0.000	0.000	0.000	1381.81	
Avg	0.7577	1181.0	1202.1	1201.6	0.905	6.449	65.710	20.346	5.912	0.192	0.430	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1381.03	

Gas Composition and Properties

Effective October 1, 2021

Attachment B
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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		
Totals	100.0000	4.6490	100.0000			

Sample

Date: 10/01/2021 Type:

Tech: Wayne Sampson

Pressure: Temp.:

Gauge: H2O:

Atm. Pressure: H2S:

Remarks:

Analysis

Date: Instrument:

Tech: Cylinder:

Remarks:

Gas Composition and Properties

Effective September 1, 2023

Attachment B
Page 9 of 24

Source #: 3002013
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %	Property	Total Sample	C6 Plus Fraction
Carbon Dioxide, CO2	1.0494		2.2673	Pressure Base	14.730	
Nitrogen, N2	2.4838		3.4158	Temperature Base	60.00	
Methane, C1	73.6027		57.9668	HCDP @ Sample Pressure		
Ethane, C2	19.5955	5.2439	28.9260	Cricondentherm	-4.249	
Propane, C3	2.8111	0.7750	6.0853	HV, Dry @ Base P, T	1182.66	
iso-Butane, iC4	0.1331	0.0436	0.3798	HV, Sat @ Base P, T	1162.08	
n-Butane, nC4	0.2783	0.0878	0.7941	HV, Sat @ Sample P, T	1182.66	
iso-Pentane, iC5	0.0206	0.0075	0.0730	Relative Density	0.7053	
n-Pentane, nC5	0.0232	0.0084	0.0822			
Neo-Pentane, neo						
Hexanes Plus, C6+	0.0023	0.0009	0.0097			
Argon, Ar						
Carbon Monoxide, CO						
Hydrogen, H2						
Oxygen, O2						
Helium, He						
Water, H2O						
Hydrogen Sulfide, H2S						
				C6+: 100		
Totals	100.0000	6.1680	100.0000			

Sample

Date: 09/01/2023 Type:

Tech: Sampson, Wayne

Pressure: Temp.:

Gauge: H2O:

Atm. Pressure: H2S:

Remarks:

Analysis

Date: 09/01/2023 Instrument:

Tech: Sampson, Wayne Cylinder:

Remarks:

*** End of Report ***

Source Daily Summary

September 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	0.7135	1154.5	1175.0	1174.5	1.012	3.776	70.967	21.641	2.231	0.099	0.234	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1391.05	
2	0.7154	1157.9	1178.4	1177.9	1.007	3.765	70.631	21.930	2.290	0.100	0.238	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1393.15	
3	0.7165	1160.1	1180.6	1180.1	1.005	3.733	70.660	21.735	2.452	0.110	0.262	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1394.77	
4	0.7155	1158.9	1179.4	1178.9	1.004	3.712	70.587	22.068	2.254	0.100	0.236	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1394.34	
5	0.7157	1159.9	1180.4	1180.0	1.002	3.678	70.490	22.239	2.226	0.098	0.230	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1395.32	
6	0.7147	1157.1	1177.6	1177.2	1.002	3.746	70.918	21.556	2.378	0.105	0.252	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1393.00	
7	0.7181	1162.7	1183.3	1182.8	1.010	3.719	70.157	22.388	2.347	0.100	0.240	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1396.38	
8	0.7195	1164.7	1185.3	1184.8	1.009	3.727	70.053	22.325	2.490	0.105	0.251	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1397.40	
9	0.7188	1163.4	1184.0	1183.5	1.006	3.747	70.148	22.250	2.459	0.104	0.247	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1396.51	
10	0.7181	1161.1	1181.6	1181.1	1.010	3.820	70.155	22.274	2.357	0.102	0.243	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1394.39	
11	0.7164	1158.7	1179.2	1178.7	1.001	3.814	70.458	22.031	2.314	0.102	0.241	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1393.23	
12	0.7159	1157.6	1178.1	1177.6	1.004	3.833	70.566	21.890	2.324	0.102	0.242	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1392.35	
13	0.7160	1157.6	1178.1	1177.6	1.006	3.836	70.597	21.811	2.363	0.103	0.243	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1392.28	
14	0.7180	1161.0	1181.5	1181.0	1.007	3.815	70.307	22.013	2.470	0.103	0.244	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1394.41	
15	0.7134	1153.7	1174.1	1173.6	1.020	3.807	71.139	21.305	2.339	0.104	0.245	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1390.11	
16	0.7157	1157.7	1178.2	1177.7	1.010	3.793	70.672	21.780	2.358	0.103	0.243	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1392.71	
17	0.7179	1162.6	1183.2	1182.7	1.010	3.704	70.242	22.286	2.376	0.102	0.241	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1396.46	
18	0.7136	1154.8	1175.3	1174.8	1.006	3.774	71.004	21.565	2.274	0.101	0.235	0.018	0.023	0.000	0.000	0.000	0.000	0.000	1391.34	
19	0.7152	1156.3	1176.8	1176.3	1.011	3.835	70.751	21.665	2.351	0.102	0.244	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1391.46	
20	0.7165	1158.1	1178.6	1178.1	1.023	3.830	70.529	21.848	2.382	0.103	0.244	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1392.34	
21	0.7155	1155.9	1176.4	1175.9	1.029	3.859	70.717	21.643	2.365	0.103	0.244	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1390.73	
22	0.7172	1159.0	1179.6	1179.1	1.032	3.821	70.450	21.883	2.424	0.104	0.246	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1392.86	
23	0.7153	1156.3	1176.8	1176.3	1.031	3.817	70.732	21.697	2.336	0.103	0.244	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1391.35	
24	0.7142	1155.8	1176.2	1175.8	1.012	3.773	70.850	21.726	2.265	0.100	0.236	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1391.82	
25	0.7147	1154.8	1175.3	1174.8	1.028	3.847	70.815	21.633	2.295	0.101	0.241	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1390.25	
26	0.7144	1154.8	1175.2	1174.8	1.027	3.831	70.829	21.665	2.269	0.101	0.238	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1390.41	
27	0.6557	1052.9	1071.5	1070.8	0.524	4.342	81.542	11.580	1.734	0.075	0.173	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1329.05	
28	0.7039	1139.8	1160.0	1159.5	0.949	3.870	72.734	19.934	2.162	0.095	0.222	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1382.59	
29	0.7137	1152.0	1172.4	1171.9	1.027	3.931	70.997	21.364	2.300	0.101	0.239	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1387.76	
30	0.7133	1150.1	1170.4	1170.0	1.020	4.020	71.080	21.181	2.315	0.101	0.242	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1385.85	
Avg	0.7134	1154.0	1174.1	1173.6	0.995	3.819	71.059	21.430	2.317	0.101	0.239	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1390.19	

Source Daily Summary

September 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	0.7566	1183.4	1204.3	1203.4	0.858	6.284	65.919	20.321	5.970	0.181	0.417	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1384.60	
2	0.7546	1178.7	1199.5	1198.5	0.856	6.389	66.366	19.773	5.907	0.197	0.455	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1380.87	
3	0.7547	1178.1	1199.0	1198.0	0.854	6.435	66.348	19.735	5.917	0.199	0.456	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1380.13	
4	0.7553	1180.3	1201.2	1200.2	0.859	6.349	66.093	20.152	5.911	0.178	0.410	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.19	
5	0.7561	1181.6	1202.5	1201.6	0.858	6.343	65.935	20.314	5.909	0.179	0.412	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1383.01	
6	0.7535	1176.1	1196.9	1196.1	0.857	6.457	66.090	20.094	5.874	0.171	0.406	0.026	0.025	0.000	0.000	0.000	0.000	0.000	1378.81	
7	0.7569	1183.8	1204.8	1204.0	0.855	6.297	65.872	20.319	6.013	0.173	0.419	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1384.76	
8	0.7573	1185.0	1206.0	1205.2	0.858	6.256	65.850	20.347	6.028	0.180	0.428	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1385.80	
9	0.7568	1183.9	1204.9	1204.1	0.860	6.275	65.815	20.448	5.975	0.173	0.406	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1384.97	
10	0.7573	1184.7	1205.7	1204.9	0.856	6.271	65.779	20.449	6.011	0.175	0.411	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1385.52	
11	0.7540	1180.3	1201.2	1200.4	0.865	6.220	66.178	20.355	5.773	0.173	0.392	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1383.34	
12	0.7545	1181.4	1202.3	1201.6	0.867	6.200	66.076	20.427	5.800	0.179	0.403	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1384.17	
13	0.7521	1176.9	1197.7	1197.0	0.865	6.253	66.570	19.945	5.716	0.185	0.418	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.06	
14	0.7538	1178.7	1199.6	1198.8	0.861	6.303	66.417	19.895	5.845	0.187	0.437	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1381.67	
15	0.7536	1179.0	1199.9	1199.2	0.859	6.272	66.257	20.216	5.781	0.174	0.393	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1382.19	
16	0.7555	1182.7	1203.6	1202.9	0.864	6.224	65.992	20.431	5.859	0.179	0.402	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1384.69	
17	0.7526	1176.9	1197.7	1196.9	0.864	6.298	66.404	20.102	5.720	0.177	0.390	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1380.62	
18	0.7534	1178.2	1199.1	1198.3	0.865	6.294	66.414	19.959	5.812	0.187	0.420	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1381.41	
19	0.7551	1180.7	1201.6	1200.8	0.874	6.289	66.287	19.929	5.916	0.195	0.455	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1382.73	
20	0.7549	1180.4	1201.3	1200.6	0.867	6.298	66.189	20.113	5.876	0.184	0.423	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1382.60	
21	0.7570	1181.8	1202.7	1202.0	0.868	6.406	66.255	19.625	6.018	0.225	0.534	0.034	0.036	0.000	0.000	0.000	0.000	0.000	1382.31	
22	0.7581	1186.1	1207.1	1206.3	0.867	6.250	65.857	20.256	6.052	0.196	0.463	0.028	0.031	0.000	0.000	0.000	0.000	0.000	1386.32	
23	0.7600	1189.6	1210.7	1209.9	0.866	6.209	65.578	20.481	6.149	0.194	0.463	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1388.77	
24	0.7572	1184.6	1205.6	1204.8	0.868	6.251	65.869	20.366	5.964	0.187	0.439	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1385.48	
25	0.7548	1180.8	1201.7	1200.8	0.869	6.259	66.236	20.091	5.883	0.185	0.427	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1383.20	
26	0.7551	1181.2	1202.2	1201.2	0.865	6.270	66.269	19.998	5.887	0.201	0.454	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1383.39	
27	0.7538	1178.1	1198.9	1198.0	0.863	6.338	66.444	19.813	5.856	0.195	0.439	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1380.92	
28	0.7553	1179.4	1200.3	1199.4	0.862	6.396	66.556	19.389	5.968	0.226	0.535	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1381.13	
29	0.7559	1181.3	1202.2	1201.4	0.862	6.344	66.433	19.533	6.023	0.219	0.519	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1382.69	
30	0.7559	1181.6	1202.6	1201.8	0.861	6.317	66.532	19.387	6.094	0.220	0.521	0.033	0.035	0.000	0.000	0.000	0.000	0.000	1383.19	
Avg	0.7554	1181.0	1202.1	1201.3	0.862	6.302	66.163	20.075	5.917	0.189	0.438	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1383.08	

Source Daily Summary

September 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	0.7541	1175.6	1196.4	1196.1	0.899	6.460	66.131	20.147	5.754	0.173	0.388	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1377.81	
2	0.7576	1182.4	1203.3	1202.4	0.896	6.382	65.662	20.489	5.938	0.180	0.402	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1382.53	
3	0.7570	1180.4	1201.3	1200.0	0.893	6.452	65.918	20.095	5.944	0.199	0.441	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1380.70	
4	0.7561	1177.7	1198.5	1197.2	0.892	6.533	66.077	19.880	5.909	0.203	0.449	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1378.37	
5	0.7571	1180.9	1201.8	1200.7	0.896	6.430	65.719	20.421	5.907	0.180	0.397	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.20	
6	0.7573	1181.1	1202.0	1201.6	0.895	6.436	65.690	20.443	5.905	0.181	0.399	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.26	
7	0.7564	1180.0	1200.8	1200.5	0.896	6.419	65.813	20.381	5.877	0.173	0.391	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.76	
8	0.7578	1182.5	1203.4	1203.1	0.891	6.408	65.655	20.435	5.976	0.175	0.406	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1382.39	
9	0.7575	1182.5	1203.4	1203.1	0.894	6.369	65.682	20.497	5.933	0.175	0.400	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1382.74	
10	0.7586	1184.3	1205.3	1204.9	0.897	6.362	65.502	20.631	5.981	0.178	0.400	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1383.80	
11	0.7578	1182.8	1203.8	1203.5	0.893	6.383	65.592	20.565	5.951	0.175	0.393	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1382.82	
12	0.7569	1182.5	1203.4	1203.1	0.899	6.311	65.716	20.577	5.888	0.174	0.388	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1383.23	
13	0.7554	1180.2	1201.1	1200.7	0.905	6.304	65.884	20.542	5.764	0.174	0.382	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1381.90	
14	0.7543	1178.3	1199.2	1198.9	0.904	6.314	66.139	20.283	5.722	0.186	0.403	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1380.73	
15	0.7548	1177.7	1198.6	1198.2	0.902	6.397	66.145	20.104	5.799	0.186	0.414	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1379.57	
16	0.7547	1178.1	1199.0	1198.7	0.897	6.377	66.061	20.274	5.771	0.180	0.391	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1380.10	
17	0.7569	1182.3	1203.2	1202.9	0.902	6.316	65.710	20.602	5.854	0.180	0.387	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1383.03	
18	0.7546	1177.7	1198.6	1198.3	0.901	6.375	66.026	20.357	5.735	0.180	0.380	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1379.84	
19	0.7544	1177.2	1198.0	1197.7	0.902	6.391	66.156	20.154	5.758	0.187	0.402	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1379.33	
20	0.7570	1181.3	1202.2	1201.9	0.906	6.374	65.859	20.279	5.909	0.192	0.427	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1381.82	
21	0.7550	1177.5	1198.4	1198.0	0.911	6.414	66.116	20.095	5.812	0.187	0.413	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1379.16	
22	0.7584	1181.6	1202.6	1202.2	0.905	6.486	65.833	20.033	5.976	0.216	0.485	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1380.91	
23	0.7586	1183.6	1204.5	1204.2	0.906	6.390	65.835	20.080	6.032	0.211	0.481	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1382.95	
24	0.7610	1188.7	1209.7	1209.4	0.904	6.312	65.328	20.626	6.128	0.195	0.447	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1386.69	
25	0.7582	1183.7	1204.6	1204.3	0.906	6.349	65.634	20.497	5.951	0.187	0.422	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1383.43	
26	0.7550	1178.4	1199.2	1198.9	0.908	6.367	66.071	20.224	5.800	0.180	0.400	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1380.17	
27	0.7562	1179.8	1200.7	1200.3	0.904	6.398	66.033	20.096	5.877	0.201	0.435	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1380.71	
28	0.7557	1179.3	1200.2	1199.9	0.902	6.378	66.060	20.131	5.867	0.193	0.416	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1380.71	
29	0.7553	1176.8	1197.6	1197.3	0.900	6.503	66.429	19.472	5.908	0.222	0.501	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1378.01	
30	0.7565	1179.4	1200.3	1199.9	0.901	6.452	66.194	19.734	5.951	0.216	0.486	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1379.99	
Avg	0.7565	1180.0	1201.4	1200.9	0.900	6.395	65.889	20.271	5.886	0.188	0.418	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1381.22	

Source Daily Summary

September 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	0.7546	1176.5	1197.3	1196.9	0.900	6.460	66.069	20.170	5.786	0.175	0.393	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.30	
2	0.7583	1183.4	1204.4	1203.3	0.898	6.384	65.610	20.469	5.986	0.182	0.415	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1383.05	
3	0.7567	1179.9	1200.8	1199.8	0.894	6.458	65.950	20.072	5.930	0.199	0.440	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1380.37	
4	0.7565	1178.5	1199.3	1198.3	0.890	6.530	66.022	19.908	5.933	0.205	0.453	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1378.88	
5	0.7587	1183.7	1204.6	1203.8	0.896	6.411	65.537	20.500	6.010	0.184	0.410	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1382.97	
6	0.7562	1179.6	1200.5	1199.7	0.899	6.412	65.837	20.404	5.822	0.181	0.394	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1380.60	
7	0.7559	1178.9	1199.8	1199.4	0.897	6.438	65.844	20.383	5.831	0.173	0.385	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1379.95	
8	0.7577	1182.2	1203.1	1202.9	0.891	6.416	65.676	20.407	5.974	0.175	0.407	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1382.14	
9	0.7574	1182.3	1203.2	1202.9	0.894	6.374	65.700	20.473	5.932	0.175	0.400	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1382.55	
10	0.7597	1186.3	1207.3	1207.1	0.897	6.342	65.383	20.685	6.048	0.182	0.411	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1385.14	
11	0.7580	1183.0	1204.0	1203.8	0.893	6.385	65.582	20.558	5.962	0.175	0.396	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.91	
12	0.7571	1182.7	1203.6	1203.2	0.900	6.314	65.706	20.570	5.898	0.175	0.390	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1383.30	
13	0.7564	1181.5	1202.4	1202.2	0.903	6.314	65.791	20.545	5.834	0.175	0.390	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.57	
14	0.7548	1179.2	1200.1	1199.8	0.904	6.309	66.086	20.303	5.751	0.188	0.408	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.25	
15	0.7545	1177.0	1197.8	1197.6	0.904	6.412	66.183	20.071	5.781	0.185	0.413	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1378.98	
16	0.7550	1178.6	1199.4	1199.2	0.897	6.375	66.036	20.278	5.788	0.181	0.395	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.36	
17	0.7571	1182.7	1203.6	1203.4	0.902	6.315	65.688	20.605	5.868	0.181	0.390	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1383.23	
18	0.7545	1177.7	1198.5	1198.3	0.902	6.379	66.031	20.344	5.736	0.180	0.381	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1379.73	
19	0.7542	1176.7	1197.5	1197.3	0.902	6.400	66.186	20.127	5.748	0.187	0.401	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1378.96	
20	0.7571	1181.5	1202.5	1202.3	0.906	6.377	65.850	20.266	5.923	0.193	0.431	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1381.91	
21	0.7549	1177.3	1198.2	1198.0	0.912	6.420	66.130	20.074	5.810	0.188	0.415	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1378.99	
22	0.7596	1184.5	1205.4	1205.2	0.905	6.432	65.635	20.225	6.042	0.215	0.481	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1383.07	
23	0.7585	1183.3	1204.2	1204.0	0.907	6.399	65.869	20.028	6.031	0.213	0.487	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1382.69	
24	0.7605	1187.6	1208.6	1208.2	0.905	6.329	65.405	20.563	6.094	0.196	0.447	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1385.87	
25	0.7590	1185.0	1206.0	1205.7	0.906	6.343	65.544	20.532	5.999	0.189	0.429	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1384.26	
26	0.7560	1180.0	1200.9	1200.6	0.908	6.359	65.953	20.277	5.856	0.184	0.411	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1381.21	
27	0.7568	1180.6	1201.5	1201.2	0.905	6.397	65.965	20.125	5.907	0.202	0.440	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1381.21	
28	0.7561	1180.1	1201.0	1200.6	0.902	6.372	65.995	20.182	5.884	0.194	0.417	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1381.21	
29	0.7531	1173.2	1193.9	1193.2	0.902	6.511	66.655	19.398	5.800	0.210	0.466	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1375.82	
30	0.7552	1177.1	1198.0	1197.8	0.900	6.473	66.388	19.564	5.919	0.215	0.480	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1378.49	
Avg	0.7567	1181.0	1201.6	1201.2	0.901	6.395	65.877	20.270	5.896	0.188	0.419	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1381.33	

Source Daily Summary

September 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	0.7567	1183.6	1204.5	1203.5	0.858	6.282	65.901	20.336	5.975	0.181	0.416	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1384.72	
2	0.7550	1179.5	1200.4	1199.3	0.857	6.372	66.264	19.902	5.913	0.194	0.445	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1381.53	
3	0.7546	1177.7	1198.6	1197.5	0.854	6.444	66.419	19.633	5.922	0.203	0.468	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1379.82	
4	0.7554	1180.6	1201.5	1200.5	0.859	6.346	66.069	20.168	5.921	0.178	0.410	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.37	
5	0.7564	1182.2	1203.1	1202.4	0.858	6.340	65.901	20.329	5.925	0.181	0.416	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1383.35	
6	0.7544	1179.2	1200.1	1199.3	0.833	6.378	66.193	20.061	5.919	0.168	0.400	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.63	
7	0.7569	1183.8	1204.8	1203.9	0.855	6.296	65.875	20.315	6.015	0.173	0.419	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1384.76	
8	0.7569	1184.2	1205.2	1204.4	0.857	6.269	65.860	20.333	6.022	0.179	0.428	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1385.28	
9	0.7574	1184.8	1205.8	1205.1	0.860	6.267	65.760	20.475	6.004	0.175	0.410	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1385.58	
10	0.7576	1185.3	1206.3	1205.5	0.856	6.268	65.736	20.468	6.033	0.176	0.415	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1385.91	
11	0.7538	1180.0	1200.9	1200.1	0.866	6.219	66.193	20.366	5.741	0.172	0.397	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1383.16	
12	0.7542	1181.0	1201.9	1201.1	0.868	6.196	66.132	20.446	5.729	0.178	0.404	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1383.92	
13	0.7522	1177.1	1197.9	1197.1	0.866	6.244	66.560	19.971	5.712	0.184	0.416	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.24	
14	0.7540	1179.2	1200.0	1199.2	0.862	6.295	66.389	19.920	5.855	0.187	0.439	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1381.99	
15	0.7536	1178.8	1199.7	1199.0	0.860	6.277	66.272	20.197	5.778	0.175	0.395	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1382.02	
16	0.7556	1182.8	1203.8	1203.0	0.864	6.221	65.984	20.436	5.865	0.179	0.403	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1384.80	
17	0.7528	1177.4	1198.2	1197.4	0.864	6.290	66.372	20.127	5.732	0.178	0.392	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1380.99	
18	0.7537	1178.7	1199.6	1198.7	0.866	6.286	66.389	19.979	5.820	0.188	0.422	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1381.74	
19	0.7556	1181.7	1202.6	1201.7	0.872	6.276	66.230	19.967	5.945	0.196	0.459	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1383.45	
20	0.7548	1180.1	1201.0	1200.3	0.868	6.299	66.201	20.103	5.873	0.183	0.422	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1382.43	
21	0.7574	1182.6	1203.6	1202.8	0.868	6.393	66.180	19.698	6.036	0.224	0.532	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1382.93	
22	0.7579	1185.5	1206.5	1205.8	0.867	6.261	65.909	20.194	6.043	0.198	0.469	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1385.90	
23	0.7600	1189.8	1210.8	1210.1	0.866	6.206	65.568	20.492	6.151	0.194	0.463	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1388.89	
24	0.7574	1185.0	1206.0	1205.3	0.868	6.245	65.849	20.379	5.975	0.188	0.441	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1385.76	
25	0.7551	1181.4	1202.3	1201.6	0.870	6.252	66.180	20.138	5.896	0.185	0.427	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1383.60	
26	0.7554	1181.7	1202.6	1201.8	0.865	6.271	66.248	19.991	5.907	0.202	0.460	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1383.62	
27	0.7539	1178.4	1199.3	1198.5	0.863	6.330	66.409	19.858	5.858	0.194	0.436	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.18	
28	0.7554	1179.6	1200.4	1199.7	0.862	6.393	66.553	19.387	5.973	0.227	0.536	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1381.23	
29	0.7557	1180.9	1201.8	1201.1	0.862	6.347	66.451	19.529	6.009	0.219	0.517	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1382.47	
30	0.7564	1182.5	1203.5	1202.6	0.861	6.309	66.483	19.408	6.121	0.222	0.528	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1383.77	
Avg	0.7555	1182.0	1202.4	1201.6	0.862	6.296	66.151	20.087	5.922	0.189	0.439	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1383.33	

Source Daily Summary

September 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	0.6806	1110.2	1129.9	1129.1	0.941	3.502	76.730	16.885	1.769	0.052	0.110	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1369.53	
2	0.6797	1109.6	1129.3	1128.3	0.958	3.424	76.914	16.799	1.731	0.051	0.110	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1369.74	
3	0.6704	1101.5	1121.0	1120.1	0.960	3.043	78.346	16.218	1.313	0.037	0.075	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1369.11	
4	0.6719	1102.3	1121.8	1121.1	0.965	3.134	78.044	16.407	1.328	0.038	0.078	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1368.53	
5	0.6709	1101.9	1121.4	1121.0	0.956	3.072	78.129	16.519	1.208	0.036	0.074	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1369.11	
6	0.6717	1103.9	1123.4	1122.9	0.961	3.021	77.994	16.675	1.238	0.035	0.069	0.003	0.004	0.000	0.000	0.000	0.000	0.000	1370.72	
7	0.6693	1099.9	1119.3	1118.7	0.955	3.052	78.443	16.215	1.228	0.033	0.067	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1368.17	
8	0.6692	1099.9	1119.3	1118.9	0.953	3.045	78.473	16.186	1.239	0.032	0.067	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1368.28	
9	0.6722	1103.1	1122.7	1122.2	0.959	3.109	78.028	16.418	1.365	0.037	0.076	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1369.37	
10	0.6755	1106.3	1125.9	1125.5	0.953	3.237	77.531	16.604	1.537	0.041	0.088	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1369.94	
11	0.6705	1100.3	1119.8	1119.3	0.961	3.124	78.371	16.048	1.382	0.036	0.073	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1367.55	
12	0.6652	1096.0	1115.4	1114.9	0.977	2.871	79.077	15.960	1.041	0.025	0.047	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1367.52	
13	0.6626	1092.2	1111.6	1110.9	0.989	2.832	79.378	15.925	0.825	0.018	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1365.58	
14	0.6624	1091.8	1111.1	1110.5	0.996	2.832	79.418	15.886	0.810	0.020	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1365.20	
15	0.6638	1092.5	1111.8	1111.4	1.016	2.895	79.078	16.191	0.766	0.018	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1364.61	
16	0.6705	1098.9	1118.3	1117.9	1.021	3.121	77.976	16.803	1.002	0.026	0.049	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1365.78	
17	0.6634	1094.5	1113.9	1113.2	0.978	2.788	79.471	15.676	0.981	0.037	0.060	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1367.53	
18	0.6637	1095.2	1114.6	1113.9	0.972	2.785	79.573	15.444	1.093	0.047	0.075	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1368.06	
19	0.6670	1097.6	1117.0	1116.4	0.980	2.938	78.846	16.008	1.125	0.032	0.065	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1367.66	
20	0.6634	1092.9	1112.2	1111.8	0.986	2.876	79.450	15.599	0.999	0.028	0.057	0.002	0.003	0.000	0.000	0.000	0.000	0.000	1365.50	
21	0.6636	1092.5	1111.8	1111.2	0.967	2.942	79.508	15.378	1.111	0.031	0.059	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1364.87	
22	0.6685	1101.4	1120.9	1120.3	0.968	2.866	78.454	16.545	1.086	0.027	0.051	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1370.85	
23	0.6709	1100.1	1119.6	1119.1	0.968	3.167	78.344	15.978	1.415	0.039	0.081	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.86	
24	0.6733	1101.5	1121.0	1120.5	0.966	3.304	78.034	15.985	1.560	0.046	0.096	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1366.21	
25	0.6811	1109.9	1129.6	1129.0	0.958	3.539	76.834	16.553	1.927	0.056	0.121	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1368.69	
26	0.6804	1109.3	1129.0	1128.5	0.967	3.491	76.908	16.606	1.843	0.054	0.117	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1368.69	
27	0.6869	1115.5	1135.2	1134.6	0.951	3.747	76.003	16.848	2.219	0.068	0.146	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1369.78	
28	0.6910	1120.1	1139.9	1139.3	0.945	3.863	75.408	17.099	2.420	0.078	0.167	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1371.33	
29	0.6745	1104.6	1124.1	1123.6	0.991	3.194	77.709	16.491	1.484	0.042	0.083	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1368.79	
30	0.6670	1097.6	1117.0	1116.4	1.018	2.880	78.770	16.203	1.051	0.027	0.050	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1367.67	
Avg	0.6714	1101.0	1120.9	1120.3	0.971	3.123	78.175	16.272	1.337	0.038	0.077	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1368.04	

Source Daily Summary

September 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	0.6655	1083.3	1102.4	1101.8	0.650	4.156	79.648	13.480	1.824	0.077	0.147	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1351.35	
2	0.6637	1100.6	1120.1	1119.4	0.169	3.667	78.788	15.959	1.340	0.027	0.045	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1374.91	
3	0.6748	1114.8	1134.5	1133.8	0.271	3.690	77.327	16.647	1.928	0.046	0.081	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1381.09	
4	0.6788	1118.9	1138.7	1138.1	0.378	3.654	76.742	17.074	1.973	0.058	0.107	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1382.12	
5	0.6755	1112.6	1132.3	1131.6	0.355	3.769	77.117	16.819	1.806	0.046	0.080	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1377.61	
6	0.6720	1108.4	1128.0	1127.4	0.367	3.675	77.745	16.400	1.668	0.046	0.087	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1376.04	
7	0.6594	1088.1	1107.4	1106.7	0.250	3.907	79.736	14.677	1.334	0.032	0.057	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1363.60	
8	0.6607	1095.2	1114.6	1113.9	0.095	3.834	79.283	15.339	1.408	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1371.18	
9	0.6718	1111.2	1130.9	1130.2	0.194	3.751	77.556	16.666	1.742	0.034	0.053	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1379.66	
10	0.6862	1128.8	1148.8	1148.1	0.454	3.636	75.290	18.477	1.970	0.056	0.104	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1386.77	
11	0.6837	1127.1	1147.1	1146.4	0.445	3.513	75.746	18.209	1.925	0.053	0.098	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1387.27	
12	0.6793	1118.3	1138.1	1137.4	0.509	3.541	76.586	17.402	1.801	0.052	0.097	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1380.83	
13	0.6798	1112.0	1131.7	1131.0	0.503	3.981	76.707	16.598	2.001	0.067	0.127	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1372.55	
14	0.6857	1128.8	1148.8	1148.1	0.439	3.602	75.600	18.029	2.142	0.062	0.113	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1387.39	
15	0.6832	1125.5	1145.5	1144.8	0.396	3.638	75.959	17.762	2.059	0.061	0.112	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1385.81	
16	0.6854	1128.0	1148.0	1147.3	0.527	3.495	75.655	18.115	1.993	0.068	0.131	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1386.62	
17	0.6825	1125.0	1145.0	1144.3	0.481	3.467	76.186	17.696	1.958	0.067	0.131	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1385.98	
18	0.6834	1124.1	1144.0	1143.2	0.405	3.731	76.182	17.238	2.199	0.078	0.150	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1383.78	
19	0.6841	1125.2	1145.1	1144.4	0.397	3.741	76.030	17.377	2.214	0.078	0.148	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1384.47	
20	0.6846	1126.5	1146.4	1145.7	0.444	3.640	75.844	17.759	2.079	0.074	0.144	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1385.54	
21	0.6825	1123.1	1143.0	1142.2	0.424	3.676	76.049	17.691	1.976	0.061	0.111	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1383.53	
22	0.6818	1122.3	1142.2	1141.4	0.395	3.707	76.028	17.796	1.920	0.052	0.092	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1383.24	
23	0.6795	1115.8	1135.6	1134.9	0.519	3.695	76.670	17.027	1.909	0.060	0.108	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1377.58	
24	0.6712	1109.3	1129.0	1128.2	0.239	3.734	77.623	16.697	1.610	0.034	0.057	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1378.05	
25	0.6639	1099.0	1118.5	1117.8	0.197	3.740	78.909	15.588	1.491	0.028	0.044	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1372.73	
26	0.6659	1099.3	1118.8	1118.2	0.266	3.802	78.673	15.605	1.555	0.035	0.058	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1371.07	
27	0.6735	1110.6	1130.2	1129.6	0.298	3.790	77.354	16.711	1.726	0.042	0.071	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1377.17	
28	0.6817	1119.4	1139.2	1138.6	0.450	3.787	76.227	17.366	1.983	0.062	0.112	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1379.79	
29	0.6834	1127.5	1147.5	1146.8	0.379	3.559	75.635	18.440	1.837	0.050	0.090	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1388.08	
30	0.6863	1128.9	1148.9	1148.3	0.474	3.603	75.486	18.135	2.103	0.064	0.120	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1386.83	
Avg	0.6770	1115.0	1135.0	1134.3	0.379	3.706	76.946	16.959	1.849	0.053	0.097	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1379.42	

Source Daily Summary

September 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	0.6891	1159.7	1180.2	1178.6	0.000	2.731	72.911	23.535	0.799	0.009	0.015	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1421.66	-23.81
2	0.6900	1161.0	1181.5	1180.0	0.000	2.735	72.832	23.515	0.891	0.010	0.017	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1422.34	-23.03
3	0.6895	1160.1	1180.6	1179.1	0.000	2.738	72.827	23.618	0.799	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.81	-23.76
4	0.6887	1158.8	1179.3	1177.7	0.000	2.741	72.927	23.578	0.729	0.008	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.09	-24.32
5	0.6882	1158.1	1178.6	1177.2	0.000	2.740	72.948	23.634	0.655	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1420.72	-24.82
6	0.6872	1156.3	1176.7	1174.8	0.000	2.752	73.116	23.502	0.611	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.55	-25.61
7	0.6880	1157.5	1178.0	1176.4	0.000	2.755	73.019	23.518	0.684	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.23	-24.84
8	0.6880	1157.6	1178.1	1176.4	0.000	2.747	73.016	23.546	0.667	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.33	-24.91
9	0.6879	1157.4	1177.9	1176.4	0.000	2.753	73.028	23.516	0.686	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.16	-25.00
10	0.6882	1158.0	1178.5	1177.0	0.000	2.748	72.990	23.541	0.697	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.56	-24.67
11	0.6880	1157.4	1177.9	1176.6	0.000	2.759	73.036	23.489	0.692	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.11	-24.84
12	0.6880	1157.6	1178.1	1176.6	0.000	2.752	72.977	23.604	0.645	0.008	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.31	-24.98
13	0.6881	1157.6	1178.1	1176.7	0.000	2.753	73.028	23.494	0.701	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.31	-24.74
14	0.6878	1156.6	1177.0	1175.5	0.000	2.791	73.075	23.409	0.708	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.28	-25.08
15	0.6871	1155.4	1175.9	1174.3	0.000	2.797	73.179	23.336	0.665	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.59	-25.48
16	0.6868	1155.0	1175.5	1173.8	0.000	2.798	73.210	23.326	0.646	0.007	0.012	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1418.35	-25.72
17	0.6878	1156.4	1176.9	1175.3	0.000	2.803	73.152	23.267	0.739	0.012	0.024	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1419.04	-24.61
18	0.6875	1155.8	1176.3	1174.7	0.000	2.816	73.133	23.318	0.709	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1418.58	-25.14
19	0.6872	1155.3	1175.8	1174.2	0.000	2.815	73.163	23.313	0.693	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.35	-25.47
20	0.6871	1155.4	1175.8	1174.0	0.000	2.803	73.157	23.367	0.650	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.50	-25.52
21	0.6870	1155.2	1175.6	1173.9	0.000	2.808	73.187	23.320	0.662	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.32	-25.54
22	0.6869	1155.1	1175.5	1174.1	0.000	2.796	73.216	23.318	0.648	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1418.40	-25.67
23	0.6871	1155.6	1176.0	1174.2	0.000	2.792	73.175	23.347	0.663	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.72	-25.45
24	0.6873	1156.0	1176.5	1174.8	0.000	2.781	73.130	23.405	0.668	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.11	-25.44
25	0.6873	1155.6	1176.1	1174.6	0.000	2.802	73.151	23.356	0.668	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.62	-25.39
26	0.6868	1155.1	1175.6	1174.0	0.000	2.787	73.238	23.295	0.658	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1418.53	-25.64
27	0.6862	1153.4	1173.8	1172.1	0.000	2.842	73.348	23.127	0.661	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1416.93	-26.04
28	0.6854	1152.3	1172.7	1170.9	0.000	2.823	73.500	23.023	0.632	0.007	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1416.55	-26.58
29	0.6857	1152.9	1173.3	1171.6	0.000	2.822	73.428	23.089	0.646	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.88	-26.44
30	0.6861	1153.6	1174.0	1172.6	0.000	2.812	73.394	23.099	0.673	0.008	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1417.40	-26.01
Avg	0.6875	1156.0	1176.9	1175.3	0.000	2.780	73.116	23.394	0.688	0.008	0.013	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1419.31	-25.15

Source Daily Summary

September 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	0.5722	962.6	979.7	978.6	0.109	3.565	96.008	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.08	
2	0.5722	962.6	979.7	978.4	0.110	3.566	96.007	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.04	
3	0.5722	962.6	979.7	978.3	0.109	3.566	96.007	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.06	
4	0.5722	962.7	979.7	979.0	0.109	3.558	96.014	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.19	
5	0.5722	962.7	979.7	979.3	0.110	3.558	96.013	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.18	
6	0.5722	962.9	979.9	979.2	0.110	3.542	96.028	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.46	
7	0.5722	962.8	979.9	979.1	0.109	3.546	96.025	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.40	
8	0.5721	962.9	979.9	979.3	0.110	3.539	96.031	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.52	
9	0.5721	962.9	979.9	979.4	0.109	3.541	96.030	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.52	
10	0.5722	962.8	979.9	979.6	0.109	3.545	96.026	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.42	
11	0.5721	963.0	980.0	979.5	0.110	3.533	96.036	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.64	
12	0.5721	963.0	980.1	979.5	0.110	3.525	96.043	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.78	
13	0.5722	962.8	979.8	978.9	0.109	3.549	96.023	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.37	
14	0.5722	962.8	979.8	979.2	0.110	3.551	96.017	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.31	
15	0.5722	962.7	979.7	979.2	0.111	3.559	96.009	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.15	
16	0.5722	962.9	979.9	979.3	0.112	3.542	96.022	0.300	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.42	
17	0.5722	962.9	980.0	979.2	0.111	3.538	96.028	0.300	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.52	
18	0.5722	962.9	979.9	979.1	0.111	3.541	96.026	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.47	
19	0.5722	962.8	979.9	979.2	0.111	3.545	96.022	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.40	
20	0.6666	980.9	998.3	997.8	0.143	11.279	78.942	6.798	2.304	0.116	0.356	0.019	0.044	0.000	0.000	0.000	0.000	0.000	1232.31	
21	0.6789	1057.9	1076.6	1076.1	0.327	7.464	76.524	13.337	1.979	0.084	0.242	0.013	0.029	0.000	0.000	0.000	0.000	0.000	1309.80	
22	0.5723	962.8	979.9	979.7	0.109	3.553	96.010	0.302	0.016	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.35	
23	0.5722	962.9	979.9	979.6	0.110	3.545	96.021	0.301	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.45	
24	0.5722	962.8	979.9	979.5	0.110	3.547	96.020	0.300	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.41	
25	0.5722	962.9	980.0	979.4	0.110	3.540	96.027	0.300	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.53	
26	0.5722	962.8	979.8	979.3	0.109	3.552	96.019	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.33	
27	0.5722	962.7	979.8	979.3	0.108	3.555	96.016	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.28	
28	0.5724	962.3	979.4	978.9	0.107	3.596	95.977	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.55	
29	0.5722	962.8	979.8	979.3	0.109	3.554	96.017	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.29	
30	0.5722	962.8	979.9	979.2	0.109	3.550	96.020	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.36	
Avg	0.5789	967.0	983.7	983.0	0.118	3.938	94.800	0.949	0.157	0.014	0.020	0.001	0.002	0.000	0.000	0.000	0.000	0.000	1293.72	

September-23

ZONE 550

MANDAN BORDER

NBPL - St Anthony

WBI - Mandan Border

Weighted

Start Date	End Date	MCF	DK	BTU	MCF	DK	BTU Zone 28	AVG BTU	
9/1/2023	9/2/2023	10,775	11,944	1,109	708	852	1204.5	1114.888	9/1/2023
9/2/2023	9/3/2023	0	0	0	643	771	1200.4	1200.400	9/2/2023
9/3/2023	9/4/2023	8,506	9,427	1,109	603	723	1198.6	1114.931	9/3/2023
9/4/2023	9/5/2023	7,571	8,393	1,109	737	885	1201.5	1117.297	9/4/2023
9/5/2023	9/6/2023	5,516	6,144	1,114	1,029	1,238	1203.1	1127.671	9/5/2023
9/6/2023	9/7/2023	8,649	9,646	1,114	974	1,168	1200.1	1122.355	9/6/2023
9/7/2023	9/8/2023	0	0	0	900	1,084	1204.8	1204.800	9/7/2023
9/8/2023	9/9/2023	0	0	0	851	1,025	1205.2	1205.200	9/8/2023
9/9/2023	9/10/2023	0	0	0	833	1,005	1205.8	1205.800	9/9/2023
9/10/2023	9/11/2023	0	0	0	818	987	1206.3	1206.300	9/10/2023
9/11/2023	9/12/2023	0	0	0	926	1,112	1200.9	1200.900	9/11/2023
9/12/2023	9/13/2023	0	0	0	959	1,152	1201.9	1201.900	9/12/2023
9/13/2023	9/14/2023	0	0	0	856	1,026	1197.9	1197.900	9/13/2023
9/14/2023	9/15/2023	0	0	0	863	1,036	1200	1200.000	9/14/2023
9/15/2023	9/16/2023	0	0	0	862	1,034	1199.7	1199.700	9/15/2023
9/16/2023	9/17/2023	0	0	0	806	970	1203.8	1203.800	9/16/2023
9/17/2023	9/18/2023	0	0	0	804	964	1198.2	1198.200	9/17/2023
9/18/2023	9/19/2023	0	0	0	823	987	1199.6	1199.600	9/18/2023
9/19/2023	9/20/2023	0	0	0	812	977	1202.6	1202.600	9/19/2023
9/20/2023	9/21/2023	0	0	0	833	1,000	1201	1201.000	9/20/2023
9/21/2023	9/22/2023	0	0	0	815	981	1203.6	1203.600	9/21/2023
9/22/2023	9/23/2023	0	0	0	818	986	1206.5	1206.500	9/22/2023
9/23/2023	9/24/2023	339	375	1105.2	792	959	1210.8	1179.148	9/23/2023
9/24/2023	9/25/2023	0	0	0	838	1,011	1206	1206.000	9/24/2023
9/25/2023	9/26/2023	0	0	0	950	1,142	1202.3	1202.300	9/25/2023
9/26/2023	9/27/2023	0	0	0	976	1,174	1202.6	1202.600	9/26/2023
9/27/2023	9/28/2023	0	0	0	949	1,138	1199.3	1199.300	9/27/2023
9/28/2023	9/29/2023	0	0	0	915	1,098	1200.4	1200.400	9/28/2023
9/29/2023	9/30/2023	0	0	0	938	1,127	1201.8	1201.800	9/29/2023
9/30/2023	10/1/2023	0	0	0	766	922	1203.5	1203.500	9/30/2023
		41,356	45,929	221.9833	25,397	30,534	1202.4233	1187.6797	

Zone 550



Alliance Pipeline

DAILY ANALYSIS --- USA
 ND07MD1 --- Hankinson Sales
 September 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	1,161.217	0.6646	83.9980	9.7016	3.8587	0.3596	0.6216	0.0610	0.0559	0.0274	0.9242	0.3825	0.0095
2	1,160.019	0.6632	84.1207	9.8171	3.6377	0.3674	0.6369	0.0646	0.0590	0.0289	0.8981	0.3597	0.0098
3	1,156.308	0.6604	84.4127	9.8198	3.3848	0.3625	0.6360	0.0644	0.0589	0.0270	0.8753	0.3479	0.0109
4	1,156.154	0.6603	84.4109	9.8224	3.3920	0.3607	0.6318	0.0637	0.0576	0.0250	0.8716	0.3541	0.0101
5	1,154.956	0.6599	84.5447	9.6459	3.3889	0.3704	0.6444	0.0653	0.0563	0.0236	0.8888	0.3615	0.0101
6	1,156.552	0.6608	84.4388	9.6952	3.4503	0.3743	0.6508	0.0645	0.0553	0.0228	0.8744	0.3634	0.0101
7	1,155.006	0.6618	84.2357	9.6646	3.4996	0.3679	0.6622	0.0609	0.0526	0.0209	1.0619	0.3641	0.0096
8	1,151.535	0.6579	84.7659	9.5095	3.3338	0.3535	0.6173	0.0613	0.0528	0.0219	0.9172	0.3567	0.0100
9	1,148.292	0.6565	84.8307	9.5748	3.2280	0.3355	0.5839	0.0557	0.0458	0.0182	0.9269	0.3901	0.0103
10	1,145.335	0.6551	84.8211	9.7316	3.1093	0.3164	0.5385	0.0505	0.0405	0.0164	0.9773	0.3881	0.0104
11	1,146.239	0.6562	84.6945	9.7502	3.1479	0.3213	0.5591	0.0511	0.0408	0.0163	1.0036	0.4048	0.0104
12	1,145.284	0.6553	84.8784	9.6197	3.1321	0.3195	0.5599	0.0504	0.0404	0.0160	0.9557	0.4175	0.0104
13	1,144.013	0.6563	84.8221	9.4418	3.1597	0.3246	0.5942	0.0593	0.0423	0.0169	1.0826	0.4472	0.0094
14	1,143.709	0.6548	85.1208	9.2957	3.1325	0.3283	0.5848	0.0609	0.0438	0.0172	0.9583	0.4482	0.0094
15	1,141.922	0.6536	85.2661	9.1990	3.0918	0.3243	0.5742	0.0595	0.0430	0.0187	0.9852	0.4287	0.0095
16	1,144.764	0.6555	85.0118	9.3341	3.1849	0.3321	0.5826	0.0610	0.0439	0.0190	1.0040	0.4165	0.0100
17	1,144.373	0.6559	84.9284	9.3432	3.1892	0.3292	0.5895	0.0612	0.0440	0.0200	1.0624	0.4229	0.0101
18	1,147.583	0.6580	84.6277	9.5498	3.2730	0.3386	0.5987	0.0610	0.0434	0.0172	1.0495	0.4315	0.0096
19	1,147.514	0.6579	84.7405	9.4044	3.2874	0.3470	0.6113	0.0648	0.0456	0.0189	1.0250	0.4454	0.0097
20	1,146.563	0.6573	84.7433	9.4849	3.2514	0.3334	0.5883	0.0613	0.0434	0.0175	1.0202	0.4464	0.0099
21	1,147.230	0.6577	84.7063	9.4982	3.2584	0.3402	0.5888	0.0653	0.0468	0.0194	1.0284	0.4384	0.0099
22	1,146.400	0.6563	84.8389	9.5330	3.2092	0.3310	0.5652	0.0611	0.0420	0.0171	0.9635	0.4289	0.0101
23	1,147.069	0.6561	84.8191	9.5941	3.2176	0.3280	0.5618	0.0583	0.0409	0.0158	0.9524	0.4020	0.0100
24	1,151.014	0.6583	84.5358	9.7653	3.3029	0.3408	0.5908	0.0618	0.0432	0.0156	0.9576	0.3755	0.0107
25	1,151.446	0.6581	84.6056	9.7283	3.3124	0.3420	0.5897	0.0631	0.0447	0.0161	0.9119	0.3755	0.0107
26	1,152.324	0.6592	84.4610	9.7704	3.3547	0.3453	0.6036	0.0630	0.0447	0.0153	0.9433	0.3886	0.0101
27	1,149.583	0.6579	84.5624	9.7246	3.2926	0.3340	0.5790	0.0611	0.0427	0.0145	0.9927	0.3861	0.0102
28	1,149.604	0.6584	84.4803	9.7298	3.3221	0.3340	0.5826	0.0602	0.0421	0.0137	1.0420	0.3832	0.0101
29	1,146.154	0.6564	84.7312	9.6519	3.1786	0.3365	0.5484	0.0605	0.0413	0.0157	1.0146	0.4113	0.0099
30	1,144.212	0.6550	84.9337	9.5440	3.1184	0.3181	0.5503	0.0602	0.0415	0.0157	0.9907	0.4173	0.0101
Volume	1,149.422	0.6578	84.6707	9.6040	3.2881	0.3402	0.5932	0.0604	0.0465	0.0189	0.9702	0.3979	0.0100
Weight Avg Energy	1,149.445	0.6578	84.6696	9.6045	3.2888	0.3402	0.5933	0.0604	0.0465	0.0189	0.9700	0.3978	0.0100



Alliance Pipeline

DAILY ANALYSIS --- USA
 ND14MD1 --- Milnor Sales
 September 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	1,162.286	0.6654	83.8770	9.7651	3.9176	0.3556	0.6169	0.0604	0.0553	0.0273	0.9335	0.3816	0.0095
2	1,159.836	0.6632	84.1061	9.8328	3.6415	0.3641	0.6303	0.0635	0.0582	0.0288	0.9005	0.3645	0.0097
3	1,156.911	0.6608	84.3943	9.7958	3.4100	0.3671	0.6454	0.0658	0.0599	0.0272	0.8751	0.3486	0.0107
4	1,155.160	0.6598	84.4913	9.7479	3.3789	0.3604	0.6307	0.0631	0.0568	0.0242	0.8798	0.3567	0.0102
5	1,154.725	0.6597	84.5667	9.6406	3.3816	0.3696	0.6414	0.0650	0.0557	0.0233	0.8844	0.3615	0.0101
6	1,157.356	0.6615	84.3224	9.7515	3.4816	0.3751	0.6570	0.0640	0.0550	0.0227	0.8952	0.3656	0.0100
7	1,154.006	0.6611	84.3369	9.6111	3.4702	0.3655	0.6554	0.0607	0.0524	0.0208	1.0549	0.3625	0.0096
8	1,151.503	0.6579	84.7704	9.5161	3.3288	0.3524	0.6159	0.0614	0.0529	0.0221	0.9131	0.3569	0.0100
9	1,149.312	0.6572	84.7876	9.5439	3.2670	0.3423	0.5984	0.0586	0.0487	0.0199	0.9283	0.3950	0.0103
10	1,144.450	0.6546	84.8756	9.7188	3.0745	0.3141	0.5305	0.0510	0.0407	0.0160	0.9736	0.3946	0.0105
11	1,146.322	0.6563	84.6812	9.7595	3.1479	0.3212	0.5613	0.0510	0.0407	0.0162	1.0076	0.4032	0.0104
12	1,144.822	0.6552	84.9107	9.5630	3.1313	0.3200	0.5660	0.0508	0.0405	0.0160	0.9641	0.4273	0.0103
13	1,144.303	0.6564	84.8254	9.4336	3.1705	0.3262	0.5944	0.0607	0.0427	0.0169	1.0748	0.4456	0.0094
14	1,142.857	0.6543	85.1995	9.2450	3.1129	0.3267	0.5803	0.0604	0.0435	0.0170	0.9575	0.4478	0.0094
15	1,142.286	0.6539	85.2351	9.2149	3.1033	0.3251	0.5754	0.0597	0.0432	0.0192	0.9890	0.4255	0.0097
16	1,144.350	0.6552	85.0353	9.3329	3.1706	0.3296	0.5782	0.0604	0.0434	0.0192	1.0028	0.4174	0.0102
17	1,146.727	0.6575	84.7446	9.4233	3.2571	0.3389	0.6075	0.0635	0.0457	0.0199	1.0704	0.4191	0.0100
18	1,146.302	0.6572	84.7402	9.4857	3.2295	0.3360	0.5935	0.0618	0.0440	0.0177	1.0418	0.4400	0.0098
19	1,145.368	0.6569	84.8431	9.3842	3.2173	0.3368	0.5914	0.0628	0.0449	0.0200	1.0251	0.4645	0.0099
20	1,146.709	0.6573	84.7358	9.4913	3.2550	0.3341	0.5872	0.0616	0.0436	0.0177	1.0169	0.4469	0.0099
21	1,147.345	0.6576	84.7012	9.5166	3.2549	0.3398	0.5876	0.0654	0.0465	0.0191	1.0242	0.4347	0.0100
22	1,146.361	0.6562	84.8435	9.5364	3.2068	0.3302	0.5646	0.0606	0.0418	0.0171	0.9602	0.4291	0.0099
23	1,146.813	0.6560	84.8452	9.5792	3.2125	0.3262	0.5603	0.0580	0.0406	0.0159	0.9502	0.4018	0.0100
24	1,151.789	0.6592	84.4327	9.7817	3.3329	0.3458	0.6046	0.0634	0.0444	0.0164	0.9867	0.3808	0.0107
25	1,151.520	0.6580	84.6144	9.7321	3.3140	0.3418	0.5870	0.0626	0.0447	0.0159	0.9017	0.3752	0.0106
26	1,151.934	0.6592	84.4579	9.7534	3.3500	0.3449	0.6070	0.0628	0.0442	0.0151	0.9648	0.3897	0.0101
27	1,149.932	0.6581	84.5345	9.7417	3.3034	0.3343	0.5802	0.0612	0.0427	0.0145	0.9953	0.3819	0.0102
28	1,150.355	0.6589	84.4255	9.7477	3.3463	0.3384	0.5904	0.0603	0.0418	0.0133	1.0439	0.3824	0.0102
29	1,147.263	0.6571	84.6329	9.6957	3.2060	0.3479	0.5541	0.0618	0.0419	0.0155	1.0348	0.3994	0.0099
30	1,144.341	0.6550	84.9309	9.5490	3.1181	0.3187	0.5512	0.0604	0.0418	0.0159	0.9902	0.4138	0.0101
Volume	1,148.908	0.6577	84.6861	9.5832	3.2767	0.3398	0.5947	0.0606	0.0458	0.0183	0.9809	0.4038	0.0100
Weight Avg Energy	1,148.915	0.6577	84.6854	9.5829	3.2774	0.3398	0.5947	0.0606	0.0458	0.0183	0.9811	0.4039	0.0100

September-23

ZONE 610

Watford City

Watford City West Border

Watford City East Border

Weighted

Start Date	End Date	BTU			BTU			AVG BTU	
		MCF	DK	Zone 25	MCF	DK	Zone 43		
9/1/2023	9/2/2023	16	19	1212.2	68	76	1123.5	1140.395	9/1/2023
9/2/2023	9/3/2023	4	5	1212.2	59	67	1123.5	1129.132	9/2/2023
9/3/2023	9/4/2023	1	2	1212.2	67	75	1123.5	1124.804	9/3/2023
9/4/2023	9/5/2023	25	30	1212.2	104	117	1123.5	1140.690	9/4/2023
9/5/2023	9/6/2023	60	73	1212.2	111	125	1123.5	1154.623	9/5/2023
9/6/2023	9/7/2023	40	49	1212.2	95	107	1123.5	1149.781	9/6/2023
9/7/2023	9/8/2023	38	46	1212.2	85	96	1123.5	1150.903	9/7/2023
9/8/2023	9/9/2023	100	121	1212.2	89	99	1123.5	1170.431	9/8/2023
9/9/2023	9/10/2023	88	106	1212.2	55	62	1123.5	1178.085	9/9/2023
9/10/2023	9/11/2023	113	137	1212.2	61	68	1123.5	1181.104	9/10/2023
9/11/2023	9/12/2023	120	145	1212.2	82	92	1123.5	1176.193	9/11/2023
9/12/2023	9/13/2023	75	90	1212.2	104	117	1123.5	1160.665	9/12/2023
9/13/2023	9/14/2023	60	73	1212.2	104	117	1123.5	1155.951	9/13/2023
9/14/2023	9/15/2023	46	55	1212.2	116	130	1123.5	1148.686	9/14/2023
9/15/2023	9/16/2023	46	55	1212.2	115	130	1123.5	1148.843	9/15/2023
9/16/2023	9/17/2023	17	20	1212.2	153	172	1123.5	1132.370	9/16/2023
9/17/2023	9/18/2023	20	24	1212.2	91	103	1123.5	1139.482	9/17/2023
9/18/2023	9/19/2023	29	35	1212.2	87	98	1123.5	1145.675	9/18/2023
9/19/2023	9/20/2023	35	42	1212.2	103	115	1123.5	1145.996	9/19/2023
9/20/2023	9/21/2023	62	75	1212.2	122	137	1123.5	1153.388	9/20/2023
9/21/2023	9/22/2023	38	46	1212.2	123	138	1123.5	1144.435	9/21/2023
9/22/2023	9/23/2023	76	92	1212.2	148	166	1123.5	1153.595	9/22/2023
9/23/2023	9/24/2023	30	36	1212.2	119	133	1123.5	1141.359	9/23/2023
9/24/2023	9/25/2023	52	63	1212.2	128	143	1123.5	1149.124	9/24/2023
9/25/2023	9/26/2023	51	62	1212.2	110	124	1123.5	1151.598	9/25/2023
9/26/2023	9/27/2023	63	77	1212.2	129	145	1123.5	1152.605	9/26/2023
9/27/2023	9/28/2023	47	57	1212.2	107	121	1123.5	1150.571	9/27/2023
9/28/2023	9/29/2023	72	87	1212.2	138	155	1123.5	1153.911	9/28/2023
9/29/2023	9/30/2023	26	31	1212.2	107	121	1123.5	1140.840	9/29/2023
9/30/2023	10/1/2023	24	29	1212.2	97	109	1123.5	1141.093	9/30/2023
		1,474	1,782	1212.2000	3,077	3,458	1123.5000	1150.2110	

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	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/1/2023	9/2/2023	1109	0.6599	-42.6	1365.188062	0.9855	2.7248	79.5369	15.9393	0.6486	0.016	0.0312	0.0018	0.0016	0	0	0.0899	0.0245	0.3172	0.0762	0.0652	0.0013
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/1/2023	9/3/2023	1109	0.6599	-42.6	1365.188062	0.9855	2.7248	79.5369	15.9393	0.6486	0.016	0.0312	0.0018	0.0016	0	0	0.0899	0.0245	0.3172	0.0762	0.0652	0.0013
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/3/2023	9/4/2023	1109	0.6601	-41.8	1364.981231	0.979	2.735	79.5132	15.8293	0.737	0.0185	0.0344	0.0019	0.0018	0	0	0.1254	0.0247	0.2953	0.0751	0.0647	0.0012
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/4/2023	9/5/2023	1109	0.6596	-43	1365.498485	0.9766	2.7165	79.7394	15.8212	0.6533	0.0158	0.0289	0.0015	0.0013	0	0	0.0204	0.0251	0.2715	0.0744	0.0658	0.0012
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/5/2023	9/6/2023	1113	0.6628	-41.2	1367.111143	0.9855	2.7408	79.0626	16.4491	0.6597	0.0155	0.0288	0.0011	0.0009	0	0	0.0309	0.0251	0.2739	0.0742	0.066	0.0012
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/6/2023	9/7/2023	1113	0.6624	-40.8	1367.524143	0.9823	2.7367	79.2969	16.1215	0.7656	0.0189	0.0344	0.0014	0.0009	0	0	0.0164	0.0252	0.283	0.0688	0.0644	0.0012
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/7/2023	9/8/2023	1109	0.66	-42.6	1365.084635	0.9782	2.7514	79.633	15.8278	0.694	0.0155	0.0287	0.0012	0.0009	0	0	0.0439	0.0254	0.3041	0.0672	0.0661	0.0012
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/7/2023	9/9/2023	1109	0.66	-42.6	1365.084635	0.9782	2.7514	79.633	15.8278	0.694	0.0155	0.0287	0.0012	0.0009	0	0	0.0439	0.0254	0.3041	0.0672	0.0661	0.0012
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/9/2023	9/10/2023	1111	0.6616	-41.3	1365.891841	0.9845	2.7494	79.3393	16.047	0.7458	0.0166	0.0305	0.0014	0.0012	0	0	0.0599	0.0246	0.2918	0.0681	0.0707	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/10/2023	9/11/2023	1106	0.6583	-43.6	1363.148592	0.9804	2.7285	80.0758	15.4087	0.7206	0.0154	0.0279	0.0011	0.0008	0	0	0.0159	0.0252	0.2781	0.0651	0.0668	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/10/2023	9/12/2023	1106	0.6583	-43.6	1363.148592	0.9804	2.7285	80.0758	15.4087	0.7206	0.0154	0.0279	0.0011	0.0008	0	0	0.0159	0.0252	0.2781	0.0651	0.0668	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/12/2023	9/13/2023	1110	0.6625	-41.2	1363.735159	1.0011	2.8567	79.2667	15.9998	0.7895	0.0156	0.0277	0.0005	0.0002	0	0	0.0165	0.0258	0.2636	0.0648	0.0688	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/13/2023	9/14/2023	1107	0.6599	-43.2	1362.726046	1.0087	2.7975	79.7095	15.7194	0.682	0.0141	0.0257	0.0007	0.0005	0	0	0.0165	0.0256	0.2648	0.0631	0.0679	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/14/2023	9/15/2023	1108	0.6611	-42.5	1362.718594	1.0073	2.847	79.4539	15.9218	0.6829	0.015	0.0278	0.001	0.0009	0	0	0.0167	0.0257	0.2665	0.0612	0.0659	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/15/2023	9/16/2023	1110	0.664	-41.2	1362.193925	1.0293	2.9414	78.8388	16.4479	0.6562	0.0143	0.0268	0.0011	0.0008	0	0	0.0173	0.0264	0.2613	0.0543	0.0564	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/16/2023	9/17/2023	1111	0.6643	-40.5	1363.113229	1.0236	2.9672	78.8902	16.2676	0.7547	0.0179	0.0321	0.0016	0.0012	0	0	0.0173	0.0268	0.265	0.0587	0.0632	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/17/2023	9/18/2023	1111	0.6616	-38.2	1365.891841	0.9837	2.7214	79.7325	15.5099	0.894	0.0421	0.0609	0.0073	0.0058	0	0.0021	0.016	0.0248	0.2821	0.086	0.0683	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/18/2023	9/19/2023	1108	0.6591	-41.6	1364.784572	0.988	2.685	80.0604	15.3644	0.7815	0.0276	0.0447	0.0039	0.0033	0	0.0007	0.0159	0.0248	0.2942	0.0463	0.0518	0.0011
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/19/2023	9/20/2023	1108	0.6604	-41.8	1363.440619	0.9978	2.7761	79.7397	15.6142	0.7675	0.0193	0.0388	0.0025	0.0027	0	0	0.0161	0.0256	0.3053	0.0867	0.0594	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/19/2023	9/21/2023	1108	0.6604	-41.8	1363.440619	0.9978	2.7761	79.7397	15.6142	0.7675	0.0193	0.0388	0.0025	0.0027	0	0	0.0161	0.0256	0.3053	0.0867	0.0594	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/21/2023	9/22/2023	1111	0.6616	-41.2	1365.891841	0.9754	2.7372	79.4617	15.9392	0.7973	0.0169	0.0294	0.001	0.0006	0	0	0.0163	0.0252	0.2749	0.0845	0.0798	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/22/2023	9/23/2023	1111	0.6513	-41.6	1366.201625	0.9749	2.7278	79.4724	15.9842	0.7536	0.0158	0.0285	0.001	0.0007	0	0	0.0161	0.0251	0.2833	0.1352	0.0831	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/23/2023	9/24/2023	1105	0.658	-43.7	1362.226521	0.9818	2.7892	80.1574	15.2343	0.747	0.0164	0.03	0.001	0.001	0	0	0.0167	0.0255	0.2838	0.1387	0.0856	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/24/2023	9/25/2023	1106	0.6594	-42.7	1362.011127	0.9908	2.8195	79.9025	15.4113	0.7827	0.0173	0.0317	0.001	0.0008	0	0	0.0166	0.0259	0.2823	0.1386	0.0853	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/25/2023	9/26/2023	1105	0.6583	-43.6	1361.916089	0.992	2.7805	80.0581	15.3673	0.7109	0.016	0.0302	0.0014	0.0013	0	0	0.0167	0.0257	0.2767	0.1298	0.0759	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/26/2023	9/27/2023	1108	0.6603	-41.9	1363.543859	0.9979	2.7916	79.7453	15.5918	0.7714	0.0185	0.0372	0.0023	0.0025	0	0	0.0163	0.0254	0.2917	0.1345	0.0798	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/27/2023	9/28/2023	1107	0.6588	-43.2	1363.863245	1.002	2.7015	80.0168	15.4604	0.7297	0.0161	0.03	0.0013	0.0012	0	0	0.0162	0.025	0.2738	0.1336	0.0828	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/28/2023	9/29/2023	1111	0.662	-40.8	1365.479122	1.0118	2.7689	79.4436	15.8651	0.8114	0.0189	0.0353	0.0017	0.0016	0	0	0.0164	0.0253	0.2677	0.1283	0.0769	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/29/2023	9/30/2023	1113	0.6641	-39.5	1365.77269	1.0247	2.8184	79.1034	16.075	0.8778	0.0199	0.0359	0.0016	0.0014	0	0	0.0165	0.0255	0.2632	0.1285	0.0756	0.0008
NBPL	8/31/2023 0:00	10/3/2023 0:00	GLNU1 - GLEN ULLIN	9/30/2023	10/1/2023	1113	0.6644	-39.4	1365.464908	1.0277	2.8392	79.038	16.1131	0.8817	0.0196	0.0351	0.0016	0.0014	0	0	0.0167	0.0261	0.268	0.1323	0.0814	0.0008

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	SEP23	AUG23	JUL23	JUN23	MAY23	APR23	MAR23	FEB23	JAN23	DEC22	NOV22	OCT22	0
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1200	1196	1198	1199	1195	1200	1204	1208	1191	1203	1206	1202	1201	211
ND	24	Williston Border - Charbonneau Station	1195	1188	1195	1195	1196	1198	1194	1195	1198	1197	1193	1198	1194	24
ND	25	Watford City West Border	1199	1212	1210	1210	1190	1189	1180	1183	1200	1195	1202	1207	1210	25
ND	28	Bismarck Station - Glen Ullin Station	1158	1202	1199	1194	1195	1192	1118	1127	1115	1118	1133	1126	1175	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1118	1121	1124	1118	1107	1086	1100	1132	1126	1132	1140	1131	1097	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1127	1135	1134	1124	1124	1111	1119	1137	1116	1125	1139	1132	1122	32
ND	33	Little Knife Plant	1178	1177	1181	1174	1180	1182	1179	1177	1175	1176	1176	1176	1179	33
ND	34	Badlands Plant/Bowman Border	1033	984	980	980	1040	1021	1005	1071	1086	1079	1086	1077	989	34
ND	43	Watford City East Border	1099	1124	1120	1118	1081	1042	1083	1116	1128	1143	1133	1054	1050	43
ND/MT	241	Fairview Border	1202	1195	1200	1193	1189	1200	1196	1201	1212	1218	1201	1210	1205	241
ND	267	North Tioga Transfer - Nesson Plant	1181	1166	1176	1181	1185	1188	1187	1189	1188	1181	1176	1176	1178	267
ND	261	Tioga Comp Station - Robinson Lake Plan	1185	1187	1191	1186	1189	1188	1184	1185	1184	1176	1176	1182	1194	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1191	1202	1197	1192	1193	1190	1189	1187	1187	1188	1189	1186	1195	262
ND	263	Lignite Plant	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	263
ND	264	Epping Border	1196	1183	1195	1190	1181	1195	1202	1200	1208	1202	1198	1194	1198	264
ND	265	Tioga Comp Station - County Line Plant	1176	1174	1170	1165	1168	1176	1182	1183	1181	1182	1169	1182	1180	265
ND	266	County Line Plant	1177	1179	1171	1166	1168	1178	1182	1183	1180	1183	1168	1181	1180	266
ND	271	Bismarck Station - Cleveland Station	1187	1202	1199	1194	1195	1192	1189	1181	1168	1168	1176	1181	1197	271
ND	272	Cleveland Station - Mapleton	1187	1201	1199	1194	1194	1191	1188	1181	1168	1168	1176	1181	1197	272
ND	273	Cleveland Station - Grafton Border	1187	1202	1198	1194	1194	1192	1187	1180	1168	1168	1176	1181	1198	273
ND	550	Mandan Border / NBPL-St Anthony	1135	1188	1173	1172	1160	1085	1101	1118	1109	1109	1127	1107	1173	550
ND	610	MDU-Watford City BTU	1124	1150	1131	1123	1091	1065	1111	1137	1149	1159	1155	1102	1113	610
ND	802	NBPL - Linton	1094	1110	1105	1104	1102	1080	1085	1097	1095	1093	1090	1087	1084	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1152	1149	1159	1155	1157	1154	1153	1149	1152	1148	1143	1149	1159	900
ND	601	Alliance Pipeline - Milnor	1153	1149	1160	1155	1157	1155	1154	1149	1152	1148	1143	1149	1159	601

THERMAL ZONE VARIANCE DOCUMENTATION		
September 2023		
<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
		No Variance